Suruhanjaya Komunikasi dan Multimedia Malaysia
Malaysian Communications and Multimedia Commission

Industry Performance Report 2014

Driving Towards Smart Nation

STATUTORY REQUIREMENTS

In accordance with Part V, Chapter 15, Sections 123-125 of the Communications and Multimedia Act 1998, and Part II, Section 6 of Postal Services Act 2012, Malaysian Communications and Multimedia Commission hereby publishes and has transmitted to the Minister of Communications and Multimedia a copy of this Industry Performance Report (IPR) for the year ended 31 December 2014.

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CHAIRMAN'S STATEMENT

The Industry Performance Report 2014 reflects activities undertaken by both the Commission and the industry during the chairmanship of YBhg Dato' Mohamed Sharil Tarmizi. I would like to express my appreciation for his commitment and versatility in leading the industry to face new challenges. It is my pleasure to present the Industry Performance Report 2014.

In 2014, our communications and multimedia (C&M) industry performance was stable with overall revenue growth of 3%. With basic mobile phone penetration rate of 150% and household broadband penetration rate at 70%, we are poised for another wave of growth as we focus now on improving the capacity and quality of service for increasingly sophisticated connected consumers.

Notably, the C&M companies' performance on Bursa Malaysia is encouraging wherein the major companies' market capitalisation registered a growth of 6.7% and surpassing the RM200 billion mark.

Our immediate target is to further improve quality of service and sustainable growth in enabling other economic sectors to meet our national aspirations towards a developed nation in 2020.

Sustaining Industry Growth

Connectivity has expanded in depth and scope today from fixed, mobile, online or over the Internet including digital broadcasting in an increasingly converging options to deliver content. In 2014, data services reported growth between 25% and 40%. Hence, the investment in continuous roll-out of 4G LTE and increasing throughput over our broadband infrastructure supports data demand growth. As value added communications services can drive competition and sustainability, the C&M industry has a pivotal role to play in providing connectivity in various forms such as sensor networks, machine to machine (M2M) communications and new value chains. Today, we have already seen traditional business models, namely, voice and SMS experiencing declining revenue due to consumer preference for Over-the-Top (OTT) messaging services.

Capturing Opportunities by Intensifying Usage

As new and smart ecosystems of communications services emerge, quality of the network and secure online experience are critical. We are expected to challenge ourselves in investing strategically and develop new business models that meet consumer demand. These necessarily would require knowing the customers as well as leveraging on new applications in content, social media and other digital services. In doing so we also have to ensure that consumer feedback mechanism is intact. In this respect, I would like to commend the efforts undertaken by service providers in instituting proactive measures to improve customer relationship and service experience.

Recently, there is a paradigm shift of viewing behaviour from traditional TV to online and social networking platforms. Hence, content is expected to be intensely stored and distributed online. As a result, broadband network capacity will be driven significantly by intense usage including mobile video, which is expected to grow as much as 45% annually through to 2020.

Progressive Regulatory Framework

Indeed, in 2015 we are reviewing the Communications and Multimedia Act 1998. It is also timely to review our processes and regulatory framework to facilitate the changing industry landscape. In tandem, service providers also need to emphasise on product innovation and delivery of affordable and value propositions in their service offerings.

Going forward, we should extract the best synergy that can be obtained from both mobile and fixed networks through strategic infrastructure investments, access framework and collaborations in network sharing. Such strategic focus allows the C&M industry to truly serve as an active and reliable enabler for Malaysian economic sectors to drive towards a smart nation in 2020.

Stimulating Creative Content and Apps Development

Social networks, music and video sharing sites as well as various entertainment apps have fuelled demand to share content. This is both at the individual level and the business angle as apps provide the easy link to sharing content for entertainment and commercial purposes. It is indeed critical at this juncture for Malaysia to reinforce the fundamentals in creative content production to capitalise on growing demand for such content over seamless online and mobile platforms. Note that games, data analytics, online TV, connected health, transport and other functionalities supported by apps or Internet connectivity are emerging trends of our Malaysian digital lifestyle.

Amongst the essentials to realise these are not only to optimise new infrastructure capacity, but also capitalise on latest production technologies, content creation and industrial design skills ranging from script writing to apps development ecosystems. Strategic plans and their implementation can attract local and foreign investment alike, which can further grow the C&M industry.

E-commerce boosts Postal and Courier Services

The rise of social media platforms including mobile apps is also offering vast opportunities for e-commerce and online shopping. Postal and courier services stand to prosper and complement this e-commerce environment by offering logistics and delivery extensions to these vendors for timely product delivery.

The double digit volume growth for domestic parcel services to 16.6 million shows online and home shopping are flourishing. This offers recurring income for service providers. However, service providers must quickly adapt to meet the demands of rapidly growing and evolving market, particularly in global e-commerce. In this case, we note that growth and confidence in the e-commerce system needs a robust payment framework; secured by ID authentication, public key infrastructure including e-identity.

Talent Development as an Engine of Digital Economy

Going forward, the next phase of evolution should not only focus on the development of infrastructure, but also in developing C&M skills and local talents in the industry and cross channel as required. Such an approach can produce value propositions in the Internet of Things environment and enable the nation to work towards a vibrant digital economy. This creates economic value through connected people and connected services.

Indeed, the service providers should capitalise on the convergence of communications and content services as the next wave of breakthrough in innovation and disruptive growth. Let us work together to build the necessary ecosystems that can support the connectivity among people, intelligent machines and integrated value chains in driving towards a smart nation in 2020.

Dato' Sri Dr. Halim Shafie
Chairman
Malaysian Communications and Multimedia Commission

EXECUTIVE SUMMARY

In 2014, the C&M industry has performed respectably, recording 3% growth in revenue to RM58.91 billion from RM57.2 billion. This steady performance of the C&M industry was contributed mainly by telecommunications with 78% revenue share, broadcasting 11% and the remaining from postal sector and others including ACE market, digital signature and non-public listed licensees revenue.

In terms of capital market valuation, the C&M industry market capitalisation marked RM208.48 billion in 2014. This is a milestone for the C&M industry to have surpassed RM200 billion market capitalisation. This represents 12.6% of the Bursa Malaysia market capitalisation of RM1,651.17 billion. Although the Malaysian economy faced uncertainties, especially in the last quarter of 2014, the C&M industry remained stable with a growth in market capitalisation by 6.7%.

In 2014, the 12 licensees listed through holding companies on the ACE Bursa Malaysia garnered revenue of RM0.7 billion, with market capitalisation of close to RM2 billion.

Increasing Connectivity

Malaysia achieved 70.2% household broadband penetration rate as at end 2014. Based on The State of Broadband 2014 report by Broadband Commission[1], Malaysia ranked 17th from a list of 132 developing countries by household penetration rate in 2013.

The coverage and connectivity services offered by service providers to date, have enabled consumers to have always on access for various purposes using online means. The public private partnership project, namely, the High Speed Broadband Project (HSBB) has added 142,000 new subscriptions throughout 2014 to a total of 810,000 subscriptions.

Meanwhile, mobile broadband remains the largest contributor in terms of broadband subscriptions in 2014 with more than 85% of total broadband subscriptions (20.7 million).

Existing voice services in terms of fixed telephony service as represented by Direct Exchange Line (DEL) subscriptions, has penetration of 30.3 per 100 households in 2014. However, DEL subscriptions continued to decline over the past years. In contrast, mobile subscription penetration rate is reaching almost 150% in Malaysia. Notably, out of these mobile phone users in Malaysia, about half of them use smartphones.

On mobile subscriptions market share by service providers, Celcom captured 28.9%, Maxis 27.8% and DiGi 25.5% as at end 2014. In comparison, U Mobile registered a total of 9.7% of market share compared with 10.3% in 2013 while MVNOs are gaining more traction by securing 8.2% market share (2013: 6.2%).

[1] Broadband Commission, The State of Broadband 2014: Broadband for all, September 2014

Multiple Platforms and Devices Supporting Content Delivery

Over time, the TV industry is evolving rapidly and is adapting to accommodate wider distribution networks. The future for broadcast includes broadband delivered content. Thus, the broadcasters are enhancing their businesses to include online services which will increase audience size. Currently, all major broadcasters are tapping into the OTT market to cater for and take advantage of audience viewing pattern shifts and simultaneously engaging in digital platform to expand content delivery. Notably, the Digital Terrestrial Television Broadcasting (DTTB) which is scheduled to commission in 4Q 2015 will enable further convergence of video delivery platforms as well as facilitating a whole new enhanced range of digital products and services to be introduced.

The dynamics in TV industry today feature increasing competition among service providers in terms of content offerings. Since content plays an important role towards reaching a wider audience and increase audience loyalty, these service providers are investing substantively in content creation and related activities to capitalise on new value propositions for consumers. These include capacity building and market development activities as well as international co-production.

In terms of Pay TV market, service providers have various approaches to reach their audience such as different basic Pay TV offerings as well as customised TV packages. For example, ASTRO and Telekom Malaysia are offering triple-play services namely, Internet, voice and IPTV packages, while Asian Broadcasting Network is offering TV and Internet packages. This variety of offerings is able to boost audience interests and take-up, which is expected to further stimulate competition in the market.

Consumer Protection and Quality of Service

In 2014, total consumer complaints received by MCMC increased by 20% to a total of 13,663 (2013: 11,395), of which 76% of these complaints lodged were against the service providers. Notably, on average, 23.4% complaints were resolved within 72 working hours. In addition, complaints on new media content continue to be on the rise. There were 2,536 complaints received by MCMC related to new media in 2014. With that, MCMC have taken enforcement action on online offences, which fall under our jurisdiction. In such cases, there is collaboration with other law enforcement agencies such as Polis Diraja Malaysia (PDRM), Kementerian Perdagangan Dalam Negeri, Koperasi dan Kepenggunaan (KPDNKK) and Jabatan Kemajuan Islam Malaysia (JAKIM).

In ensuring the best consumer experience in telecommunications services, MCMC carries out various assessments within telecommunications networks to ensure service providers meet the minimum standards as stipulated in Mandatory Standards on Quality of Service. These include the quality of service for cellular network and in the performance of wired and wireless broadband network. Aside from service quality, the MCMC monitors content and communications equipment for compliance to stipulated standards.

In 2014, MCMC has published the Dominance Report and the Commission Determination on Dominant Position in a Communications Market. This insight into the market serves to ensure that MCMC will be able to act promptly to deal with competition complaints and hence, promote healthy and effective competition in the C&M industry.

In a competitive C&M industry environment where the delivery network and network service are critical to support content and applications services, service providers have invested to

ensure secure network and online safety. For instance, service providers are educating consumers on good practices and constantly improving their customer relationship management and strategies. This serves as a channel for immediate response by consumers and the ratification of issues raised, thereby ensuring consistent quality assurance.

Industry Development Management in 2014

Aside from a regulatory role, MCMC is also involved in industry development, the direction of which is essentially guided by the 10 national policy objectives under the Communications and Multimedia Act (CMA). Towards this end, in promoting the creative content industry, MCMC has allocated RM100 million for the Creative Industry Development Fund from 2011 to 2015. The objectives of the Fund are to enhance the competitiveness of national content industry as an economic growth area and to bring Malaysian content to the international arena. As at end 2014, a total of RM67.14 million was approved for various projects under this Fund.

For 2014, local content has garnered revenue totalling RM145.01 million from international market exploration initiatives. This is a collaboration effort involving National Film Development Corporation Malaysia (FINAS), Multimedia Development Corporation (MDeC) and local companies. The revenue is based on the value of agreements made at the international trade shows such as MIPTV, MIPCOM and Asia Television Forum (ATF).

The Universal Service Provision (USP) programmes continue to assist in narrowing digital divide between urban and underserved communities as they bring Internet access to these communities. Hence, this ensures broadband connectivity is made available in an inclusive manner. As at end 2014, there were 513 1Malaysia Internet Centre (PI1M), 5,652 1Malaysia Wireless Village (KTW1M) and 949 Time 3 telecommunications towers built under USP.

Security and Trust

As at end 2014, the cumulative number of digital certificates issued in Malaysia was 7.4 million, which is an increase of 19.4% compared with 6.2 million in 2013. Digicert Sdn Bhd (Digicert) issued 92% of certificates with the remainder by MSC Trustgate Sdn Bhd (Trustgate). Both Digicert and Trustgate are certifying agencies appointed by MCMC under the Digital Signature Act 1997.

Analysis based on user categories show that 96% of total certificates were issued to the Government sector while the balance 4% was issued to the private sector such as financial institutions, pharmaceutical companies and individuals.

Postal and Courier Services

One major achievement for the National Postal Strategy in 2014 was to transform the industry configurations to meet the new market challenges especially e-commerce demand. The result is evidenced from the revenue and capacity growth in the courier sector signifying the progressive nature required of courier services in handling increasing parcel volumes.

Pos Malaysia recorded total revenue of RM1.52 billion in 2014, an increase of 12.6% from RM1.35 billion in 2013. Its mail segment at RM0.77 billion revenue still remains as the largest contributor to Pos Malaysia, accounting for more than 50% of total revenue in 2014. It is interesting to note that Pos Malaysia courier segment has posted double digit growth of 27.8% to RM0.46 billion in revenue.

As for the courier industry, a total of 91 courier companies were registered with MCMC in 2014. The top 10 courier companies recorded total revenue of RM2.44 billion, representing a growth of 10.2% from 2013.

Outlook 2015

Moving forward, for Malaysia to remain competitive as a nation, there is a need to focus on several key areas for development. Service providers need to continue their investment in infrastructure deployment and provision of quality services. Both mobile and fixed broadband services vis-à-vis 4G LTE and the upcoming HSBB 2 are essential to fulfil demand for higher broadband speed.

Subsequently, wide communications coverage by both mobile and fixed services serve in paving a solid foundation to drive digital lifestyle and businesses towards a digital economy. The ready access to infrastructure and enhanced connectivity services can be further leveraged by the development of local content industry. That is, by cultivating and nurturing development in mobile apps, games, data analytics, mobile health and others. It is opportune to nurture ecosystems and collaborations in content and applications, which are building blocks for enhanced or new revenue streams for C&M industry. Hence, this contributes to increase the nation's Gross National Income (GNI) towards a developed nation status.

LICENSING UNDER CMA

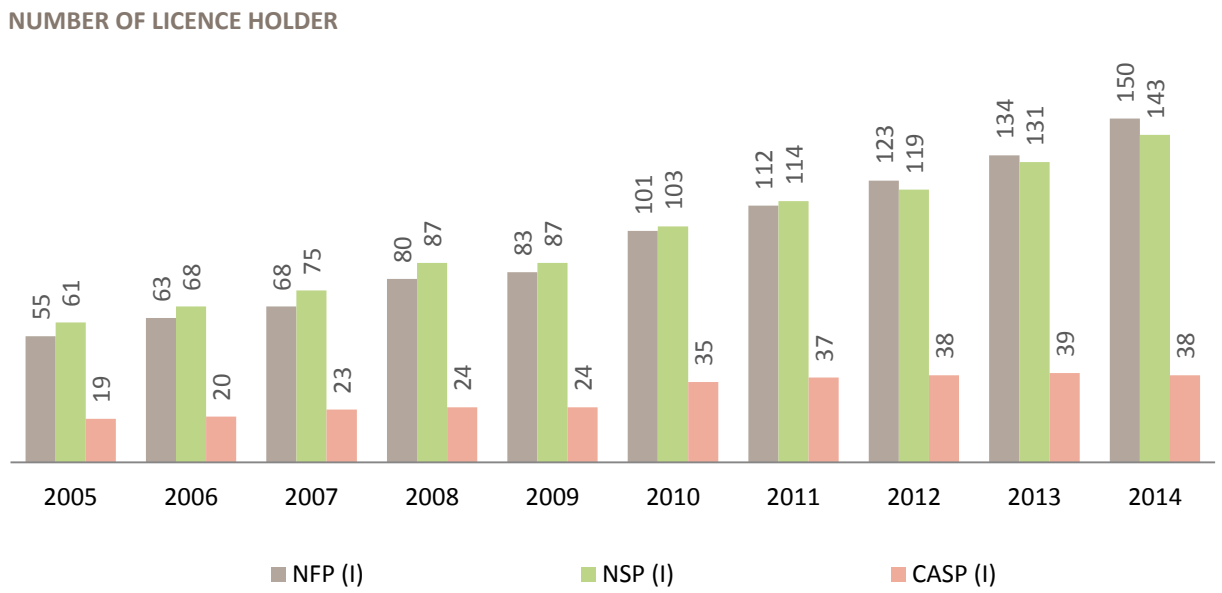
Under the Communications and Multimedia Act 1998 (CMA), there are two types of licences, namely, Individual and Class. These licences under the CMA are technology neutral and designed to accommodate services in different and distinct markets. There are four categories of licences, namely Network Facilities, Network Services, Applications Services (Class licence only) and Content Applications Service licences[2].

Licensing Profile over the Years

As at end 2014, a total of 331 Individual licences were recorded

The number of Individual licences has increased over the years. As at end 2014, there were 331 Individual licences issued under the CMA. The current total comprises 150 NFP (Individual or "I"), 143 NSP (I) and 38 CASP (I) licence holders.

C&M Licence (Individual) 2005 – 2014



Source: MCMC

Figure i C&M Licence (Individual) 2005 – 2014

Details of the infrastructure/services offered by new and renewed licensed service providers in 2014 are shown in Figure ii.

[2] NFP – Network Facilities Provider; NSP – Network Service Provider; CASP – Content Applications Service Provider; ASP – Applications Service Provider; I – Individual; C – Class.

New and Renewed Licences Issued to Service Providers 2014				
Infrastructure and/or Services	**Company**	**NFP (I)**	**NSP (I)**	**CASP (I)**
Deploying communications infrastructure and services for broadband	Ridaa Associates Sdn Bhd	√	√	
	Elitemac Resources Sdn Bhd	√	√	
	MyKris Asia Sdn Bhd*	√	√	
	LeBlanc Communications (M) Sdn Bhd	√	√	
	LeBlanc Astana Sdn Bhd	√	√	
	KUB Telekomunikasi Sdn Bhd	√	√	
	Pesona Network Engineering Sdn Bhd	√	√	
	Jalur Dimensi Sdn Bhd	√	√	
	ARL Homecomm Sdn Bhd*	√	√	
	Sunway Digital Wave Sdn Bhd	√	√	
	Platinum Core Solutions Sdn Bhd	√	√	
	Permodalan Risda Sdn Bhd	√	√	
	Stealth Broadband Sdn Bhd*	√	√	
	Optical Communications Engineering Sdn Bhd*	√	√	
	VDSL Network Sdn Bhd*	√	√	
	TT dotCom Sdn Bhd*	√	√	
Deployment of communications towers to support cellular and broadband services	Kenanga Marketing Sdn Bhd	√		
	Arra Solutions Sdn Bhd	√		
	Wasilah Engineering Sdn Bhd	√		
	GTP Network Sdn Bhd	√		
Provisioning of voice, data, broadband and VOIP services	R & D Solution Sdn Bhd		√	
	REDtone Marketing Sdn Bhd*		√	
Deployment of communications infrastructure to support cellular and broadband services	Justclick Vision Sdn Bhd	√		
	Setia Haruman Technology Sdn Bhd*	√		
	Jaring Communications Sdn Bhd*	√		
	Airzed Broadband Sdn Bhd*	√		
	Ikhlas Informasi Teknologi Sdn Bhd	√		
	Mustika Teratai Sdn Bhd	√		
	Baycom Sdn Bhd*	√		
Mobile Virtual Network Operator (MVNO)	Xiddig Cellular Communications Sdn Bhd		√	
Bandwidth services	OCK Setia Engineering Sdn Bhd		√	
	Premium Radius Sdn Bhd		√	
	Edotco Malaysia Sdn Bhd *(Formerly known as Celcom Services Sdn Bhd)*		√	
	Common Tower Technologies Sdn Bhd*		√	
	BT Systems (Malaysia) Sdn Bhd		√	
	AIMS Data Centre Sdn Bhd*		√	
	Telstra Malaysia Sdn Bhd*		√	
Terrestrial radio broadcasting	One FM Radio Sdn Bhd*			√
Total		**27**	**26**	**1**

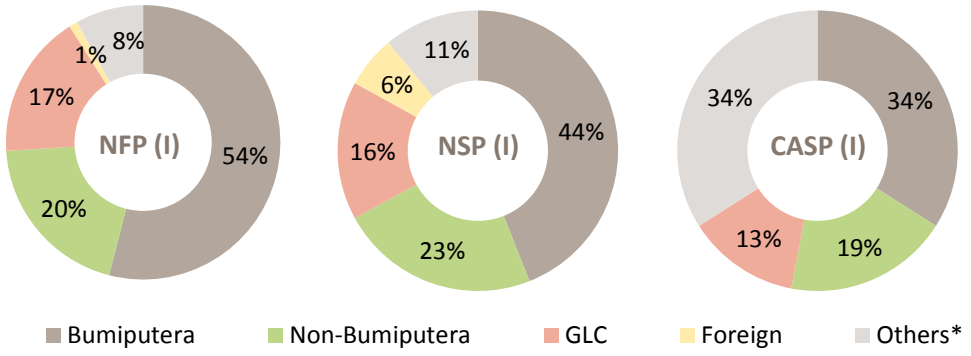
**Renewal*

Source: MCMC

Figure ii New and Renewed Licence Issued to Service Providers 2014

In 2014, two foreign-owned companies were issued with NSP (I) licences, namely BT Systems (Malaysia) Sdn Bhd and Telstra Malaysia Sdn Bhd (renewal). The breakdown of the shareholding composition by ethnicity/nationality/institution for the Individual licence holders is shown in the figure below.

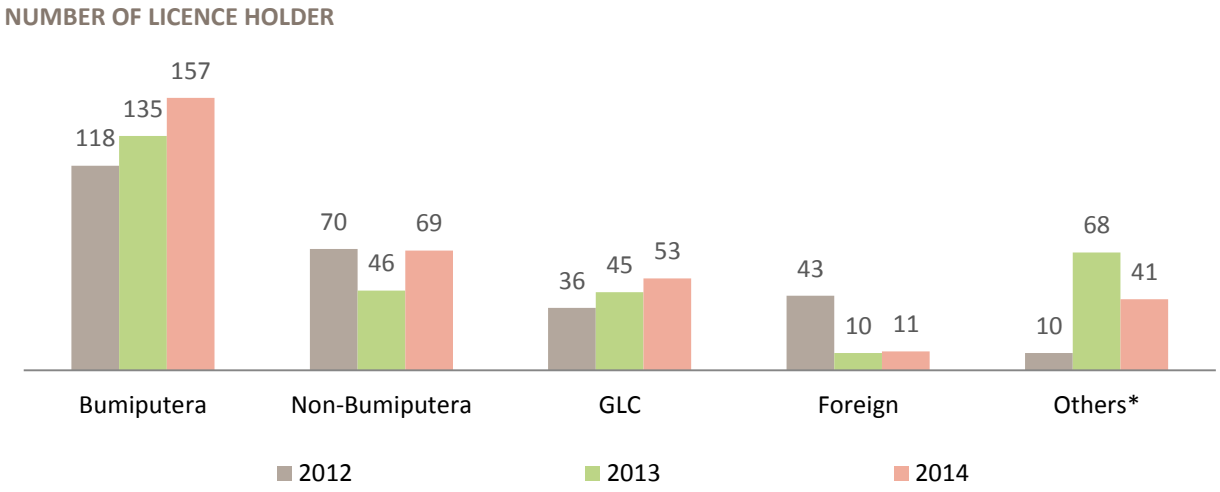
Individual Licence Holder – Shareholding Composition by Types of Licence 2014



Note:
Bumiputera-owned – company that has 51% or more Bumiputera ownership
Non-Bumiputera-owned – company that has 51% or more non-Bumiputera ownership
GLC – Government-linked company
Foreign-owned – company that has 51% or more shares held by foreign entities or individuals
Others – mixed shareholding, with no particular type of shareholder having a controlling interest in the company

Source: MCMC
Figure iii Individual Licence Holder – Shareholding Composition by Types of Licence 2014

Individual Licence Holder – Shareholding Composition by Ethnicity/Nationality/Institution 2012 – 2014



**Others – mixed shareholding, with no particular type of shareholder having a controlling interest in the company*

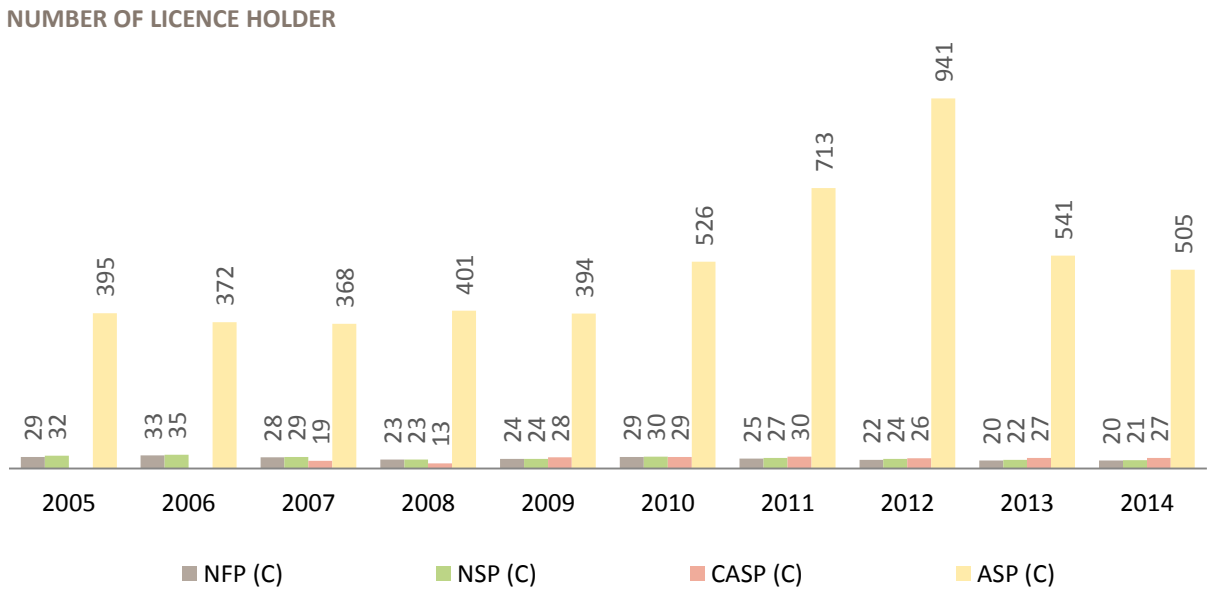
Source: MCMC
Figure iv Individual Licence Holder – Shareholding Composition by Ethnicity/Nationality/Institution 2012 – 2014

Between 2012 and 2014, more Bumiputera-owned companies were issued with Individual licence, representing an increase of more than 33% to 157 licences in 2014 from 118 licences in 2012.

In 2014, a total of 573 Class licences were registered with MCMC

As for Class licences, there were 20 NFP (Class or "C"), 21 NSP (C), 27 CASP (C) and 505 ASP (C) licences registered. Although there was a slight decline in terms of the total number of ASP (C) licences from 541 to 505, this fluctuation is considered normal for ASP (C) licences.

C&M Licence (Class) 2005 – 2014



Source: MCMC

Figure v C&M Licence (Class) 2005 – 2014

Roll-out Status in 2014

Special licence condition Part B 1.2, states the requirement for licensees to comply with the following:

a) The licensee shall commence the provision of facilities/services within 12 months from the date of its licence issued;

b) However, the Minister may upon an application being made, grant an extension of time to the licensee if the Minister is satisfied that there has been genuine progress made towards the provision of facilities/services.

As at end 2014, from a total of 22 new Individual licensees approved, 32% or 7 of these licensees managed to roll-out their facilities/services within the first year. These licensees are shown in Figure vi as follows:

Facilities/Services Deployed within 12 Months			
No.	**Licensee**	**Types of Licence**	**Facilities/Services Deployed**
1	Genmedia Sdn Bhd	CASP (I)	Free-To-Air Radio (1M4U)
2	Omnix (M) Sdn Bhd	NFP (I)	Deployment of telecommunications structures (Aesthetic/camouflage)
3	Enabling Asia Sdn Bhd	NSP (I)	Mobile Virtual Network Aggregator (MVNA)
4	Verticom Resources Sdn Bhd	NFP (I), NSP (I)	NFP (I) only. Deployment of telecommunications structures
5	Adil Bestari Sdn Bhd	NFP (I), NSP (I)	In Building Coverage (IBC) via Common Antenna Sharing Solutions
6	Telekomunikasi Indonesia (M) Sdn Bhd	NSP (I)	Mobile Virtual Network Operator (MVNO)
7	Komasi Enterprise Sdn Bhd	NFP (I), NSP (I)	NFP (I) only. Fibre optic network (dark fibre leasing)

Source: MCMC

Figure vi Facilities/Services Deployed within 12 Months

MODULE 1: ECONOMIC PERFORMANCE OF C&M INDUSTRY

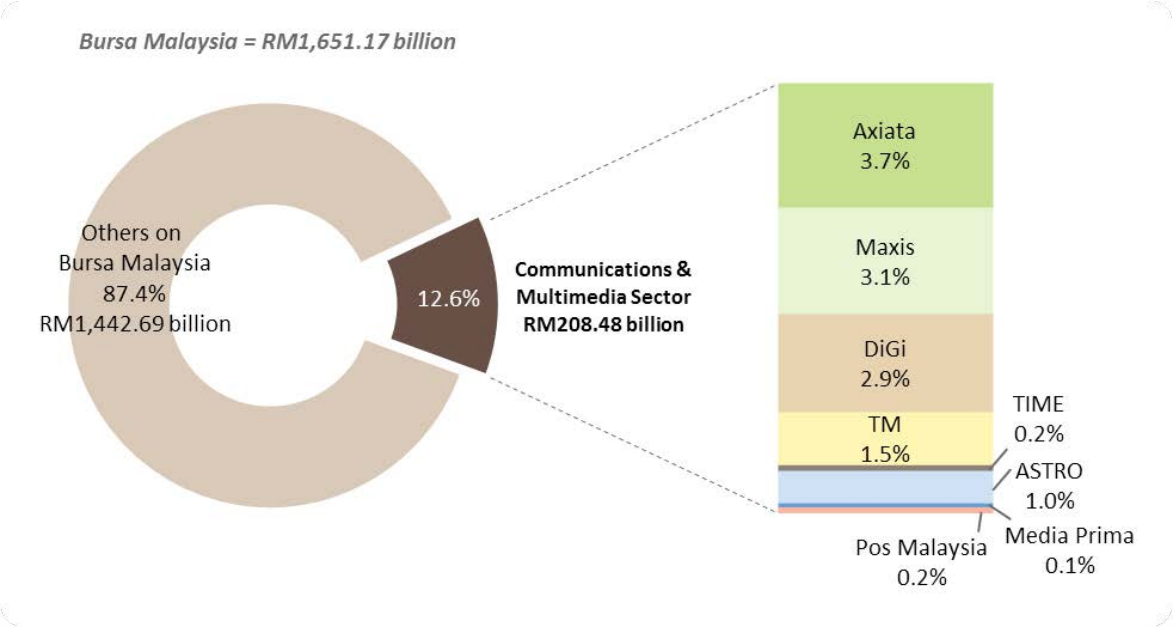
C&M Industry vis-à-vis Bursa Malaysia Performance

C&M industry market capitalisation surpassed RM200 billion in 2014

As at end 2014, the major Communications and Multimedia (C&M) companies captured RM208.48 billion in market capitalisation (2013: RM195.33 billion). This represents 12.6% of the Bursa Malaysia market capitalisation of RM1,651.17 billion. It is noted that in 2014, the C&M market capitalisation increased 6.7% compared with the overall stock market which posted a decline of 3%.

Overall, Bursa Malaysia performance was linked to external factors impacting the Malaysian economy such as drastic decline in crude oil prices and a weaker Ringgit, which caused some capital outflow. In contrast, the C&M industry market capitalisation was relatively contained, being mainly domestic market focused.

C&M Companies Contribution to Bursa Malaysia 2014



Source: Bloomberg, MCMC

Figure 1.1 C&M Companies Contribution to Bursa Malaysia 2014

By sectors, telecommunications companies captured market capitalisation of RM188.28 billion. This is an increase of 8.3% from RM173.92 billion in 2013. Both broadcasting and postal companies showed a decline in market capitalisation by 4.1% to RM17.71 billion (2013: RM18.47 billion) and 15.3% to RM2.49 billion (2013: RM2.94 billion) respectively.

C&M Companies Market Capitalisation 2012 – 2014					
Company	Market Capitalisation (RM billion)			YoY Growth (%)	
	2012	2013	2014	2013	2014
Telecommunications					
Axiata	56.07	58.93	60.50	5.1	2.7
Maxis	49.88	54.55	51.42	9.4	-5.7
DiGi	41.13	38.56	47.97	-6.2	24.4
TM	21.61	19.85	25.59	-8.1	28.9
TIME	2.26	2.03	2.80	-10.2	37.9
Broadcasting					
ASTRO	15.59	15.59	15.76	No Change	1.1
Media Prima	2.53	2.88	1.95	13.8	-32.3
Postal					
Pos Malaysia	1.87	2.94	2.49	57.2	-15.3
Total	**190.94**	**195.33**	**208.48**	**2.3**	**6.7**
Bursa Malaysia	1,465.68	1,702.15	1,651.17	16.1	-3.0
C&M as % of Bursa Malaysia	**13.0%**	**11.5%**	**12.6%**	-	-

Note: Axiata Group Bhd (Axiata), Maxis Bhd (Maxis), DiGi.Com Bhd (DiGi), Telekom Malaysia Bhd (TM), TIME dotCom Bhd (TIME), Astro Malaysia Holdings Bhd (ASTRO), Media Prima Bhd (Media Prima), Pos Malaysia Bhd (Pos Malaysia)

Source: Bloomberg, MCMC

Figure 1.2 C&M Companies Market Capitalisation 2012 – 2014

Highlighting companies with double digit gains by percentage, TIME dotCom (TIME) registered the highest increase in market capitalisation by 37.9% to RM2.8 billion in 2014 from RM2.03 billion in 2013. The increase was driven by better investor sentiment upon its improved earnings in the year and better prospects on business developments such as submarine cable projects.

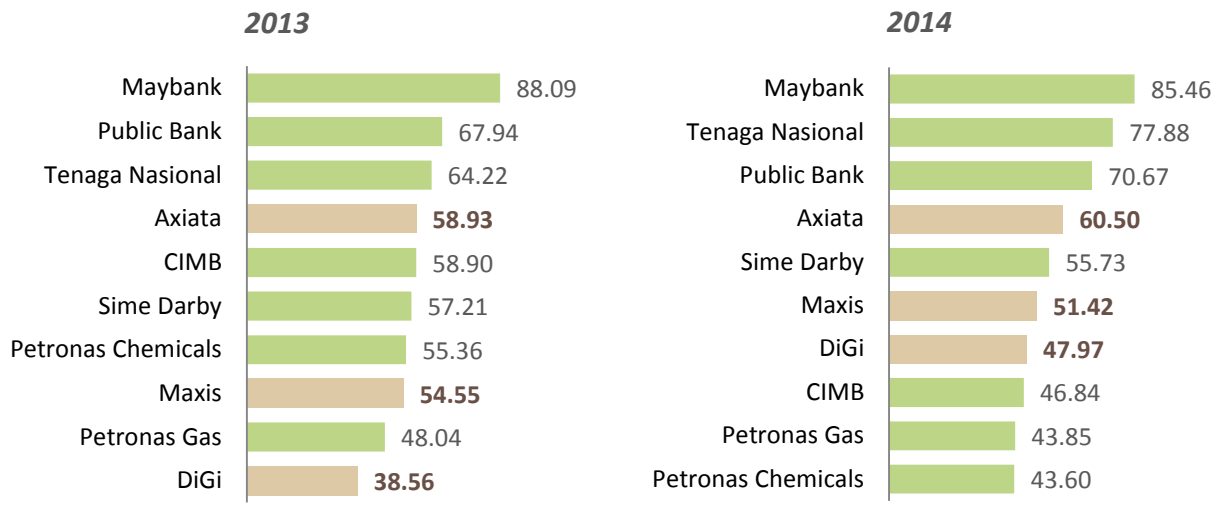
Meanwhile, Telekom Malaysia (TM) also recorded favourable market performance, with gain in market capitalisation by 28.9% to RM25.59 billion in 2014 (2013: RM19.85 billion). This was buoyed by it being awarded broadband projects namely, High Speed Broadband Phase 2 (HSBB 2) and Sub Urban Broadband (SUBB) of RM1.8 billion and RM1.6 billion respectively over a ten year period. TM's entry into the wireless market via its acquisition of a 57% stake in Packet One Networks (Malaysia) Sdn Bhd also boosted TM market capitalisation.

Similarly, DiGi registered double digit gains, that is, 24.4% increase in market capitalisation to RM47.97 billion (2013: RM38.56 billion) upon stronger financial performance. DiGi revenue showed an increase of 4.3% to RM7.02 billion in 2014 from RM6.73 billion in 2013. This earnings growth is contributed by its affordable data services offerings that is supported by improved 3G coverage.

Among the highest market capitalisation companies in Bursa Malaysia, Axiata, Maxis and DiGi ranked fourth, sixth and seventh, respectively, in the top 10 market capitalisation list. Axiata market capitalisation was RM60.5 billion or 3.7% of total Bursa Malaysia market capitalisation, while Maxis and DiGi captured RM51.42 billion (3.1%) and RM47.97 billion (2.9%) respectively. Both Maxis and DiGi improved their ranking in the list in 2014, while Axiata remained at fourth place.

Top 10 Market Capitalisation 2013 – 2014

MARKET CAPITALISATION*
(RM billion)



**As at 31 December*

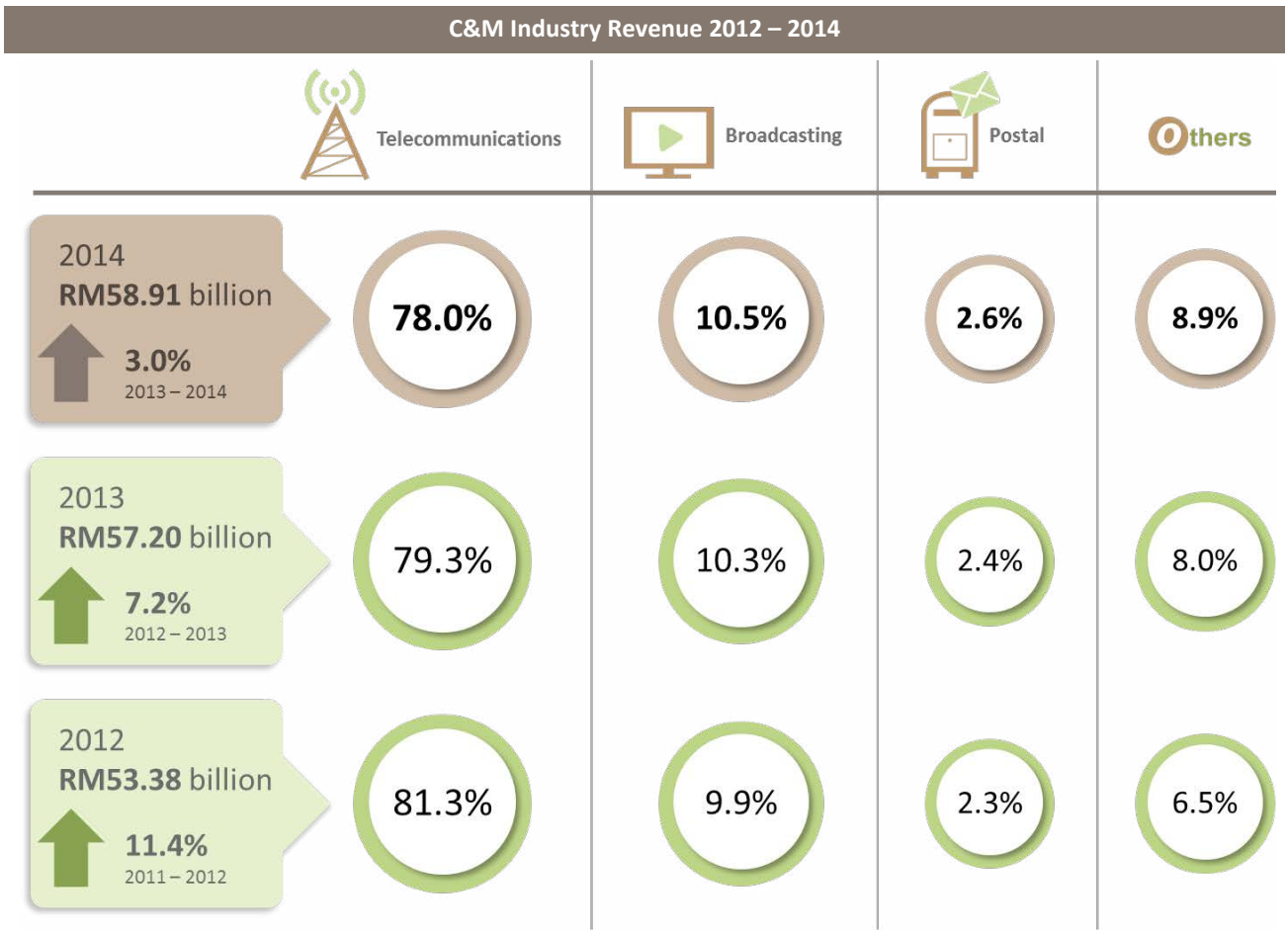
Note: Top 10 largest stocks based on market capitalisation among the 30 stocks that comprise the FTSE Bursa Malaysia KLCI Index

Source: Bloomberg, MCMC

Figure 1.3 Top Ten Market Capitalisation 2013 – 2014

C&M Industry Financial Performance

C&M industry generated RM59 billion in revenue, a growth of 3% in 2014



Note: 1. Media Prima excludes print revenue
2. ASTRO and Pos Malaysia revenue adjusted based on a calendar year basis
3. Others include digital signature, ACE Market and other licensees' revenue

Source: Industry, MCMC
Figure 1.4 C&M Industry Revenue 2012 – 2014

The total C&M industry revenue generated by major companies in telecommunications, broadcasting and postal sectors was RM58.91 billion in 2014, a growth of 3% from RM57.2 billion in 2013. It is noted that the C&M industry grew at a moderate pace despite the economic uncertainties and amid stiff competition. Note that the total revenue for 2014 was inclusive of other licensees' revenue covering 66 non-public listed companies. Hence, the 2012 and 2013 comparative figures have been restated.

During the year, telecommunications revenue contributed 78% (RM45.96 billion) to total revenue, followed by broadcasting and postal sectors at 10.5% (RM6.18 billion) and 2.6% (RM1.52 billion) respectively. The developments that had an impact on the C&M industry revenue included:

- Growth in data services revenue was supported by the shift of consumer preference to OTT communications channels and social media. Consequently, this has caused decline in the traditional voice and SMS services revenue.

- Consumers have many choices of connected devices in the market. The devices feature more advanced technology, design and capabilities that provide consumers access to more content and multimedia functions. These have driven higher adoption and data usage for applications and services.

- Growth in higher bandwidth subscriptions, as a result of consumers upgrading to attractive data plans at affordable price.

- Wider range of services and content are contributing to the growth of TV viewership. This resulted in continued investment by service providers in content and innovation to offer more choices to consumers and preserving sustainable revenue growth.

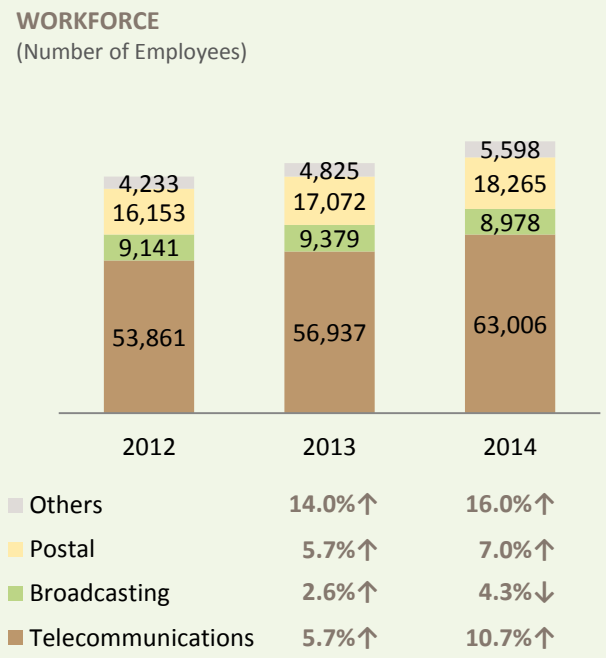
- As digital media activities by consumers increase rapidly, broadcasters and advertisers recognise the importance of digital platforms in reaching targeted audiences. Hence, service providers are venturing into digital platforms to monetise their content.

Driving Talent in C&M Industry

In line with the growth of the total C&M industry revenue, there is a need of a pool of competitive workforce to support the growing industry. The number of workforce in C&M industry is on the rise, as service providers poised themselves to keep up with various service development and technological changes such as 4G LTE, high speed broadband and digital TV deployment. The demand for quality network and new technologies, along with the growing use of smart devices is expected to drive employment growth in the C&M and related services industry.

In 2014, the C&M industry workforce totalled 95,847 employees, up 8.7% (2013: 88,213 employees); accounting for 1% of total Malaysian workforce of 14.2 million[3]. Employment increased by 11% from 2013 for the telecommunications sector and 7% for the postal sector. However, employment for broadcasting sector declined by 4% (Figure 1.5) due to Mutual Separation Scheme (MSS) of Media Prima.

C&M Industry Workforce
2012 – 2014



Source: Industry, MCMC

Figure 1.5 C&M Industry Workforce 2012 – 2014

Moving forward, the growth in C&M industry continues to drive job creation related to content and applications development, network security, data analytics and digital intelligence. This offers a wide range of career prospects as the industry requires manpower for upgrade, expansion and more innovative services.

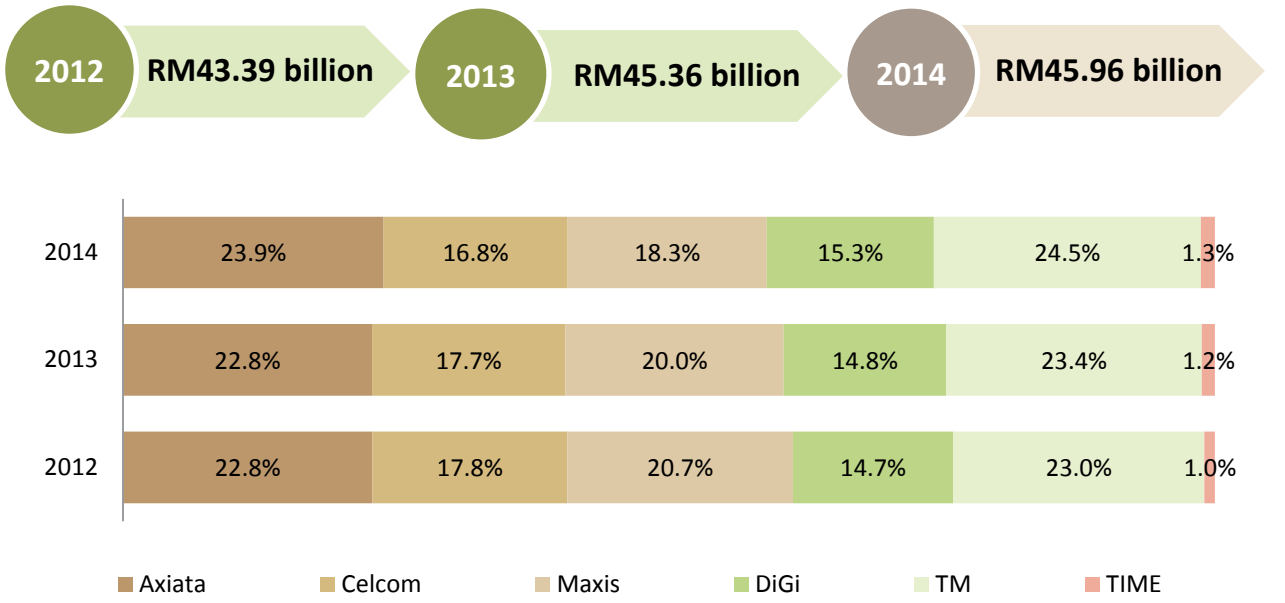
Driving towards a smart nation, the C&M sector as a knowledge-based industry is one of the building blocks that fosters creative and adept talent for continued growth.

[3] Department of Statistics Malaysia, Labour Force Statistics Malaysia December 2014, February 2015.

Telecommunications

Telecommunications sector revenue grew marginally by 1.3% in 2014

Telecommunications Revenue 2012 – 2014



Note: Axiata revenue excludes Celcom revenue which is shown separately here

Source: Industry, MCMC

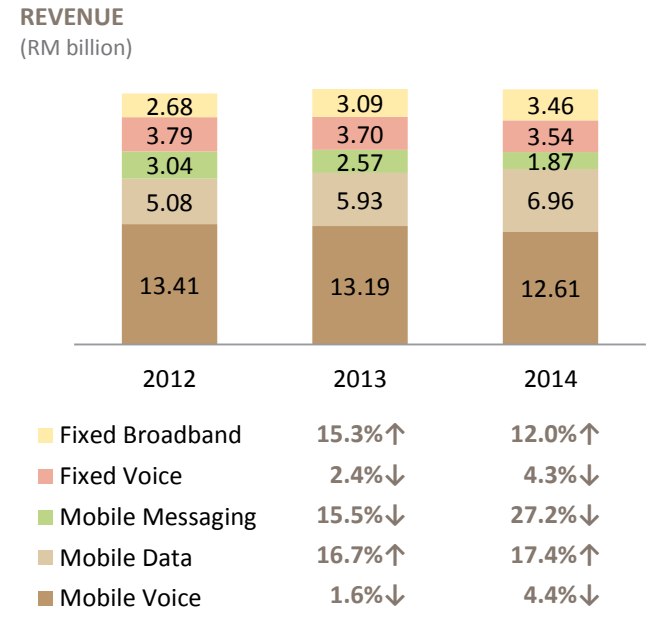
Figure 1.6 Telecommunications Revenue 2012 – 2014

The C&M industry remains stable with total telecommunications sector revenue increased marginally by 1.3% (or RM0.6 billion) to RM45.96 billion in 2014. This is based on aggregated revenue from major telecommunications companies listed on Bursa Malaysia namely, Axiata, Maxis, DiGi, TM and TIME.

During the year, total mobile voice revenue fell 4.4% to RM12.61 billion while SMS revenue fell 27.2% to RM1.87 billion. The decline of mobile voice and SMS revenue was partly due to lower voice and SMS usage.

In terms of text messages sent, there were 49 billion SMS as at end 2014, declined by 36.4% from 77 billion SMS in 2013.

Telecommunications Revenue by Service Category 2012 – 2014



Note: 1. Mobile data includes Value Added Service (VAS)
2. Excludes Axiata foreign operations
3. Fixed voice and broadband revenue from TM and TIME only

Source: Industry, MCMC

Figure 1.7 Telecommunications Revenue by Service Category 2012 – 2014

Both mobile voice and SMS usage were affected by the increasing use of other communication methods such as OTT messaging apps, e-mail and social media, which required mobile data subscription.

Hence, mobile data revenue continued to show a double digit growth in 2014, that is, 17.4% growth in mobile data revenue to RM6.96 billion in 2014 compared with 2013 at RM5.93 billion. This was due to more cheaper devices available concurrently with attractive data packages.

Fixed voice revenue decreased by 4.3% to RM3.54 billion in 2014, as a result of declining fixed line subscriptions (decline 2.7% to 3.6 million as at end 2014 compared with 3.7 million in 2013). The decline is partly due to consumer preference for mobile and alternative communication methods, such as e-mail, OTT messaging apps and social media.

In contrast, fixed broadband revenue increased by 12% to RM3.46 billion in 2014, as a result of growth in subscriptions. The number of fixed broadband subscriptions was 2.6 million in 2014 from 2.4 million in 2013, an 8.3% increase. The continued rise in the consumption of digital content at home, whether via laptop, desktop computer or connected TV, also led to increased fixed broadband take-up.

Capital Expenditure (Capex)

As at end 2014, Capex to revenue ratio for telecommunications companies averaged 14%, with fixed service providers marking a higher ratio at 18% and mobile service providers at 12%. The telecommunications companies Capex in 2013 and 2014 is shown in the figure below.

Telecommunications Capex 2013 – 2014				
Company	**Capex (RM million)**		**Capex/Revenue Ratio (%)**	
	2013	**2014**	**2013**	**2014**
TM	1,863	1,836	18	16
TIME	171	254	31	43
Total (Fixed)	**2,034**	**2,090**	**18**	**18**
Maxis	815	1,140	9	14
DiGi	741	904	11	13
Celcom Axiata	923	845	12	11
Total (Mobile)	**2,479**	**2,889**	**10**	**12**
TOTAL	**4,513**	**4,979**	**13**	**14**

Source: Industry

Figure 1.8 Telecommunications Capex 2013 – 2014

In 2014, TM Capex spent was RM1,836 million. This was for enhancing their core network, access and support systems.

Meanwhile, TIME invested RM254 million in Capex, in which nearly 55% of these were spent on submarine cable systems development in 2014.

Maxis invested RM1,140 million in Capex in 2014 for network modernisation, capacity and quality improvements, including:

- Modernisation of 2G and 3G networks to single Radio Access Network (RAN);
- 4G LTE coverage expansion; and
- IT transformation that focused on its billing and customer relationship management platform.

DiGi invested RM904 million in Capex to strengthen its infrastructure capabilities in 2014. This includes the delivery of a convergent billing system and expansion of 3G population coverage and 4G LTE sites.

As for Celcom, the service provider spent a total of RM845 million in Capex for its 4G LTE development, IT and network optimisation programme[4].

OVUM in their Communications Service Provider Revenue & Capex Forecast: 2014–19 report has indicated that the global Capex to revenue ratio for 2014 is expected to reach 18.3% (Figure 1.9). Comparatively, Malaysian telecommunications companies recorded Capex to revenue ratio at an average of 14% in 2014, that is, below the global average.

[4] The Malaysian Reserve, Celcom to spend RM950 million this year to boost network, June 2014.

Communications Service Provider Capex/Revenue Ratio by Selected Countries 2013 – 2014		
Country	**2013 (%)**	**2014* (%)**
GLOBAL	**17.9**	**18.3**
Japan	17.4	16.3
South Korea	14.6	15.8
USA	15.3	15.6
UK	13.1	13.0
Singapore	11.2	11.7
Indonesia	27.3	27.4
Thailand	21.2	24.3
Vietnam	20.1	20.1

**Forecast*

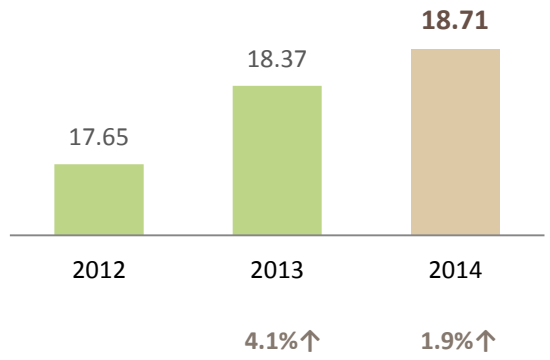
Source: OVUM, Communications Service Provider Revenue & Capex Forecast: 2014–2019, January 2015
Figure 1.9 Communications Service Provider Capex/Revenue Ratio by Selected Countries 2013 – 2014

Globally, the investment in infrastructure is on an increasing trend, albeit developed countries at a slower rate vis-à-vis developing countries. In Malaysia, infrastructure investments need to be at a faster pace in order to improve quality of service and bandwidth capacity to cater to increasing digital transactions and demand for real time services. In this way, the industry is able to support accelerating development towards a smart nation.

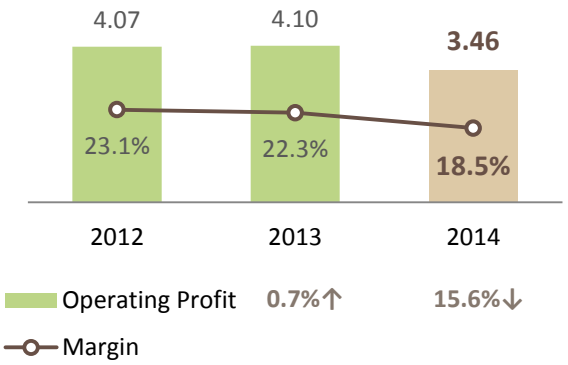
Axiata Group Bhd/Celcom Axiata Bhd

AXIATA

REVENUE
(RM billion)



OPERATING PROFIT/MARGIN
(RM billion/%)

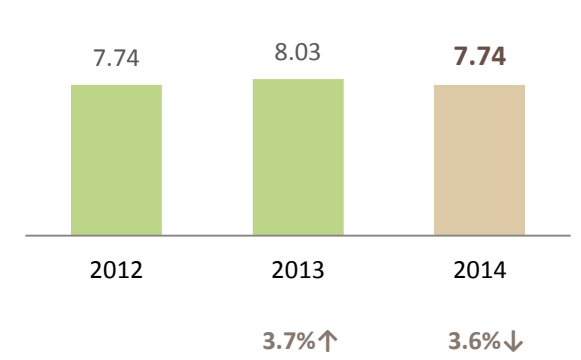


SEGMENTATION
(RM billion)

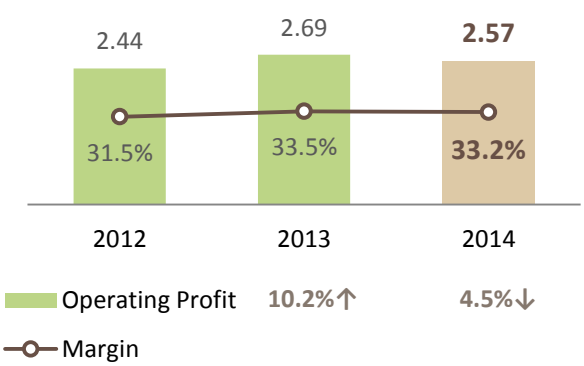
	2012	2013	2014
Voice	9.53	9.58	9.42
Data	2.35	2.73	3.59
SMS	2.48	2.22	1.96
Value Added Services	0.88	0.94	1.04
Others	2.42	2.90	2.72

CELCOM

REVENUE
(RM billion)



OPERATING PROFIT/MARGIN
(RM billion/%)



SEGMENTATION
(RM billion)

	2012	2013	2014
Voice	4.68	4.60	4.36
Data	1.18	1.37	1.70
SMS	0.84	0.74	0.54
Value Added Services	0.64	0.63	0.65
Others	0.40	0.69	0.51

- Axiata Group revenue increased by 1.9% to RM18.71 billion in 2014 (2013: RM18.37 billion). The revenue growth was partly due to robust increase in its data segment. Data continued to be the main growth driver, up 31.5%, driven by increased smartphone usage and data demand across the geographical regions covered, including Malaysia, Indonesia, Sri Lanka, Cambodia, Bangladesh, India, Singapore and Pakistan.

- Celcom in Malaysia continues to be the major contributor to Axiata with 41% group revenue contribution. However, revenue for 2014 declined by 3.6% to RM7.74 billion compared with 2013 at RM8.03 billion.

- This was due to continued decline in voice and SMS revenue by 5.2% and 27% respectively. Meanwhile, data revenue continued to show an uptrend.

- In 2014, Celcom's data revenue recorded a growth of 24.1% to RM1.7 billion, which contributed 22% to total revenue. The growth in 2013 was at 16.1% to RM1.37 billion (17.1% to total revenue).

- The data revenue growth was underpinned by accelerated data usage due to the increasing affordability of smart devices and attractive data packages in the market. In part, subscribers also choose to upgrade their subscriptions plan according to usage needs.

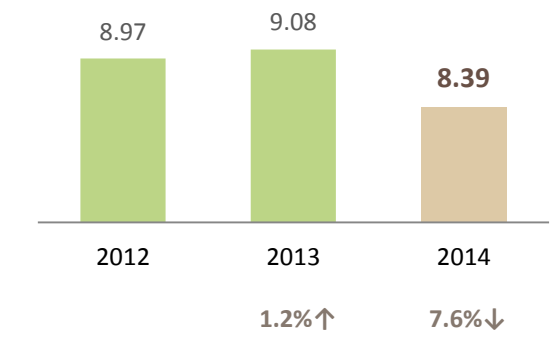
- The same year also saw a decline in Celcom's mobile subscriptions by 1.3% to 12.97 million subscriptions, compared with 13.14 million subscriptions in 2013.

- In diversifying its business offerings, Celcom embarked on e-commerce to create new revenue streams. In November 2014, Celcom entered into strategic partnership with SK Planet, an e-commerce provider from South Korea, to launch such services tailored for the Malaysian market in 2015.

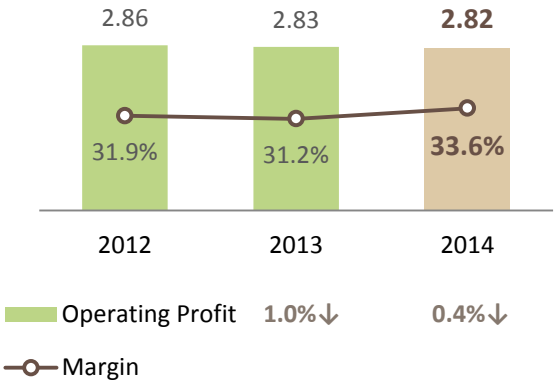
Source: Industry, MCMC

Maxis Bhd

REVENUE
(RM billion)



OPERATING PROFIT/MARGIN
(RM billion/%)



SEGMENTATION
(RM billion)

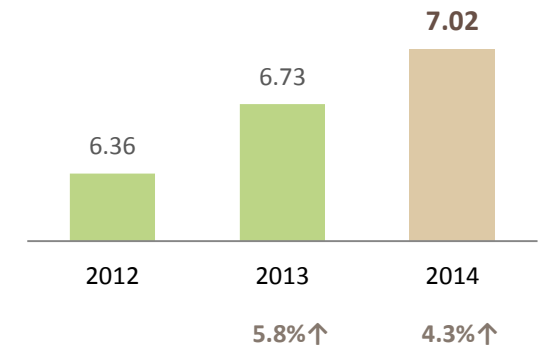
	2012	2013	2014
Mobile *of which:*	8.31	8.20	7.86
Voice	*4.68*	*4.56*	*4.37*
Mobile Internet/Value Added Services	*1.68*	*1.99*	*2.32*
SMS	*1.42*	*1.15*	*0.78*
Wireless Broadband	*0.52*	*0.51*	*0.39*
Enterprise Fixed	0.20	0.24	0.25
Fixed Voice and Broadband Services	0.03	0.07	0.12
Others	0.43	0.57	0.16

- Maxis revenue declined 7.6% to RM8.39 billion in 2014 (2013: RM9.08 billion), due to decline in voice and SMS usage. Nevertheless, Maxis continued to maintain a healthy operating profit margin.
- In 2014, Maxis voice and SMS revenue registered a decline of 4.2% and 32.2% respectively. Nonetheless, voice continued to contribute more than 50% to Maxis total revenue.
- Industry-wide observation is true as traditional mobile services accommodate to data services which offer cheaper alternative such as OTT messaging apps. These also provide functional appeal for mobile users as they prefer to conveniently share news, views and video through such apps.
- Maxis mobile Internet users grew to 8.8 million as at end 2014 compared with 2013 at 7.3 million users. This is a growth of 20.5%. Maxis mobile Internet revenue increase by 16.6% to RM2.32 billion in 2014 compared with 2013 at RM1.99 billion.
- The increasing demand for mobile Internet was also driven by introduction of affordable new smart devices and attractive package plans.
- To further enhance its product offerings, Maxis has launched *MaxisONE plan* for postpaid subscribers, which offers unlimited voice and SMS, free basic mobile Internet and flat rate data roaming.
- In addition, Maxis is also offering 4G LTE for its prepaid subscribers to enjoy faster Internet connections.

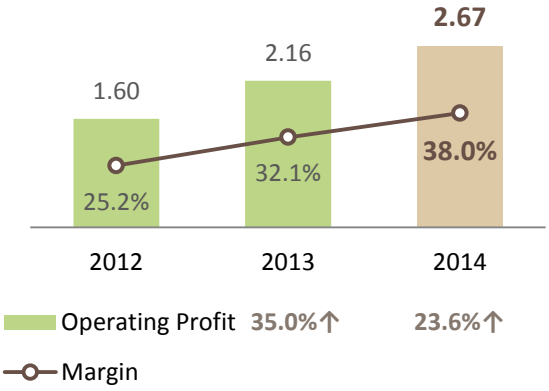
Source: Industry, MCMC

DiGi.Com Bhd

REVENUE
(RM billion)



OPERATING PROFIT/MARGIN
(RM billion/%)



SEGMENTATION
(RM billion)

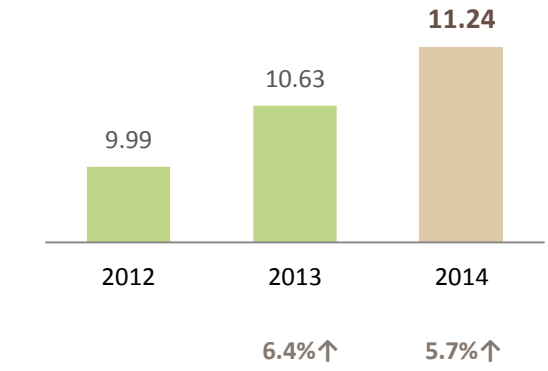
	2012	2013	2014
Voice	4.05	4.03	3.88
Data	0.83	1.23	1.71
SMS	0.78	0.68	0.55
Value Added Services	0.23	0.20	0.19
Others	0.47	0.60	0.69

- DiGi in 2014, reported revenue growth of 4.3% to RM7.02 billion (2013: RM6.73 billion). However, this value has moderated from the 5.8% growth posted in 2013.
- Like other mobile service providers, DiGi is also facing similar industry trend whereby voice and SMS revenue continued to decline as a result of increasing usage of OTT messaging apps.
- DiGi voice and SMS revenue declined by 3.7% and 19.1% respectively, partially offset by increasing data revenue. Its improved data network and coverage enables DiGi delivery of mobile Internet through affordable smartphone packages.
- In 2014, DiGi data revenue recorded growth at 39% to RM1.71 billion compared with RM1.23 billion in 2013.
- Meanwhile, DiGi total subscriber base reached 11.4 million, which is an increase of 3.6% compared with 2013.

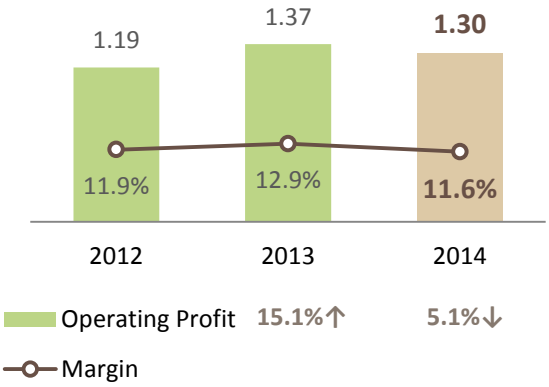
Source: Industry, MCMC

Telekom Malaysia Bhd

REVENUE
(RM billion)



OPERATING PROFIT/MARGIN
(RM billion/%)



SEGMENTATION
(RM billion)

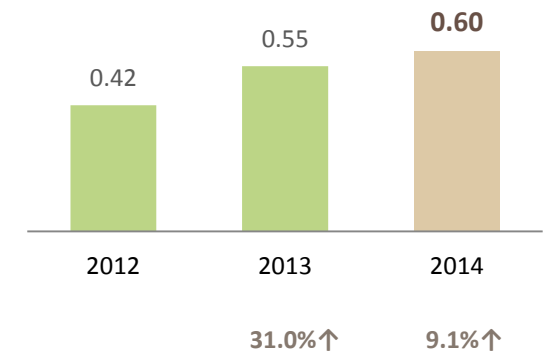
	2012	2013	2014
Voice	3.71	3.62	3.47
Internet	2.37	2.68	3.00
Data	2.21	2.51	2.61
Others	1.71	1.82	2.17

- TM revenue for 2014 increased by 5.7% to RM11.24 billion (2013: RM10.63 billion). The increase was mainly due to higher fibre broadband subscriptions supported by rising consumption of digital content by consumers. In 2014, TM broadband revenue was RM3 billion, an increase of 11.9% from RM2.68 billion in 2013.
- TM fibre broadband recorded 729,000 subscribers with a net addition of about 94,000 or 14.8% increase from 635,000 in 2013. Total broadband subscriptions, including ADSL, recorded a 0.7% increase to 2.23 million.
- High bandwidth applications and content led demand for faster broadband speed. As at end 2014, more than 1.1 million (48%) of total broadband subscriptions were for TM's packages of 4Mbps and higher.
- As expected, fixed voice revenue continued to decline. That is by 4.1% in 2014 to RM3.47 billion, with consumers increasingly using other communications options such as e-mail, social networking and mobile phones.
- TM has in August 2014 launched 4G LTE broadband offering, known as *TMgo,* marking its entry into wireless market starting with Kedah and Melaka.
- In continued efforts to expand its network connectivity, TM has invested in the South East Asia-Middle East-Western Europe 5 (SEA-ME-WE 5) submarine cable system. Construction of the cable system started in 2014 and its completion is due in 2016.
- In early 2014, TM proposed to purchase 57% stake in Packet One Networks (Malaysia) Sdn Bhd. The acquisition was completed in September 2014, paving the way for TM to tap into mobile market in delivering converged communication services to its subscribers.

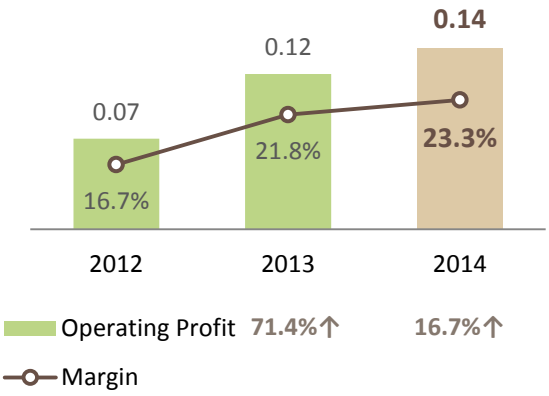
Source: Industry, MCMC

TIME dotCom Bhd

REVENUE
(RM billion)



OPERATING PROFIT/MARGIN
(RM billion/%)



SEGMENTATION
(RM billion)

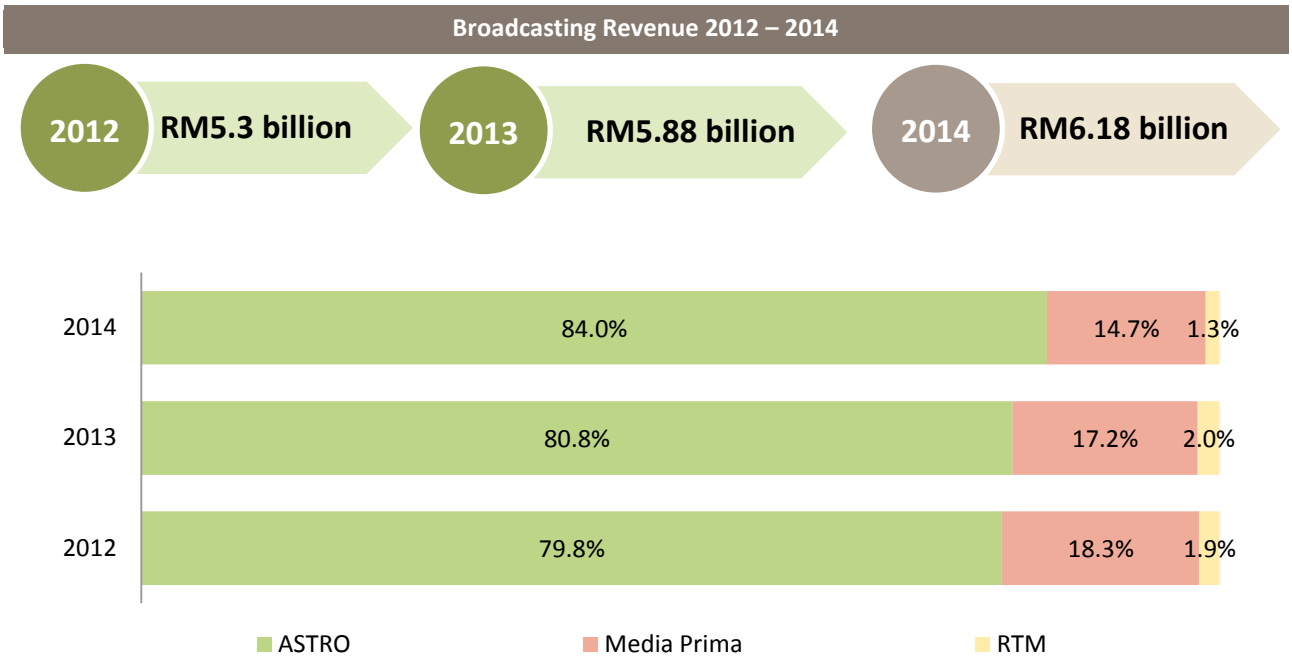
	2012	2013	2014
Voice	0.078	0.075	0.071
Data	0.306	0.412	0.457
Data Centre	0.034	0.059	0.065
Others	0.002	0.003	0.007

- In 2014, TIME gained 9.1% in revenue to RM0.6 billion from RM0.55 billion in 2013, mainly driven by growth in data revenue.
- In contrast, revenue from voice segment was lower by 5.3% to RM71 million compared with 2013.
- TIME caters to high demand for global bandwidth capacity through its Trans-Pacific submarine infrastructure. At the same time, its data centre business also grew 10.2% or RM6.1 million in 2014.
- Furthermore, TIME has expanded into global network footprint by participating in a consortium to build a new submarine cable system, Asia-Africa-Europe-1 (AAE-1). With a length of 25,000km, this cable will link Asia and Europe via the Middle East. Construction of the cable system started in 2014 and its completion is due in 2016.
- In a separate development, TIME has also invested in a 9,000km long Trans-Pacific submarine cable system connecting Japan and North America, known as the FASTER cable system. Construction of the cable started in 2014 and it is due to be completed in 2016 or early 2017.

Source: Industry, MCMC

Broadcasting

Broadcasting sector revenue increased 5.1% to RM6.18 billion



Note: 1. ASTRO revenue adjusted based on calendar year
2. Excludes Media Prima print revenue of an average RM0.7 billion per year
3. RTM estimates

Source: Industry, MCMC
Figure 1.10 Broadcasting Revenue 2012 – 2014

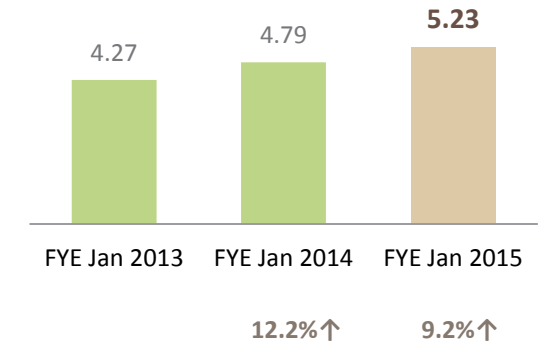
Revenue for broadcasting sector comprising Pay TV and Free-To-Air (FTA) TV, rose by 5.1% (or RM0.3 billion) to RM6.18 billion in 2014. Notably, Pay TV is represented by ASTRO while FTA TV is represented by Media Prima and RTM.

Revenue from subscriptions continued to drive growth in Pay TV market. In 2014, Pay TV subscription revenue increased by 7.3% to reach RM4.28 billion from RM3.99 billion in 2013. This was led by Pay TV subscriptions take-up which has increased by 2.9% to 3.5 million over the year.

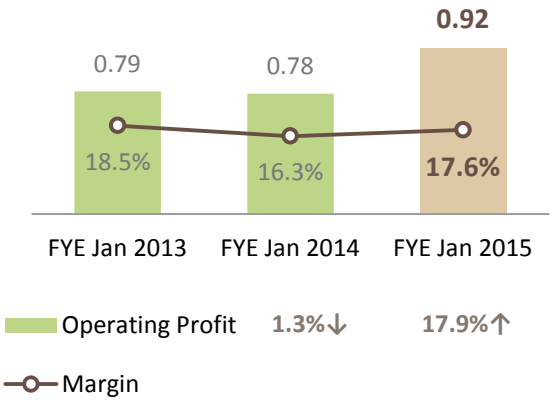
The Pay TV subscriptions take-up is influenced by a range of factors, including the availability of free-to-view channels and exclusive content offered by Pay TV. At the same time, value added services offering high definition (HD) also supported take-up.

As for the FTA TV broadcasters revenue, there was a decline in 2014 by 12.4% to RM0.99 billion from RM1.13 billion in 2013. This was due to decline in advertising revenue on the back of a more cautious market sentiment amid economic uncertainties, especially in the second half of 2014.

REVENUE
(RM billion)



OPERATING PROFIT/ MARGIN
(RM billion/ %)



SEGMENTATION
(RM billion)

	FYE Jan 2013	FYE Jan 2014	FYE Jan 2015
TV	4.00	4.53	4.93
Subscription	*3.65*	*3.99*	*4.28*
Advertising	*0.28*	*0.34*	*0.33*
Others	*0.07*	*0.20*	*0.33*
Radio	0.21	0.25	0.26
Others	0.05	0.01	0.04

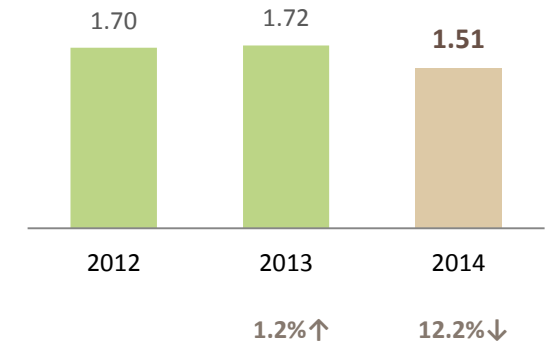
- ASTRO revenue for the Financial Year Ended 31 January 2015 (FYE Jan 2015), rose 9.2% to RM5.23 billion from RM4.79 billion recorded in the same period last year.
- The growth was attributed to an increase in subscriptions, supported by a wide variety of content and affordable packages. ASTRO also enables subscribers to select subscriptions packages based on customer preferences and needs such as viewing on a large screen at home or on the move on their mobile devices.
- ASTRO subscription revenue stood at RM4.28 billion as at FYE Jan 2015, a growth of 7.3% from RM3.99 billion as at FYE Jan 2014. This subscription revenue contributes 82% of ASTRO group revenue. The higher subscriptions revenue was also supported mainly by higher take-up from residential customers, which increased by 2% to 3.51 million during the reporting period.
- In addition, ASTRO subscription-free satellite TV service is gaining traction. The customer base grew 108.1% to 920,000 as at January 2015 from 442,000 as at January 2014.
- During the year, ASTRO launched 12 new channels, increasing its total channels to 184, of which 50 are in HD. For comparison, there were only four HD channels in 2009.

Note: ASTRO Financial Year Ended 31 January

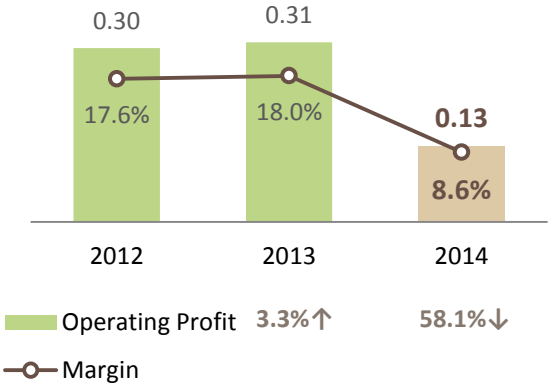
Source: Industry, MCMC

Media Prima Bhd

REVENUE
(RM billion)



OPERATING PROFIT/MARGIN
(RM billion/%)



SEGMENTATION
(RM billion)

	2012	2013	2014
TV Network	0.712	0.728	0.643
Radio Network	0.063	0.073	0.071
Outdoor Media	0.152	0.157	0.148
Print Media	0.731	0.711	0.592
Digital	0.023	0.030	0.033
Others	0.017	0.024	0.020

- Media Prima posted RM1.51 billion in revenue in 2014, a decline of 12.2% compared with 2013 at RM1.72 billion. Media Prima TV stations (TV3, ntv7, 8TV and TV9) contributed about RM0.64 billion or 42.4% of total group revenue. Advertising revenue has slowed down despite major events taking place in 2014, such as FIFA World Cup and Visit Malaysia Year.
- Media Prima indicated that the fall in advertising revenue was due to market uncertainties and weaker consumer sentiment. In addition, the tragic airlines incidents also resulted in advertisers being more cautious over advertisements placed during that period.
- Even though Media Prima experienced a decrease in overall revenue, its digital segment recorded 10% increase to RM33 million in 2014. The digital segment contributed about 2% to the Group's revenue, supported by higher take-up of online advertising.
- Its video streaming service, *Tonton* gained a total of 4.3 million registered users as at end 2014. Note that, *Tonton* registered users increased more than two-fold from 1.9 million in 2011.
- Media Prima in April 2014 officially launched *Tonton Music*, a music streaming service, offering users a vast library of music via free or ads-free payable premium option.
- With rapidly increasing digital media activities and constant changes in consumers preference on media consumption, Media Prima places strong focus on content creation and digital platform to expand its digital advertising revenue. The platform also attracts potential advertisers to grow its market share through a wider audience.

Note: Includes print segment

Source: Industry, MCMC

ACE Market Overview and Market Performance

As at end 2014, the total number of companies listed on Bursa Malaysia ACE[5] Market was 107. Out of these, there were 12 or 11.2% holding companies whose subsidiaries are licensees under the CMA. Comparatively, there were 15 companies[6] in 2013. The licensees here are mostly under the category of ASP (C).

Licensees on ACE Market 2014		
Holding Company (ACE Listed)	**Licensee**	**Types of Licence***
M3 Technologies (Asia) Bhd	M3 Technologies (Asia) Bhd	ASP (C)
Mexter Technology Bhd	Ezymobile International Sdn Bhd Mexcomm Sdn Bhd	ASP (C) ASP (C)
M-Mode Bhd	M-Mode Mobile Sdn Bhd Mobile Multimedia Sdn Bhd	ASP (C) ASP (C)
MNC Wireless Bhd	MNC Wireless Bhd Moblife.TV Sdn Bhd	ASP (C) ASP (C)
mTouche Technology Bhd	Mobile Touchetek Sdn Bhd	ASP (C)
Nexgram Holdings Bhd *(Formerly known as Nextnation Communication Bhd)*	Dubaitech Marketing Sdn Bhd Nextnation Network Sdn Bhd	ASP (C) ASP (C)
N2N Connect Bhd	N2N Global Solutions Sdn Bhd	ASP (C)
Privasia Technology Bhd	IPSAT Sdn Bhd Privanet Sdn Bhd	ASP (C), NFP (I), NSP (I) ASP (C), NFP (I), NSP (I)
REDtone International Bhd	REDtone Marketing Sdn Bhd RED One Network Sdn Bhd REDtone Mytel Sdn Bhd REDtone Telecommunications Sdn Bhd SEA Telco Engineering Services Sdn Bhd	ASP (C), NFP (I), NSP (I) ASP (C) ASP (C) ASP (C) ASP (C), NFP (I), NSP (I)
SMTrack Bhd *(Formerly known as Smartag Solutions Bhd)*	Smartag Technologies Sdn Bhd	ASP (C)
XOX Bhd	XOX Com Sdn Bhd XOX Media Sdn Bhd XOX Mobile Sdn Bhd	ASP (C), NSP (I) ASP (C) ASP (C)
YTL e-Solutions Bhd	Airzed Broadband Sdn Bhd Y-Max Networks Sdn Bhd	NFP (I) NFP (I), NSP (I)

**ASP – Applications Service Provider; CASP – Content Applications Service Provider; NSP – Network Service Provider; NFP – Network Facilities Provider*
I – Individual; C – Class

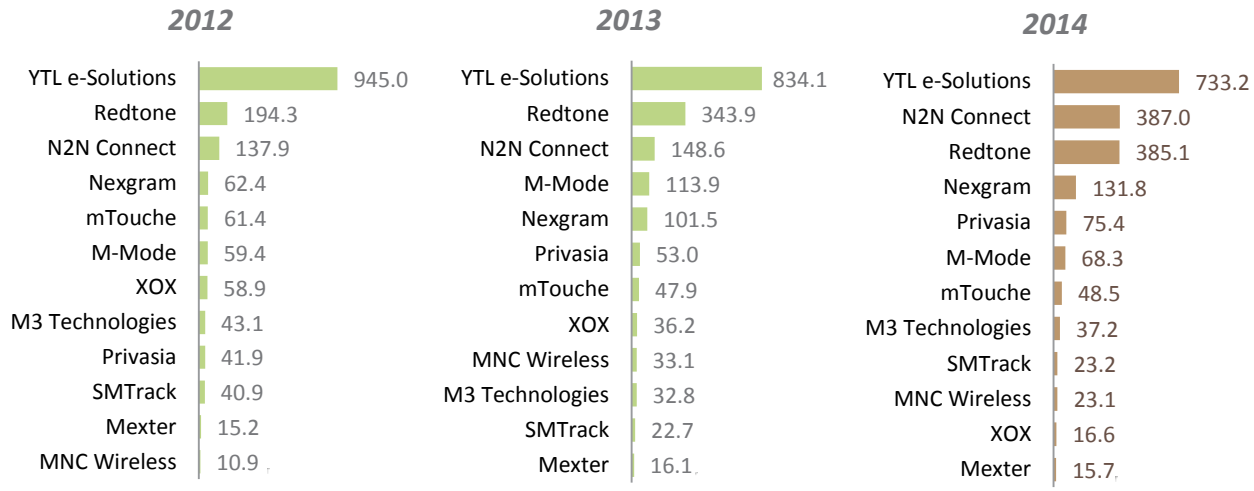
Source: Bursa Malaysia ACE Market, Industry, MCMC
Figure 1.11 Licensees on ACE Market 2014

[5] Bursa Malaysia ACE Market is an alternative market open to companies of all sizes and from all economic sectors.
[6] OCK Group Bhd was transferred to the Main Market from ACE Market in 2014. At the time of writing, Diversified Gateway Bhd, SCAN Associates Bhd and Comm Zed Sdn Bhd respective licences expired in 2014. N2N Connect Bhd, previously not in the ACE market list 2013, reentered the 2014 list after licence renewal.

Ranking by Market Capitalisation 2012 – 2014

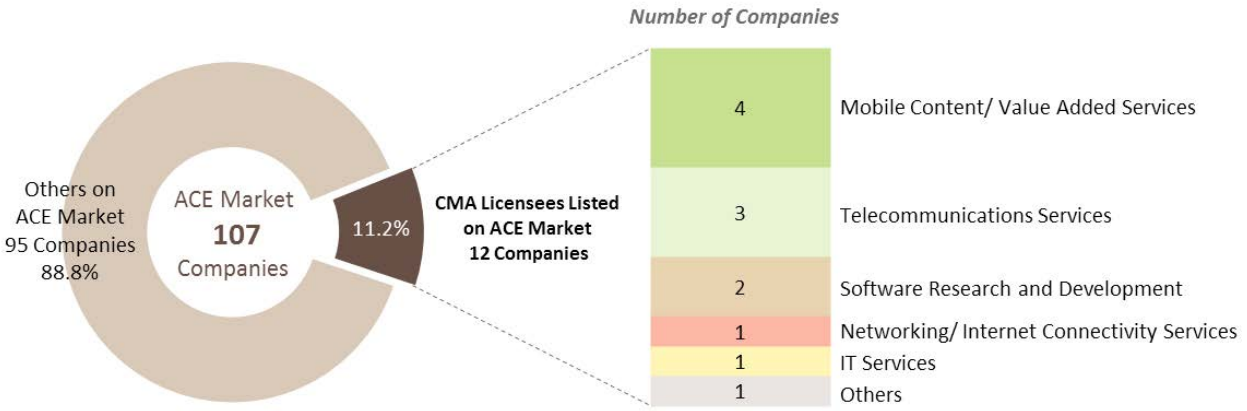
MARKET CAPITALISATION*

(RM million)



**As at 31 December*

Licensees on ACE Market 2014: Service Categories



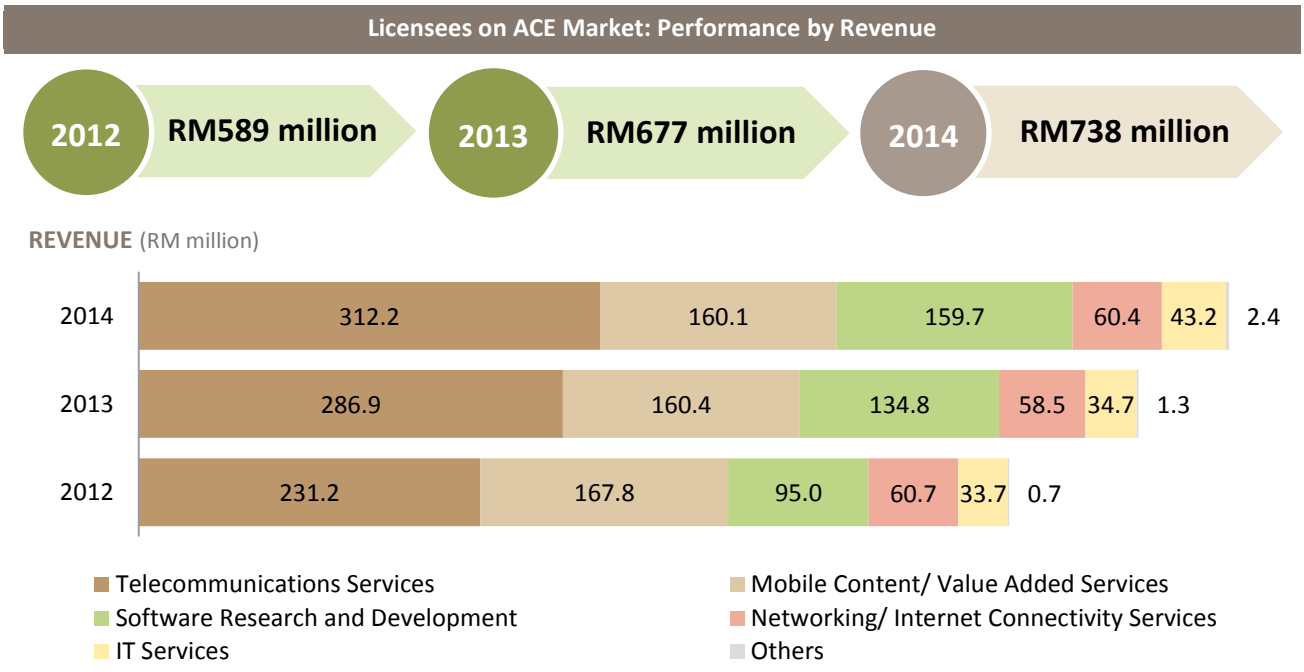
Licensees Service Categories Value by Market Capitalisation

	2012	2013	2014
Telecommunications Services	1.20	1.21	1.13
Software Research and Development	0.20	0.25	0.52
Mobile Content/Value Added Services	0.17	0.23	0.18
Networking/Internet Connectivity Services	0.04	0.05	0.08
IT Services	0.02	0.02	0.02
Others	0.04	0.02	0.02
ACE Market Licensees Total (RM billion)	**1.67**	**1.78**	**1.95**
Bursa Malaysia (RM billion)	**1,465.68**	**1,702.15**	**1,651.17**
ACE Market Licensees as % of Bursa Malaysia	**0.11**	**0.10**	**0.12**

Note: The prior-year figures reinstated based on list of Licensees on ACE Market 2014

Source: Bloomberg, MCMC

Figure 1.12 Licensees on ACE Market by Market Capitalisation and Service Categories



Source: Industry, MCMC

Figure 1.13 Licensees on ACE Market: Performance by Revenue

In 2014, the C&M companies listed on ACE Market posted stable performance. Note that, licensees listed on ACE Market has captured RM1.95 billion in market capitalisation during the year compared with RM1.78 billion in 2013, up 9.6%. This reflects the relatively smaller C&M companies have performed well over the past one year.

The business categories of software R&D and networking/Internet connectivity services showed growth in market capitalisation by 108% and 60% respectively. The two software R&D companies are N2N Connect Bhd and Nexgram Holdings Bhd.

Year 2014 marked another C&M company transferring listing from ACE Market to the Main Market, following the transfer listing of Asia Media Group Bhd and GD Express Carrier Bhd in 2013.

The OCK Group Bhd, a telecommunications network and infrastructure service provider, was listed on the ACE market of Bursa Malaysia on 17 July 2012 with market capitalisation of RM93.2 million. Within two years, the company has transferred its listing to Main Market, that is, effective 20 November 2014, with market capitalisation of RM503.5 million and share price at RM1.43 per share.

On the revenue front, OCK Group captured total revenue of RM189.49 million in 2014, a double digit growth of 24.6% from RM152.04 million in 2013. The growth was underpinned by higher revenue contribution from telecommunications network services segment which grew 51% to RM129.44 million in 2014 (2013: RM85.78 million). Note that this telecommunications network services segment contributed nearly 70% to OCK Group revenue in 2014.

Major telecommunications companies are investing in upgrading their equipment and infrastructure to accommodate the rising usage of data. As a result, the OCK Group is expected to benefit further from ongoing network expansion projects such as 4G LTE site deployments and engineering services through various partnerships with the telecommunications companies.

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MODULE 2: SERVICES AND CONNECTIVITY

World Broadband and Internet Comparison

Global Competitiveness Report 2014 – 2015 ranked Malaysia at 20th place

Broadband is considered one of the tools for national development and growth towards a digital economy. Over the last few years, broadband deployment has been a prime focus in communications connectivity.

The Global Competitiveness Index (GCI) by the World Economic Forum measures key factors contributing to competitiveness. The index in particular, focuses on macroeconomic environment, quality of the country's institutions and the state of the country's technology and supporting infrastructure. The index also consists of various indicators, each looking at different aspect of competitiveness. These indicators are grouped into 12 pillars of competitiveness[7].

Based on the GCI 2014 – 2015 report, Malaysia improved its score and ranking to 20th position from 24th position. The GCI record for Malaysia since 2010 is shown in Figure 2.1.

GCI for Malaysia		
GCI Report	**Rank/Total Countries**	**Score (Range 1-7)**
2014 – 2015	20/144	5.16
2013 – 2014	24/148	5.03
2012 – 2013	25/144	5.06
2011 – 2012	21/142	5.08
2010 – 2011	26/139	4.88

Note: Score range from 1 to 7, with 7 as the highest score

Source: World Economic Forum, Global Competitive Report

Figure 2.1 GCI for Malaysia

With ranks no lower than 60th position in any of the 12 pillars of GCI, Malaysia was ranked the highest among developing Asian economies. Malaysia scored high in financial market development (4th place) and efficient and competitive market for goods and services (7th place).

Malaysia is in transition towards innovation driven development require high technical readiness and adept talent. Therefore, there is critical need for continued investment in infrastructure and capacity building.

Average Internet connection speed for Malaysia increased 35% year-on-year

Based on the State of the Internet[8] report by Akamai for 2014, Malaysia's average Internet connection speed reported at 4.1Mbps in 2014 is an increase of 35% year-on-year from 3Mbps in 2013. This ranked Malaysia at 75th position out of 199 countries tracked by Akamai. Based

[7] These 12 pillars of competitiveness are core factors in the analysis, which include Institutions, Infrastructure, Macroeconomic Environment, Health and Primary Education, Higher Education and Training, Goods Market Efficiency, Labour Market Efficiency, Financial Market Development, Technological Readiness, Market Size, Business Sophistication and Innovation.

[8] The State of the Internet report includes data gathered from across the Akamai Intelligent Platform, covering data on attack traffic, Internet connection speeds, broadband adoption and trends.

on the report, South Korea, Hong Kong and Japan secured the world top three ranking for average Internet connection speed with 22Mbps, 17Mbps and 15Mbps respectively.

The average Internet connection speed for other countries in Asia Pacific Region is shown in Figure 2.2.

Average Internet Connection Speed by Asia Pacific Region					
Global Rank	Country	Average Connection Speed (Mbps)		Growth (%)	
		2014	2013	YoY	QoQ
1	South Korea	22.2	21.9	1.6	-12
2	Hong Kong	16.8	12.2	37	3.4
3	Japan	15.2	12.8	16	1.0
12	Singapore	11.7	7.9	47	-4.3
22	Taiwan	10.6	8.3	26	11
42	Australia	7.4	5.8	27	6.4
43	New Zealand	7.3	5.3	39	4.1
45	Thailand	7.1	4.8	46	6.8
75	Malaysia	4.1	3.0	35	0.7
82	China	3.4	3.4	2.1	-9.1
99	Vietnam	2.7	1.8	48	5.6
101	Philippines	2.7	2.0	36	8.2
116	India	2.0	1.5	28	2.1
122	Indonesia	1.9	1.6	16	50

Source: Akamai, The State of the Internet Report 2014

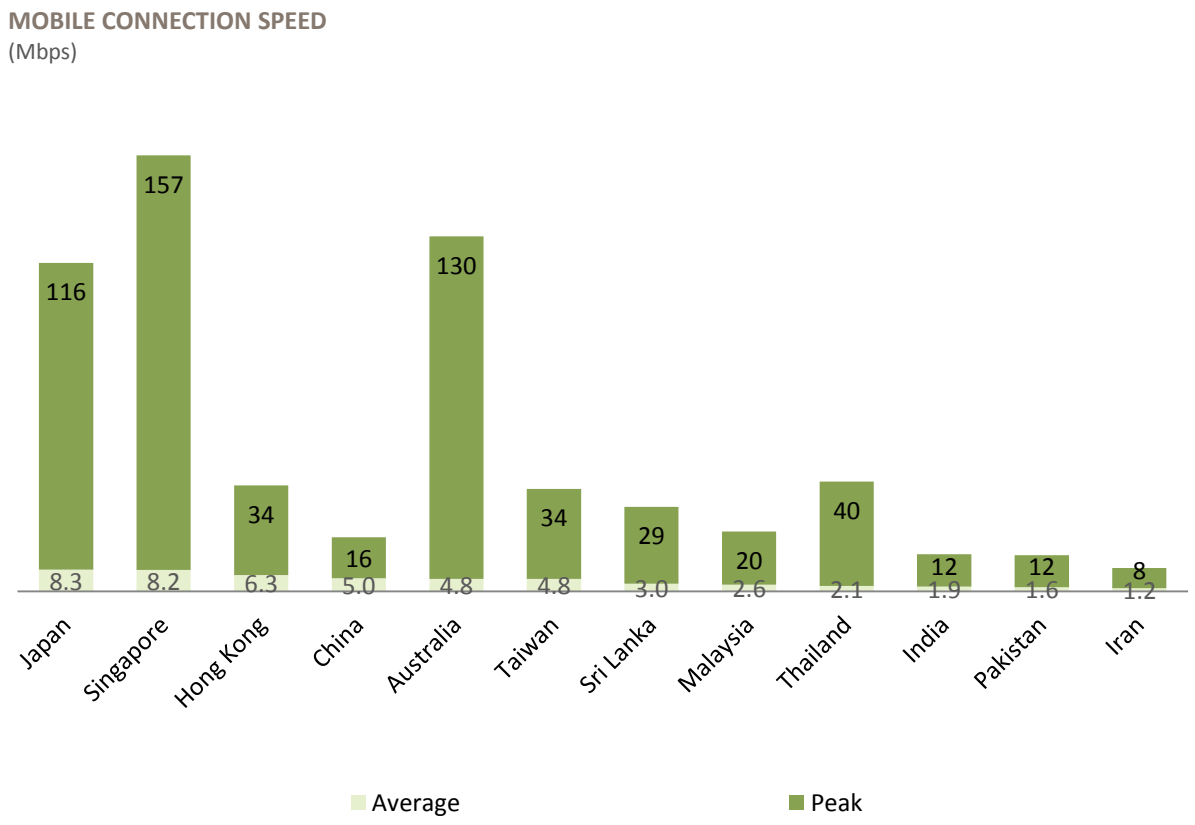
Figure 2.2 Average Internet Connection Speed by Asia Pacific Region

Meanwhile, in terms of connection speeds on mobile networks, Akamai collected this result based on usage from smartphones, tablets, computers and other devices that connect to the Internet through mobile network providers within a country. A total of 50 countries were included in this study, specifically countries/regions that have threshold usage of 25,000 unique IP address.

Based on the Akamai report, Malaysia's average connection speeds on mobile networks is at 2.6Mbps, with peak connection speeds at 20.1Mbps. In contrast, the UK has the fastest average connection speed at 16Mbps, followed by Denmark at 8.8Mbps.

The connection speeds on mobile network by Asian countries is shown in Figure 2.3.

Connection Speeds on Mobile Network by Asian Countries 2014



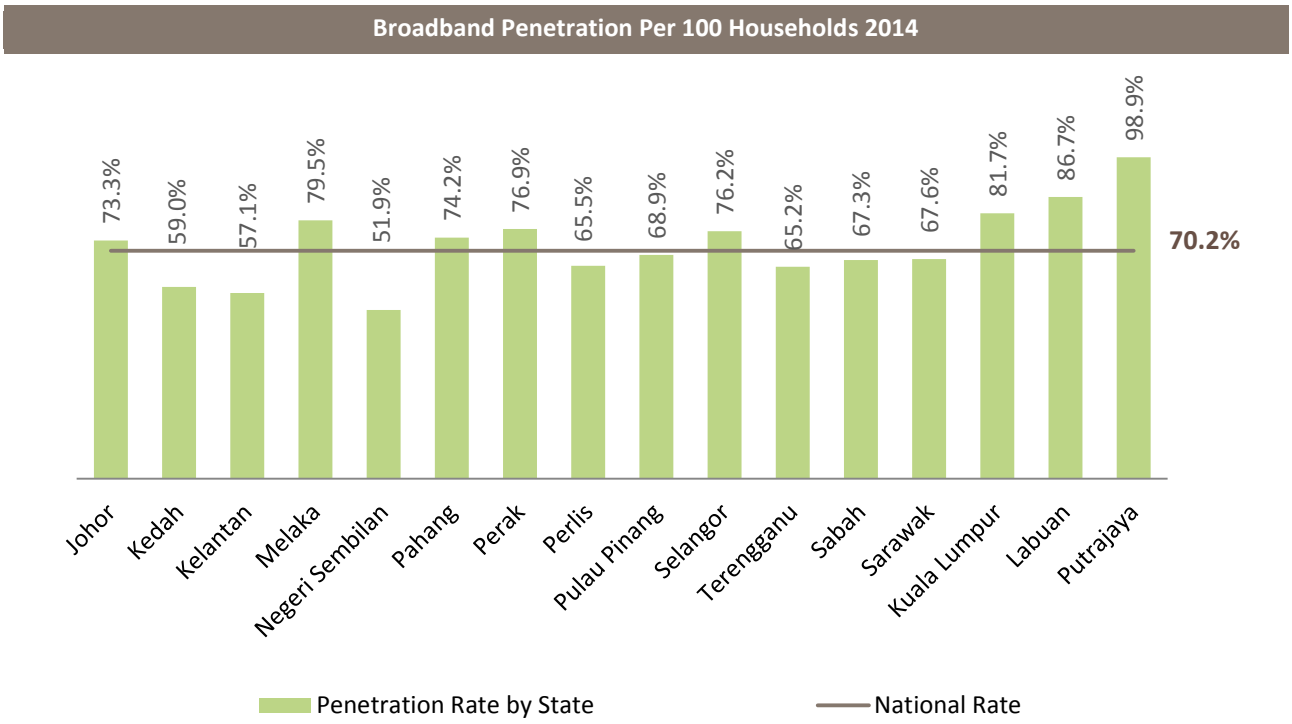
Source: Akamai, The State of the Internet Report 2014

Figure 2.3 Connection Speeds on Mobile Network by Asian Countries 2014

Broadband in Malaysia

Malaysia achieved 70.2% household penetration rate in 2014

The household broadband subscriptions in Malaysia continued its positive growth with national household penetration rate at 70.2%. In terms of broadband penetration rate by states, half of the states are substantially above national rate while the remainder recorded penetration rates of not less than 50%. The details are shown in Figure 2.4.



Source: MCMC

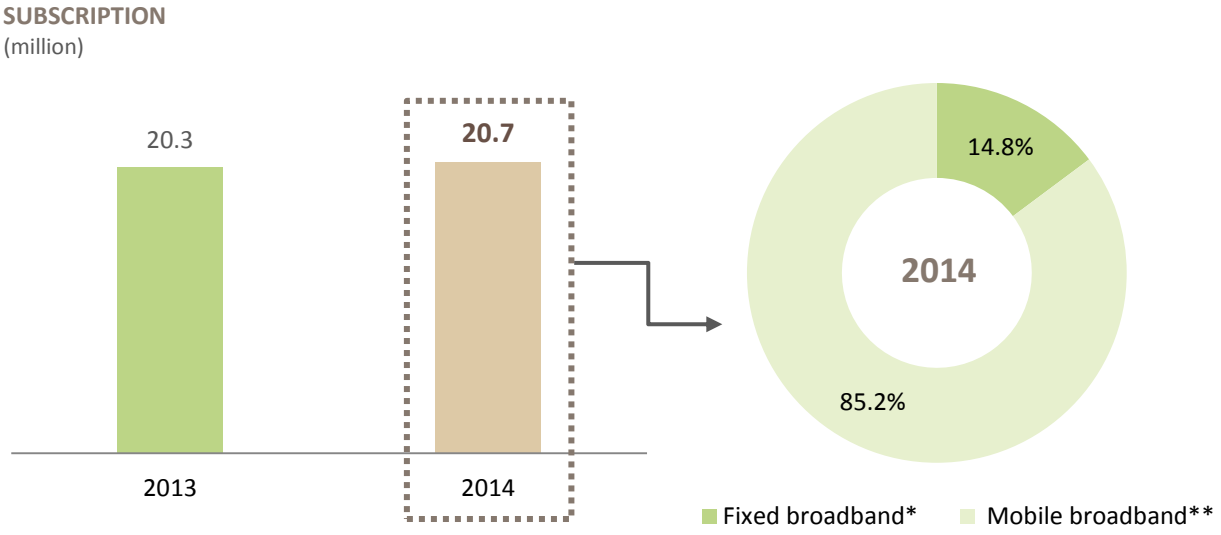
Figure 2.4 Broadband Penetration Per 100 Households 2014

With the household broadband penetration rate exceeding 70% and the broadband coverage more than 80% of populated area, the focus for Malaysia now is to increase the productive use of broadband, mainly supported by improved quality of service.

As at end 2014, there were a total of 20.7 million broadband subscriptions, whereby mobile broadband contributed more than 85%. An initiative under Universal Service Provision (USP) namely "Smart Device with Internet Package" has further accelerated the take-up of mobile broadband services in Malaysia. As at end 2014, a total of 570,000 packages have been taken up.

The Malaysian mobile broadband subscription is on the increasing trend and this is in line with the global trend. Ease of mobility, improved mobile broadband performance and more choices of affordable packages and smart devices are driving forces behind the growth of mobile broadband.

Broadband Subscriptions



*Note: * Refers to fixed subscriptions to ADSL, SDSL, fibre, cable modem, satellite and terrestrial fixed wireless broadband*
*** Refers to the active handset-based and computer-based (USB/dongles) mobile broadband subscriptions, including Pay per use, Prepaid, 4G LTE and 1Malaysia Netbook.*

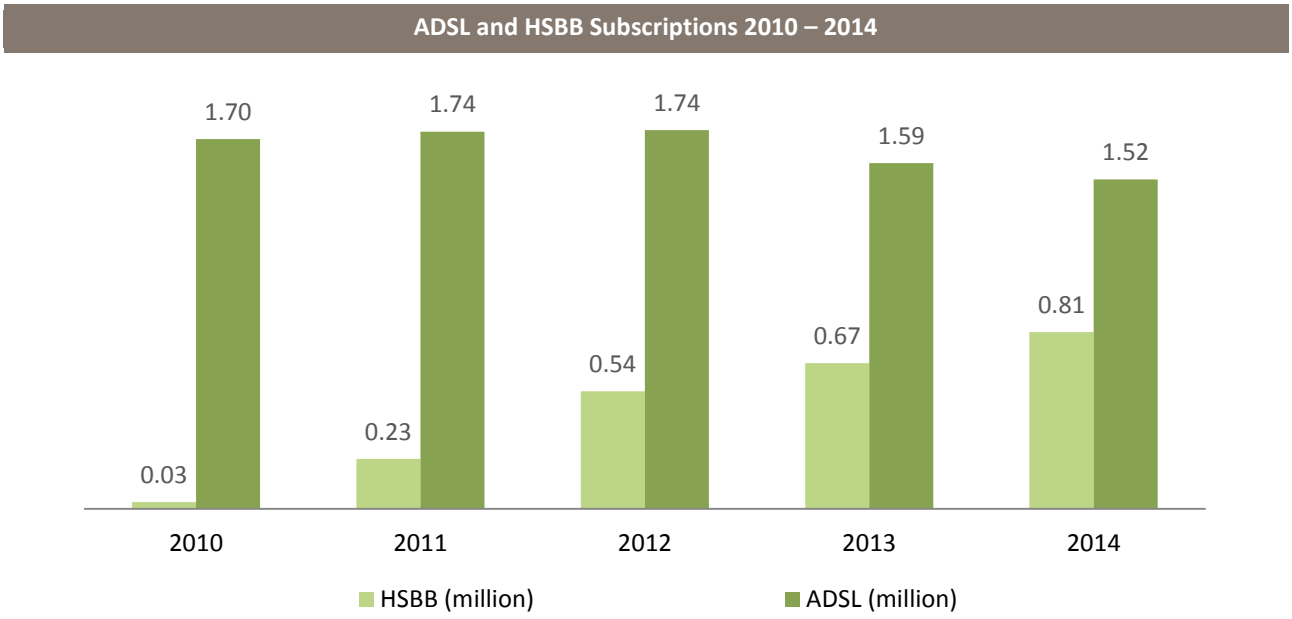
Source: MCMC

Figure 2.5 Broadband Subscriptions

Fixed Broadband

Increasing capacity and connectivity

As at end 2014, the total number of HSBB ports installed was 1.56 million with 103 exchanges. The number of HSBB subscriptions was at 810,000, representing 52% utilisation of the available ports. Meanwhile, ADSL service recorded 1.52 million subscriptions, a decrease of 4.4% compared with 2013. The cumulative subscriptions for HSBB and ADSL since 2010 are shown in Figure 2.6.



Source: MCMC

Figure 2.6 ADSL and HSBB Subscriptions 2010 – 2014

The HSBB Project is based on open access concept whereby other service providers are allowed to offer value added services using the HSBB infrastructure to deliver their services. As at end 2014, a total of 26 service providers has subscribed to HSBB Transmission (HSBB-T) service. The HSBB-T has a total capacity of 125Gbps involving 383 connections nationwide. As for HSBB Access (HSBB-A) service, five major service providers have signed up with more than 80,000 ports committed.

As at end 2014, total fibre optic cables deployed in Malaysia has reached more than 55,000km for both access and core network. As for the international network, a new submarine cable system SEA-ME-WE 5 will be built by a consortium of 15 members which includes TM. The 20,000km cable with full capacity of 24Tbps will connect 17 countries (three continents – Asia, Africa and Europe) and is expected to be completed in 2016. With such extensive capacity, the SEA-ME-WE 5 is expected to better enable provision of seamless connectivity across wider geographic area.

Improving broadband backhaul network

Enhancing broadband connectivity is an ongoing effort, thus the Government has implemented the broadband backhaul project Phase 2 for Peninsular Malaysia in 2014. The proposed links for this project will be identified based on areas that have neither existing fibre nor broadband

coverage. At the same time, priority will be given to industrial areas and the economic corridors.

The project has been divided into two parts. The implementation of Part 1 has commenced in 2014, while Part 2 will be implemented in year 2015. For Part 1, a total of eight new links with a distance of 201km have been deployed in 2014.

Wireless Broadband

Wireless Fidelity (Wi-Fi) Hotspots

Wireless Local Area Network or commonly referred to as Wi-Fi is a wireless data Internet access technology. Wi-Fi is widely available and accessible in many public commercial sites such as cafes, airports and trains, wherein their customers can get free access.

Wi-Fi technology has been used for over a decade. Since then, technology advancement and research have improved the speed offered. Over the span of 10 years, we could see the speed gradually increased from 54Mbps in 1999 to 450Mbps in 2009. In 2015, Wi-Fi technology is expected to enable data transmission speeds of up to 4.6Gbps[9]. The increased speed of Wi-Fi makes it a choice network for consumer.

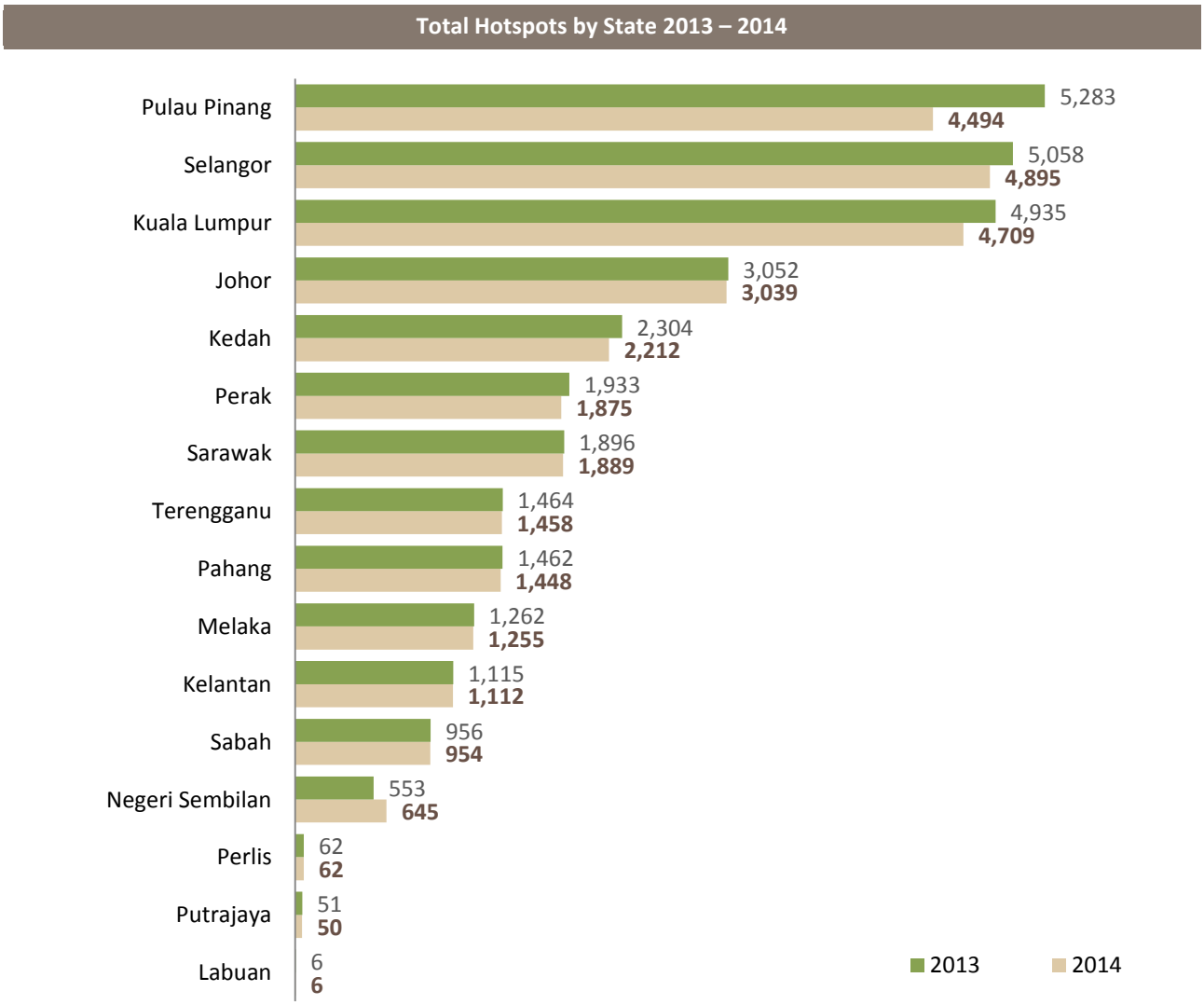
Globally, 46% of total mobile data traffic was offloaded onto the fixed network through Wi-Fi or femtocell[10] in 2014. Even mobile service providers are utilising Wi-Fi technology, that is, they offload their cellular data to Wi-Fi due to cost savings and traffic growth. By 2017, Cisco indicated that the amount of mobile network traffic offloaded from smartphones and tablets is expected to be 54% and 70% respectively[11].

Marginal decline in Wi-Fi hotspots in Malaysia

As at end 2014, there were more than 30,000 hotspots registered with service providers in Malaysia, a marginal decline of 4.1% from 31,392 hotspots in 2013. In tandem, it is observed that all states except Negeri Sembilan recorded reduction in total hotspot locations. One of the reasons for the decline in total number of hotspot location appears to be lack of equipment, whereby priorities are given to other areas with higher demand.

In 2014, Selangor has the highest number of hotspots with nearly 4,900 sites, followed by Kuala Lumpur with 4,709 hotspots. Despite securing the third position in terms of total hotspots by states, Pulau Pinang posted the highest reduction of 15% to 4,500 hotspots in 2014.

[9] samsungtomorrow.com, Samsung Electronics' 60Ghz Wi-Fi Technology Accelerates Data Transmission by Five Times, October 2014.
[10] Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update 2014 -2019 White Paper, February 2015.
[11] Ibid.



Source: MCMC

Figure 2.7 Total Hotspots by State 2013 – 2014

Bridging the digital gap with 5,652 KTW1M and 513 PI1M

The imbalance of network infrastructure between rural and urban areas is due to commercial considerations. In order to narrow the digital gap in Malaysia, rural communities have been equipped with Internet access through projects such as 1Malaysia Wireless Village (KTW1M) and 1Malaysia Internet Centre (PI1M). This has also been extended to sub urban communities such as *Program Perumahan Rakyat* (PPR).

The main objective is to cultivate awareness and adoption of wireless broadband among rural and remote communities. As at end 2014, a total of 5,652 KTW1M sites were established, alongside with distribution of 1.3 million netbooks. Currently, 513 PI1M centres are operating nationwide, with a total user membership of 454,958.

4G Long Term Evolution (4G LTE) Services

As at end 2014, 4G LTE coverage reaching 27.8% populated area

The roll-out of 4G LTE opens a new chapter in Malaysia. However, there are challenges in dealing with all the dimensions of 4G LTE roll-out. While sharing the infrastructure assets is one of the best strategies, service providers need to carefully evaluate the competitive nature of generating revenue and increasing market share. There is also the requirement to enhance the value propositions offered to consumers. However, challenges such as site acquisition or site access process are negotiated to ensure progress in roll-out.

Figure 2.8 briefly summarises the strategies for market approach applied by service providers to enhance the deployment of their 4G LTE networks.

Market Approach for 4G LTE in Malaysia

Market Expansion

- Exploring other services with 4G LTE, such as VoLTE
- Offer extensive range of multiband 4G LTE devices in the market

Attractive Offering

- Innovative data bundle plans with smartphones and apps
- Attractive pricing plan

Industry Collaborations

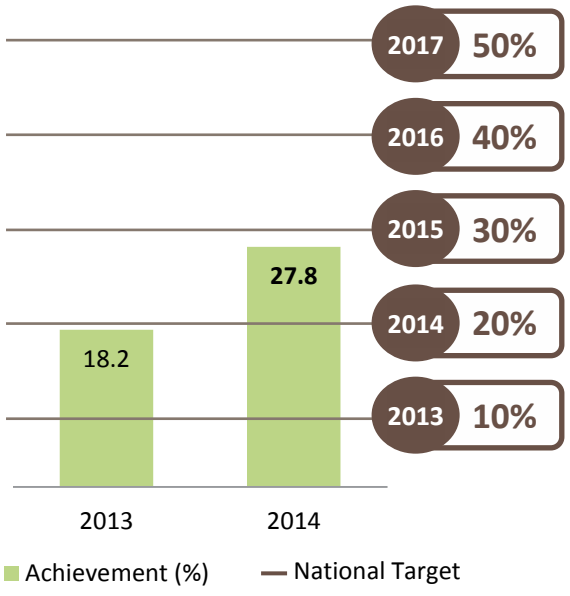
- Build fibre infrastructure as a long term cost savings and to better improve services
- Managed shared infrastructure and 4G LTE spectrum to accelerate roll-out
- Collaboration with technological partners

Source: Industry, MCMC

Figure 2.8 Market Approach for 4G LTE in Malaysia

In 2014, the 4G LTE services in Malaysia achieved 27.8% population coverage, meeting the target set for the year. With expected increments of 10% each year, 4G LTE coverage is targeted to reach minimum 50% populated area by 2017.

4G LTE Population Coverage



Source: Industry, MCMC

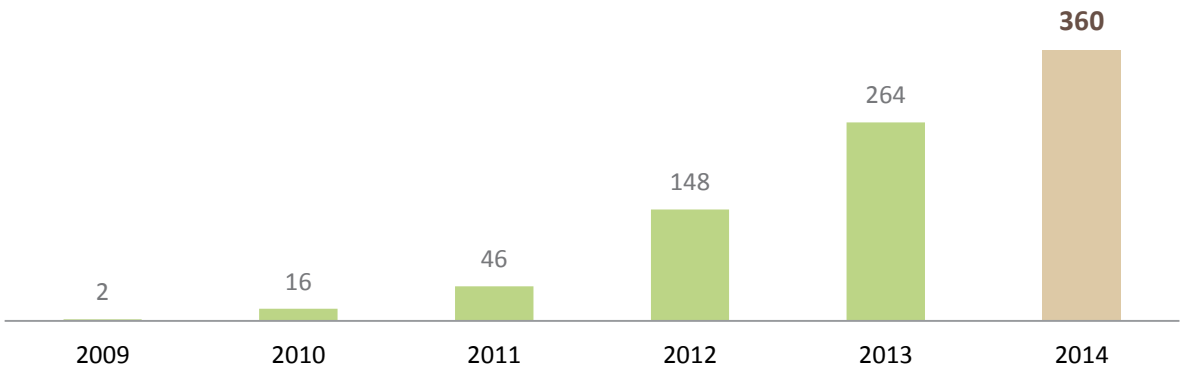
Figure 2.9 4G LTE Population Coverage

4G LTE networks deployed globally

As at end 2014, a total of 360 commercial 4G LTE networks were deployed in 124 countries globally. Notably, South Korea and Singapore have achieved 100% 4G LTE coverage. GSMA indicated that by 2020, 4G LTE coverage by population is expected to reach 95% in developed countries and 60% in developing countries.

Meanwhile, global total 4G LTE subscriptions increased by 140% to 497 million subscriptions in 2014[12]. The total number of subscriptions is expected to reach 2.3 billion in 2019[13]. This is supported by an estimated 1.89 billion 4G LTE devices targeted to be shipped by the end of 2019[14]. Smartphone service offering is expected to have a strong take-up on 4G LTE network and to date, smartphone is the largest user device ecosystem with 1,395 devices or 52.7% of the ecosystem.

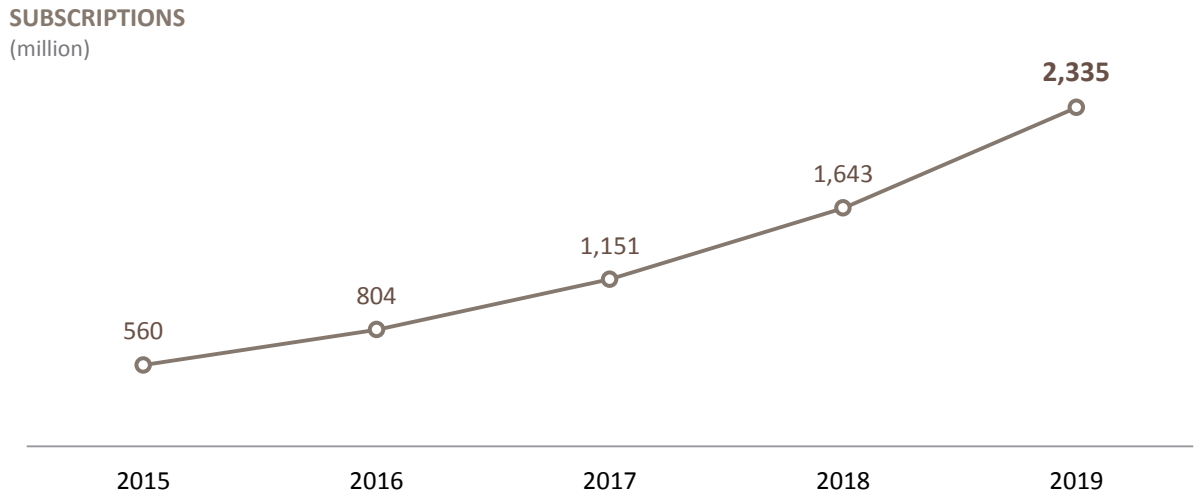
Total Commercial 4G LTE Networks Launched 2009 – 2014



Note: Figures are in cumulative totals

Source: GSA, Evolution to LTE, January 2015
Figure 2.10 Total Commercial 4G LTE Networks Launched 2009 – 2014

Global 4G LTE Subscriptions Forecast

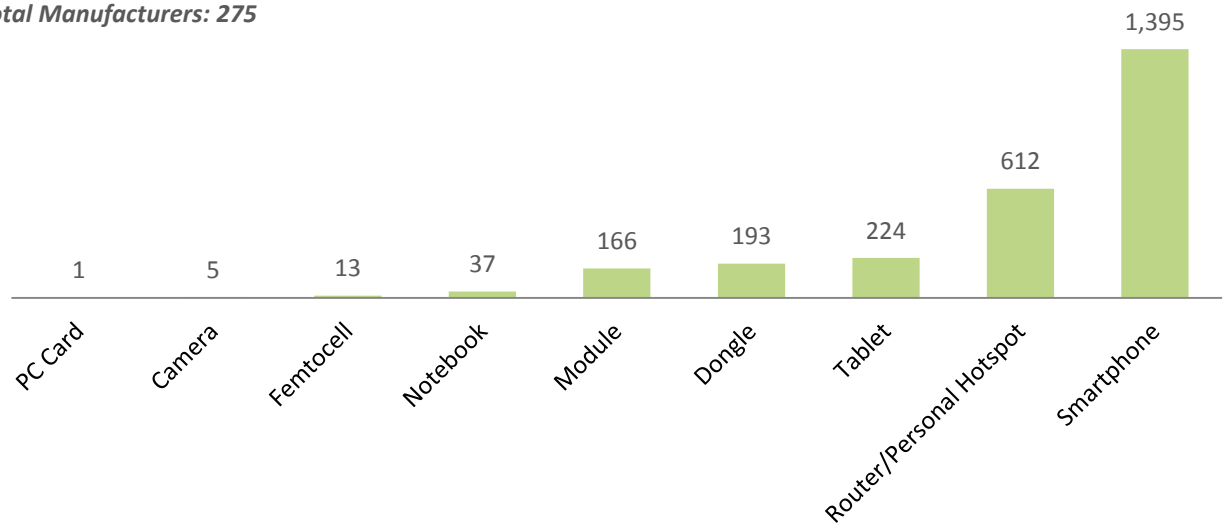


Source: Ovum, Forecast LTE by Spectrum, October 2014
Figure 2.11 Global 4G LTE Subscriptions Forecast

[12] GSA, Evolution to LTE, February 2015.
[13] Ovum, Forecast LTE by Spectrum, October 2014.
[14] ABI Research, LTE Handset Shipments Expected to Soar to Nearly 680 million in 2015, December 2014.

Global 4G LTE User Devices

Total Devices: 2,646
Total Manufacturers: 275



Note: 1. Status of 4G LTE-enabled user devices launched, as at February 2015
2. Several devices are multiband and/or multimode. Certain devices are carrier or country specific and are therefore not available in all markets
3. The total of 1,395 smartphones are announced by 275 suppliers, include both by vendors and frequency variant

Source: GSA, LTE Ecosystem Report, February 2015
Figure 2.12 Global 4G LTE User Devices

Fixed Services

Direct Exchange Line (DEL) Subscriptions in Malaysia

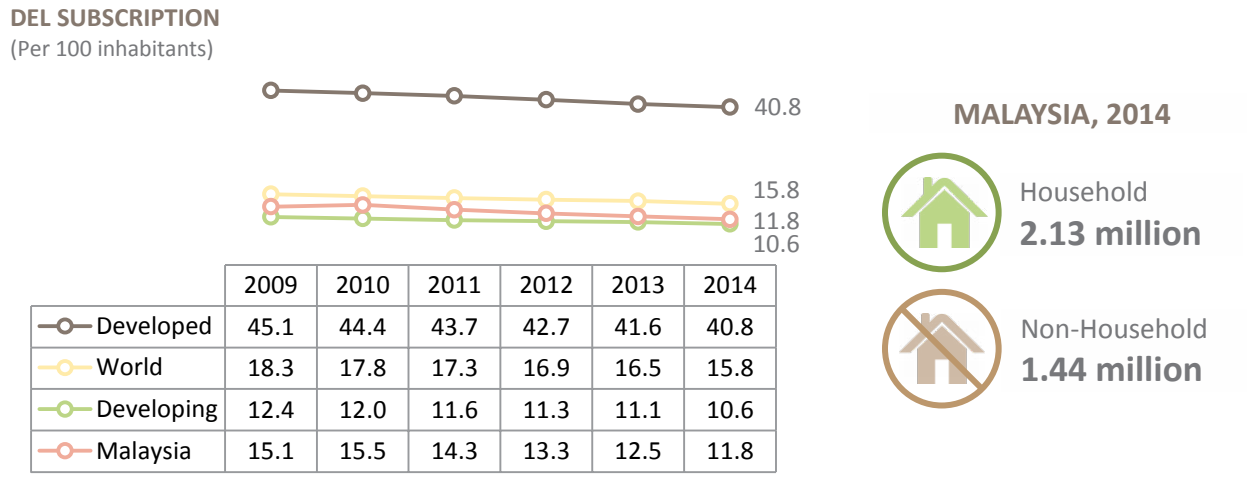
Malaysia DEL subscriptions was at 11.8 per 100 inhabitants or a total of 3.57 million connections

As at end 2014, DEL subscriptions by population stood at 3.57 million with penetration at 11.8 per 100 inhabitants in Malaysia, a decline from 12.5 per 100 inhabitants in 2013.

By household penetration rate, DEL was at 30.3% or 2.13 million residential subscriptions, a decline of 5.3% from 2013 at 2.25 million. Specifically, only six states in Malaysia, namely Johor, Melaka, Negeri Sembilan, Perak, Pulau Pinang and Labuan were well above the national level penetration rate. Pulau Pinang has the highest DEL penetration rate at 46.9% while the lowest was Kuala Lumpur at 14.5%.

DEL subscriptions peaked at 4.4 million in 2010 and since then has declined at a rate of 4.5% annually. This trend of decreasing DEL subscriptions in Malaysia is in line with the global outlook (Figure 2.13). According to ITU, DEL usage is on the decline in all regions of the world[15] with an estimated 1.1 billion subscription by end 2014. While there is a common view that users shift from fixed line to mobile phone services, the decline can be attributed to the growth of other communications technologies such as VoIP[16] and wireless communications[17].

DEL Subscriptions: Worldwide and Malaysia



	2009	2010	2011	2012	2013	2014
Developed	45.1	44.4	43.7	42.7	41.6	40.8
World	18.3	17.8	17.3	16.9	16.5	15.8
Developing	12.4	12.0	11.6	11.3	11.1	10.6
Malaysia	15.1	15.5	14.3	13.3	12.5	11.8

Note: The developed and developing country classifications are based on UN M49 which is a standard for area codes used by the United Nations. For statistical purposes, developed and maintained by the United Nation Statistics Division. For more information refers to unstats.un.org

Source: ITU, MCMC

Figure 2.13 DEL Subscriptions: Worldwide and Malaysia

TM remains as the main service provider for DEL with 97% market share, followed by Time, Maxis and DiGi, with 2.1%, 0.8% and 0.1% market shares respectively.

[15] ITU, Measuring the Information Society Report 2014, 2014.
[16] VOIP is an acronym for Voice Over Internet Protocol, or in more common terms phone service over the Internet. Source: http://www.voip-info.org/wiki/view/What+is+VOIP.
[17] Telegeography, Fixed Line Telephony: A Far Cry from Dead, October 2014.

Satellite Services

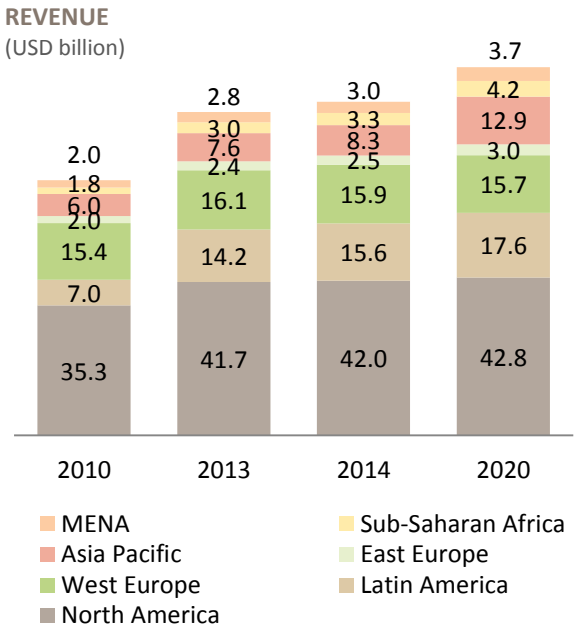
Global satellite TV revenue to reach USD100 billion

The emerging growth of High Definition Television (HDTV) and cable distribution channels is driving growth of the satellite industry. Such demand is prompting some countries targeting to launch a satellite every one to two years.

According to Digital TV Research, global satellite TV revenue is expected to reach USD99.9 billion in 2020[18]. This is in contrast to satellite TV revenue at USD87.8 billion in 2013 and USD90.6 billion in 2014.

Digital TV Research also reported that Asia Pacific and Latin America are expected to show strong growth in satellite revenue. However, such revenue is expected to fall in Western Europe as competition from other platforms increases in the region.

Global Satellites TV Revenue Forecasts



Note: MENA – Middle East and North Africa

Source: Digital TV Research

Figure 2.14 Global Satellites TV Revenue Forecasts

According to US research firm, Northern Sky Research, more than 820 Ultra High Definition (UHD) channels are expected to be transmitted via satellite by 2025[19]. Out of these, more than 560 4K and 8K channels[20] are expected to be broadcasted via DTH, while an estimated 260 channels would transmit via satellite to cable and Internet Protocol TV (IPTV).

Asia Pacific's demand for digital TV and HD video broadcasting drives satellite service growth

The number of homes with multichannel TV in the Asia Pacific reached 500.6 million according to research from the Cable & Satellite Broadcasting Association of Asia (CASBAA)[21]. The organisation's report on Asia Pacific Multichannel TV Advertising 2015[22] revealed that consumers are 25% more willing to pay for anywhere access to video today compared with 2012. In addition, the report stated that individual markets such as Indonesia, China, Malaysia and India are showing strong growth in multichannel TV homes.

[18] Digital TV Research, Global Satellite TV Forecast, July 2014.
[19] APB-News, UHD Satellite Channels to Experience Significant Growth, August 2014.
[20] 4K channels, also known as 4K Ultra HD TVs deliver four times as much detail as Full HD. 8K channels offer an image 16 times more detail than Full HD.
[21] CASBAA is the association for multi-channel audio-visual content creation and distribution industry across Asia.
[22] CASBAA, Asia Pacific Multichannel TV Advertising 2015, October 2014.

Meanwhile, Direct-to-Home (DTH) satellite Pay TV subscriptions in Asia are expected to grow to 150.4 million by 2023[23]. In 2013, there were 56.3 million such subscribers. This is according to Media Partners Asia, an independent provider of information services. Meanwhile, HD DTH subscriptions are expected to grow to 37.3 million by 2023 (2013: 10.4 million). Such increase in subscriptions and growth in HD content augurs well for the satellite industry. That is, the demand for satellite capacity is expected to remain strong.

Satellite Services in Malaysia

For Malaysia, the communications satellite service is provided by MEASAT Satellite Systems Sdn Bhd (MEASAT).

Measat-3b satellite launched in September 2014

Measat-3b satellite launched on 12 September 2014 with investment value of RM1.1 billion, over a period of 15 years. This serves to expand DTH broadcasting and telecommunications satellite capacity across Malaysia, Indonesia, India and Australia. It doubles the existing capacity from 36 to 86 transponders and covers about 13.2 million km^2. Notably, ASTRO is expected to benefit from Measat-3b as ASTRO can offer 30 more channels including HD.

MEASAT has capacity across six satellites in their fleet namely, Africasat-1a, Measat-2, Measat-3, Measat-3a, Measat-5 and now Measat-3a. The satellite fleet of MEASAT and coverage areas are shown in the figure below.

Measat Satellites		
Satellites	**Launch Year**	**Areas Covered**
Measat-2	1996	Asia Pacific & Hawaii
Measat-5	2005	Brunei, Malaysia and Singapore
Measat-3	2006	Asia, Australia, Middle East, South Eastern Europe and Eastern Africa
Measat-3a	2009	Asia, Australia, Middle East and Eastern Africa
Africasat-1a	2013	Africa, Europe, Middle East, Malaysia and Singapore
Measat-3b	2014	Malaysia, Indonesia, South Asia and Australia

Source: Measat
Figure 2.15 Measat Satellites

MEASAT revenue grew by 5% in 2014

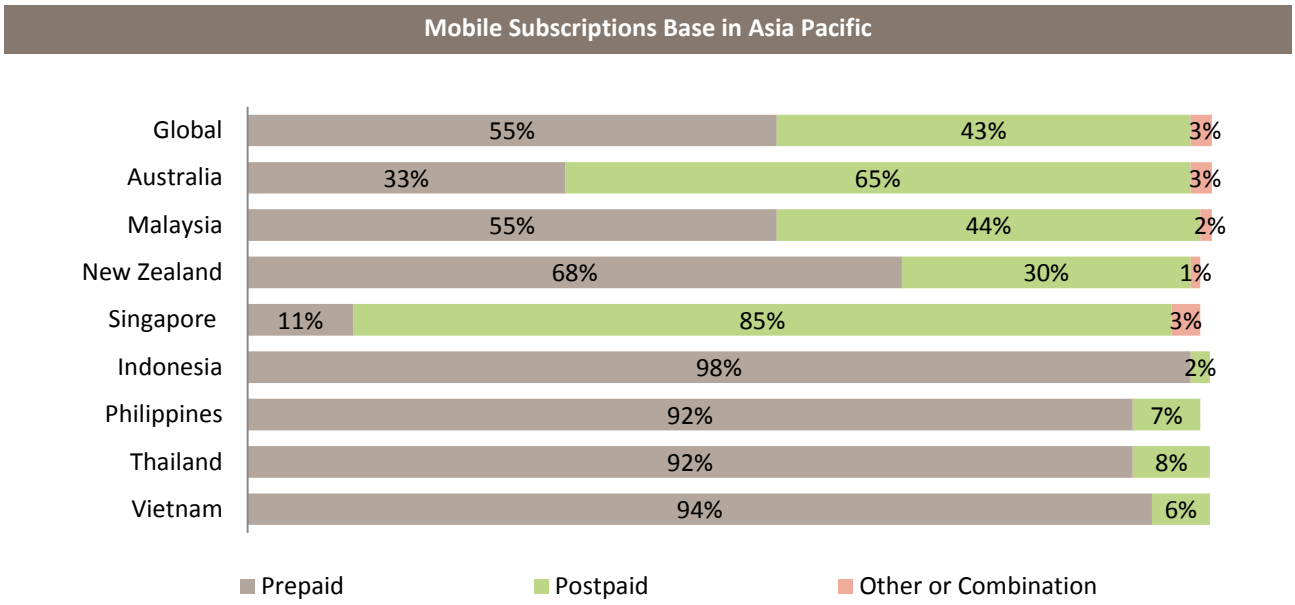
The MEASAT satellite fleet coverage has enabled MEASAT to capitalise on the demand growth. Consequently, MEASAT revenue recorded an increase of 5% to RM294 million in 2014 from RM280 million in 2013.

As part of MEASAT continuous growth through fleet expansion of one satellite every one or two years, another satellite Measat-3c is expected to be launched by early 2016 to further boost capacity and revenue growth.

[23] Media Partners Asia, DTH numbers to break 100 million mark in Asia by 2018, July 2014.

Mobile Services

In emerging markets such as Vietnam, Thailand, Philippines and Indonesia, mobile prepaid subscriptions represent almost 90% of their mobile subscriptions base. In contrast, Australia and Singapore have larger postpaid subscriptions than prepaid.



Source: Ericsson, The End of Prepaid and Postpaid, September 2013

Figure 2.16 Mobile Subscriptions Base in Asia Pacific

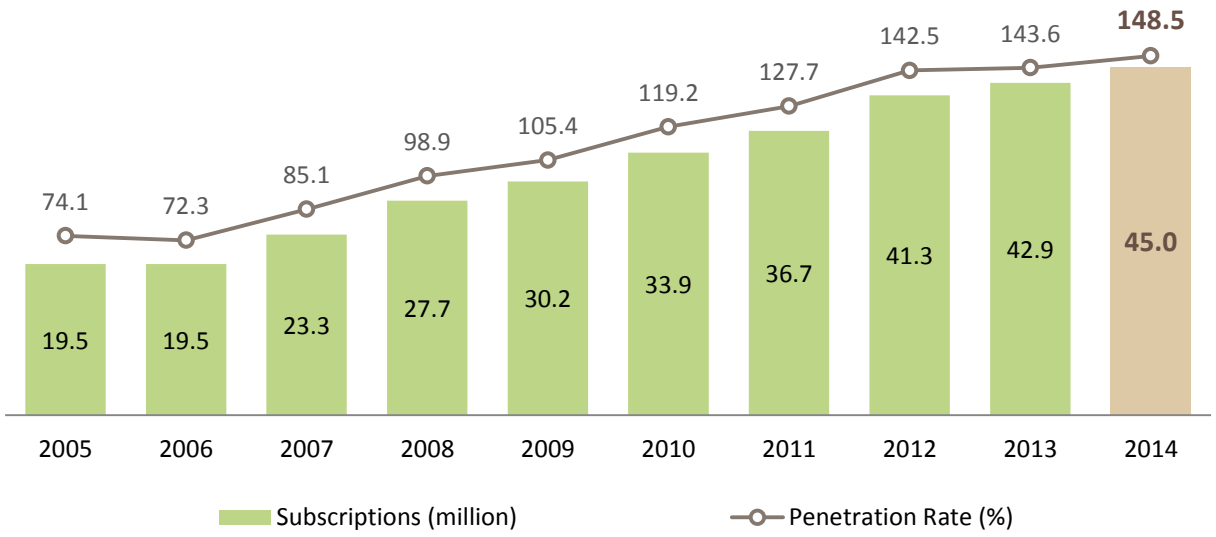
The popularity of prepaid in these markets was due to non-contractual lock-ins and monthly commitment of prepaid subscriptions, hence making it more attractive for all users including those with lower income and also for students.

Malaysia mobile penetration rate at 148.5%, equivalent to 45 million mobile subscriptions in 2014

The growth of mobile subscription in Malaysia is driven by competitive business and technological factors. Strong competition among the mobile service providers is driving the development of value for money products and services. This also includes repackaging of existing products to facilitate high usage of content and application services.

The trend of mobile services growth is shown in Figure 2.17. Mobile services in Malaysia have evolved from voice, text messages and Multimedia Messaging Services (MMS) to multiple platform services in the age of digital convergence.

Penetration Rate and Mobile Subscriptions 2005 – 2014



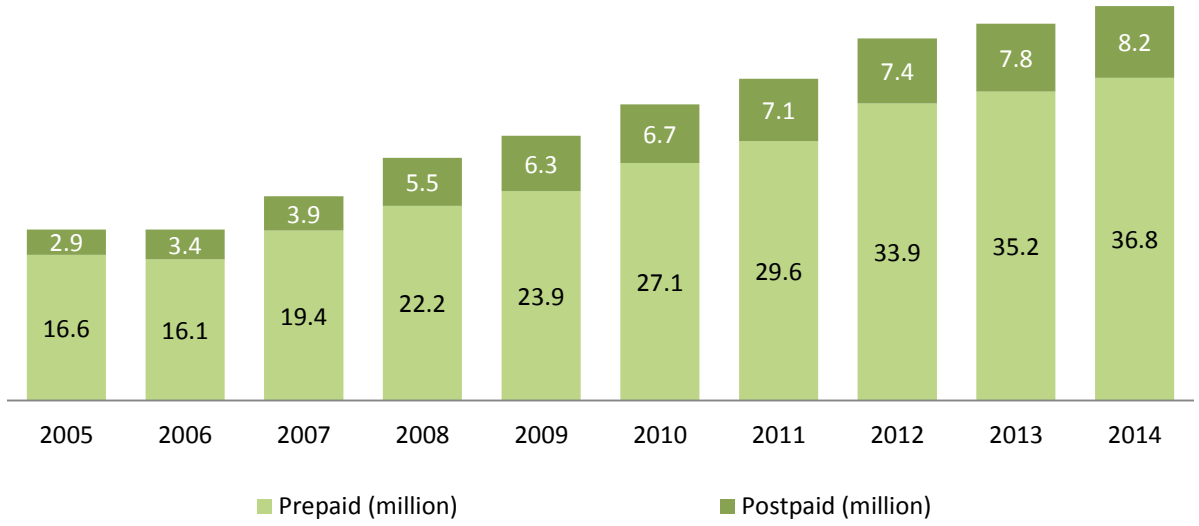
Source: Industry, MCMC

Figure 2.17 Penetration Rate and Mobile Subscriptions 2005 – 2014

Attractive packages boosted postpaid demand

As at end 2014, the prepaid market comprises 81.7% or 36.8 million subscriptions, while postpaid was at 18.2% or 8.2 million subscriptions. Intense competition and expiration of prepaid plans were among reasons for lower growth in the prepaid segment. For the postpaid segment, service providers have been offering affordable and appealing packages, which includes subsidised smartphones and other devices together with a variety of contract plans.

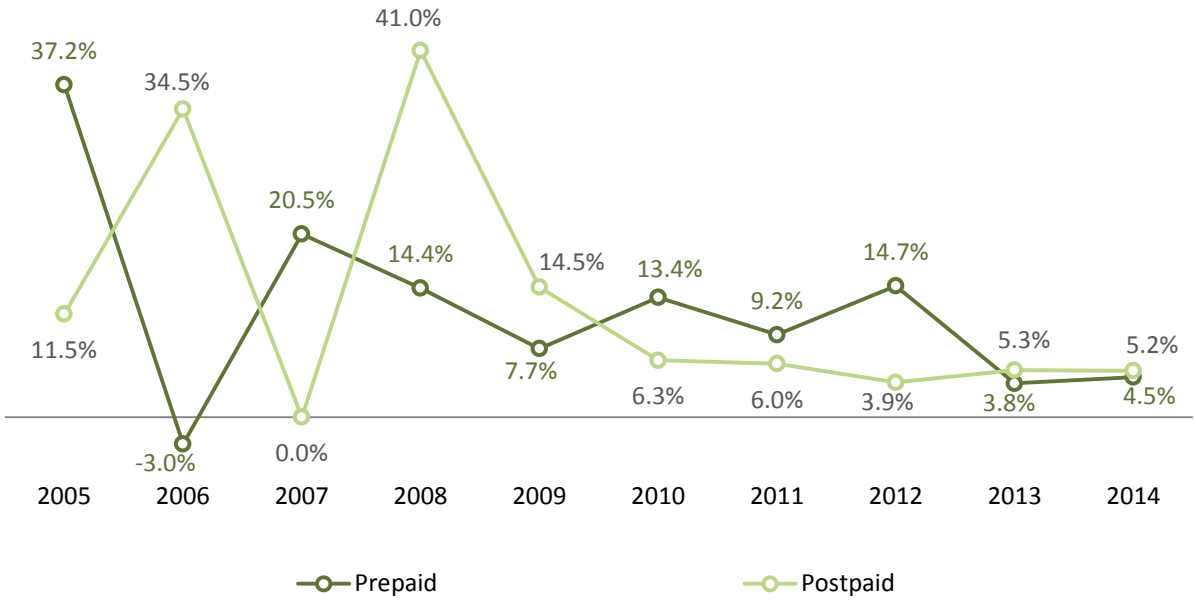
Prepaid and Postpaid Subscriptions of Mobile Services 2005 – 2014



Source: Industry, MCMC

Figure 2.18 Prepaid and Postpaid Subscriptions of Mobile Services 2005 – 2014

Prepaid and Postpaid Subscriptions Growth 2005 – 2014



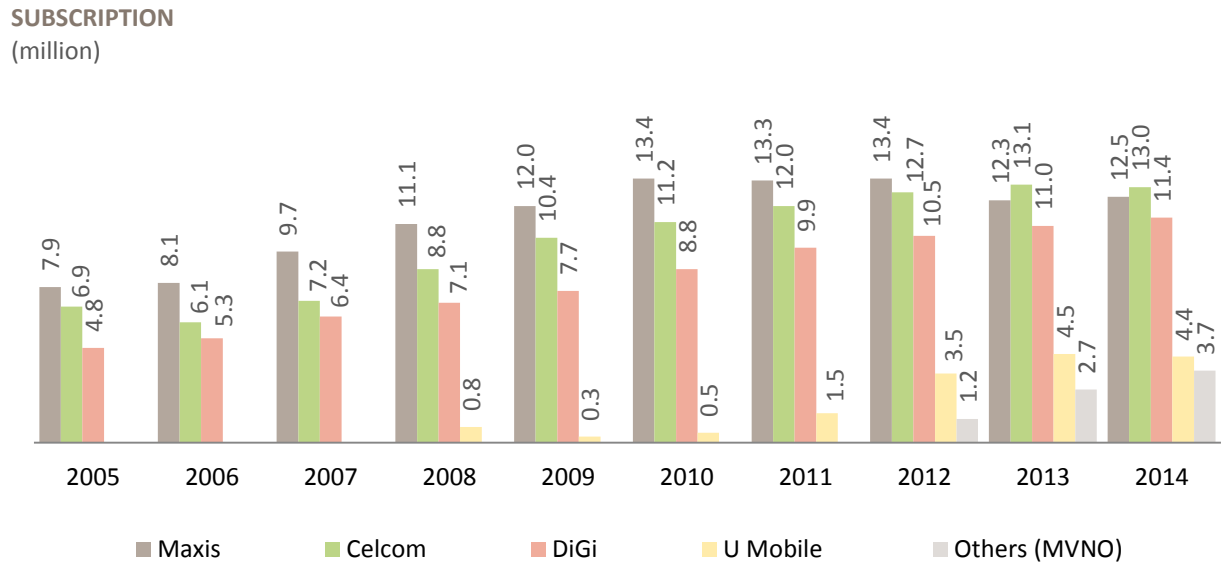
Source: Industry, MCMC

Figure 2.19 Prepaid and Postpaid Subscriptions Growth 2005 – 2014

Service Provider Market Shares

With total number of 13 million mobile subscriptions or 28.9% of the market share, Celcom took the lead. This is followed by Maxis with 12.5 million subscriptions or 27.8% and DiGi posted 11.4 million subscriptions (25.5%). Meanwhile, U Mobile posted 4.4 million subscriptions (9.7%). The MVNO captured the balance 8.2% market share, with 3.7 million subscriptions. Mobile subscriptions and market share by service providers are shown in Figure 2.20 and Figure 2.21 respectively.

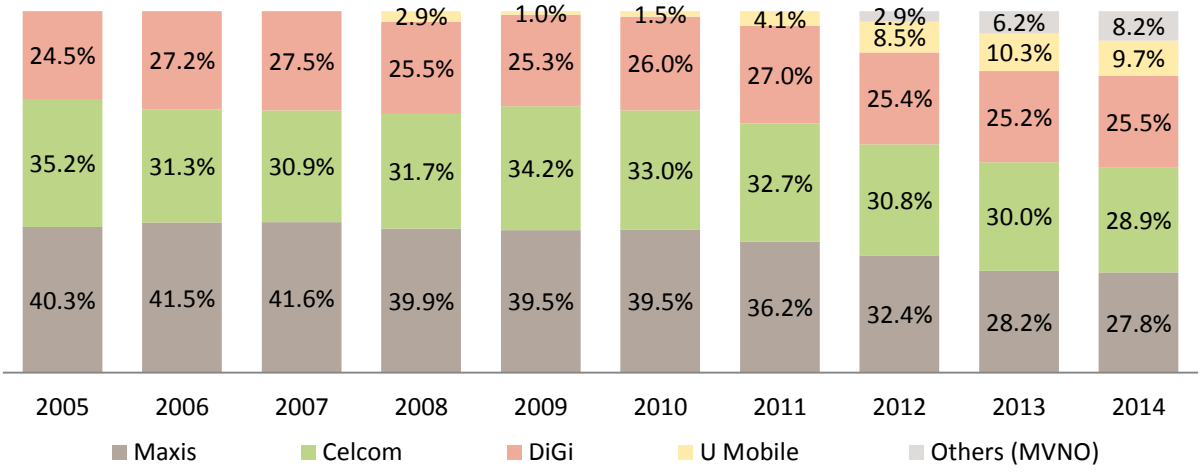
Mobile Subscriptions by Service Providers 2005 – 2014



Source: Industry, MCMC

Figure 2.20 Mobile Subscriptions by Service Providers 2005 – 2014

Market Share by Service Providers 2005 – 2014



Source: Industry, MCMC

Figure 2.21 Market Share by Service Providers 2005 – 2014

MVNO Services

Market opportunities, technology evolution and competitive dynamics drive MVNO landscape in Malaysia

The number of MVNOs are growing steadily in Malaysia especially with mobile technological advances, higher bandwidth and more applications that spur the demand for wireless usage.

As at end 2014, there were a total of 20 MVNOs providing services, comprising 11 thin and nine thick MVNOs based on their respective business models[24]. The classifications and types of licence are shown in Figure 2.22.

List of MVNO 2014			
MVNO	**Mobile Network Operator (MNO)**	**Classification**	**Type of Licence**
Altel Communications Sdn Bhd	Celcom	Thick	NSP (I), NFP (I)
Ceres Telecom Sdn Bhd	U Mobile	Thick	NSP (I)
Clixster Mobile Sdn Bhd	U Mobile	Thick	NSP (I)
Enabling Asia Tech Sdn Bhd	U Mobile	Thick	NSP (I)
Talk Focus Sdn Bhd	DiGi	Thick	NSP (I)
Telekomunikasi Indonesia (Malaysia) Sdn Bhd	Maxis	Thick	NSP (I)
Tune Talk Sdn Bhd	Celcom	Thick	NSP (I)
Xiddig Cellular Communications Sdn Bhd*	DiGi	Thick	NSP (I)
XOX Com Sdn Bhd	Celcom	Thick	NSP (I)
Ameen Mobile Sdn Bhd	DiGi	Thin	ASP (C)
ECI Communications Sdn Bhd*	U Mobile	Thin	ASP (C)
I Tel Mobile Network Sdn Bhd	Maxis	Thin	ASP (C)
Merchantrade Asia Sdn Bhd	Celcom	Thin	ASP (C)
Mobile 8 Telco Sdn Bhd	U Mobile	Thin	ASP (C)
One XOX Sdn Bhd*	Celcom	Thin	ASP (C)
Pavo Communications Sdn Bhd	DiGi	Thin	ASP (C)
PLDT Malaysia Sdn Bhd	Celcom	Thin	ASP (C)
Prabhu Mobile Sdn Bhd	U Mobile	Thin	ASP (C)
Red One Network Sdn Bhd *(Formerly known as Redtone Mobile Sdn Bhd)*	Celcom	Thin	ASP (C)
XOX Mobile Sdn Bhd*	Celcom	Thin	ASP (C)

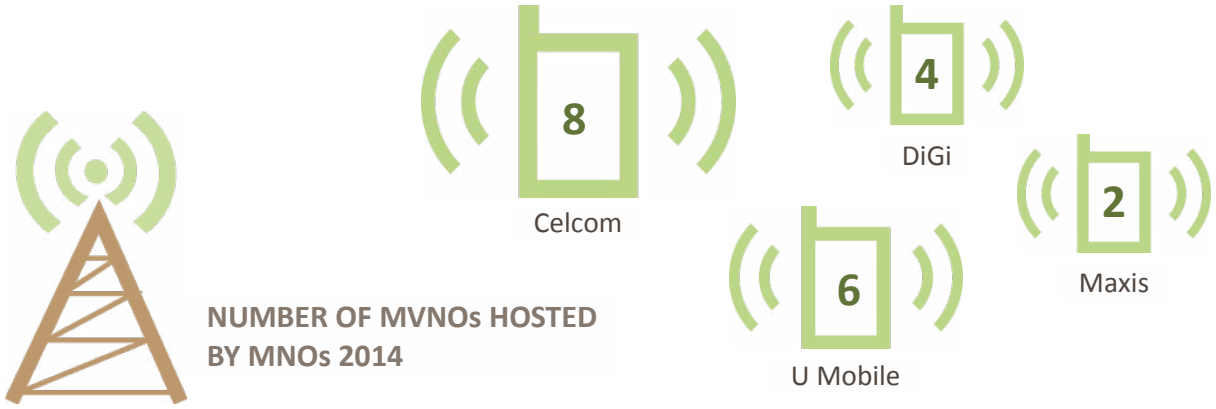
**New MVNOs in 2014*

Source: Industry, MCMC
Figure 2.22 List of MVNO 2014

[24] MCMC, Guideline on Regulatory Framework for 3G Mobile Virtual Network Operators, 2005.

Celcom hosted 8 MVNOs

In 2014, Celcom hosted a total of eight MVNOs, which are thus linked to Celcom network for their MVNO operations. These include three of the four new entrants. U Mobile hosted a total of six MVNOs, including one new entrant and one MVNO which switched from the DiGi network.



Source: Industry, MCMC

Figure 2.23 Number of MVNOs Hosted by MNOs 2014

MVNO market with 3.7 million subscriptions

A study by GSMA Intelligence[25] stated that MVNOs remain most prevalent in mature markets where penetration has surpassed 100%. The MVNO development in Malaysia appears to follow this trend.

The development of 3G since 2006 also supported the growth of MVNO to date. The 3G service caters for MVNOs by enabling them to offer low-cost pricing for voice and SMS. In the current scenario of high data demand, some MVNOs are now offering data packages. It is expected that more MVNOs will provide data packages, particularly in light of 4G LTE deployment.

As at end 2014, MVNOs captured 8.2% or 3.7 million of total mobile subscriptions in Malaysia. From this record, two major MVNOs registered more than 50% in subscriptions from total MVNOs market share. One of them, has attributed their success to strong growth in the target market of travel and its related services as well as their renown brand name. Meanwhile, the other one is carving out additional niches that develop new customer segments from South Asia origin subscribers.

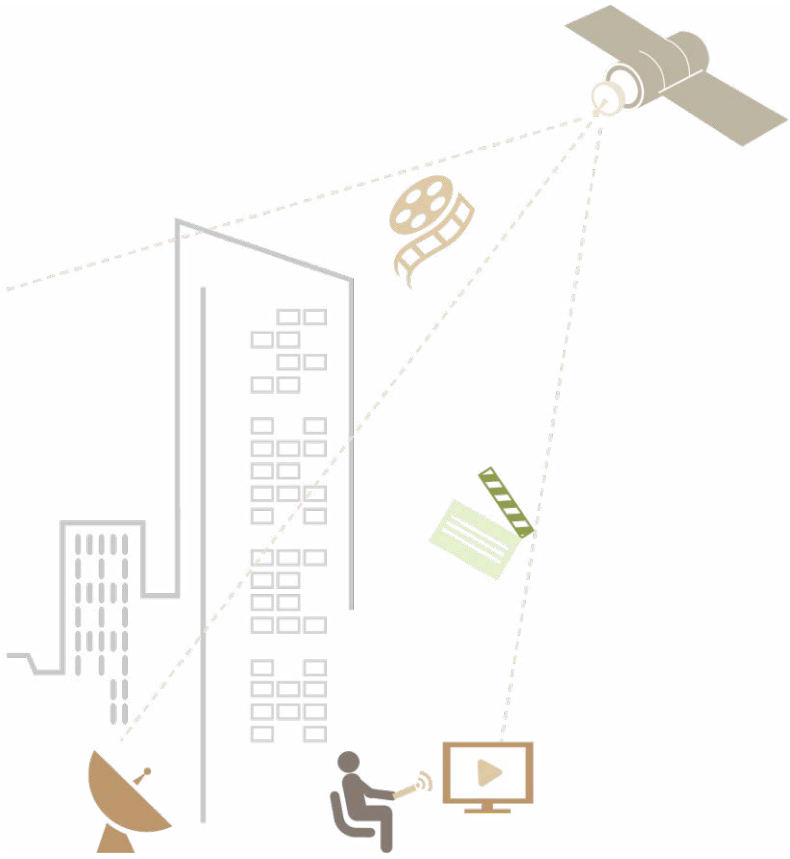
Based on information gathered, the Malaysian MVNOs focused on the prominent niche markets targeting discount, segmented market and affiliate programmes. Each of these niche categories leverages different assets and market positioning in the mobile market. A brief explanation of these categories is provided in Figure 2.24.

[25] GSMA Intelligence, The Global MVNO Landscape, 2012 – 2014, June 2014.

MVNO Market Strategy		
Market Segment	**Strategy Adopted**	**Challenges and Limitation**
Discount Driven	▪ Usually offer simple and easy to understand packages. ▪ It is based on lower prepaid and postpaid tariffs, with basic voice and SMS services.	▪ Tough for sustainability as there are other operators that can offer a cheaper price. ▪ Usually a strategy to gain market share at an instant for new entrants.
Segmented Market	▪ Strategically focused on niche markets such as foreign workers, ethnic community or youth. ▪ Services offered, pricing plans and brand association caters to what appeals to users in the identified target market segment. ▪ Usually paired with innovative integrated marketing approach such as celebrity related activities, sports tournament or related mobile content from a specific angle such as Islamic content.	▪ Direct competition from other MNOs and MVNOs which offer similar packages. ▪ Require specific offering with VAS to attract and sustain customers in the identified target market segment. ▪ To ensure brand and value proposition is aligned with target market.
Affiliate Programme	▪ Co-bundled services such as for loyalty programme for conglomerates. ▪ Offer programmes such as digital discount deals, rebates, bonuses and privileges programme such as insurance and *umrah* services.	▪ Special value proposition for customers.

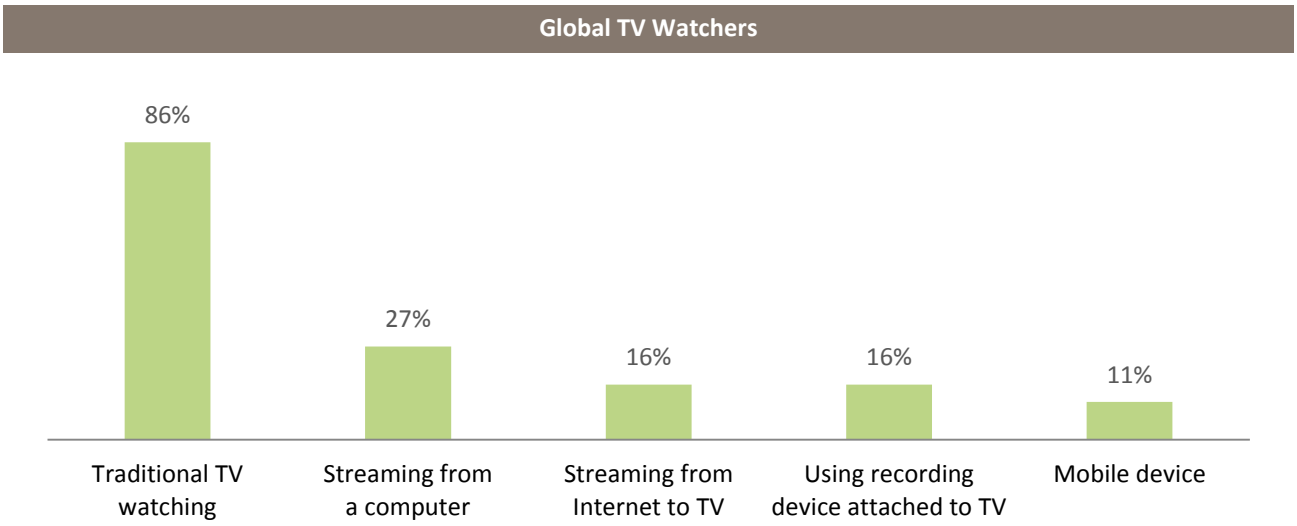
Source: Industry, MCMC
Figure 2.24 MVNO Market Strategy

MODULE 3: CONTENT SERVICES



TV Industry

In the current media and communications technology development, the audience have more platforms to watch TV over multiple devices. As viewing patterns shift to many screens aside from the traditional TV screen, a wide range of content is made available for content-hungry audience and their consumption habits.



Source: Ipsos, Most (86%) Global TV Watchers Use "Live TV" but Other Modes Increasingly Popular: Computers (27%), Streaming from Internet to TV (16%), Recording Device (16%) and Mobile (11%), April 2014

Figure 3.1 Global TV Watchers

In a report by ITU, globally, there are 1.4 billion households or approximately 80% of households[26] owning at least one TV set. This indicates that TV remains as a robust medium to reach out to a wider audience. Some people still prefer to gather around their living room TV set and sharing big TV moments[27].

The TV industry has evolved over time and still remains strong with the introduction of new technologies such as 3D and 4K[28]. A research firm, IHS[29], indicated that, global TV shipments improved 4% year-on-year in 3Q 2014. This is after several quarters of weak growth. LCD shipments rose nearly 9% year-on-year in 3Q 2014 and 4K TV shipments surged to three million units in 3Q 2014 alone compared with 500,000 units in 3Q 2013. This brings total shipments of 4K TV to 6.4 million units as at 3Q 2014.

Although consumers nowadays appear to be more attuned towards Internet enabled devices such as smartphones and tablets as well as laptops or PC for watching TV, TV remains a popular medium to access content as shown from the following observations:

- In US, TV is the most frequently used device to obtain news (24%), followed by desktop or laptop computer (12%), cell phone (12%) and tablet computer (4%)[30].

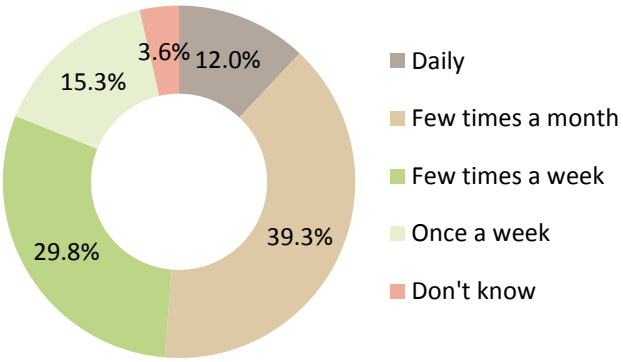
[26] ITU, ITU releases latest technology figures and global rankings, October 2013.
[27] RTL Group, A Golden Age for TV, April 2014.
[28] 4K Ultra HD TVs (also known as UHD TVs) deliver four times as much detail as 1080p Full HD.
[29] IHS Inc provides critical information and insight in the areas of Energy, Product Lifecycle, Security, Environment and Macroeconomics that global businesses use for decision-making and management.
[30] American Press Institute, How Americans get their news, March 2014.

- In UK, digital media has overtaken TV as the most popular way to consume media in 2013. However, it is estimated that UK adults still spend considerable time watching TV for an average of 3 hours and 15 minutes per day compared with other access medium such as desktop, laptop, mobile, radio or print in 2014[31].

- In Malaysia, Nielsen indicated that our audience spend an average of 3 hours and 39 minutes watching TV in 2014. This is three minutes higher than what was recorded in 2013. Nielsen uses "People Meter" that is installed on TV set in selected households and captures information on what channel is being watched, who is watching the TV and time period of watching the channel.

- MCMC survey in 2014 indicated that Internet users spent an average of 2 hours 30 minutes a day watching traditional TV while non-Internet users spent an average of 2 hours 12 minutes. Notably, 27.8% of the respondents comprising Internet users claimed that they streamed TV content online with frequency as shown in Figure 3.2.

Users Streaming Online TV



Note: This survey involved 3,607 respondents and took place from 28 June to 25 August 2014

Source: MCMC

Figure 3.2 Users Streaming Online TV

Malaysian TV Services

Malaysian TV services are delivered over FTA, DTH satellite, IPTV, cable and distribution through the Internet. Nowadays, content made for terrestrial FTA TV channels can also be accessed over almost all major Pay TV platforms available locally.

Scheduled to begin in 2016, the Digital Terrestrial Television Broadcasting (DTTB) infrastructure will enable FTA broadcasters to migrate from analogue to digital platform. DTTB allows further convergence of video delivery platforms as well as facilitates a whole range of new and enhanced digital products, applications and services to be introduced.

[31] eMarketer, UK Consumers Spend over 9 Hours per Day Consuming Media: Daily time spent with digital media continues rapid growth, October 2014.

Terrestrial FTA TV

The Terrestrial FTA TV broadcasters maintains their current channels. These are four channels under Media Prima, two channels under Government owned stations namely, Radio Televisyen Malaysia (RTM) and another channel under AlHijrah Media Corporation (TV AlHijrah).

In 2014, the FTA broadcasters collaborated to jointly promote DTTB to the public. Meanwhile, RTM and Media Prima are planning to launch additional channels and more content for the forthcoming DTTB platform. This enables the FTA broadcasters to benefit from DTTB technology, which offers more capacity and versatility in delivery channels not possible using analogue.

Commercial FTA TV broadcaster reach audience through a wide scope of media offerings

Media Prima reaches its audience through a wide scope of media offerings over delivery platforms such as TV, radio, print, digital and outdoor advertising solutions. One of the competitive advantages of this media group is its ability to satisfy Business-to-Business (B2B) advertising requirements for clients. This is done through its fully-integrated media solutions provider, while offering innovative multiscreen user experience to the audience. Media Prima offers integrated products and services to clients as summarised in Figure 3.3.

Media Prima Products and Services	
Activity	**Description**
Advertising and promotion	Awareness on product/services, new product launch, events via media platforms
Production needs	Festive video, corporate video, production equipment/expertise via production arm, Primeworks Studios Sdn Bhd
Crowd sourcing for ideas	Consumer application, ideas for festive/corporate videos via Veedo website
News and entertainment	Provide packages for news and entertainment
Event management	This is done via TV Network team such as on ground activities known as *Jom Heboh*

Source: Media Prima

Figure 3.3 Media Prima Products and Services

The Group also focussed on targeting revenue growth from online digital platform via *Tonton*[32]. Examples include monetisation content delivered for *binge viewing*[33], subscription video on demand (SVOD), pre-FTA content and its premier showcase on *Tonton*. *Tonton* appears to represent how online video content is accessed in Malaysia; allowing users to stay connected through social networks with a seamless transition from mobile to PC and TV.

To date, Media Prima has invested in production, on-air automation system and HD studios in preparation for DTTB. In terms of human resources, relevant technical and non-technical staff has undergone training to understand DTTB and HD requirements. Also, Media Prima is exploring both advertising and non-advertising opportunities riding on DTTB platform such as video on demand (VOD) content.

[32] Tonton is an online video portal offering local content, and a variety of Asian and international content via desktop and Internet enabled devices. The video portal also aggregates the programs seen on its TV networks.

[33] Binge watching or viewing means to watch multiple episodes of a TV programme in rapid succession, typically by means of DVDs or digital streaming.

On demand channel to complement existing content

Another commercial FTA broadcaster, TV AlHijrah, under AlHijrah Media Corporation, provides FTA TV which has recorded an average audience of 37,000 per minute in 2014. This is a 23% growth in viewership as compared with the previous year (2013: 30,000 audience)[34].

In April 2014, TV AlHijrah started providing an On Demand channel on TM's *HyppTV* which contains 800 programmes for selection on demand. *HyppTV* already has AlHijrah programming on Channel 114 and this new offering is said to complement existing content with a wider variety of shows. AlHijrah On Demand is available on Channel 834 for a monthly subscription fee of RM10.

[34] Nielsen Television Audience Measurement, 2014.

Pay TV

Global Trend

The global Pay TV market is close to one billion subscribers. Specifically, the market is showing uptrend and is estimated to surpass 920 million subscriptions by end of 2014. For comparison, there were 900 million subscriptions in 2013. In contrast, the Pay TV average revenue per user (ARPU) is expected to decline slightly due to price competition. Revenue from the Pay TV market is expected to generate over USD269 billion by the end of 2014[35] (2013: USD250 billion). This is supported by the following developments:

- US satellite TV service provider, DirecTV, through its DTH operating unit in Latin America added 543,000 subscribers in 1H 2014. This is considered a sharp increase, mainly driven by the FIFA World Cup 2014 matches[36].

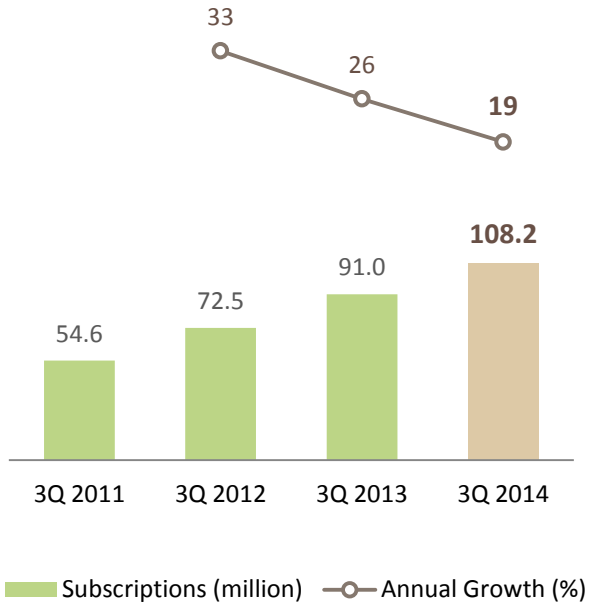
- Competition in the global Pay TV market is growing with the rapid evolution of IPTV and online video services. As at 3Q 2014, there was a total of 108 million subscriptions, which is 19% higher than the number in 3Q 2013[37].

Specifically, global IPTV subscriptions posted double digit growth from 3Q 2011 to 3Q 2014. Notably, the strong growth over the last three to four years since introduction of the service, appears to be normalising to more sustainable double digit growth rates.

In a separate study, Research and Markets[38], a business intelligence company based in Ireland, indicated that one of the key factors contributing to Pay TV market growth is the high number of subscription take-up in the Asia Pacific region.

The global Pay TV market is also experiencing the evolution of pick-and-pay services. These services enable customers to select and pay for only those channels that they are interested in. Such options offer more choices compared with the traditional pre-arranged or prepaid package services[39].

Global IPTV Subscriptions and Growth 3Q 2011 to 3Q 2014



Source: point-topic.com

Figure 3.4 Global IPTV Subscriptions and Growth 3Q 2011 to 3Q 2014

[35] ABI Research, Global Pay TV Market to Generate USD269 Billion in 2014; ARPU Improved by HD and Sporting Events, October 2014.
[36] Ibid.
[37] point-topic.com, Global IPTV subscriber numbers 3Q 2014, January 2015.
[38] Research and Markets offer a variety of business intelligence and market research product types; including market reports, subscription products, directories, database tables, maps, conference call transcripts and newsletters.
[39] Research and Markets, Global Pay TV Market 2014 – 2018, November 2013.

Pay TV service providers in Malaysia are offering wide array of content

In Malaysia, the Pay TV service providers are offering a wide array of content to meet the increasing demand for new services and wider range of entertainment and information programmes. Currently, there are various service providers offering more channels as well as services over Internet Protocol (IP) network in the market.

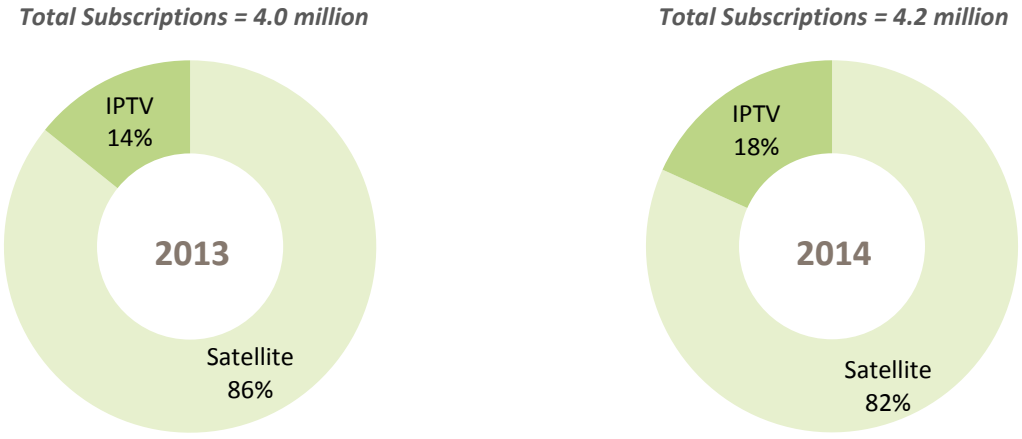
Nevertheless, ASTRO's satellite DTH Pay TV service captures major market share amid growing alternate broadband Pay TV service such as TM's IPTV, *HyppTV*. For the record, ASTRO has ventured into IPTV service with other telecommunications service providers since 2010.This is seen as a major step beyond its satellite Pay TV business started in 1996. Meanwhile, *HyppTV* is delivered over broadband service through fibre and ADSL networks. These services are offered as triple-play packages to residential and business subscribers.

Whilst, another digital cable TV network service provider, Asian Broadcasting Network Sdn Bhd (ABN) offers digital cable TV network under the brand name *ABNxcess*. The service offered includes TV entertainment and high speed Internet services through its Hybrid Fibre Coaxial (HFC) network. The HFC network is able to support over 500 TV channels and other IP-based multimedia services. ABN started their operation since 2012, but officially launched in June 2013.

As at end 2014, the Pay TV industry recorded a total of 4.2 million subscribers, a year-on-year growth of 5%. The market share for IPTV improved to 18% in 2014 from 14% in 2013. In contrast, the market share for ASTRO satellite Pay TV service is 82% at 3.47 million (2013: 3.44 million).

Figure 3.5 shows the Pay TV subscriber market share for satellite Pay TV and IPTV service providers in Malaysia in 2013 and 2014. Data for satellite Pay TV subscribers are from ASTRO while the IPTV section comprise both TM and ASTRO subscriptions.

Pay TV Subscription Market Share 2013 – 2014



Note: 1. Data on Satellite from ASTRO excludes subscription-free satellite TV with no monthly subscription; IPTV from ASTRO and TM
2. IPTV is offered in selected TM broadband packages as a triple-play service

Source: Industry, MCMC

Figure 3.5 Pay TV Subscription Market Share 2013 – 2014

The dynamics in the Pay TV market today feature increasing competition among Pay TV service providers particularly on the service prices. Figure 3.6 shows the prices for the basic TV packages among the selected Pay TV service providers in the market.

Basic Pay TV Offerings among Selected Service Providers						
Pay TV Package		Number of Basic Channels	Basic Speed (Mbps)	Basic TV Package only (RM)	Basic TV + Internet Package (RM)	Basic TV + Internet + Phone Package (RM)
Service Provider	ASTRO	55	10	39.95	187.95	207.95
	TM HyppTV	22	5	-	-	149.00
		22	4	-	-	160.00
	ABNxcess	50	5	29.99	69.99	-

Note: TM IPTV Internet speed of 5Mbps applies to fibre subscribers and 4Mbps to ADSL subscribers

Source: Industry, MCMC
Figure 3.6 Basic Pay TV Offerings among Selected Service Providers

It is observed that different Pay TV service providers have different approaches to attract their target audience such as basic and add on combination offerings as well as customised TV packages. Such combinations of innovative offerings and available options in content can directly cater to audience interests. Hence, providing more options and choice can further stimulate competition in the market.

Tapping into OTT market

Digital TV Research indicated that the global audience is watching TV and video content on more devices. In Asia, for example, such device shifting behaviour is posing challenges for existing satellite Pay TV service providers[40]. As a case in point, a satellite TV service provider in Japan, SKY Perfect, lost over 200,000 subscribers over the past year due to increasing competition from alternative Pay TV platforms. To counter churn and maintain service revenue, SKY Perfect developed VOD services, which allow customers to access video content from multiple devices. In short, offering multiscreen services are assisting traditional Pay TV service providers to reduce churn and boost revenue[41].

Recognising the fact that multiscreen is the future for the Pay TV industry, both ASTRO and TM has extended their services to multiscreen and OTT approach as well. These are offered through *Astro On-The-Go* and *HyppTV Everywhere* respectively, which delivers content across multiple online and mobile devices.

Figure 3.7 lists the type of video services delivered over digital network by various service providers in Malaysia. Note that the range of services can be separated between video service with managed quality of service (QoS) and video service with unmanaged QoS. Video services with managed QoS is available over traditional DTH satellite or the increasingly popular services over IP network. Video service with unmanaged QoS refers to video delivery using an open Internet/broadband connection or also known as OTT format.

[40] Asia Pacific Broadcasting, OTT and TV Everywhere in Asia pose a challenge to satellite operator, December 2014.
[41] ABI Research, Global Pay TV Market to Generate USD269 Billion in 2014; ARPU Improved by HD and Sporting Events, October 2014.

Types of Video Services Delivered over Digital Network		
Platform	**Video service with managed QoS**	**Video service with unmanaged QoS**
Satellite DTH	ASTRO	Astro On-The-Go HyppTV Everywhere
Fibre	Astro B.yond IPTV HyppTV	
ADSL	HyppTV	
HFC	ABNxcess	

Note: DTH – Direct-To-Home; ADSL – Asymmetric Digital Subscriber Line; HFC – Hybrid Fibre Coaxial

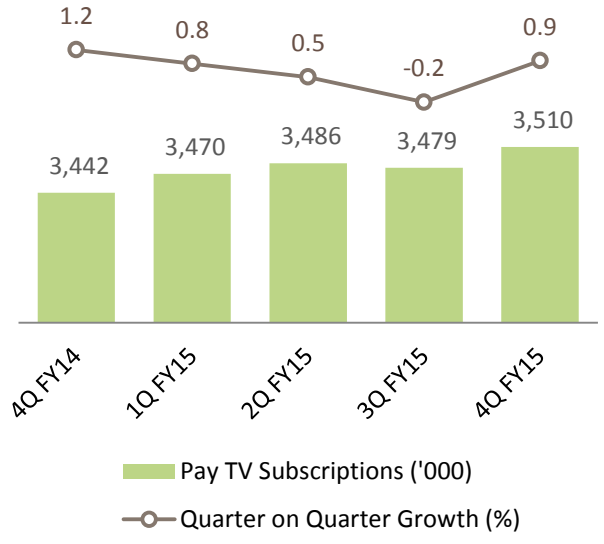
Source: MCMC
Figure 3.7 Types of Video Services Delivered over Digital Network

Satellite TV service achieved household penetration rate of 63%

As at FYE Jan 2015, ASTRO reported a total of 4.43 million residential customers, which translates to a household penetration rate of 63%. This includes 919,700 non-subscription or free satellite TV (NJOI) customers. Launched in December 2011, *NJOI* targets customers among the rural and lower income groups, and reported about 500,000 prepaid cards sold as at FYE Jan 2015. This added option is expected to eventually attract a potential prepaid market.

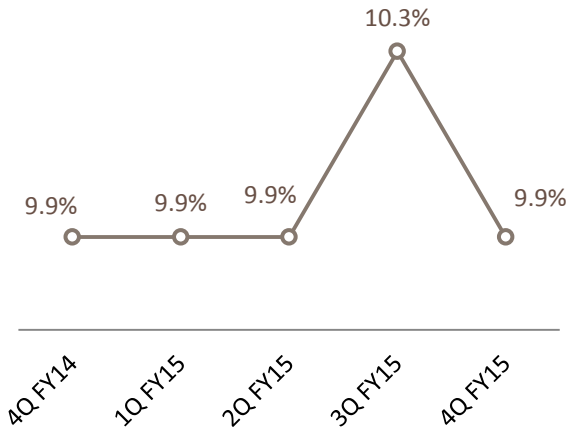
ASTRO has achieved year-on-year residential subscription growth of 2% to 3.51 million as at FYE Jan 2015 from 3.44 million previously. Churn was managed within the 10% level which is similar to the previous year. Note that in an environment of increasing competition, managing customer churn and improving customer relationship is considered critical for sustained revenue generation and profit margin.

ASTRO Pay TV Residential Subscriptions



Source: ASTRO
Figure 3.8 ASTRO Pay TV Residential Subscriptions

ASTRO Churn



Note: Churn is calculated based on 12 month moving averages

Source: ASTRO
Figure 3.9 ASTRO Churn

TV Audience Measurement

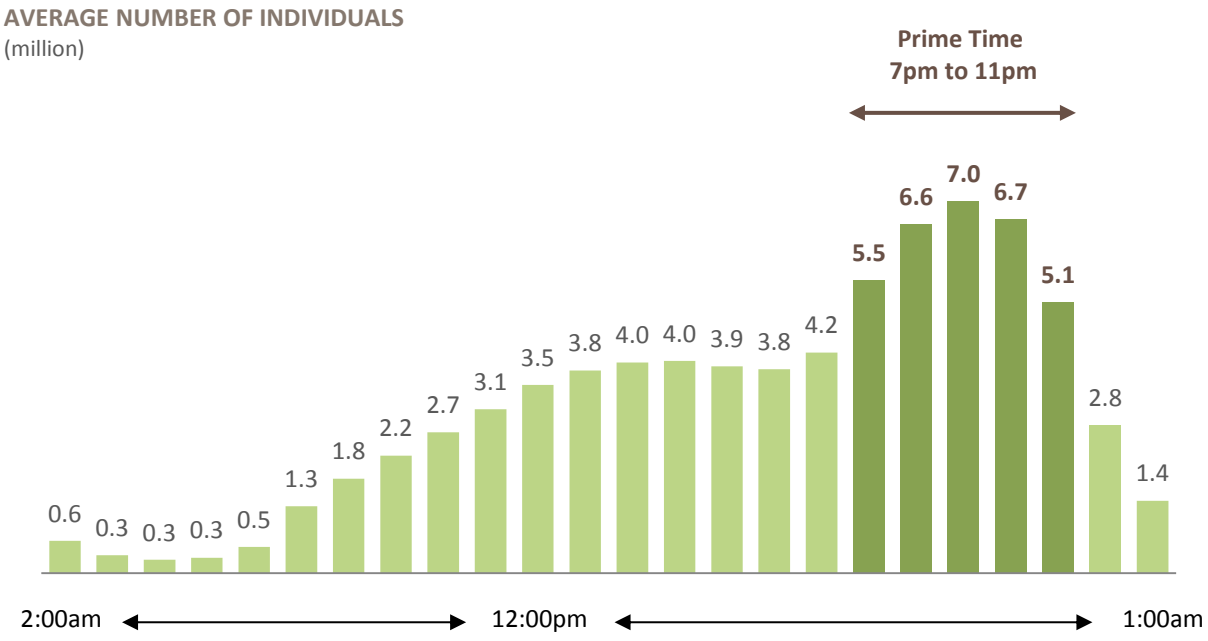
Prime Time for TV starts at 7pm to 11pm

In 2014, the prime time[42] viewing was between 7pm and 11pm. The study by Nielsen noted one fourth of Malaysians[43] watching TV on average per day per minute were within prime time.

Advertisers are attracted to prime time viewing as they can capture wider audience. Due to this, broadcasters typically place advertisement at a higher fee during prime time compared with other slots such as early morning and in the day time.

Figure 3.10 shows TV Broadcast Daypart across FTA and Pay TV channels in 2014. Daypart refers to hour long slots for a 24-hour TV broadcast. During the 7pm to 11pm prime time, the peak is at 9pm when seven million audience watch TV in Malaysia. This peak hour is similar to other countries such as UK[44] and Ireland[45].

TV Broadcast Daypart 2014



Note: 1. Figure on bar chart refers to average number of individuals in million who have watched TV at a specific daypart (every single minute in the average day)
2. The study conducted between January and December 2014 represents individuals aged four and older living in Peninsular Malaysia

Source: Nielsen
Figure 3.10 TV Broadcast Daypart 2014

Media Prima indicated that nearly two thirds of its TV network revenue is derived from this prime time period. Its peak hour timeslot at 8pm contributes 26% to their total TV network revenue.

[42] Prime time is the time at which a radio or TV audience is expected to be at its highest.
[43] Based on five million individuals out of 20.6 million individuals aged four years and above living in Peninsular Malaysia.
[44] Ofcom, The Communications Market Report 2013, August 2013.
[45] TAM Ireland, 9pm is peak viewing time for all video content regardless of screen or format, May 2014.

FTA TV broadcasters maintained top audience reach

In 2014, TV3 has maintained its position as the top TV channel with the highest viewership. Meanwhile, TV1 improved from sixth position to fifth. Pay TV channel, ASTRO Prima improved by two rankings to seventh position from ninth. The figure below shows the top 10 Audience Reach in 2013 and 2014.

Top 10 TV Audience Reach 2013 – 2014					
TV Channel	Rank		Average Minutes Rating ('000)	FTA/Pay TV	TV Network
	2014	2013			
TV3	1	1	>600	FTA	Media Prima
TV9	2	2	>200	FTA	Media Prima
TV2	3	3	101 to 200	FTA	RTM
8TV	4	4		FTA	Media Prima
TV1	5	6		FTA	RTM
ntv7	6	5		FTA	Media Prima
Prima	7	9	60 to 100	Pay TV	ASTRO
Ria	8	8		Pay TV	ASTRO
Sun-TV	9	7		Pay TV	ASTRO
Ceria	10	10		Pay TV	ASTRO

Note: Average Minutes Rating refers to the average number of audiences watching TV per minute and '000' refers to 'thousands' of average number of individuals.

Source: Nielsen

Figure 3.11 Top 10 TV Audience Reach 2013 – 2014

Broadcasters have different strategies to attract audience

Broadcasters attract audience through new, live content and reality shows. Captivating content, particularly local content in local voices and languages are used to encourage audience loyalty.

Figure 3.12 shows TV3 secured all top 10 TV programmes in terms of audience reach. The live telecast of *Anugerah Juara Lagu*, a music awards show, topped the list with 3.7 million audience in 2014. This is a popular annual music competition in Malaysia since 1986. Overall, the most popular content over TV3 channel is entertainment shows and drama.

Notably, popular movies from Asian and Western countries ranked at 14th and 31st position respectively in FTA TV space. This indicates that our local audience also demand international programmes apart from local content.

Top 10 TV Programme via FTA TV Channel					
Rank	**Channel**	**Programme**	**Genre**	**Date**	**'000**
1	TV3	Anugerah Juara Lagu (live)	Entertainment	26/01/2014	3,735
2	TV3	Akasia - Ariana Rose	Drama	13/02/2014	3,094
3	TV3	Akasia - Rindu Awak 200%	Drama	18/08/2014	2,975
4	TV3	Buletin Utama	News	17/04/2014	2,895
5	TV3	Anugerah Skrin (live)	Entertainment	07/11/2014	2,931
6	TV3	Akasia - Maaf Jika Aku Tak Sempurna	Drama	27/10/2014	2,907
7	TV3	Bintang Mencari Bintang Akhir (live)	Reality TV	22/06/2014	2,856
8	TV3	Zehra - Menjinak Ombak	Drama	28/02/2014	2,790
9	TV3	Samarinda - Ramadan Jangan Pergi	Drama	23/07/2014	2,725
10	TV3	Akasia - Aku Isterinya	Drama	20/05/2014	2,623

Source: Nielsen

Figure 3.12 Top 10 TV Programme via FTA TV Channel

Meanwhile, the Malaysia Cup Final tops the list on Pay TV channels as shown in Figure 3.13. It is observed that the top 10 programmes consist of broadcast live events such as sports and entertainment. Additionally, ASTRO introduced new international HD channels such as *Fox Family Movies HD* (CH 434) and *DIVA HD* (CH 723) bringing the latest international content to their audience.

Top 10 TV Programme via Pay TV Channel					
Rank	**Channel**	**Description**	**Genre**	**Date**	**'000**
1	ARENA	Piala Malaysia Akhir - Johor vs Pahang (live)	Sports	01/11/2014	1,477
2	PRIMA	Konsert Mega Akhir Kilauan Emas (live)	Entertainment	11/06/2014	1,392
3	PRIMA	Konsert Kilauan Emas (live)	Entertainment	04/06/2014	1,358
4	WARNA	Maharaja Lawak Mega Akhir (live)	Entertainment	07/02/2014	1,306
5	WARNA	Maharaja Lawak Mega (live)	Entertainment	26/12/2014	1,225
6	OASIS	Pencetus Ummah Mimbar (live)	Religious programme	09/01/2014	1,184
7	RIA	Konsert Akhir Akademi Fantasia (live)	Reality TV	09/11/2014	1,165
8	ARENA	Piala Malaysia - Johor vs Felda (live)	Sports	25/10/2014	1,137
9	ARENA	BWF Li-Ning Thomas & Uber Cup (live)	Sports	25/05/2014	1,003
10	RIA	Konsert Akademi Fantasia (live)	Entertainment	14/09/2014	991

Source: Nielsen

Figure 3.13 Top 10 TV Programme via Pay TV Channel

Note that broadcasters analyse data to improve their content as well as introduce better choices to their customers. Broadcasters usually appoint independent market research companies to study audience preference, demographic profile, trend and even the average per minute viewership of programmes.

Broadcasters are also leveraging data analytics to assist such studies. For example, ASTRO employs data analytics to improve the quality of services and ensure customer satisfaction which in turn creates customer loyalty to their service. Customer data also assist advertisers

with their marketing strategies such as observing viewing habits and selecting the best time to advertise.

Broadcasters accelerating on content creation and production

In 2014, Media Prima Group increased international content sales by offering content or channels to other service providers as well as co-production initiatives with other broadcasters from Japan and Singapore. This is through its content creation company, Primeworks Studios Sdn Bhd.

Notably in the same year, ASTRO has partnered with TV Azteca, one of the world's largest producers of Spanish language programme to produce "telenovela". A Memorandum of Understanding was signed in April 2014 amongst the three parties, ASTRO, TV Azteca Inc. and Global Station Sdn Bhd, which is a Malaysian production house. Co-production involves adapting to local formats and serves to reaching a wider audience.

ASTRO through its subsidiary, Astro Production Sdn Bhd entered into an agreement to offer world-class integrated TV content production services. Under the five-year agreement, Astro Production is the appointed exclusive provider of equipment and services for production of the TV content. As a start, it would be producing reality shows for audience in Malaysia, Singapore and Indonesia. Other programmes in the pipeline include fashion designer reality show *Project Runway* and talent show *Asia's Got Talent*.

National Broadcasting Digitalisation Project

The transition from analogue to DTTB is currently taking place globally and have been successfully implemented in several countries. The main characteristic of DTTB is that the technology uses much less spectrum as compared with analogue broadcasting. That is, a single spectrum band can only air one analogue TV channel whereas up to 15 standard definition TV channels can be aired on the same spectrum band using DTTB technology. In short, DTTB is more spectrum-efficient and enables the release of more spectrum once analogue broadcasting is switched off.

Malaysia Selected DVB-T2 Standard

Malaysia mandated the standard Digital Video Broadcasting – Terrestrial 2nd generation (DVB-T2)[46]. DVB-T2 was adopted, being the latest in broadcasting standard which enables more higher capacity and can air more HD channels. Note that, the DVB-T standard is also the most widely used standard for digital broadcasting worldwide.

The mandate on Digital Multimedia Receiver Specification (Integrated Digital TV and Set Top Box) was registered on 31 January 2013[47]. Note also that most ASEAN member states have agreed to adopt DVB-T as the common transmission standard for DTTB and has also published a common standard for multimedia receivers.

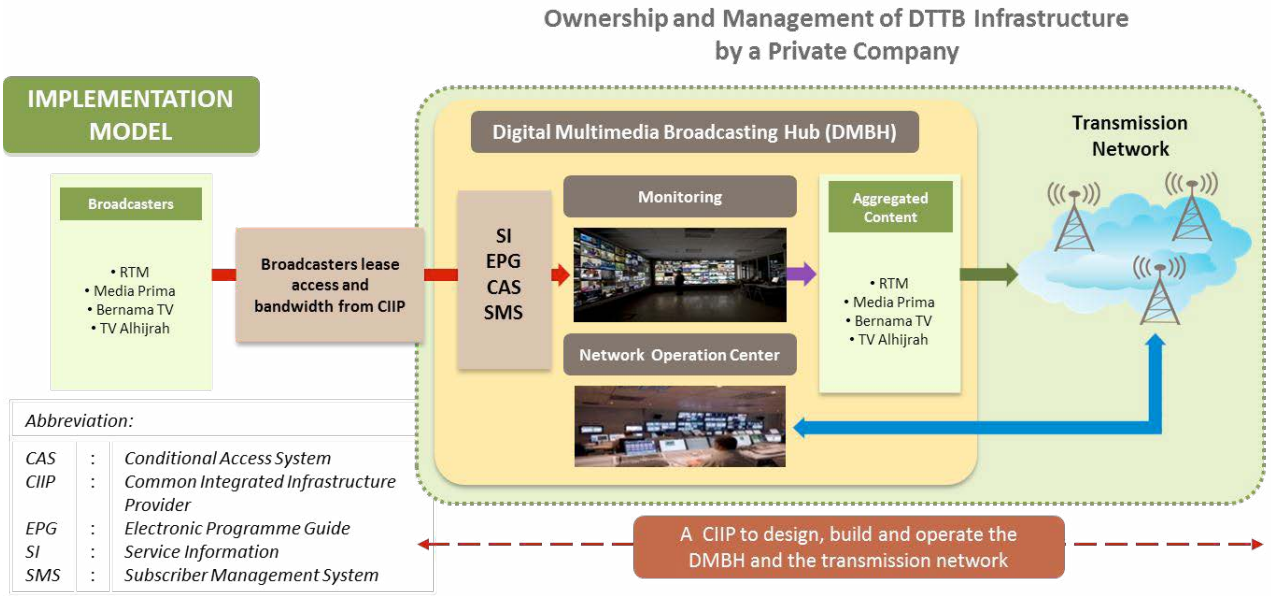
Common Integrated Infrastructure Provider (CIIP)

In Malaysia, a CIIP shall be the responsible party to build the DTTB infrastructure. Through the DTTB tender, MYTV Broadcasting Sdn Bhd (MYTV) was awarded as the CIIP to build, operate and manage the infrastructure for DTTB service. Since many parts of the broadcast network are common, having a single CIIP means savings in Capex, manpower and related resources.

The CIIP will facilitate common infrastructure sharing amongst FTA broadcasters resulting in lower access charges on the DTTB platform. As a result, the FTA broadcasters are not required to invest in high capital for TV transmitters to provide coverage in targeted areas. Rather, the CIIP is responsible to make the DTTB platform ready for lease by FTA broadcasters. Thus, FTA broadcasters can optimise their resources and focus on creation and production of more content and value added services.

[46] This has been effected via the Commission Determination No.1 of 2011, www.skmm.gov.my/skmmgovmy/files/attachments/Mandatory_Std_No_1_2011-DTT.pdf
[47] Doc No: SKMM MTSFB TC T004:2013.

Common Integrated Infrastructure Provider



Note: DMBH is a hub or centre where all signals for digital broadcasting from ASPs and CASPs will have to pass through for the purpose of processing and monitoring by parties authorised by the Government before being transported to the transmission network

Source: MCMC

Figure 3.14 Common Integrated Infrastructure Provider

Roll-out of Digital Terrestrial TV

The roll-out of DTTB in Malaysia is planned for implementation in two phases as follows:

Two Phases of DTTB Roll-out	
Phase	**Description**
1	Phase 1 is expected to complete by 4Q 2015 covering 85% populated areas from 10 TV transmission sites starting with Kelantan, Terengganu and Pahang in Peninsular Malaysia and four sites in Sabah and Sarawak. This will be followed by Perlis, Kedah, Pulau Pinang, Perak, Selangor, Negeri Sembilan, Melaka and Johor.
2	Phase 2 is expected to commission by 1Q 2016 targeting 98% populated areas from 22 sites in Peninsular Malaysia and 24 sites in Sabah and Sarawak including rural areas. Phase 2 is expected to be completed by end of 2016.

Source: MCMC

Figure 3.15 Two Phases of DTTB Roll-out

Multimedia Receivers

The complex task of digital switchover is to be carried out by both public and private sector stakeholders working together. MCMC has established a technical forum comprising manufacturers and retailers to ensure that the DTTB multimedia receivers are ready and available in the market by the targeted timelines. These multimedia receivers are Set Top Boxes and Integrated Digital TV sets. Certification and compliance programmes were also instituted to ensure only standard receivers are marketed to the public.

Benefits of DTTB

The switchover from analogue to digital broadcasting presents opportunities for the content industry such as content developers, service providers, manufacturers and users. One of the advantages of digital TV is that it facilitates offerings in a growing range of fully interactive applications. This allows for the dynamic interaction and engagement between audience and broadcaster.

Consumers are expected to benefit from greater choice of programmes, flexibility of use, services that are more interactive, more specific or customised. Digital receivers are also becoming more affordable as the ASEAN region and the Indian sub-continent have adopted DTTB as the broadcasting platform, thus, enabling standardisation of receiver specifications and greater economies of scale.

Analogue Switch Off

In order to achieve successful switchover, coordination between broadcasters and relevant stakeholders is essential. In many countries around the world, analogue switch off is done in a way whereby governments play an important role to ensure the people will not be disadvantaged after analogue switch off. Malaysia is also stepping up plans to steer towards this agenda and ensure a smooth transition.

Radio Broadcasting

Radio Development

Radio broadcasters are upbeat at implementing creative strategies to respond to new trends in the market and cater to the needs of their listeners. One of these strategies is to create visual engagements with their listeners. For instance, radio segments broadcasted on TV allowing listeners to watch talk shows or their favourite radio personalities on air. Radio broadcasters also leverage social networking platforms to engage their listeners by sharing various radio station activities and news. This engagement widens the way people experience radio content and builds on the desirable bond between listeners and the radio stations.

In a strategy to enhance image and branding of their radio stations, presenters, deejays and other radio personalities now reach out to listeners, taking up roles as "voice" of the public and commercial radio stations. A survey conducted in the US found that more people have a favourite local radio personality in comparison to other media such as TV personalities[48].

In Malaysia, the influence of radio personalities can be observed by the top ones earning high monthly income [49]. Their roles are to create loyalty among listeners through interactive mode via various media. In addition, they also become product ambassadors, involve in producing commercial advertisements and public service announcements.

Radio in Malaysia

At present, local radio stations can be heard on both traditional over the air and new digital platform via corporate portal or other streaming websites. For example, stations under ASTRO can also be heard via ASTRO satellite network. To date, all commercial radio broadcasters are looking to advance online listening to drive growth in listenership and ultimately boost advertisement revenue.

[48] Cornerstone Communications, Importance of Radio in America, accessed January 2015.
[49] www.therakyatpost.com, Proton Cars Saved Radio Stars, September 2014, accessed January 2015.

Figure 3.16 shows the commercial radio stations and their genre/target markets. Radio stations have diversified to cater to listeners preferences and demographic characteristics such as different age group and different genres of music. Notably, majority of the radio stations are targeting listeners under 40 years old.

Commercial Radio Stations				
No.	**Managing Group or Operating Company**	**Station**	**Language**	**Genre/Target Market**
1	Astro Radio Sdn Bhd	ERA fm	Malay	Entertainment and information for listeners aged 18 to 34
		MIX fm	English	Contemporary music from late 1990's onwards for listeners aged 25 to 39
		SINAR fm	Malay	New and old music for listeners aged 25 to 39
		THR	Tamil Malay	Raaga – Urban Indian aged 10 and above Gegar – Focus on listeners in East Coast of Peninsular Malaysia
		LiteFM	English	Music that ranges from disco, pop, ballads and jazz for listeners aged 35 to 49
		MY FM	Chinese	Entertainment and information for listeners aged 10 to 29
		hitz fm	English	Latest international hit music for listeners aged 10 to 29
		MELODY FM	Chinese	Music from 1980s to early 2000s
2	Media Prima Radio Networks	Hot FM	Malay	Entertainment and information for listeners aged 35 and below
		Fly Fm	English	
		one FM	Chinese	
3	Star Radio Group	Suria FM	Malay	Entertainment and information for listeners aged 25 to 34
		Red FM	English	
		988 FM	Chinese	Professionals, managers, executives and businessmen aged 25 to 39
		Capital FM	English	Information specifically for female listeners
4	Genmedia Sdn Bhd	iM4Ufm	Malay and English	"Youth" station that spearheads volunteerism, social causes and plays latest music
5	Suara Johor Sdn Bhd	Best FM	Malay	Based in Johor and target listeners aged 20 to 39
6	Copyright Laureate Sdn Bhd	Pi Mai FM	Malay	Pop station in Northern Peninsular Malaysia; target listeners aged 18 to 39
		Ultra FM	Malay	Pop station; target listeners age 18 to 39
7	BFM Media Sdn Bhd	BFM	English	Business radio station for working professionals
8	Pertubuhan Berita Nasional Malaysia (BERNAMA)	Radio24	Malay and English	News and talk shows
9	Institut Kefahaman Islam Malaysia (IKIM)	IKIMfm	Malay, Arabic and English	Promote Islamic content for general public
10	Kristal Harta Sdn Bhd	Cats FM	Malay, Iban and English	Based in Sarawak and target listeners aged 16 to 40
11	Husa Network Sdn Bhd	Manis FM	Malay	Focus on listeners in East Coast of Peninsular Malaysia

Source: Industry, MCMC

Figure 3.16 Commercial Radio Stations

Business Strategy to Grow Radio Listener

Radio broadcasters are focusing on three strategies to drive growth in listenership. The strategies are as follows:

Strategies to Drive Listenership	
Strategy	**Description**
On Air	▪ Create appealing content and updates on the latest happenings. For example, traffic update is becoming significant, particularly for drivers who require traffic information and suggestions on alternative routes. ▪ Each segment and programme is strategised based on radio personalities' talents and ability to attract listeners.
Online	▪ Focus on listenership growth via website, social media and mobile platforms. ▪ Capitalise on the Internet platform to attract more listeners, particularly Gen Y.
Outside Studio	▪ Executing on-ground shows and online activities concurrently allows social campaigns that enhance outreach and interaction with the public. ▪ On-ground activities act as a platform to express appreciation to loyal listeners as well as target new listenership.

Source: Industry, MCMC
Figure 3.17 Strategies to Drive Listenership

Listenership and Revenue

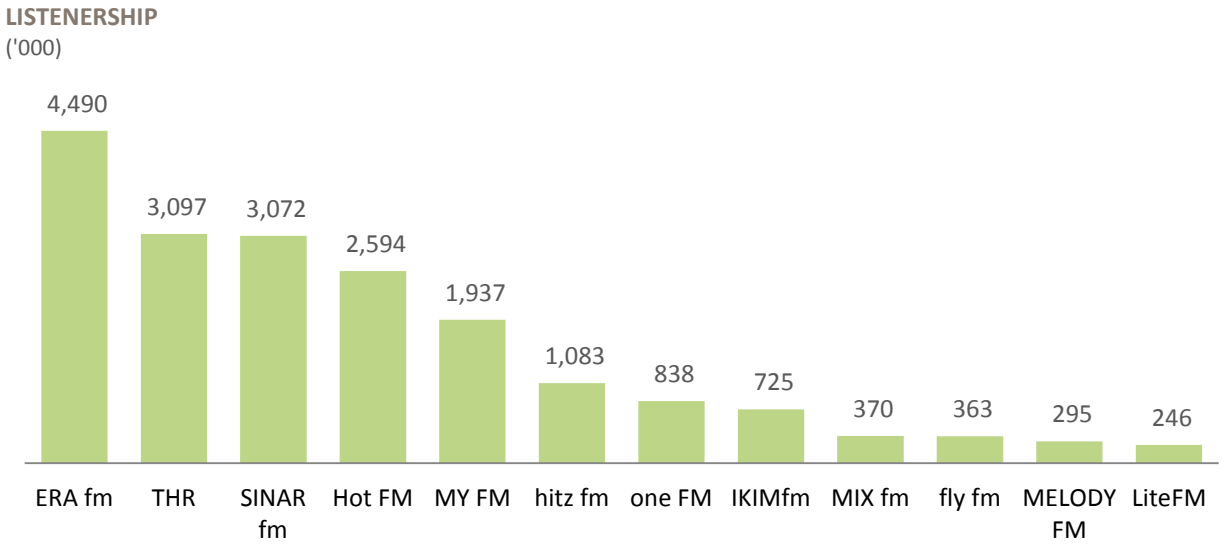
15 million listeners in Peninsular Malaysia

Nielsen indicated that in Malaysia there were a total of 15.5 million listeners or 94% of individuals aged 15 and above in Peninsular Malaysia[50]. In 2014, Astro Radio, Media Prima Radio Networks and IKIM Radio Station engaged Nielsen to carry out their radio listenership ratings. Meanwhile, the Star Radio Group enlisted GfK for a similar study.

Nielsen also indicated that the top three radio stations belongs to Astro Radio namely ERA fm, THR and SINAR fm. ERA fm has the highest listenership, surpassing four million listeners per week in 2014. Figure 3.18 shows the number of listenership by respective commercial radio stations.

[50] This study is a result of fusion between Nielsen Consumer and Media View (CMV) data and Nielsen Radio Audience Measurement Survey Wave #1 2014.

Radio Listenership



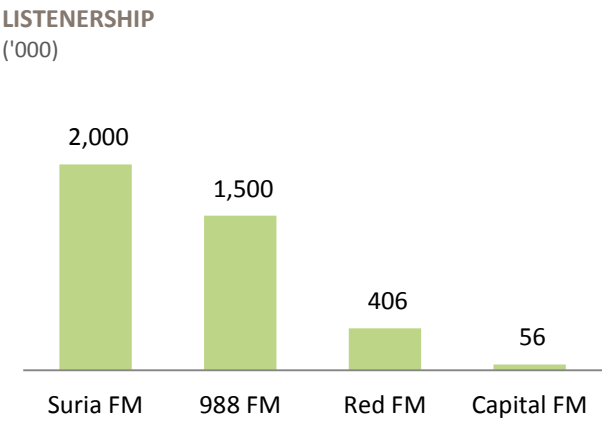
Note: The survey represents data for one year between June 2013 and June 2014

Source: Nielsen

Figure 3.18 Radio Listenership

A separate survey conducted by GfK in October 2014 reported Suria FM with two million listeners per week via online platform. Figure 3.19 shows online listenership by radio stations under the Star Radio Group.

Star Radio Group Listenership



Source: Star Radio Group

Figure 3.19 Star Radio Group Listenership

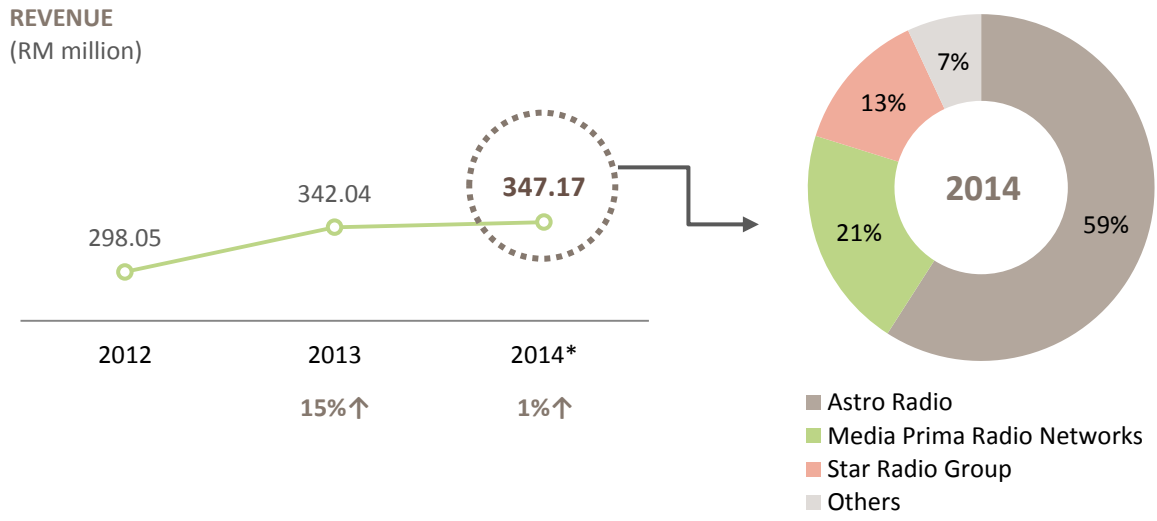
Radio Broadcasters captured a total revenue of RM361 million

Radio derives revenue from traditional and non-traditional advertising totalling RM361 million. In 2014, the radio industry recorded revenue from traditional advertising of RM347.2 million or a growth of 1% from 2013. Although this is less than the 15% growth achieved in 2013, traditional media remains the advertisers' preferred choice of platform. On the other hand, non-traditional advertising has grown over the last few years but still contribute less than 5% of total radio advertising.

In terms of market share, Astro Radio captured the biggest share of 59% followed by Media Prima Radio Networks (21%) and Star Radio Group (13%). These three groups constitute 93%

of the radio advertising market, with the balance contributed by the other nine commercial radio stations (Figure 3.20).

Traditional Radio Advertising Revenue



Note: 1. Data obtained from 24 participating radio stations
*2. Based on net advertising revenue and Industry estimates**

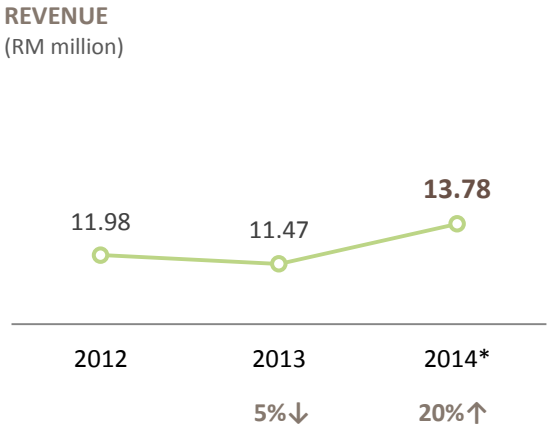
Source: Industry, MCMC
Figure 3.20 Traditional Radio Advertising Revenue

Non-traditional advertising continued to grow

Non-traditional radio advertising is derived from HTML, text link, micro sites and web banner. Figure 3.21 depicts such advertising revenue from 2012 to 2014. Although the value was relatively consistent at about RM12 million in 2012 and 2013, there was a surge in non-traditional radio advertising to RM13.8 million in 2014.

Notably, 99% of non-traditional radio advertising market share was derived from the three major radio groups, which are the Astro Radio, Media Prima Radio Networks and Star Radio Group.

Non-Traditional Radio Advertising Revenue 2012 – 2014



*Note: Based on net advertising revenue and Industry estimates**

Source: Industry, MCMC
Figure 3.21 Non-Traditional Radio Advertising Revenue 2012 – 2014

Advertising Expenditure (Adex)

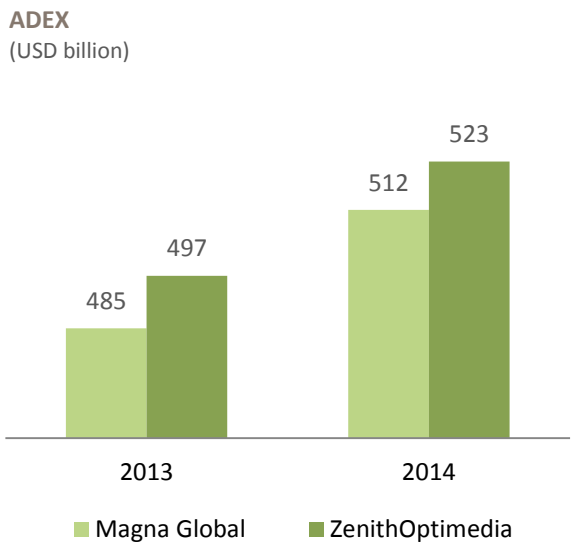
Global advertising market is worth USD510 billion

On the global front, Adex is expected to surpass USD510 billion in 2014, representing 5% annual growth. The forecasts were reported by research companies, Magna Global based in New York and ZenithOptimedia, a London based media research group.

In 2014, the growth of global Adex was supported by major sports events namely, Sochi Winter Olympics in Russia and FIFA World Cup in Brazil. North America was the largest contributor of about 36% to global Adex[51].

Figure 3.23 shows the world's top 10 advertising markets in 2014. The US remained at pole position with an estimated USD176 billion in Adex for 2014. Notably, China overtook Japan to become the world's second largest advertising market in 2014.

Global Adex Forecast 2013 – 2014



Source: Magna Global; ZenithOptimedia

Figure 3.22 Global Adex Forecast 2013 – 2014

World Top 10 Advertising Markets 2014

No.	Country	Adex (USD million)
1	USA	176,006
2	China	45,491
3	Japan	44,520
4	Germany	24,597
5	UK	22,525
6	Brazil	16,686
7	France	13,086
8	Australia	12,317
9	South Korea	11,670
10	Canada	11,159

Source: ZenithOptimedia

Figure 3.23 World Top 10 Advertising Markets 2014

China's advertising growth was partly driven by mobile advertising. This largest country by population of 1.4 billion spent USD6.4 billion on mobile advertising in 2014. This is a dramatic surge in spending from USD913 million reported in 2013[52] and was fuelled by the take-up of smartphones in China.

Global Adex by Medium

TV market share of global Adex has grown steadily since 2000 at 36%. The year 2010 saw a market share growth of 39% and this has stabilised at about 40% over the last four years since 2011[53]. TV advertising remains as the most preferred medium for advertisers. However, TV advertising market share has reduced marginally to 39.6% in 2014 from 40.1% in 2013

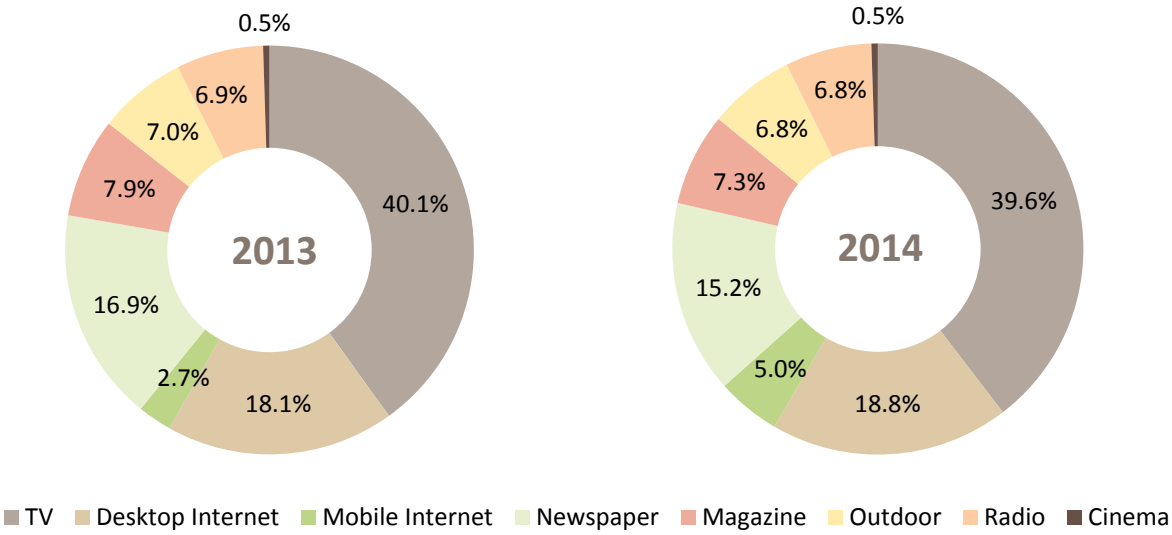
[51] ZenithOptimedia, Executive summary: Advertising Expenditure Forecasts, December 2014.
[52] eMarketer, Mobile Ad Spend in China Hits USD7 Billion This Year, December 2014.
[53] ZenithOptimedia, Executive summary: Advertising Expenditure Forecasts, December 2013.

due to the TV advertising budget accommodating to user preference and behaviour shifting to online video.

Figure 3.24 shows the global Adex by medium. It is observed that the Internet (Desktop and Mobile) was the only medium which posted growth, that is, to 23.8% market share in 2014 from 20.8% in 2013 (2014: USD124 billion; 2013: USD103 billion).

ZenithOptimedia projected an average of 15% annual Internet advertising growth between 2014 and 2017. Meanwhile, Magna Global revealed that the digital media vis-à-vis Internet advertising is already the number one media category in 14 out of 73 countries analysed by them.

Global Adex by Medium 2013 – 2014



Note: Internet Adex comprises both desktop Internet and mobile Internet

Source: ZenithOptimedia

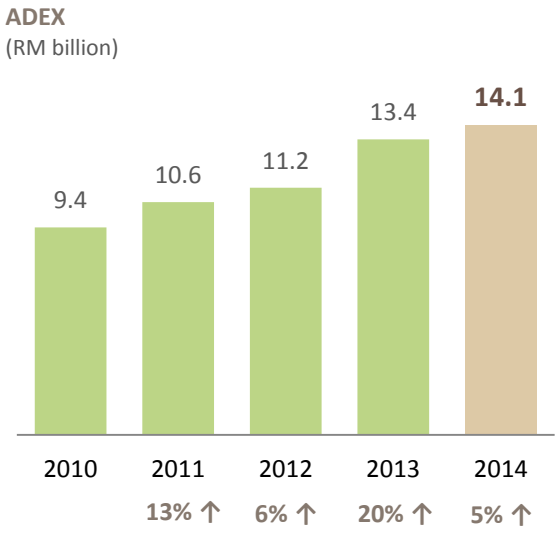
Figure 3.24 Global Adex by Medium 2013 – 2014

Adex in Malaysia

Overall, Malaysia Adex rose 5% to RM14.1 billion in 2014 from RM13.4 billion in 2013. The growth was partially due to World Cup related promotional campaigns and generally positive market sentiment, especially in the first half of the year.

In terms of market share, TV recorded the highest share of 61.3% (2013: 60.3%), followed by newspapers (2014: 33.1%; 2013: 34.1%) and radio (2014: 3.3%, 2013: 3.5%). Advertisers spent RM8.6 billion on TV advertising in 2014, compared with RM8.1 billion in 2013.

Adex in Malaysia 2010 – 2014



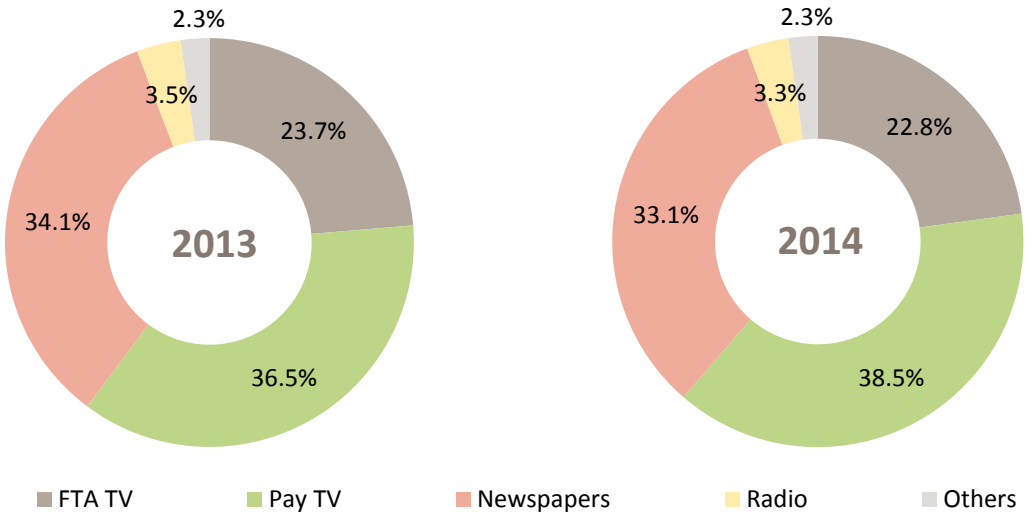
Source: Nielsen

Figure 3.25 Adex in Malaysia 2010 – 2014

Figure 3.26 shows the share of Adex in Malaysia by medium. It can be observed that Pay TV Adex in 2014 recorded an additional 2% market share to 38.5% from 36.5% in 2013. Meanwhile, FTA TV has declined 0.9% to 22.8% in 2014.

Nevertheless, based on average Adex generated per channel, the FTA TV channels appears comparatively more efficient. That is, the seven FTA TV channels posted an average Adex of RM459 million per channel which is 2.4 times higher than Pay TV Adex (RM193 million for 28 Pay TV channels).

Adex in Malaysia by Medium 2013 – 2014



Note: Others comprise Magazines, Cinema and In-Store Media

Source: Nielsen

Figure 3.26 Adex in Malaysia by Medium 2013 – 2014

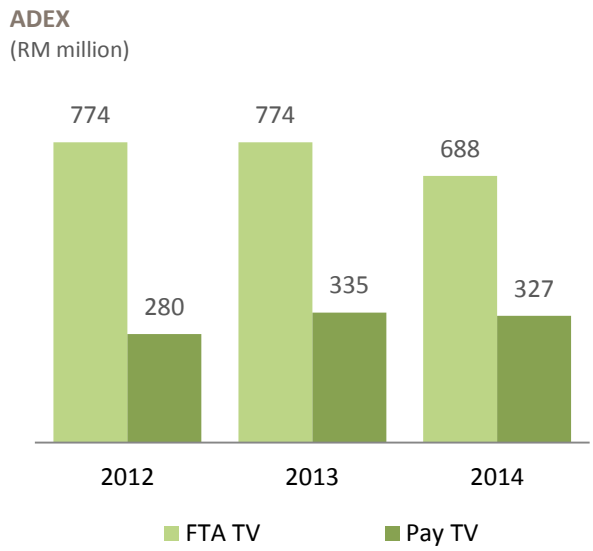
TV Adex at RM1 billion in 2014

In Malaysia, Adex for both FTA TV and Pay TV have declined in 2014 compared with 2013. The total Adex is now at RM1 billion.

Figure 3.27 shows FTA TV Adex posted a consistent revenue at RM774 million in 2012 and 2013, followed by a decline of 11% in 2014 to RM688 million.

Adex is a core revenue source for FTA TV. Notably, Pay TV Adex has declined by 2% in 2014. This is in contrast with Pay TV subscription revenue, which has increased by 7% to RM4.3 billion (based on ASTRO only).

FTA TV vis-à-vis Pay TV Adex 2012 – 2014



Note: 1. Adex is reported from Media Prima, RTM and ASTRO
2. ASTRO FYE Jan 2015
3. The 2012 and 2013 figures are restated accordingly

Source: Industry

Figure 3.27 FTA TV vis-à-vis Pay TV Adex 2012 – 2014

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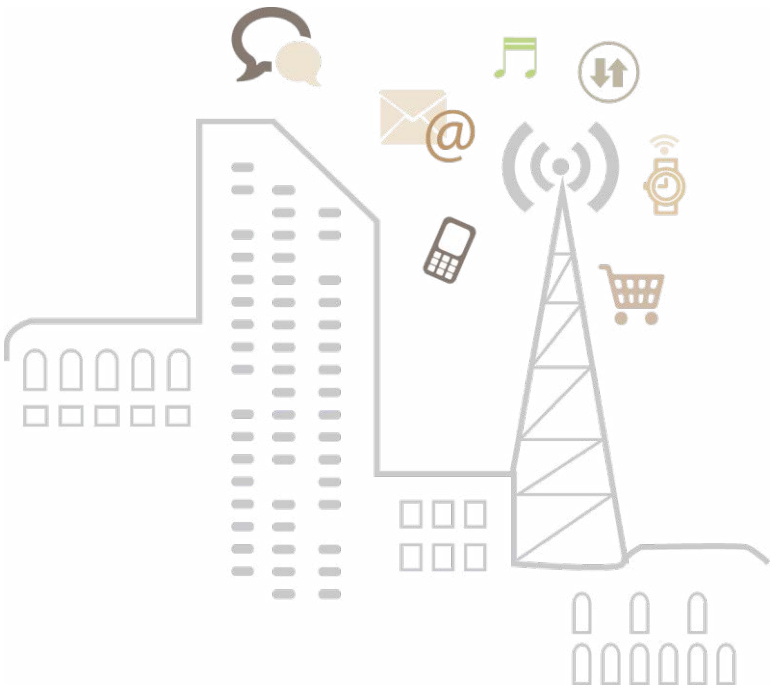
MODULE 4: APPS AND CONTENT DEVELOPMENT



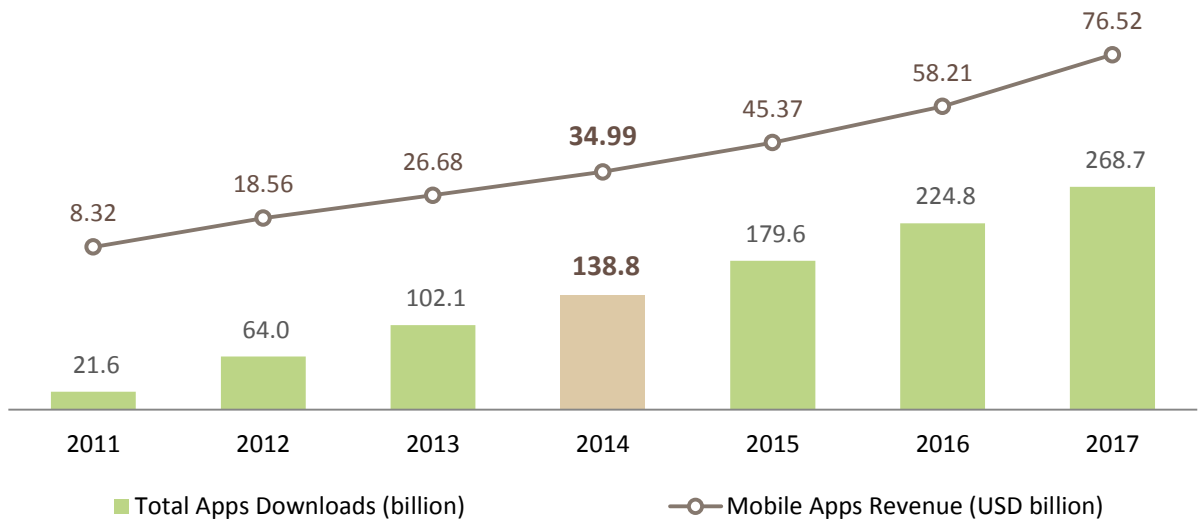
Development of Apps

Global apps revenue totalled to USD35 billion

Mobile apps is one of the most popular means to access content today. Statista[54] estimated that total apps downloaded in 2014 was 138.8 billion with estimated revenue of USD34.99 billion globally. This is expected to further increase by 29.7% in revenue and 29.4% in downloads by 2015.

The development of apps are expected to increase further due to consumer habits, higher mobile penetration rate, advancement in technology and higher Internet speed. This upward forecast trend is expected to continue due to users moving away from the browser and relying on apps[55]. Findings by Flurry[56] indicated that 86% of mobile users access the Internet by using apps compared with 14% who uses a web browser during 1Q 2014.

Global Apps Download and Revenue



Source: Statista

Figure 4.1 Global Apps Download and Revenue

In tandem with global growth, the development and usage of mobile apps continue to accelerate in Malaysia. Findings by Ericsson ConsumerLab shows that apps usage among Malaysian Internet users increased to 76% in 2013 compared with 56% recorded in 2012[57]. More than 50% of Malaysian smartphone users download apps that enable free SMS and voice.

Meanwhile, in terms of total number of apps installed, more than 30% of users downloaded up to 20 apps each. In contrast, a small percentage of users download five times more than this. In other words, 1.4% of Malaysian smartphone users download more than 100 apps on their smartphone[58].

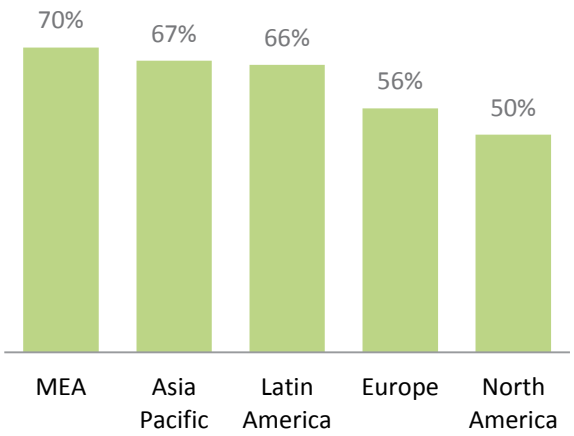
[54] Statista is a research firm that provides tools for researching quantitative data, statistics and related information.
[55] Flurry, The Mobile Browser Is Dead, Long Live The App, April 2014.
[56] Flurry is an analytics company which provides insight on telecommunications sector.
[57] Thesundaily, Malaysia's smartphone penetration rise by 16%, September 2013.
[58] MCMC, Handphone User Survey 2012.

Industry vendors such as Ericsson note that apps reviews and curiosity to try out a new app are the main factors that drive users to download apps. Apps users are also motivated by sophisticated functionality of an app and its ability to enable communications. Hence, apps usage increases data traffic.

Average 819MB of data per month per user in Malaysia

Overall, mobile data traffic in Malaysia is expected to grow to 15.9 Exabytes[59] per month. Furthermore, the average monthly data consumption is expected to increase to 2GB of data per user[60] by 2018 compared with average of 819MB[61] per month in 2014.

Mobile Data Traffic CAGR by Region 2013 – 2018



Source: GSMA Intelligence, Cisco, Statista

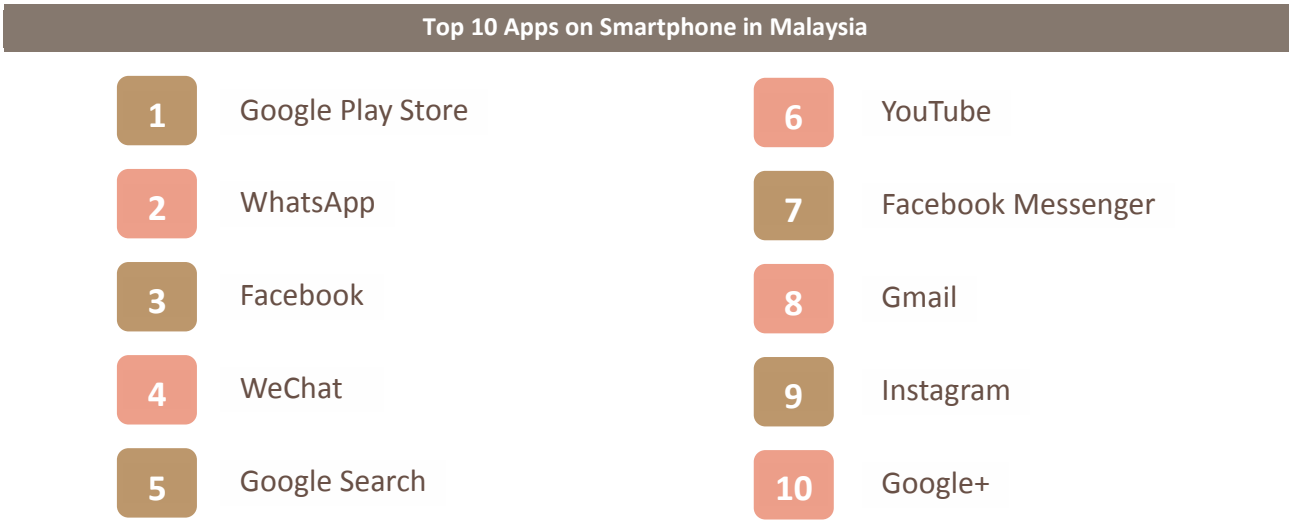
Figure 4.2 Mobile Data Traffic CAGR by Region 2013 – 2018

In the Asia Pacific region, 76% of mobile device users aged below 35 years are using mobile apps[62]. The high apps usage is due to proliferation of smartphones, rising number of mobile Internet connections and interactive mobile content experience.

As a result, mobile data traffic for Asia Pacific is expected at a compound annual growth rate (CAGR) of 67% for 2013 to 2018. Hence, in such a market driven environment, content providers are steered to capitalise on the opportunities.

[59] One Exabyte is equivalent 1.07 billion Gigabyte or 274.9 billion MP3 audio files (with 4MB average file size).
[60] The Sun Daily, Malaysia's smartphone penetration rises by 16%, September 2013.
[61] Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2014 – 2019, February 2015.
[62] Analysys Mason, Connected consumers in Emerging Asia Pacific spend more time using telecoms and media services than those in the UK or the USA, June 2012.

In Malaysia, messaging and social media apps such as Facebook were among the top 10 apps downloaded on smartphones (Figure 4.3). Nielsen indicated that more than 8.7 million Malaysian users access Facebook via mobile on a daily basis[63].



Source: Nielsen (as at August 2014)
Figure 4.3 Top 10 Apps on Smartphone in Malaysia

Video content driving traffic growth

Malaysia Internet users access Facebook to search for video content apart from YouTube. As reported by Nielsen, in Malaysia, Facebook and YouTube are the most popular delivery platforms for video content. As high as 89% and 70% of video content searches are from these two platforms respectively. Globally, video content is the largest and fastest growing segment of mobile data. The video segment exceeded 50% of total mobile data traffic for the first time in 2012. The traffic by video segment has grown to 55% by the end of 2014[64].

A number of factors have contributed to this growth. These include the growing availability of video content that can be streamed to mobile devices. The increase in video content distribution is also due to improved network quality in terms of speed and increasing number of devices that are capable of supporting video content. Devices are also evolving to include larger screens, which enhances picture quality for video streaming.

Such evolution of video viewing to include "on-the-go" or mobility is changing consumer viewing habits, which is moving away from traditional TV set in the living room to online media via mobile devices. Consumers in Malaysia nowadays want to watch programmes on their own schedule via smartphones or other devices while watching TV or engage in multitasking.

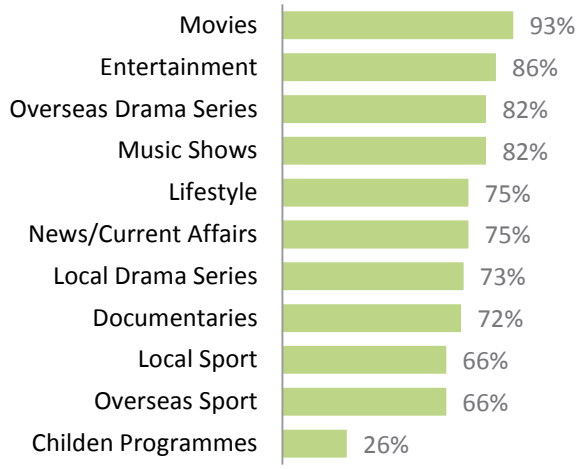
[63] eCommerceMILO, 12 facts you might not know about mobile in Malaysia, September 2014.
[64] Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2014 – 2019, February 2015.

Online media adoption appears to complement TV. This increasing shift to consumer video watching is reflected from the 36% out of total online population in Malaysia accessing online video content through mobile devices. This is an upward trend compared with only 23% in 2011.

Meanwhile, content viewing are largely on digital video, that is, movies and entertainment which represent 93% and 86% respectively among Malaysian consumers.

Figure 4.4 shows the genres of digital video viewed by Malaysian in 2014. Meanwhile, the most searched topic in 2014 is shown in Figure 4.5.

Genres of Digital Video Viewed by Malaysian 2014



Source: Nielsen Videology

Figure 4.4 Genres of Digital Video Viewed by Malaysian 2014

The Most Searched Topic in Malaysia 2014

Rank	Search topic	News Sites	Movies (Local)	Movies (International)	Mobile Search
1	MH370	Malaysiakini	The Journey	Annabelle	World Cup 2014
2	World Cup 2014	Berita Harian	Abang Long Fadil	Frozen	MH370
3	MH17	Kosmo	Balistik	Interstellar	MH17
4	Astro Awani	Sinar Harian	Pengantin Malam	Maleficient	iPhone 6
5	Perodua Axia	Harian Metro	Kami Histeria	Godzilla	Dorothy Hodgkin

Source: Google

Figure 4.5 The Most Searched Topic in Malaysia 2014

Leveraging OTT Apps

Major technologies and changing consumer behaviour to online and mobile world are integrating mobility and apps. This is redefining how video content is distributed and consumed. Such paradigm shifts on content are reshaping the TV experience from traditional TV viewing to alternative modes of TV viewing.

With the availability and affordability of mobile devices, consumers can view content at their convenience. Overall, these developments have sprouted OTT[65] services such as Hulu and Netflix which are fast evolving and being distributed more widely. Therefore, OTT services pose a constant increasing competition to broadcasters and telecommunications service providers.

For Malaysia, broadcasting and telecommunications service providers are also taking advantage of the revolutions in technology by launching their own applications brand in an effort to engage wider consumers. FTA TV broadcasters, Media Prima and RTM joined the apps market with the launch of *Tonton* app and RTM Mobile respectively. Also, on Pay TV side, ASTRO has *Astro On-The-Go* app and TM with its *HyppTV Everywhere*.

Media Prima recorded more than four million registered users on Tonton

As the major FTA TV service provider in Malaysia, Media Prima took advantage of the burgeoning world of apps. Starting with a mobile version of *Tonton* app in 2011, Media Prima launched their web based pre-recorded TV programme under the brand name *Tonton* in 2010.

As at 30th September 2014, *Tonton* has more than four million registered users. *Tonton* registered users grew double digit for two consecutive years, 2012 and 2013, that is, by 35% and 37% respectively. Towards promoting *Tonton*, one of the value propositions offered to *Tonton* audience is the option to view drama/series 48 hours before it is aired on TV. Also, there are certain content being aired only on *Tonton*. This strategy by Media Prima has proven successful in attracting more audience. The number of videos watched rose by 65% in 2013 compared with 28% recorded in 2012[66]. As at end 2014, *Tonton* app recorded more than 50,000 downloads from *Google Play* store.

Tonton Music App

Media Prima is also capitalising on changing consumer behaviour, particularly towards increasing music streaming via smartphones. Studies show that 38% of Malaysian youths stream music on their mobile devices[67]. Responding to this trend, Media Prima in January 2014 launched music apps for online music streaming. Branded as *Tonton Music*, this app allows music fans to enjoy music and entertainment through audio streaming. Media Prima plans to make *Tonton Music* as the largest music content library in the country. As at end 2014, there is already over 700,000 songs[68] available.

[65] OTT refers to the service you use over the network services.
[66] Media Prima Investor briefing: Financial and Business review for the Financial Year Ended 30 September 2014, 6 December 2014.
[67] Malaysian Wireless, Free data for Music & Radio Streaming from U Mobile, November 2014.
[68] HardwareZone, Get Your Music Fix with Tonton Music, January 2014.

One Million Downloads for Astro On-The-Go Apps

ASTRO launched its mobile apps brand, *Astro On-The-Go*, on 30 May 2012. As at end 2014, ASTRO apps recorded almost one million apps download[69].

In a bid to transform ASTRO into a global brand, *Astro On-The-Go* was made available to Malaysians living abroad in March 2013[70]. In addition, major global events such as FIFA World Cup that was held in Brazil benefited ASTRO with 80,000 downloads during that event alone.

In the initial phase of *Astro On-The-Go* apps, ASTRO offered 11 TV channels, VOD and live events such as UEFA EURO 2012 football tournament[71]. In an effort to penetrate the mobile consumer market, upon its introduction, ASTRO also offered a free preview of the service until 31st August 2012.

HyppTV Everywhere Mobile Apps

After the successful launch of *HyppTV*, TM launched *HyppTV Everywhere* mobile apps in August 2013. *HyppTV Everywhere* is an add-on service for existing UniFi and Streamyx subscribers to view *HyppTV* content on multiple devices from as low as RM5 per month for two devices or RM10 per month for five devices. As at end 2014, *HyppTV Everywhere* recorded more than 50,000 downloads, with an average rating of 3.6 out of five by users who downloaded it through Google Play[72].

HyppTV Everywhere carries two major *HyppTV* components such as Broadcast Live TV and Video On Demand[73]. *HyppTV Everywhere* currently offers 64 channels with 26 HD channels and its breakdown as follows:

Category	Total Channels	Total HD Channels
Live TV (Free)	52	22
Video On Demand (VOD)	12	4
Total	**64**	**26**

Source: TM

Figure 4.6 HyppTV Everywhere Channels Breakdown

[69] The Star Online, Astro records surge of 80,000 AOTG downloads since World Cup began, July 2014.
[70] Digital TV Europe, Malaysia takes Astro-On-The-Go global, March 2013.
[71] IP&TV News, Astro Malaysia debuts multiscreen OTT service Astro On-The-Go, June 2012.
[72] Google Play Store, www.play.google.com, Access on January 2015.
[73] Telekom Malaysia, https://www.tm.com.my/hypptv/Pages/support.aspx#everywherefaq, Access February 2015.

Other TV and Radio OTT Apps

Content from traditional TV and radio broadcasters is fast expanding to be delivered over the mobile platform. Consumers have the option of watching content or listening to radio by downloading their favourite mobile apps from the radio companies' websites or from *Google Play* store. Figure 4.7 shows apps developed by TV and radio broadcasters and their downloads from *Google Play* store.

Industry	Language	App Name	Download	App Average Rating
TV	Mix	Astro AWANI	100,000 – 500,000	4.1
		RTM Mobile	100,000 – 500,000	4.0
		1Malaysia TV	1,000,000 – 5,000,000	3.7
Radio	English	hitz.fm	100,000 – 500,000	4.2
		LiteFM	50,000 – 100,000	4.2
		MIX fm	50,000 – 100,000	4.1
		FlyFM	50,000 – 100,000	4.3
		Capital FM	10,000 – 50,000	3.7
		BFM 89.9	1,000 – 5,000	4.5
	Bahasa Malaysia	ERA fm	500,000 – 1,000,000	4.3
		SINAR fm	100,000 – 500,000	4.3
		Suria FM	100,000 – 500,000	4.4
		Hot FM	100,000 – 500,000	4.3
	Chinese	MY FM	100,000 – 500,000	4.2
		MELODY FM	50,000 – 100,000	4.2
		one FM	100,000 – 500,000	4.1
		988 FM	100,000 – 500,000	3.9
	Tamil	THR Raaga	100,000 – 500,000	4.4

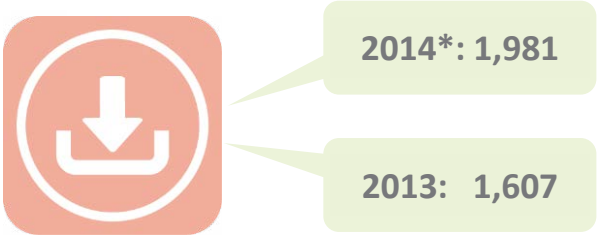
Source: Various Industry, Google Play Store
Figure 4.7 Other TV and OTT Radio Apps

Nearly two million radio apps downloaded in 2014

Based on industry feedback, in 2014, there were almost two million radio apps downloaded across both iOS and Android operating systems from three main radio groups and other stations namely BFM, Best FM, Cats FM and IKIMfm.

Figure 4.8 shows the apps downloaded in 2013 and 2014 across all commercial radio stations. Moving forward in 2015, more radio stations are expected to introduce their apps along with increasing smartphones usage in Malaysia.

Number Of Radio Station Apps Download ('000)



**Industry estimates*

Source: Industry
Figure 4.8 Number of Radio Station Apps Download ('000)

Notably, Astro Radio was the first to launch radio apps for iPhone back in 2009. In contrast, Astro Radio apps for Android started in 2012. Currently, there are over four million apps downloaded for all stations under the Group since the service started.

Social Networking Platforms

Twitter, Facebook and Instagram are identified as the major social media platforms to engage radio listeners. In Malaysia, the radio broadcasters indicated they would be capitalising on various platforms on social networking sites based on their popularity.

Radio Station with more than 500,000 Facebook 'Likes'

Stations	Number of Likes ('000)
Hot FM	2,366
ERA fm	1,845
hitz fm	1,086
One FM	581
IKIMfm	552
SINAR fm	531

Source: Industry, Facebook Websites (January 2015)
Figure 4.9 Radio Station with more than 500,000 Facebook 'Likes'

Mobile Apps to Engage Subscribers

Telecommunications service providers have developed and launched their own mobile apps in order to facilitate and engage their subscribers. DiGi, Maxis and Celcom have apps known as *MyDiGi*, *Hotlink Red* and *Celcom Xpax* respectively to facilitate their subscriber transactions such as:

- Managing account for prepaid and postpaid;
- Reload their prepaid account balance;
- Top up mobile Internet quota; and
- Obtain access to the latest news.

There were apps developed for specific purposes. For example, apps for providing information during national disaster. During the floods in December 2014, *MyBanjir* app was launched, with an objective to inform users with the up-to-date news relating to the said floods. This app was developed by Global Innovation and Creativity Centre (MaGIC)[74].

Mobile App for Branding and Business Promotion

Local brands also jumped on the apps bandwagon by launching their own mobile apps for consumers. Businesses including banking and financial institutions, airlines, cinemas and taxi services have offered some of the popular mobile apps to consumers.

For example, the banking sector has launched their own brand name apps such as *Maybank2U* and *CIMB Clicks*. These have recorded more than one million downloads each by 2014. These apps are basically for account balance inquiry and checking history of transactions as well as performing certain transactions. Other interesting and useful apps are Mudah.my, Lelong.com

[74] MaGIC is the organisation that was established in October 2013 with the objective to spur entrepreneurial activities in Malaysia and serve local startups.

and 11street.my, which have become popular e-commerce centres for Malaysians to buy and sell online.

Another popular local mobile app is *MyTeksi* app that was introduced in 2012. This app allows users to book a taxi in Malaysia. Notably, this app enabled service has since expanded to 17 cities across six countries in the Southeast Asia, including Philippines, Thailand, Singapore, Vietnam and Indonesia.

MyTeksi has the largest network throughout the region with over 500,000 active users. As at end 2014, 2.5 million *MyTeksi* mobile app were downloaded across all platforms. *MyTeksi* estimates that there is on average three taxi bookings made through their app every second across the region. This is almost eight times increase compared with 2013[75]. In terms of business funding, *MyTeksi* has received total investment of almost USD340 million. The major investor was SoftBank Corp from Japan, which has invested USD250 million.

[75] New Straits Times, Japan's Softbank invests USD250 million in MyTeksi, December 2014.

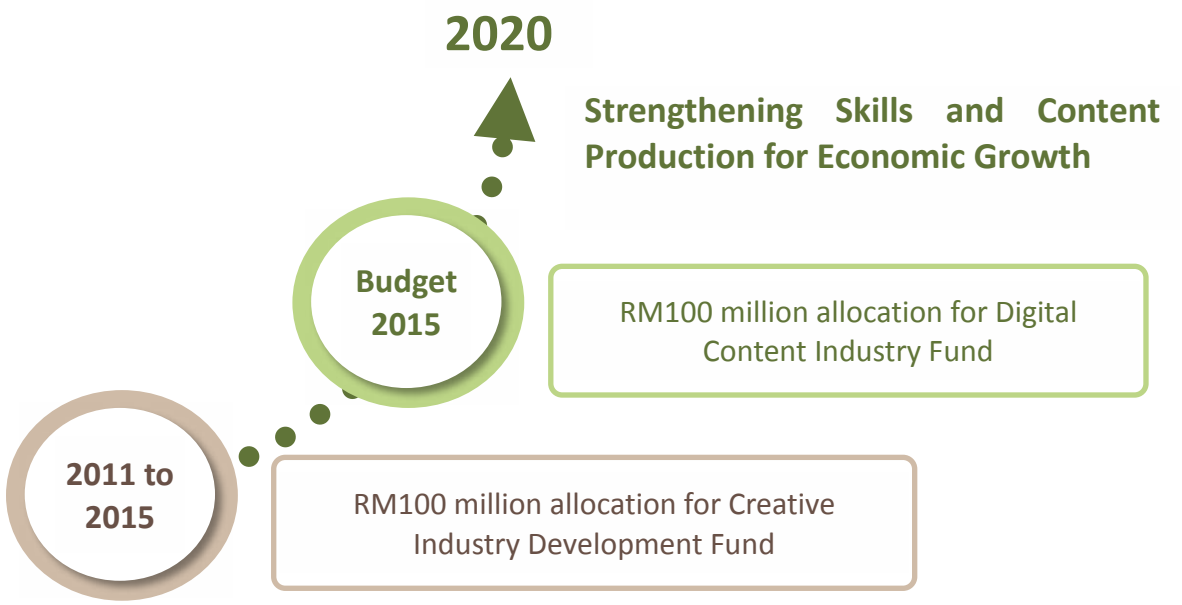
Content Development

With both popularity and functionality provided by the use of apps, content and application creation has potential to grow further. Apps for branding already have an added value. Monetisation of apps into substantive and recurring revenue is nevertheless, still being explored and developed globally. For example, Google is using Waze[76] app to increase user engagement and thus drive revenue by incorporating Waze's users reward programme to cross-sell products on its Google Offers and Google Shopping platforms[77]. Hence, content development is expected to provide opportunities for growth through various innovative ways to meet user requirements or needs.

In 2014, MCMC continued its efforts in playing a proactive role to further develop the content industry via:

- Incentives;
- Capacity building programmes; and
- Strategic initiatives.

Efforts by MCMC in empowering the content and applications industry started in 2007[78].



Source: MCMC
Figure 4.10 Incentives

To promote the creative industry, RM100 million was allocated for the Creative Industry Development Fund from year 2011 until 2015. The main objectives of this incentive are to further enhance the competitiveness of national content industry as an economic growth area and to bring Malaysian content to international level. This is in line with the ETP programme namely National Key Economic Area Communications, Content and Infrastructure (NKEA CCI) which is to raise the CCI sector's GNI contribution threefold from RM22 billion in 2009 to RM57.7 billion in 2020.

[76] Waze is an apps providing real time information on traffic.
[77] Trefis, Google's Waze Deal Will Boost Its Maps Monetisation Efforts, June 2013.
[78] Economic Planning Unit, Rancangan Malaysia Ke-9 2006 – 2010, 2006, Available at http://www.epu.gov.my/epu-theme/rm9/bahasa/Bab5.pdf, accessed 12 February 2015.

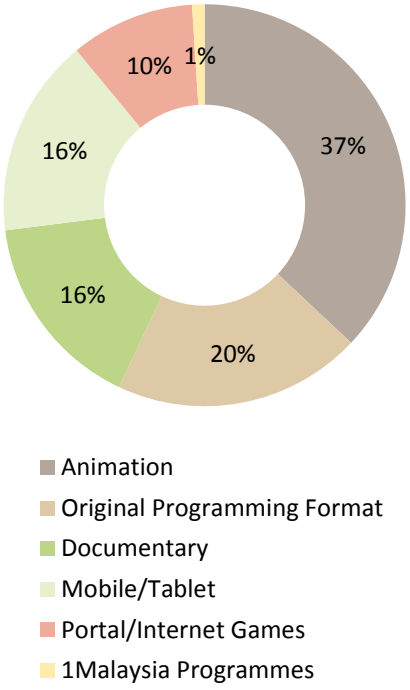
The establishment of the Creative Industry Development Fund (CIDF-MCMC) demonstrates MCMC's commitment towards content development. Specifically the CIDF-MCMC encourages the development of highly creative and entertaining local content, which is multimedia content marketable in domestic and international markets.

The Fund aims to facilitate content development on various platforms including TV, mobile and Internet content.

From January 2011 till 31 December 2014, a total of RM67.14 million was approved for the development of 128 projects inclusive of eight other projects to agencies under the former Ministry of Information, Communication and Culture, now known as Ministry of Communications and Multimedia (KKMM). Figure 4.11 shows projects approved by focus area.

In 2014, a total of RM11.29 million was disbursed. Since 2011, a total of RM38.73 million was disbursed to CIDF-MCMC grantees based on agreed target milestones. So far, 53 projects have been completed, with 13 of these projects completed in 2014. Figure 4.12 below provides details on the completed projects by genre and revenue generated.

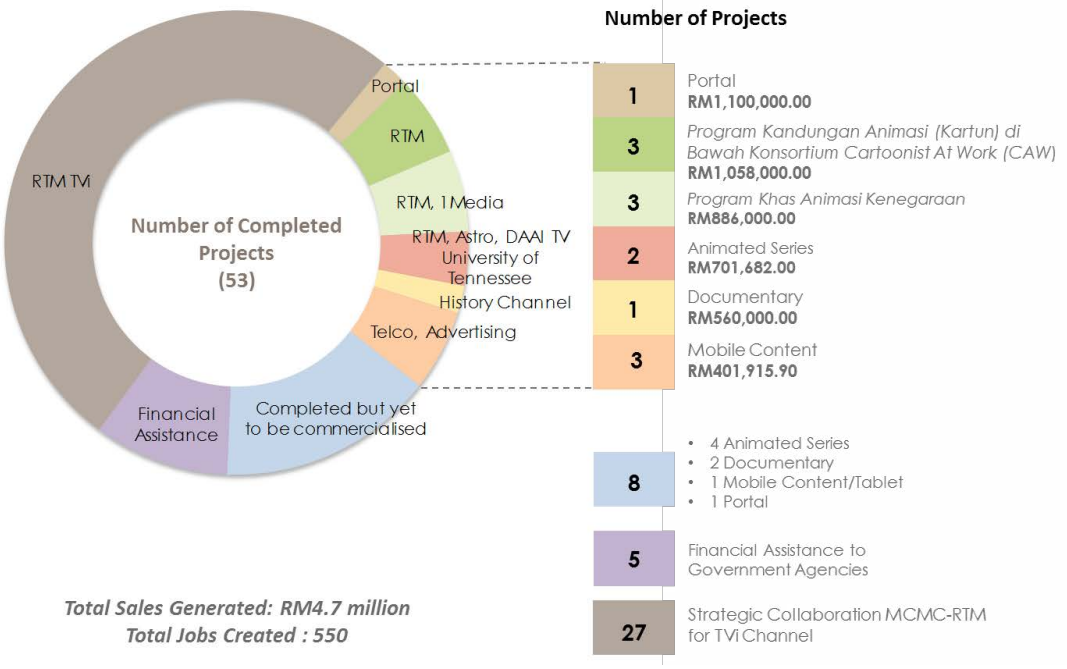
Projects Approved by Focus Area



Source: MCMC

Figure 4.11 Projects Approved by Focus Area

Completed Projects by Genre and Revenue 2014



Source: Industry, MCMC

Figure 4.12 Completed Projects by Genre and Revenue 2014

The completed projects have been recognised both locally and internationally. For example, the mobile gaming apps produced by Just Mobile Sdn Bhd bagged the Malaysia National Intellectual Property Awards 2014. This app was also listed as the finalist of 2014 Football Business Awards in UK. Figure 4.13 below shows the genres of content produced by the companies in 2014.

Project Completed by Company and Product Genre 2014			
No.	**Company**	**Product**	**Genre**
1	Beeburpp Studio Sdn Bhd	Harimau Malaysia	Animation
2	Cineorama Sdn Bhd	Maliau Basin, Dunia Yang Hilang	Documentary
3	Creative Media Sdn Bhd	Rose & Roy: Journey to the Past	Animation
4	Sri Dondang (M) Sdn Bhd	Digital Music Production SINAR	Digital Music
5	Adept Media (M) Sdn Bhd	Awang Putra	Animation
6	Media Genic Sdn Bhd	Pengembaraan Adam	Animation
7	Funcel Sdn Bhd	Lang Penjaga Hutan	Animation
8	Just Mobile Sdn Bhd	FanTX Sports	Apps
9	Flare Studios Sdn Bhd	Ya Hanana	Semi-animation & Apps
10	Lampu Ajaib Sdn Bhd	Raja Pahat	Animation
11	Quest Animation Sdn Bhd	Mat Kilau	Animation
12	Sheunik Sdn Bhd	Nourishing Asean: Rice	Documentary
13	Apple Studio Production Sdn Bhd	Budaya Siurang	Documentary

Source: Industry, MCMC

Figure 4.13 Project Completed by Company and Product Genre 2014

Note that MCMC's role in content development extends to skills development and capacity building in this industry as well. Some of the MCMC's initiatives are as follows:

- **League of Creative Teen 2014 (LoCT 2014)**
  A competition aimed at spurring the creation of local content to expose students at secondary level on the opportunities in content development.

- **Creative Teens Development Camp 2014 (#KAMERA2014)**
  Focus on enhancing students' talent in producing online creative content.

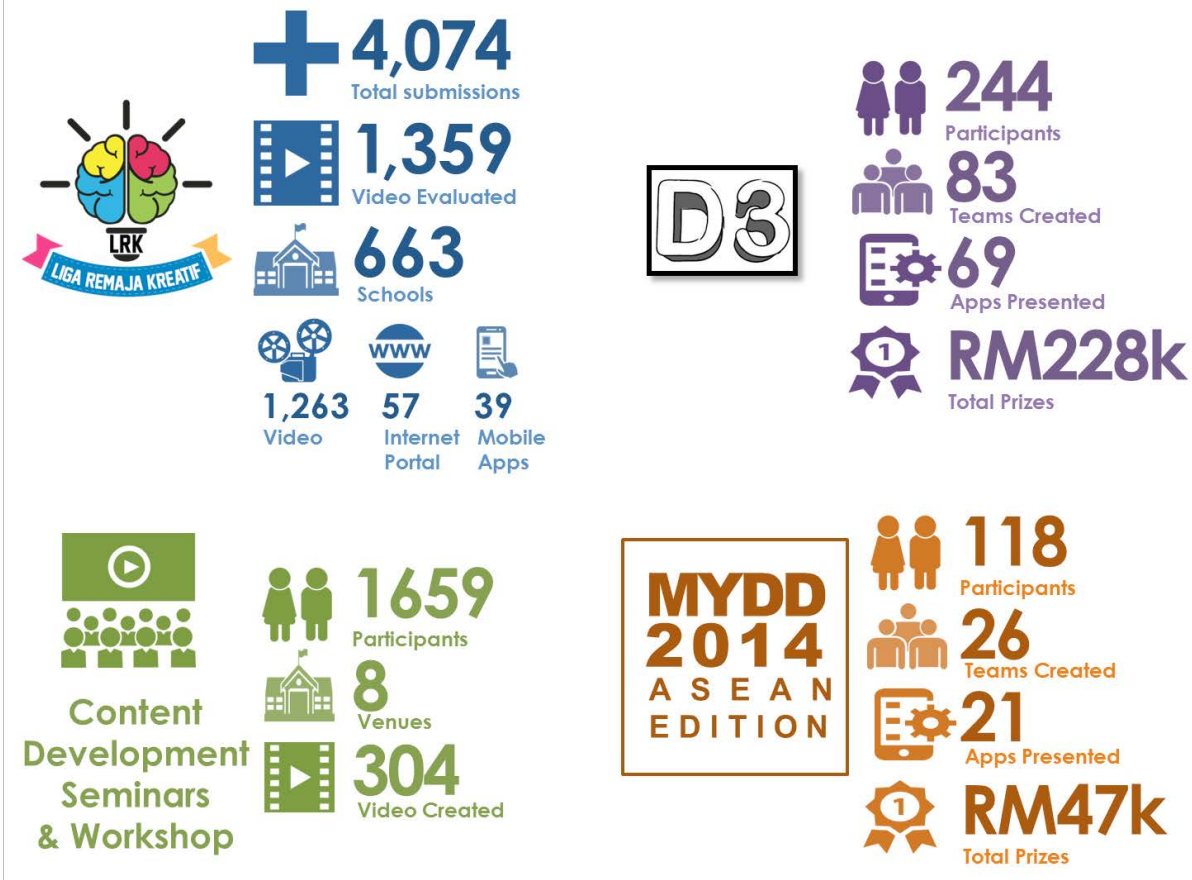
- **Malaysia Developer's Day 2014 – ASEAN Edition**
  Aims to provide participants with resources and networking opportunities towards producing quality apps in less time and at lower cost.

- **D3 – Define Design Develop**
  D3 is a 24-hour mobile and OTT applications development competition that is open to developers and non-developers who are given 24 hours to form teams and turn their ideas into a mobile app.

- **Imagine Cup 2014**
  Technology programme and competition that provides opportunities for students across all disciplines to team up and use their creativity, passion and knowledge of technology to create apps, games and integrated solutions that can change the way people live, work and play.

- **Game Jam**
  An exposure programme targeting primary and lower secondary school students to develop game applications on smartphone.

Overall Achievement of Capacity Building Programmes 2014



Source: MCMC

Figure 4.14 Overall Achievement of the Capacity Building Programmes 2014

Under Content Development Strategic Initiatives, MCMC has worked with other Government agencies to develop talents and skills in the creative industry. The strategic collaboration efforts are as follows:

- **Malaysia Documentary Pitch Trailer 2014 (DocsTrailer)**
  This programme was organised by MCMC in collaboration with History Channel and Malaysian Documentary Association (MyDocs), whereby documentary producers were invited to develop and produce documentary trailers aimed at bringing local content to the world.

- **Intellectual Property (IP) Creation**
  IP Creation is MCMC's collaboration with academic institutions, KRU Academy and Point College aimed at developing content creation competency amongst university graduates.

Another event with a similar objective as indicated is KL Converge. KL Converge is a multi-platform creative industry conference that was held in September 2014 at Kuala Lumpur Convention Centre. This event attracted participation from both overseas and local and drew

more than 120 contestants from all over Asia. Several events as mentioned earlier namely LoCT 2014, Malaysia Developer's Day – ASEAN edition and Docstrailer were held during KL Converge.

Collaboration with other government agencies such as FINAS, MDeC and local companies are expected to expand the local content through global market exploration. The collaborative efforts have marketed Malaysian content to international markets namely, MIPCOM 2014, MyContent Dubai 2014 and Asia Television Forum 2014.

Overall, with such joint efforts, the international market exploration initiatives for local content garnered total sales value of RM145.01 million. This represents an increase of 5% from RM138.72 million recorded in 2013. MIPCOM expedition contributed the largest share of sales at RM132.1 million. This compares favourably to RM108 million or 78% share that was recorded in 2013.

Market Access Sales Transaction for Local Content 2014		
Content Market	**Location**	**Sales Value (RM million)**
MIPCOM	France	132.10
MyContent Dubai	Dubai	0.37
Asia TV Forum (ATF)	Singapore	12.54
Total		**145.01**

Source: FINAS & CCAM

Figure 4.15 Market Access Sales Transaction for Local Content 2014

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MODULE 5: QUALITY ASSURANCE AND CONSUMER PROTECTION

Consumer Protection

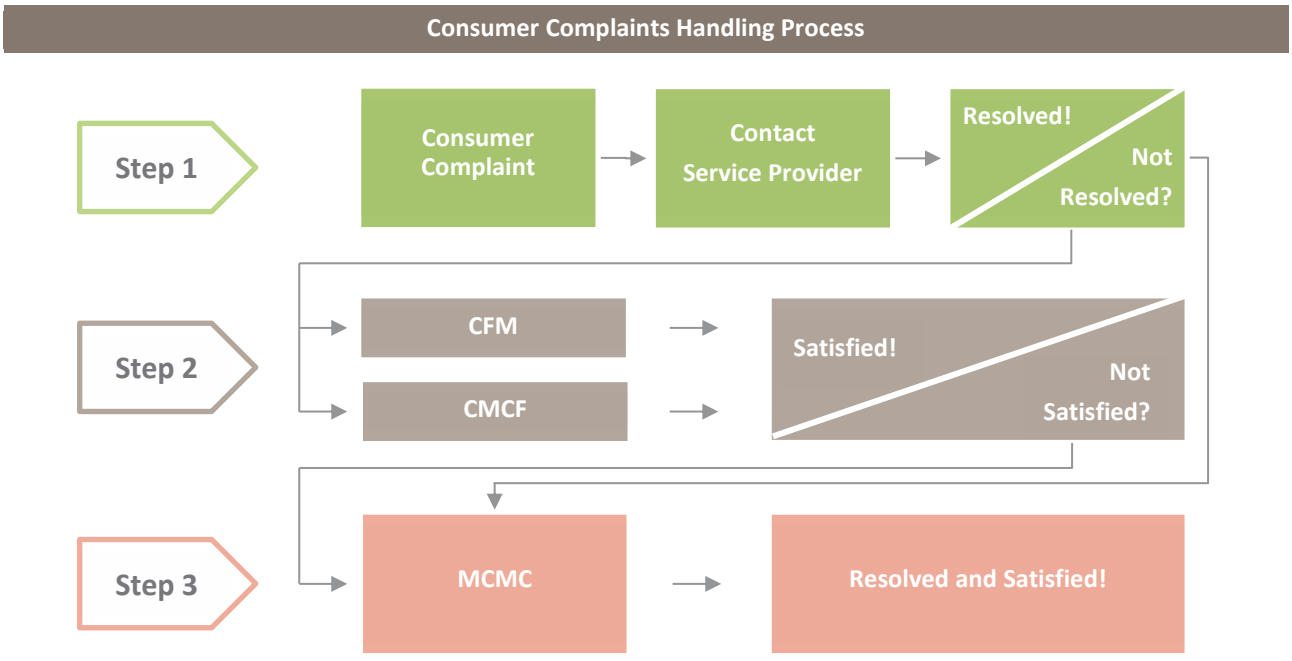
With the rapid evolution of smartphone devices and data services, namely OTT services, consumer protection issues have become far more important than in the past. Many regulators worldwide are addressing the new challenges brought on by the growth of these technologies and services.

Keen competition has service providers investing in educating consumers on good usage practices. Also, developing customer relationship management strategies serve as a channel for feedback and monitoring business development.

Alongside this, consumer protection and empowerment platforms vis-à-vis Industry Forums and the MCMC, provide assurance to mitigate complaints or issues arising from service providers. The consumer complaints itself act as a feedback mechanism for the industry to improve their service provision and enhance customer engagement.

In our Consumer Complaints Handling Process, the first stage of complaint made to the service provider enables the latter to solve issues first hand. However, should the complaint to the service provider not be resolved or dealt with a satisfactory manner, the consumer may proceed to the relevant Industry Forum, namely Communications and Multimedia Consumer Forum of Malaysia (CFM) or Communications and Multimedia Content Forum of Malaysia (CMCF). If the complaint still cannot be resolved, then MCMC is the next platform.

Figure 5.1 below shows the Consumer Complaints Handling Process for the C&M industry in Malaysia.



Source: MCMC

Figure 5.1 Consumer Complaints Handling Process

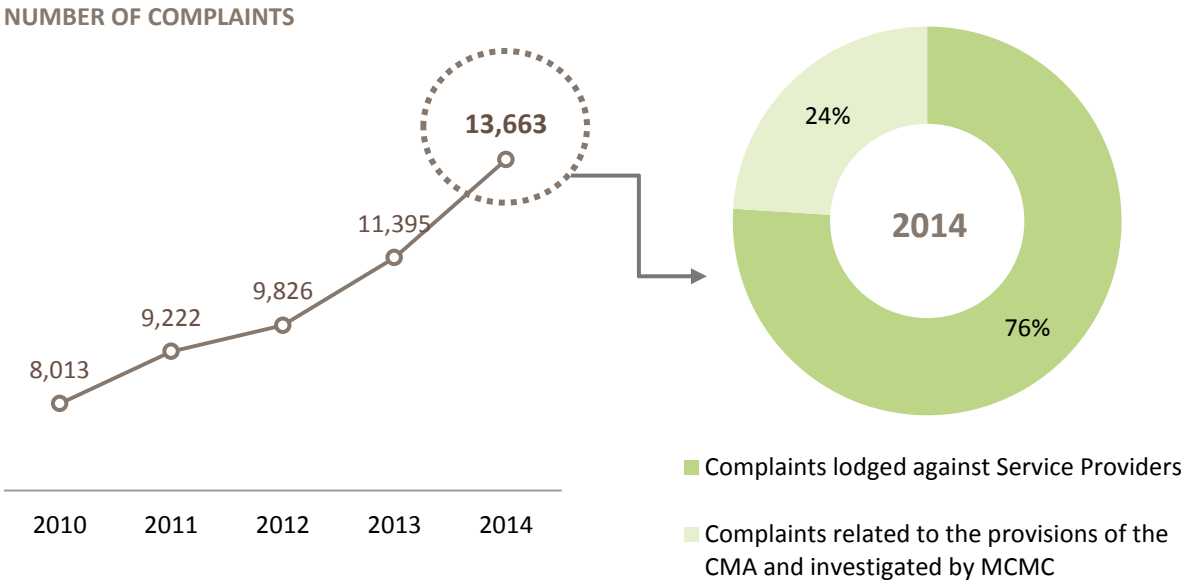
Consumer Complaints As Feedback Mechanism

A total of 13,663 complaints were received by MCMC in 2014 compared with 11,395 complaints received in 2013. The increase of 20% was partly due to increase in the number of complaints that required MCMC intervention such as poor quality of service, coverage and content. As at end 2014, 94.5% of the complaints have been resolved. Notably, on average, 23.4% were resolved within 72 working hours.

Out of the total complaints received in 2014, 10,406 complaints or 76% were related to issues pertaining to service providers. The remaining 3,257 complaints (24%) were related to the provisions under CMA and investigated by MCMC.

Over the years, MCMC has received complaints which are not under MCMC jurisdiction such as non-delivery of online purchase item, online gambling, investment, quick cash scheme and copyright issues. These cases were referred to the relevant authorities for resolution.

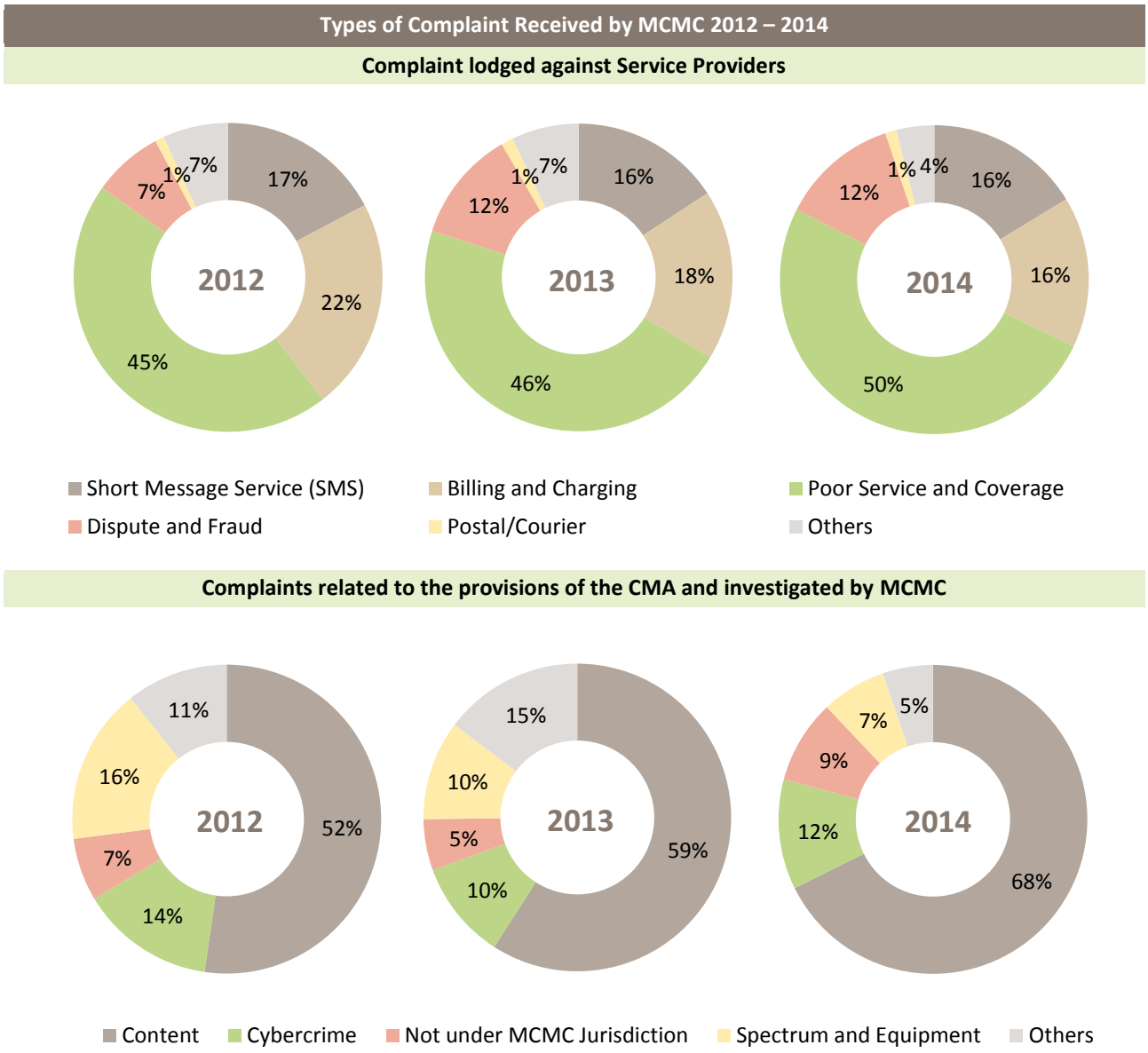
Trend of Consumer Complaints Received by MCMC 2010 – 2014



Source: MCMC

Figure 5.2 Trend of Consumer Complaints Received by MCMC 2010 – 2014

Figure 5.3 charts the trend of types of complaint received by MCMC over the last three years. Note that complaints on the issue of poor service and coverage have increased by 4% to 50% in 2014 compared with 2013 (46%). The poor service complaints involved mobile number portability, service disruption, slow Internet connection, delay installation or activation and service restoration. Additionally, 16% of the complaints were on SMS, that is, unsubscribed and promotional material, content, spam and scams.



Source: MCMC

Figure 5.3 Types of Complaint Received by MCMC 2012 – 2014

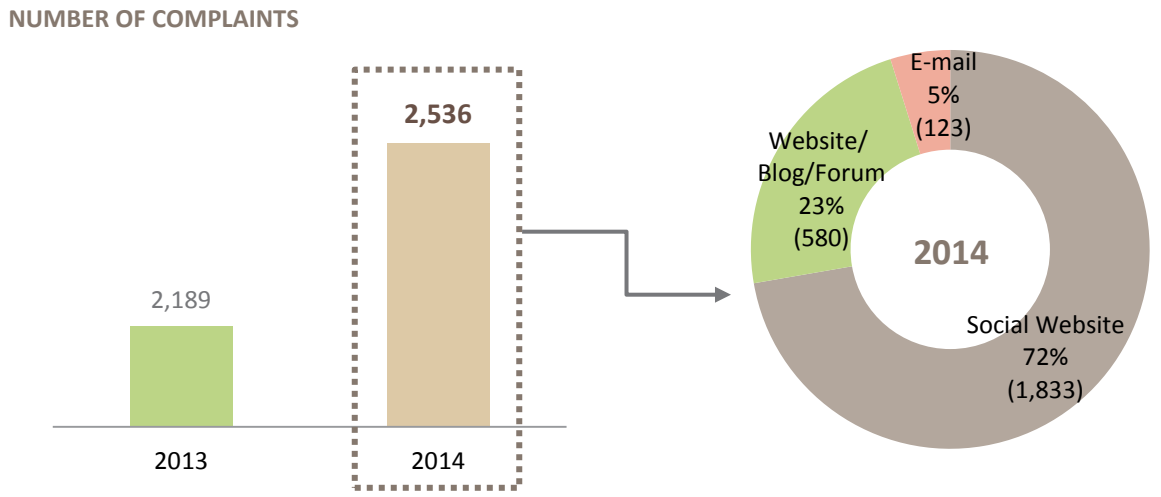
Under the category of complaints related to the provisions of the CMA and investigated by MCMC, 68% of the complaints received were on content. These complaints were, in particular, pertaining to content on website, blog, social network, e-mail, SMS, MMS, TV and radio. There were also complaints on new media related to fake or false profiles, offensive comments, obscene or indecent content.

MCMC as a channel for complaints on New Media

For complaints on new media, MCMC received 2,536 complaints arising from the public and agencies such as Polis Diraja Malaysia (PDRM), KKMM, Jabatan Kemajuan Islam Malaysia (JAKIM) and others.

From the total complaints on new media received, 72% or 1,833 complaints were related to social media, followed by 580 complaints (23%) on website/blog/forum and the rest on e-mail.

New Media Complaints 2013 – 2014

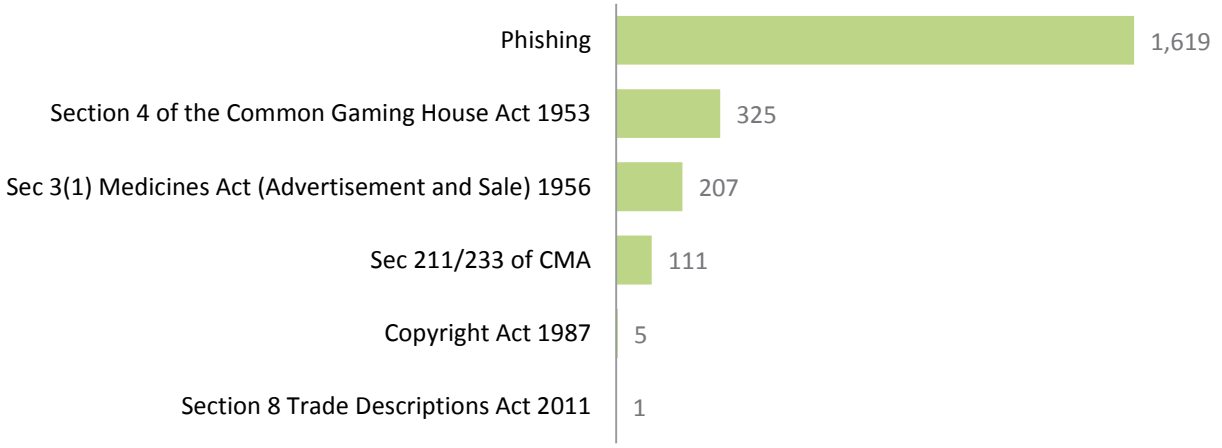


Source: MCMC

Figure 5.4 New Media Complaints 2013 – 2014

The collaboration between MCMC and other law enforcement agencies have resulted in blocking 2,268 websites/blogs in 2014. Out of the total offences committed, up to 1,619 cases or 71% were categorised under phishing. Such collaboration among agencies is stated under Section 263(2) of the CMA.

Blocking Websites: Types of Offence Committed 2014



Source: MCMC

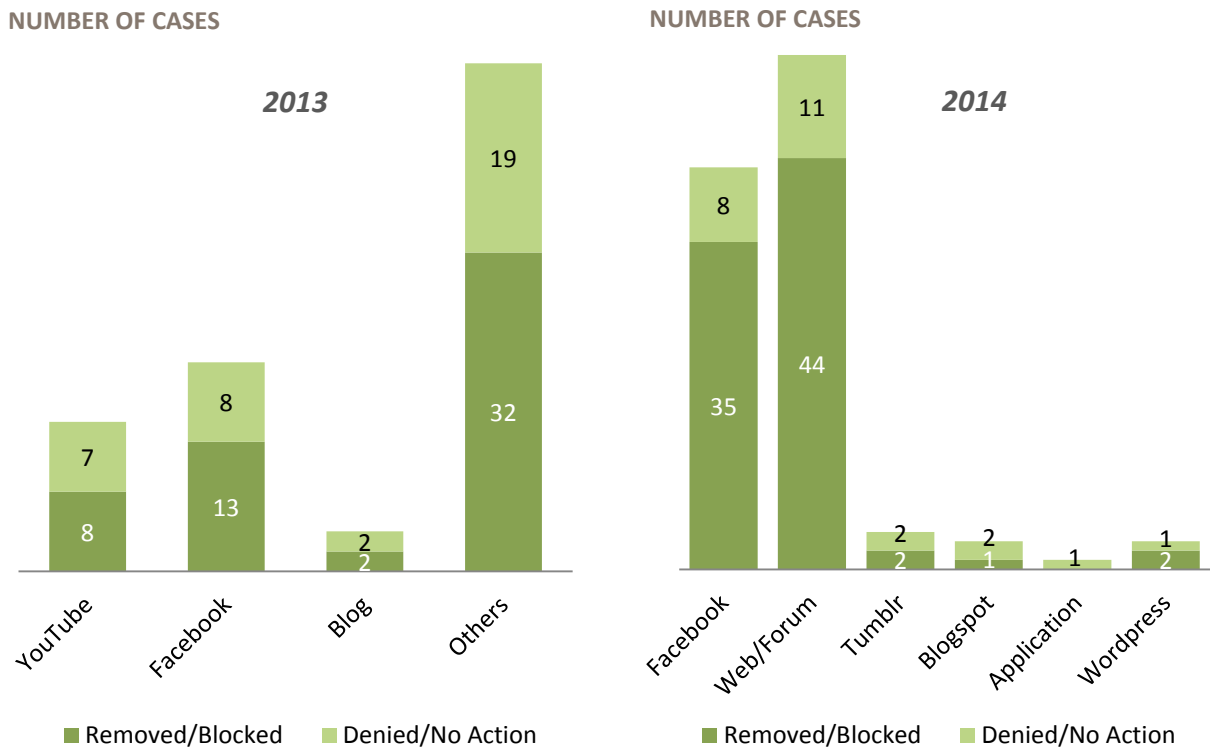
Figure 5.5 Blocking Websites: Types of Offence Committed 2014

Sections 211 and 233 of the CMA specifically provide for online content offences. Under these sections, any person found guilty of an offence can be fined not exceeding RM50,000 or imprisonment for a term not exceeding one year, or both.

It should be noted that not all online offences are under the jurisdiction of MCMC. Other laws that cover online offences are Penal Code, Sedition Act 1948 and Copyright Act 1987. Enforcement action taken by MCMC is not limited to prosecution in court. MCMC also actively escalates reports on abuse to websites or social media platforms, such as Facebook, YouTube, Twitter, Cari.com, Adpost, Tumblr and others.

The continuous collaboration between MCMC and social media platform providers have enabled appropriate actions to be taken on unlawful content, which includes blocking websites that violate the national laws. The cases reported are shown in Figure 5.6.

Administrative Actions taken by MCMC on New Media Offences 2013 – 2014



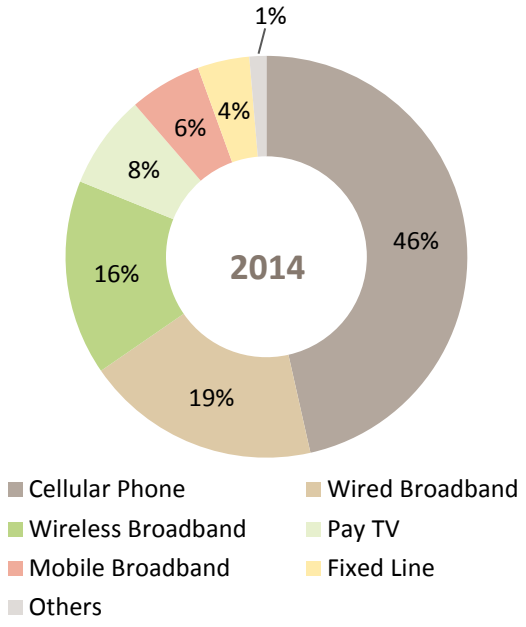
Source: MCMC

Figure 5.6 Administrative Actions taken by MCMC on New Media Offences 2013 – 2014

Complaints to Industry Forums

CFM creates awareness to promote consumer empowerment

CFM Complaints by Types of Service 2014



Source: MCMC

Figure 5.7 CFM Complaints by Types of Service 2014

Communications and Multimedia Consumer Forum of Malaysia (CFM) is a self-regulating body under the CMA and under the purview of MCMC. CFM provides a platform for the resolution of complaints in relation to C&M services. CFM is tasked, among others, to develop consumer codes that serve to promote high standards of services and protect consumer interest.

In 2014, the CFM recorded a total of 6,904 complaints, which was a 10% increase compared with 2013. Out of these complaints, 39% were on poor services, 27% on billing and charging, 10% on poor coverage, 7% on SMS, 4% on unfair practice, and the remaining related to dispute on terms and conditions, no coverage, misleading promotion, MMS, telecommunications tower and equipment and others.

The CFM goes beyond just receiving and resolving complaints but also serves to create awareness and works to empower the consumer. To assist and guide the consumers in the C&M industry, the CFM declared 2014 an awareness year. An awareness forum was held in conjunction with World Telecommunications and Information Society Day 2014 which carries the theme 'Broadband for Sustainable Development'. The inaugural forum provided an ideal platform to highlight important issues regarding consumers' needs and expectations.

CFM Consumer Engagement and Awareness Events 2014

Types of Activity	Number of Events
Awareness Programme collaborated with MCMC	20
Radio Show	13
Invited Seminar/Speaker	6
Knowledge Sharing Session & Internal Workshop	4
Event with other agencies	3
CSR (Ramadan Event)	2
TV Talk Show	1
Forum	1
Total	**50**

Source: CFM

Figure 5.8 CFM Consumer Engagement and Awareness Events 2014

Besides the events held throughout the year, CFM continues its effort in educating consumers of the appropriate platforms to channel their complaints and promote consumer empowerment. The consumer engagement extends to social media networks and also through its quarterly newsletter "SHOUT!". The newsletter can be downloaded at www.consumerinfo.my

CMCF deals with content issues in the C&M industry

Communications and Multimedia Content Forum of Malaysia (CMCF) was established in 2001 as an independent body with representatives from both the "supply and demand" side of the C&M industry, namely broadcasters, telcos, advertisers, Internet service providers, radio stations, non-governmental organisations, academic representatives and content creators or distributors. CMCF's core functions are to govern content and address content related issues disseminated by way of electronic networked medium.

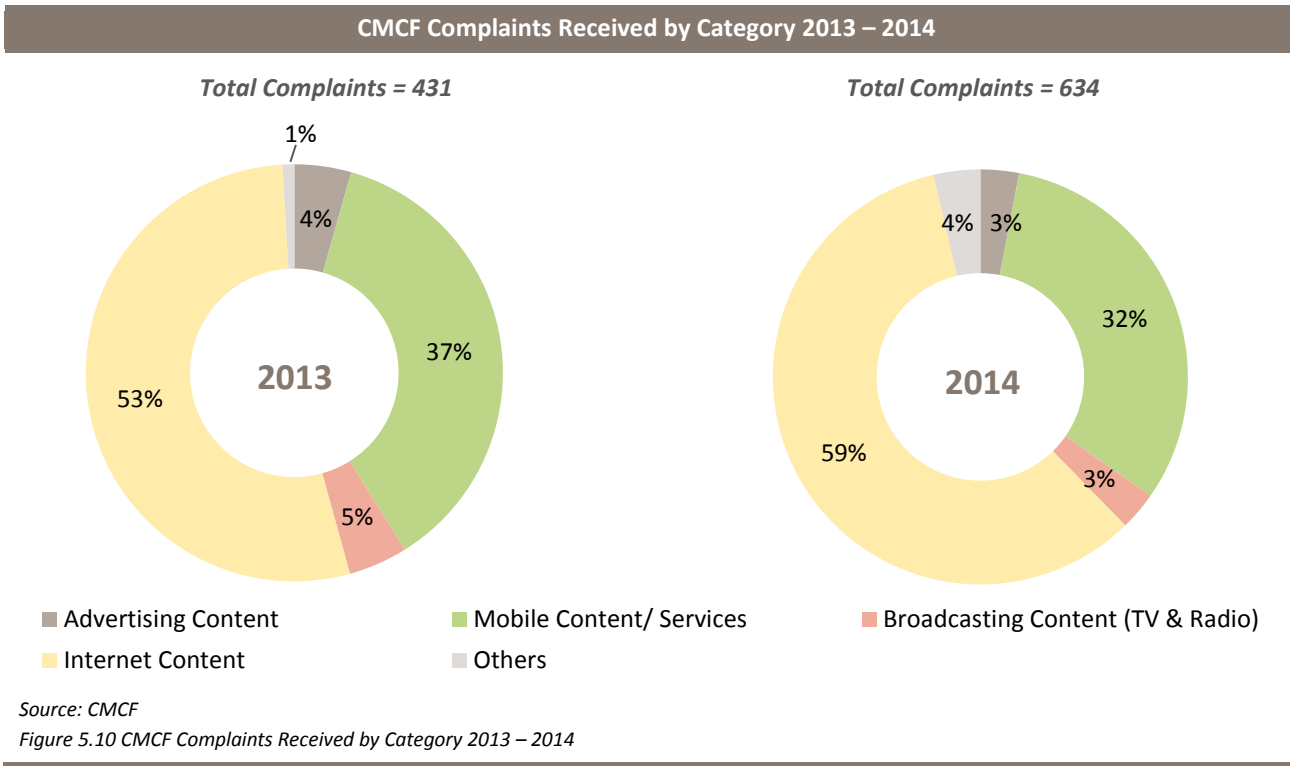
CMCF is empowered by the MCMC through CMA to facilitate and promote industry self-regulation. The CMCF is guided by the Content Code, which was developed by CMCF together with the industry and MCMC.

In 2014, CMCF held a total of 74 initiatives and awareness events to promote and educate the public on proper use and access to content delivered over the electronic networked medium.

CMCF Activities 2014	
Types of Activity	**Number of Events**
Seminar/Workshop/Conference	40
Roadshow/Exhibition	34
Total	**74**

Source: CMCF
Figure 5.9 CMCF Activities 2014

In 2014, the CMCF received a total of 634 complaints (2013: 431). Out of these complaints, 59% were on Internet content (2013: 53%) while 32% were on mobile content/services (2013: 37%). There were also complaints related to content pertaining to advertising, broadcasting and others.



Source: CMCF

Figure 5.10 CMCF Complaints Received by Category 2013 – 2014

Challenges in Consumer Protection

Increasingly the service providers are working towards not only reacting to solve consumer complaints but also instituting proactive measures to improve customer relationships and service experience. Service providers are improving customer touch point communications to manage customer complaints and expectations. Service providers are incorporating these measures as part of business transformation initiative or business strategy to differentiate their services in order to reduce churn and increase market share.

Among the proactive measures taken aside from customer relationship management system, customer contact centre, feedback survey, service providers are using social media as another channel of interactivity with customers to obtain feedback. Service providers are also investing to train personnel and improve skills on customer experience management.

Over the years, consumers for C&M services continue to grow. Wider and better accessibility to such services including access to channels for complaints and more discerning consumers has led to a rise of complaints and offences. Therefore, it is pertinent for the industry to focus on consumer centricity as a critical business success factor and when managing customer complaints. Amidst such market development, the MCMC will continue to increase efforts together with service providers and Industry Forums towards perfecting QoS.

Consumer Empowerment Plan 2014-2016

In 2014, MCMC initiated Consumer Empowerment Plan (CEP) with an objective to empower consumers via a developmental approach to promote self-regulating environment. This initiative was planned to recommend immediate regulatory measures and are based on Standards Operating Procedures (SOP) to manage critical consumer issues and challenges in the C&M industry.

As shown in Figure 5.3 earlier, the four key consumer issues identified from various complaints channels include poor quality of service, billing and charging, SMS mobile content service and dispute on terms and conditions and misrepresentation of service. Hence, to address these issues cohesively, action items were identified and translated into three strategic approaches to be executed concurrently.

CEP Strategic Approaches

Source: MCMC
Figure 5.11 CEP Strategic Approaches

The CEP plan is primarily aimed to achieve the National Policy Objectives as provided for in the CMA and aligned as per the four CEP main thrusts as follows:

CEP Main Thrusts

No.	Main Thrust	National Policy Objectives
1	**Enforcement** Quick wins for immediate improvement measures and results	To promote a civil society where information-based services will provide the basis of continuing enhancements to quality of work and life; To regulate for the long-term benefit of the end user; and To create a robust applications environment for end users.
2	**Empowerment** To empower consumers with self-regulatory approach in dealing with C&M services	
3	**Literacy** To increase mobile and broadband literacy knowledge	
4	**Responsibility** To promote the positive use of communication service (consumers) and ensure compliance to the relevant regulations under the CMA (service providers)	

Source: MCMC
Figure 5.12 CEP Main Thrusts

Consumer Empowerment Plan 2014-2016 (Cont'd)

CEP consists of 14 key initiatives, proposed to leverage and strengthen on the existing work to empower consumers, promote positive and safer environment and ensure consumer friendly service providers. This set of initiatives is to be driven over a period of three years and is expected to produce consumers who are more aware of the services offered, champion their rights and create a more effective self-regulating environment.

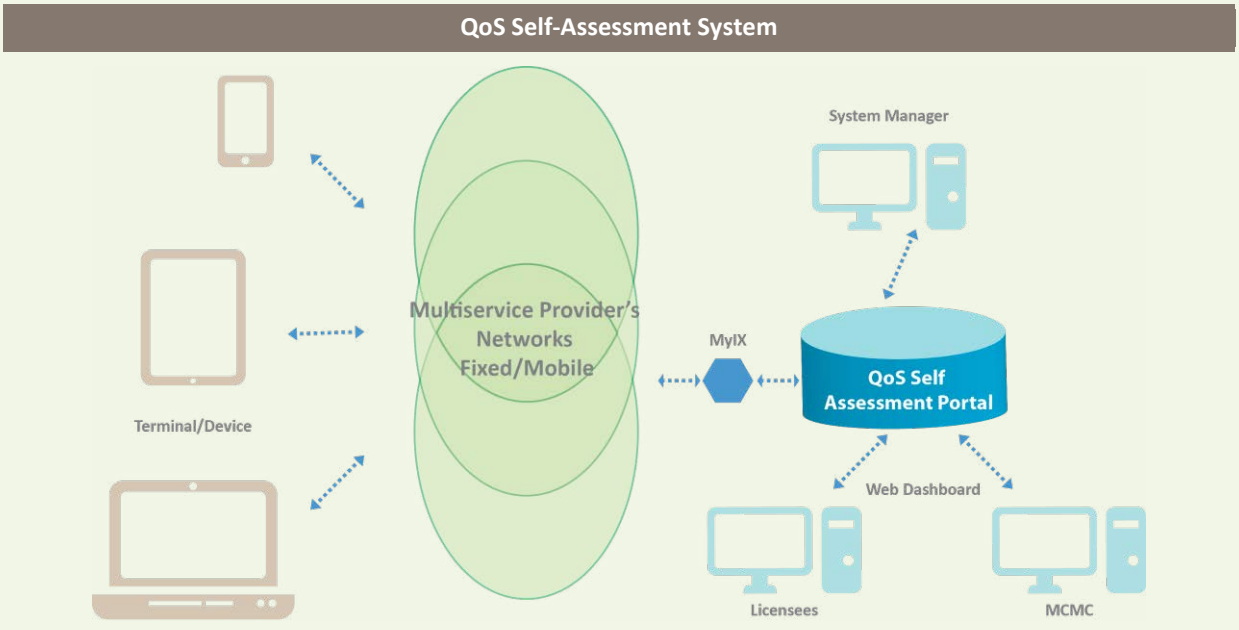
Consumer Empowerment Tools for Measuring Quality of Services (QoS Tools)

MCMC is in the process of developing "QoS Tools", to promote consumer empowerment and increase transparency as well as crowd sourcing in terms of quality of service improvement and quality of experience for consumers particularly in relation to broadband and cellular services.

The objectives of the "QoS Tools" initiative include:

1. Enable consumers to make informed decision on broadband and cellular packages offered by service providers. Consumers can also evaluate and assess service quality and performance of their daily usage as compared with service pledged and performance statistics published by service providers.
2. Enhance the transparency of broadband and cellular performance between consumers and service providers.
3. Evaluate services offered through the data gathered in the QoS Tools downloaded by consumers. It can also be used to analyse the service providers' performance for further quality of service improvement.

The target users for this "QoS Tools" include consumers, licensees and the MCMC. They can assess to a common QoS Assessment Portal to evaluate, improve and assess performance and quality of service.



Source: MCMC

Figure 5.13 QoS Self-Assessment System

MCMC Monitoring and Enforcement

Aside from addressing consumer complaints received, MCMC also conducts monitoring activities in various aspects such as broadcasting content, device certification and ensuring QoS of public cellular service and network. These monitoring activities are proactive exercise in order to uphold consumer protection. Any non-compliance or offences would result in enforcement action taken against the parties concerned.

Monitoring of broadcasting content for compliance

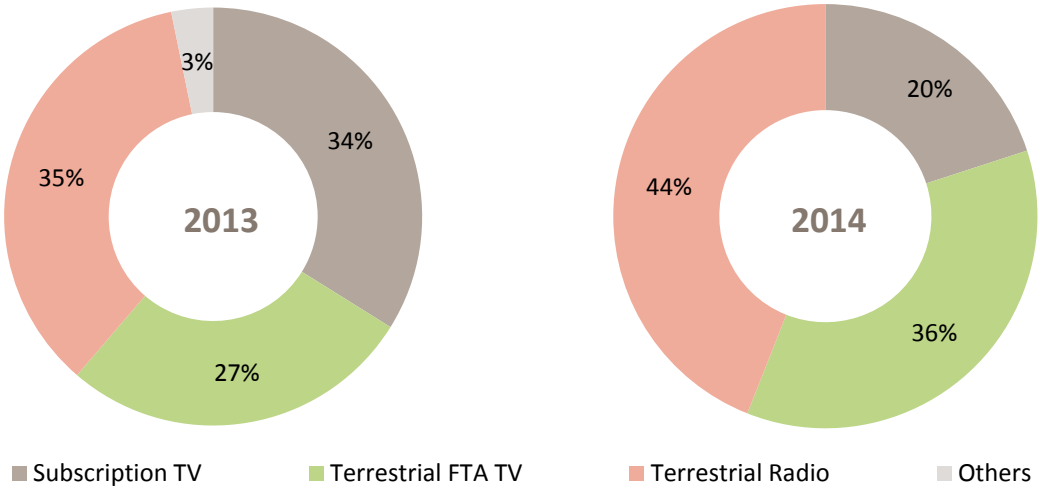
MCMC monitors CASP (I) licensees compliance by conducting daily off-site monitoring and periodic on-site compliance visit. These monitoring and compliance assessment are conducted to ensure broadcasters comply with licence conditions, particularly with regard to the Special License Conditions and provisions of social regulation under the CMA. Such monitoring approaches have been enhanced through engagement with licensees concerned and self-regulatory channels.

Additionally, towards achieving effective regulatory governance for the industry and public, MCMC collaborates with various Ministries and Governments agencies including KKMM, Ministry of Home Affairs (MOHA), Ministry of Health Malaysia (MOH), Film Censorship Board (LPF), JAKIM and National Film Development Corporation Malaysia (FINAS). Various awareness and training programmes are conducted for all CASP (I) licensees to ensure the legal provisions concerning content broadcast by the licensees are observed and in compliance with the relevant rules. Among others, these rules are Special License Conditions of CASP (I) and also Content Code under the CMA, Film Censorship Act 2002, Medicines (Advertisement & Sales) Act 1956.

MCMC also acts on content-related complaints including addressing and resolving these complaints, and pursuing enforcement action, if necessary. As at end 2014, MCMC received a total of 50 complaints on broadcasting content. Figure 5.14 indicates that 44% were complaints related to terrestrial radio while 36% were related to terrestrial FTA TV. Both categories recorded 9% increase compared with 2013. However, complaints on subscription TV decreased by 14% in 2014 compared with 2013.

Out of total complaints on broadcasting content in 2014, 62% of complaints received were on content found to be offensive, menacing, false, violent, indecent and obscene. The remaining 38% were complaints on commercial advertisement. Most of these were related to unacceptable product and services such as betting and gambling, slimming products and false or unsubstantiated claims. In essence, we note that the industry has managed to reduce complaints on broadcasting content by 19% in 2014 compared with 2013.

Complaints Received on Broadcasting Content 2013 – 2014



Note: Subscription TV – ASTRO, HyppTV, ABNxcess; Terrestrial FTA TV – TV3, TV9, ntv7, 8TV & TV AlHijrah; Others – General or all TV

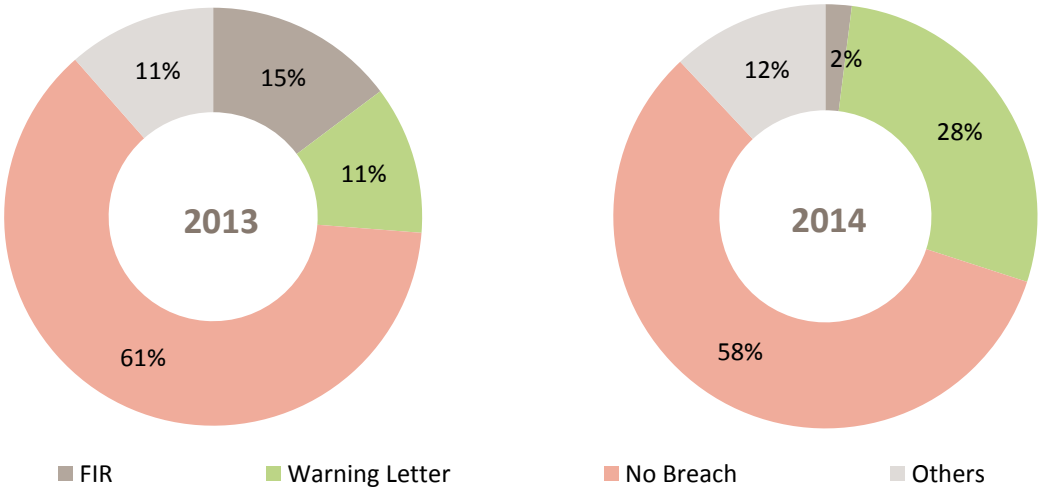
Source: MCMC

Figure 5.14 Complaints Received on Broadcasting Content Complaints Received 2013 – 2014

We note that the complaints received on broadcasting content were from public, law enforcement agencies and government agencies. They included, among others, the KKMM, MOH, FINAS, LPF Kementerian Perdagangan Dalam Negeri, Koperasi dan Kepenggunaan (KPDNKK) and CMCF.

In 2014, only one complaint was forwarded for enforcement action under CMA. Other actions taken included 14 warning/advisory letters issued to the licensees and the remaining 29 complaints received were found not to be in breach of the CMA.

Action Taken for Complaints Received 2013 – 2014



Note: Others refer to cases under work in progress which are pending feedback from JAKIM/CMCF as at end 2014

Source: MCMC

Figure 5.15 Action Taken for Complaints Received 2013 – 2014

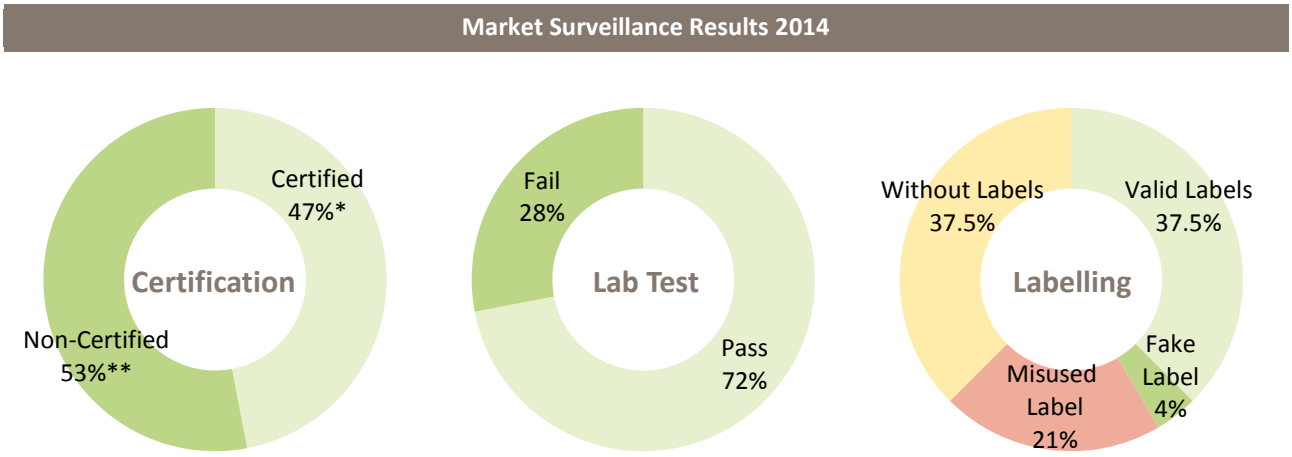
Monitoring certification of communications equipment and devices

In 2014, SIRIM QAS International Sdn Bhd (SQASI), which is the appointed certifying agency, conducted the annual market surveillance programme from 15 October to 31 December 2014. The purpose of the programme is to ensure all communications equipment and devices in the market comply with the technical codes and are safe for use.

The market surveillance programme plays a significant role as a mechanism to monitor the supply of communications equipment and devices in the market and sustain consumer and business confidence in the present conformity assessment system.

In the surveillance programme, a total of 32 devices purchased from the Central and Southern regions were tested. These devices cover 17 product categories such as hand phones, single-line phones, tablets, Wi-Fi products, walkie-talkies, GSM alarm systems, wireless audio-video senders and wireless media players. The samples went through an evaluation process which included verification of certification markings and laboratory testing to examine their compliance with the selected critical technical parameters.

Figure 5.16 shows the market surveillance results in 2014. From the 32 devices tested, 53% were found to be non-certified and 47% certified. Also, up to 72% passed the laboratory testing and 28% failed. For labelling, 37.5% of the total devices tested had valid labels, 37.5% were without label, 21% misused labels and 4% with fake labels.



*Note: *Sample model listed in the SIRIM database of certified models*
***Sample model not listed in the SIRIM database of certified models*

Source: MCMC

Figure 5.16 Market Surveillance Results 2014

Monitoring for Compliance with Mandatory Standards

Malaysian consumers are protected by the Mandatory Standards, brought into force by MCMC to monitor and regulate the performance of all relevant service providers. A total of seven Mandatory Standards for Quality of Service has been registered between 2003 and 2011, namely:

- Public Switched Telephone Network Service (PSTN)
- Public Cellular Service (PCS)
- Dial Up Internet Access Service (DIAS)
- Content Applications Service (CAS)
- Public Payphone Service (PPS)
- Digital Leased Line Service (DLL)
- Broadband Access Service (BAS)

Service providers are required to submit half-yearly reports demonstrating their compliance with the service standard as per the requirement under Mandatory Standards for Quality of Service. MCMC conducts random audit on the report submitted to ensure the validity and reliability of the service offered.

As at end June 2014, a total of 60 reports were submitted to MCMC, in which, 24 licensees reported for non-compliances listed as follows:

Non-Compliance Cases with Mandatory Standards		
No.	**Non-Compliance**	**Number of Licensees**
1	Standards	7
2	Failed to submit the report	8
3	Failed to submit the report within stipulated time given	7
4	Failed to submit the report within stipulated time given – second offence	2

Note: As at end June 2015

Source: MCMC

Figure 5.17 Non-Compliance Cases with Mandatory Standards

For non-compliances, Administrative Sanctions were recommended as an alternative approach instead of opening Investigation Papers as it was considered more effective in terms of quality assurance.

Service Quality Assurance

Ensuring quality of service of public cellular service and network

Collaboration among cellular service providers and other relevant authorities and agencies is essential to coordinate cellular coverage issues and QoS improvement planning nationwide. Hence, various initiatives taken by MCMC and cellular service providers throughout 2014 aimed to address issues pertaining to public cellular service. These initiatives are detailed below:

- **Cellular Coverage Improvement**
  Monitoring and coordination of nationwide improvement plan for cellular network with cellular service providers on monthly basis. Completed projects include those along the New Klang Valley Expressway (NKVE), the Maju Expressway (MEX), the Kuala Lumpur – Kuala Selangor Expressway (LATAR), Gua Tempurung, Terowong Menora and in Bandar Puteri Puchong.

- **In-building Coverage System (IBC)**
  This comprises a proposal, planning and implementation of In-building Coverage system (IBC) in strategic locations such as commercial centres, airports and government offices.

- **Putrajaya Blueprint and Langkawi Blueprint**
  Putrajaya Blueprint and Langkawi Blueprint are a series of large scale improvement projects for enhancing quality and capacity of voice and data services by upgrading the existing transmission and identifying new sites for development.

Notably, MCMC also assesses the QoS for cellular network to ensure service providers meet the minimum standards as stipulated in QoS Mandatory Standards, that is, dropped call rate shall not be more than 3% and End-point Service Availability (ESA) shall not be less than 95%.

There were three types of network assessment conducted periodically throughout the year, namely the Nationwide QoS Assessment on Cellular Network, QoS Assessment on Cellular Network in Klang Valley Major Highways and QoS Assessment on Cellular Network at Protocol Route.

The QoS Assessment on Cellular Network at Protocol Route covered the NKVE, MEX, ELITE Highway, Jalan Duta, and routes in Putrajaya and Cyberjaya. On the other hand, the QoS Assessment on Cellular Network in Klang Valley Major Highways involving a total of 21 highways as shown in Figure 5.18 are carried out by respective service providers on a monthly basis.

QoS Assessment on Cellular Network in Klang Valley 21 Major Highways			
No.	**Route**	**Point A**	**Point B**
1	MEX	Jalan Tun Razak	Putrajaya Toll
2	DENGKIL - LCCT	Putrajaya Toll	LCCT
3	KLIA	Putrajaya Toll	KLIA
4	KESAS & SELAT KLANG	Bukit Raja	Bukit Jalil
5	ELITE	Bukit Jelutong	Nilai
6	NSE A	Sungai Besi	Nilai
7	NKVE	Jalan Duta	Bukit Raja
8	LDP	Sri Damansara	Puchong
9	SPRINT/KERINCHI/PENCHALA	Federal Highway	Federal Highway
10	NPE	Bandar Sunway	Kuchai Lama/Bangsar
11	GUTHRIE	Bukit Jelutong	Rawang exit
12	SMART TUNNEL	Sungai Besi	Jalan Tun Razak/Jalan Sultan Ismail
13	MRR2	Sri Damansara	Bukit Jalil
14	FEDERAL HIGHWAY	Jalan Chan Sow Lin	Bukit Raja
15	SKVE	UNITEN	Telok Panglima Garang
16	SILK	Kajang	Balakong
17	AKLEH	Jalan Sultan Ismail	Ampang
18	DUKE	Jalan Duta	Karak/MRR2
19	CHERAS-KAJANG EXPRESSWAY	Cheras	Kajang
20	LEKAS	Kajang	Senawang
21	LATAR	Templer	Ijok

Source: MCMC

Figure 5.18 QoS Assessment on Cellular Network in Klang Valley 21 Major Highways

Mandatory Standards for QoS of public cellular service[79] which came into force on July 9, 2013 set 3% for dropped calls. The assessment shown in Figure 5.19 is the average result of 12-month assessments based on four service providers, namely Maxis, DiGi, Celcom and U Mobile. The assessment is also applicable to relevant cellular service providers and subject to licence conditions. With that, MCMC has issued compounds for non-compliance cases to the QoS Mandatory Standards.

Average Dropped Call Rate based on QoS Assessment on Cellular Network		
Average Dropped Call Rate	**2013**	**2014**
Nationwide	2.92%	4.03%
Protocol Routes	1.51%	1.85%
21 Major Highway in Klang Valley	*	3.32%

**The initiative started in 3Q/4Q 2013*

Source: MCMC

Figure 5.19 Average Dropped Call Rate based on QoS Assessment on Cellular Network

[79] Determination No.1 2013, Variation to Commission Determination on The Mandatory Standards For Quality of Service (Public Cellular Service).

Evaluating performance of wired and wireless broadband network

A QoS assessment was conducted by a consulting firm from 19 January to 31 March 2014 to evaluate performance of wired and wireless broadband offered by major service providers. The assessment seeks to ensure broadband quality of service complies with the Mandatory Standards for Quality of Service (Broadband Access Service), Determination No.1 2007 and Minister's KPI 2014[80].

Figure 5.20 and Figure 5.21 highlight the throughput rate for wired broadband of major service providers involved as compared with Mandatory Standards and Minister's KPI 2014 respectively.

Performance of throughput rate for wired broadband as compared with Mandatory Standard 2014 (at least 90% of subscribed level for 95% of the time)		
Service Providers	**Average of Throughput Rate (%)**	
	Download	**Upload**
TM, Maxis, TIME	68.38	57.10

Source: MCMC

Figure 5.20 Performance of throughput rate for wired broadband as compared with Mandatory Standard 2014

For Mandatory Standard, the service providers need to achieve at least 90% of subscribed level for 95% of the time. Nonetheless, the average of throughput rate recorded was 68.38% for download and 57.10% for upload. In order to ensure the quality of services comply with Mandatory Standard, the MCMC together with the relevant service providers have discussed the action plan towards improving the infrastructures. Subsequently, the service providers have submitted proposals for enhancement of related areas by stages to MCMC.

In terms of performance of throughput rate for wired broadband as compared with Minister's KPI 2014, the assessment was conducted in seven cities which cover 35 sites in total in Malaysia including Kuala Terengganu, Kota Bharu, Pulau Pinang, Ipoh, Melaka, Sandakan and Sibu starting from 19 January until 31 March 2014.

The average throughput rate is based on the average subscribed package speed (Mbps). In this case, the throughput rate was 82.83% for download and 88.68% for upload, which surpassed the Minister's KPI 2014 for not less than 70% of the subscribed speed package.

Performance of throughput rate for wired broadband as compared with Minister's KPI 2014 (not less than 70% of the subscribed speed package)				
Service Providers	**Average Speed Subscribed Package (Mbps)**		**Average of Throughput Rate (%)**	
	Download	**Upload**	**Download**	**Upload**
TM, Maxis, TIME	6.36	5.99	82.83	88.68

Source: MCMC

Figure 5.21 Performance of throughput rate for wired broadband as compared with Minister's KPI 2014

The average throughput rate for wireless broadband performance as compared with Minister's KPI 2014, shall not be less than 65% of 1Mbps. The assessment results shown in Figure 5.22

[80] Minister's KPI 2014 for performance of throughput rate for wired broadband shall not less than 70% of the subscribed speed package; while for performance of throughput rate for wireless broadband shall not less than 65% of 1Mbps.

shows the average throughput rate for download and upload were 69.68% and 60.78% respectively.

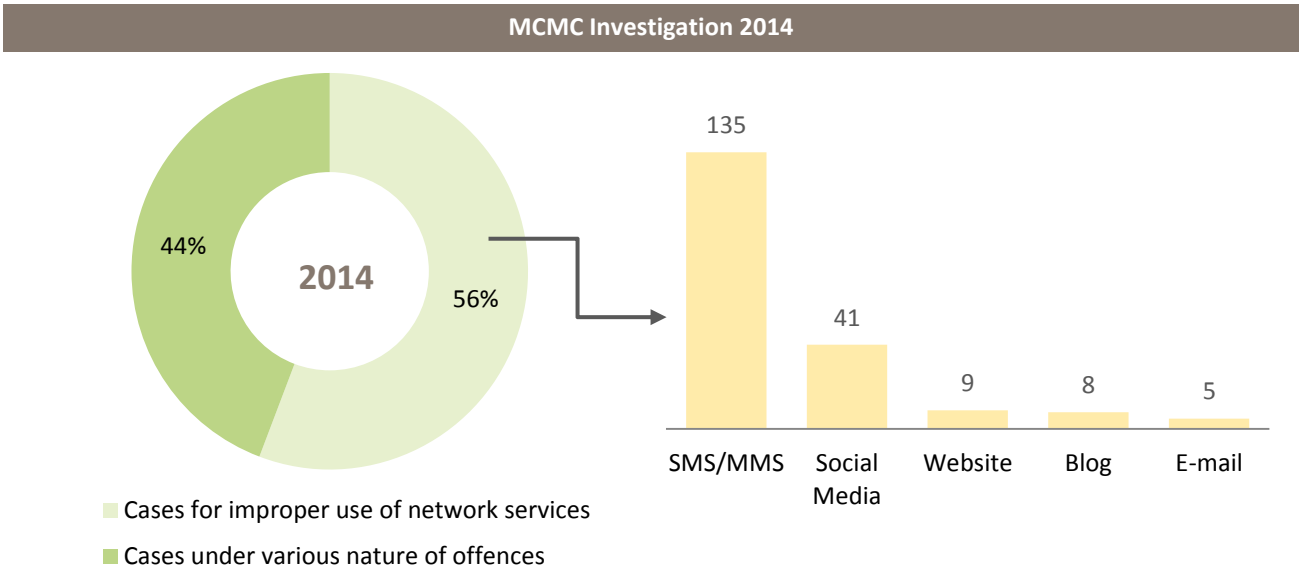
Performance of throughput rate for wireless broadband as compared with Minister's KPI 2014 (not less than 65% of 1Mbps)		
Service Providers	Average of throughput rate (%)	
	Download	Upload
Celcom, DiGi, Maxis, P1, U Mobile, YES	69.68	60.78

Source: MCMC

Figure 5.22 Performance of throughput rate for wireless broadband as compared with Minister's KPI 2014

Enforcement by MCMC

In 2014, MCMC investigated 355 cases of offences committed under the CMA, Postal Services Act 2012 and the related subsidiary legislations. Out of these, 198 cases (56%) were pertaining to improper use of network services. As many as 135 cases investigated were on SMS or MMS.



Source: MCMC

Figure 5.23 MCMC Investigation 2014

Other cases investigated under various offences are shown in Figure 5.24.

Total Number of Cases investigated Under Several of Offences 2014	
Nature of Offence	**Number of Cases Investigated**
Non-compliance with Mandatory Standards	69
Breach of conditions of licence, assignments, instruments and others	29
Non-compliance with licence conditions	21
Non-compliance to prohibition of sale and others, of communications equipment	20
Failure to submit audited account	7
Unlawful use, possession or supply of non-standard equipment	5
Non-compliance to provisions regarding consumer protection	3
Using spectrum without valid assignment	1
Unlawful acts on postal article	1
Fictitious and counterfeit postage stamp	1

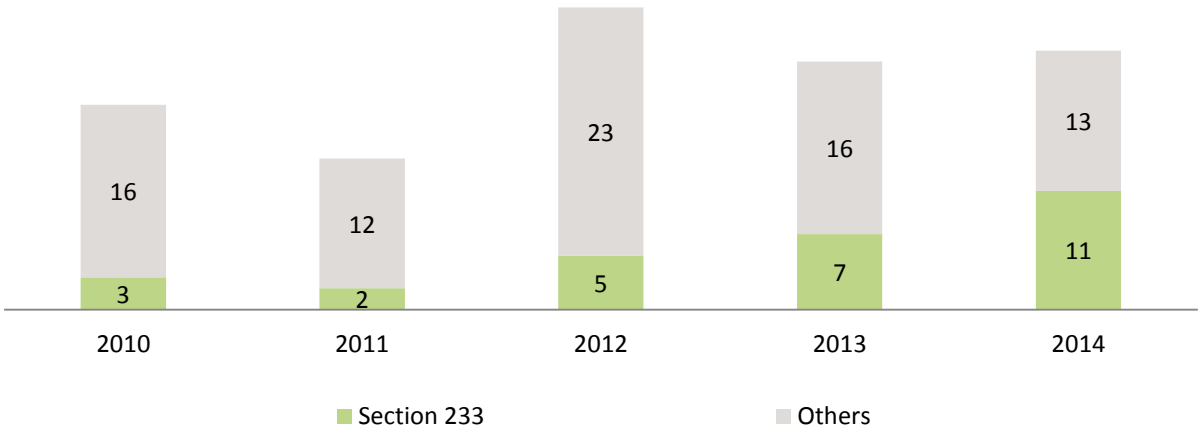
Source: MCMC

Figure 5.24 Total Number of Cases investigated Under Several of Offences 2014

Upon completion of the investigation, a total of 24 cases were prosecuted in court in 2014. For cases prosecuted under Section 233 of the CMA, there was an increase of 57% to 11 cases (2013: 7 cases). These cases on improper use of the Internet include spread of false news and offensive communications over the Internet.

Hence, in order to manage the issues on the improper use of Internet effectively, MCMC collaborates with Attorney General's Chambers and the PDRM. Concurrently, such collaborations also cultivate stronger cooperation and knowledge sharing.

Court Cases Prosecuted 2010 – 2014



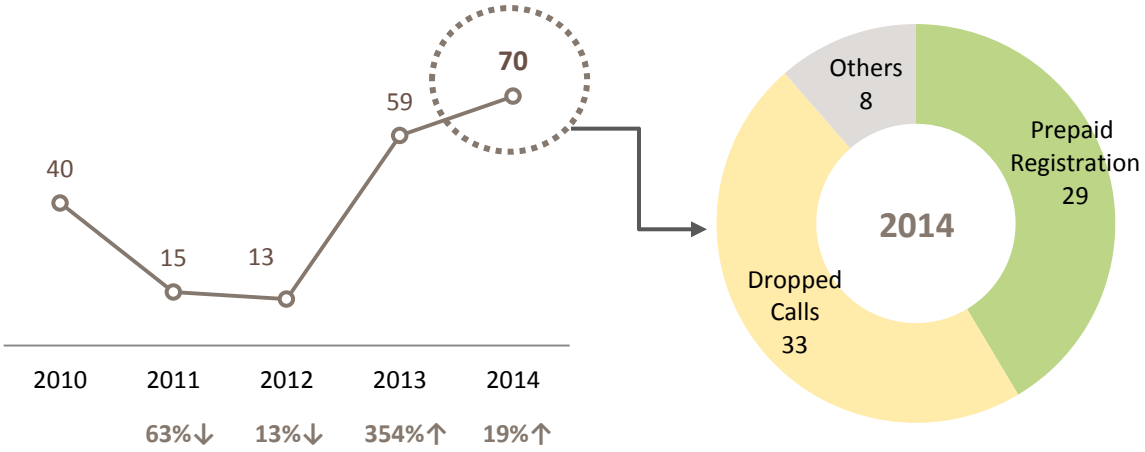
Source: MCMC

Figure 5.25 Court Cases Prosecuted 2010 – 2014

Note that emphasis on regulatory action and key focus area improvement by MCMC over the past three years has resulted in increased number of compound cases. A total of 70 cases were compounded in 2014, namely, 19% increase compared with 2013. Out of the total cases

compounded, 33 cases were on dropped calls, 29 cases were on false prepaid registration and eight were other cases. Compound cases are shown in Figure 5.26.

Total Compound Cases 2010 – 2014



Source: MCMC

Figure 5.26 Total Compound Cases 2010 – 2014

Economic Regulation: Dominance in Communications Market

MCMC carried out assessment of dominance in communications market

The assessment of dominance in communications market was carried out in November 2013. This study was deemed timely as the communications sector in Malaysia has experienced accelerated developments in technological and product innovation which resulted in significant market changes to the communications sector.

The purpose of assessment of dominance in communications market is to ensure that MCMC will be able to act promptly to deal with competition complaints, which then will promote healthy and effective competition in the communications market. This study also puts into place a framework which permits a dynamic assessment and findings of dominance in the future.

Defining markets and identifying licensees that are in a dominant position in the identified markets in line with Section 137 of CMA is one of the focuses of the study. In addition, new guidelines on substantial lessening of competition and dominant position were developed to replace the existing Guideline on Substantial Lessening of Competition and Guideline on Dominant Position in a Communications Market.

MCMC held meetings with several identified service providers on one to one basis to understand the key issues service providers are facing. Feedback and comments received during the engagement process have been incorporated into draft Market Analysis Definition, draft Guideline on Dominant Position and draft Guideline on Substantial Lessening of Competition. A total of 26 markets were identified comprising 11 retail markets and 15 wholesale markets.

Informal consultation process was conducted to fine-tune these draft documents before carrying out the Public Inquiry. Upon completion of Public Inquiry process and careful consideration of all feedbacks received, the MCMC's final views on the assessment of dominance for each communications market were published in the Dominance Report on 24 September 2014. Subsequently, MCMC has published the Commission Determination on Dominant Position in the Communications Market on 3 October 2014, which provides the list of licensees that are found to be dominant in specified communications markets. This determination is valid for a period of three years.

The licensees who have been declared dominant can be found in the Commission Determination on Dominant Position in the Communications Market dated 3 October 2014:

http://skmm.gov.my/skmmgovmy/media/General/pdf/Com-Det-on-Dominant-Position-No-1-of-2014.pdf

For reference, the previous assessment of dominance was undertaken in 2003 with a Commission Determination on Dominant Position in the Communications Market issued on 22 December 2004, which was then valid for two years.

MODULE 6: SECURITY AND TRUST

Reliability, Trust and Security

Security Threats

Mobile devices, web-enabled and mobile applications are targets for new attack. Spam blockers and antivirus software have to be constantly upgraded for protection. Cisco 2014 Annual Security Report indicated that Android devices are more prone to mobile malware. This report highlighted three key findings as follows:

- Infrastructure attacks targeting significant resources across the Internet;
- Malicious perpetrators are using trusted applications to exploit gaps in security; and
- Investigations of multinational companies show evidence of internal compromise.

In 4Q 2014, a mobile malware threat was identified whereby users received SMS with Unified Resource Locator (URL) containing malware. Upon clicking this link, a Photo Grid software is downloaded and installed. This malware application lures users and earns money from the number of clicks on advertisements which appear with the application. The malware also replicates itself by sending SMS based on contact lists in the device and/or SIM card.

In another incident, a banking malware was reported in 3Q 2014, targeting Malaysian Internet banking users. This case involved Zeus banking malware, wherein attackers infected the user's computer, injected modified fake content or page when the user is browsing a legitimate online banking website. This banking malware affects both the mobile device and unpatched Windows Operating System.

Akamai's State of the Internet/Security 3Q 2014 reported that the top five industries most frequently targeted by DDoS attacks [81] were media and entertainment, software and technology, financial services as well as Internet and telecommunications. Notably, aside from financial services, the industries targeted for DDoS attacks are mostly C&M industries regulated under CMA.

Hence, as the regulator vis-à-vis CMA and Digital Signature Act 1997, MCMC is responsible for safeguarding the nation and the C&M industry from cyberattacks. Vigilance has increased in light of higher risk of cyberattacks, thus, MCMC has increased its collaborative measures with other stakeholders namely, security agencies, banks, Internet services providers and our police force (PDRM). Measures include effective monitoring, speedy response and recovery upon attack.

[81] Distributed Denial of Service or DDoS refers to an attack intended to compromise the availability of networks and systems; includes both network and application layer attacks.

Authentication of Online Identity

The digital economy showcases the development of electronic trading facilities such as e-commerce, e-payment, e-banking and other online transaction services as a result of pervasive Internet and mobile broadband.

The transition from conventional to electronic transactions is inevitable. However, users need to be careful when transacting online. User awareness and pre-emptive measures must be in place to deter online identity theft and fraud.

A way to ensure authentication of online identity for online transactions is to use digital certificates. Its function is similar to an Identity Card that one produces whenever identification is required. It is also equivalent to a handwritten signature used, for example, in signing a contract agreement and withdrawing cash from a bank.

In short, digital signature paves the way for the use of digital certificates in various electronic transactions and other online service applications to ensure the user is legitimate.

All Certification Authorities are WebTrust Certified

Malaysia was among the first countries in Asia to formulate laws governing the use and application of digital signature as a means to propel the country towards digital economy.

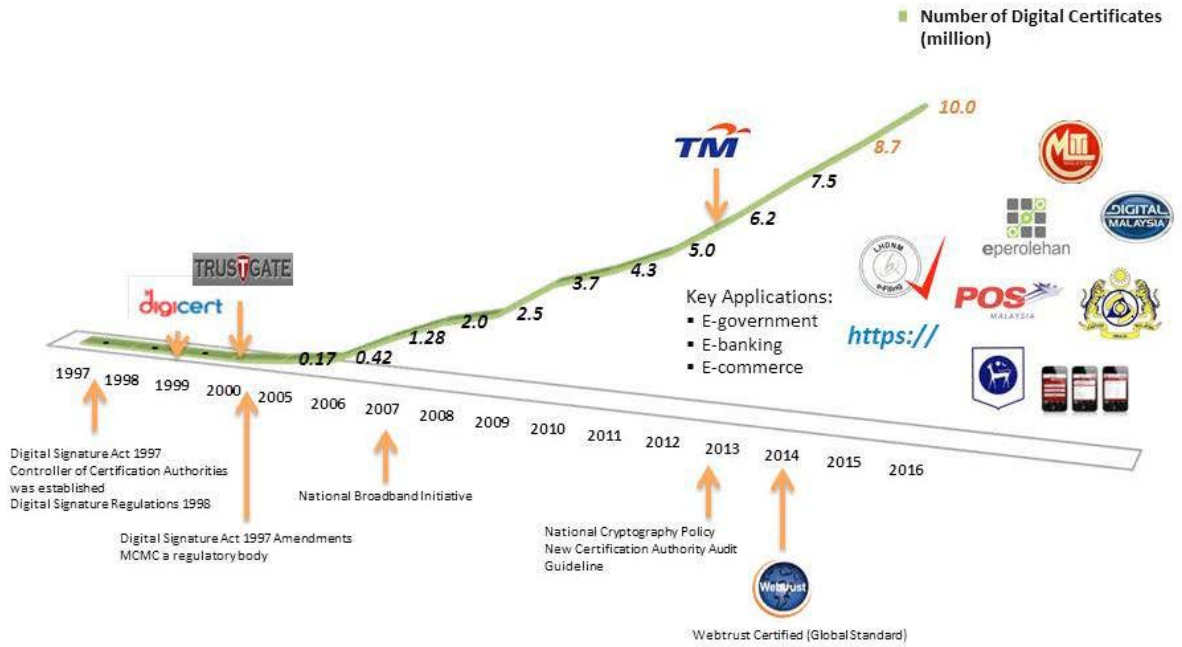
The provisions under the Digital Signature Act 1997 and Digital Signature Regulation 1998 enable digital signature to be admitted as evidence in court and is irrevocable. Under the purview of Digital Signature Act 1997, MCMC is the regulatory body that supervises and regulates the Certification Authorities (CA). As at end 2014, there are three CAs licensed by MCMC, namely Digicert Sdn Bhd (Digicert), MSC Trustgate Sdn Bhd (Trustgate) and Telekom Applied Business Sdn Bhd (TAB).

The functions of the CAs include issuance of digital certificate to a subscriber (digital identity), manage the storage of digital certificate in terms of certificate suspension, revocation and to ensure a trustworthy system through annual audit requirement.

In 2012, MCMC strengthened the annual audit by requiring the CAs to be WebTrust certified. By adopting WebTrust Principles, the CAs have the advantage of international standing. By July 2014, the CAs have obtained WebTrust certification.

Public Key Infrastructure (PKI) Development

The Growth of PKI Industry in Malaysia



Source: MCMC

Figure 6.1 The Growth of PKI Industry in Malaysia

The transformation from traditional methods to online application has resulted in various PKI-based applications being deployed. The high-impact projects by private and government agencies include the Malaysian e-Passport and Malaysia e-Court for Peninsular Malaysia.

The growth of PKI in Malaysia echoed the increased usage of online Internet banking. Bank Negara Malaysia (BNM) efforts to transform Malaysia into a cashless society has shown success and this aligns to e-payment targeted under the Economic Transformation Programme (ETP).

Amongst BNM efforts to encourage people to move to electronic options include adjusting the various transaction fees. For instance, interbank GIRO (IBG) transactions via online banking is 10sen (previously between 50sen to RM2), 30sen at ATMs and RM2 for over-the-counter (OTC). In addition, to discourage the use of cheques, new cheque processing fee of 50sen has been imposed[82].

Internet Banking in Malaysia

Internet Banking	2005	2013	2014
Subscription (million)	2.6	15.6	17.6
Transacted Volume (billion)	21.6	270.0	350.7
Transacted Value (RM billion)	259	3,457	4,108

Source: Bank Negara Malaysia

Figure 6.2 Internet Banking in Malaysia

[82] BNM, New Pricing for Cheques will now take effect on 2 January 2015, March 2014.

Internet banking growth shows the trust of consumers on online systems. As at end 2014, total Internet banking subscriptions was 17.6 million with transactions valued at RM4,108 billion, an increase of 18% from RM3,457 billion in 2013. In contrast, the volume of Internet banking recorded over 350 million transactions in 2014, that is, 15 times more than the volume of transactions 10 years ago.

To accommodate future development within the mobile environment, a more generalised wireless PKI (WPKI) solution should be developed to enable secure mobile access to e-banking, e-Government, e-commerce and e-health. It shall have the same security level as transactions performed from a PC since the number of mobile banking subscribers has increased tremendously over the years[83] in Malaysia.

In the era of ubiquitous mobility, the main specific threat to WPKI is that mobile devices may not be handled with as much care as PCs. For example, generally, the user may not be as careful in protecting the mobile phone by having an antivirus software. This provides a high risk for insertion of malware when the mobile phone is not operating in a WPKI environment.

In short, the native encryption on a mobile communications can be cracked and subsequently intercepted. PKI and WPKI face more deployment challenges in areas such as cloud computing, smart grid and Machine-to-Machine (M2M) in general[84].

[83] Mobile banking subscribers totalled more than 5.6 million as at end 2014 compared with 4.4 million mobile banking subscribers in 2013.
[84] ITU-T, Technical Report, Current and New Challenges for Public Key Infrastructure Standardisation 2014.

Digital Signature Market

7.4 million digital certificates were issued as at end 2014

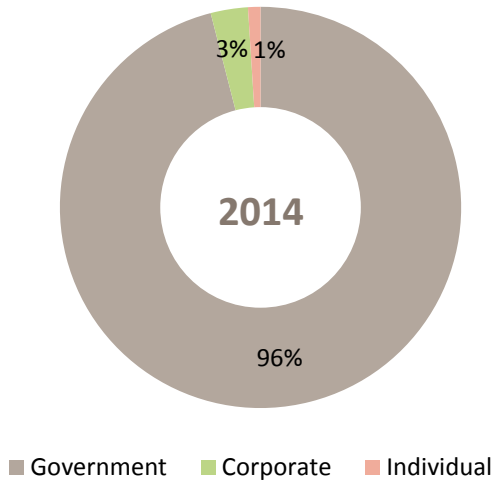
As at end 2014, the cumulative number of digital certificates issued in Malaysia was 7.4 million compared with 6.2 million in 2013. This is an increase of 19.4% for digital certificates issued within the one year period. Based on proportion issued by CAs, 92% of certificates were issued by Digicert and the remainder by Trustgate.

Digital Certificates Issuance 2009 – 2014

Source: Industry

Figure 6.3 Digital Certificates Issuance 2009 – 2014

Types of Certificate Issued



Source: Industry

Figure 6.4 Types of Certificate Issued

The major contributor to the use of PKI in Malaysia is the Public sector which took up 96% of total certificates issued. Most of the Government online application services are supported by the usage of digital certificates to secure online transmission of data via Internet. The remaining 4% is issued to corporate sectors such as banking, health and other sectors.

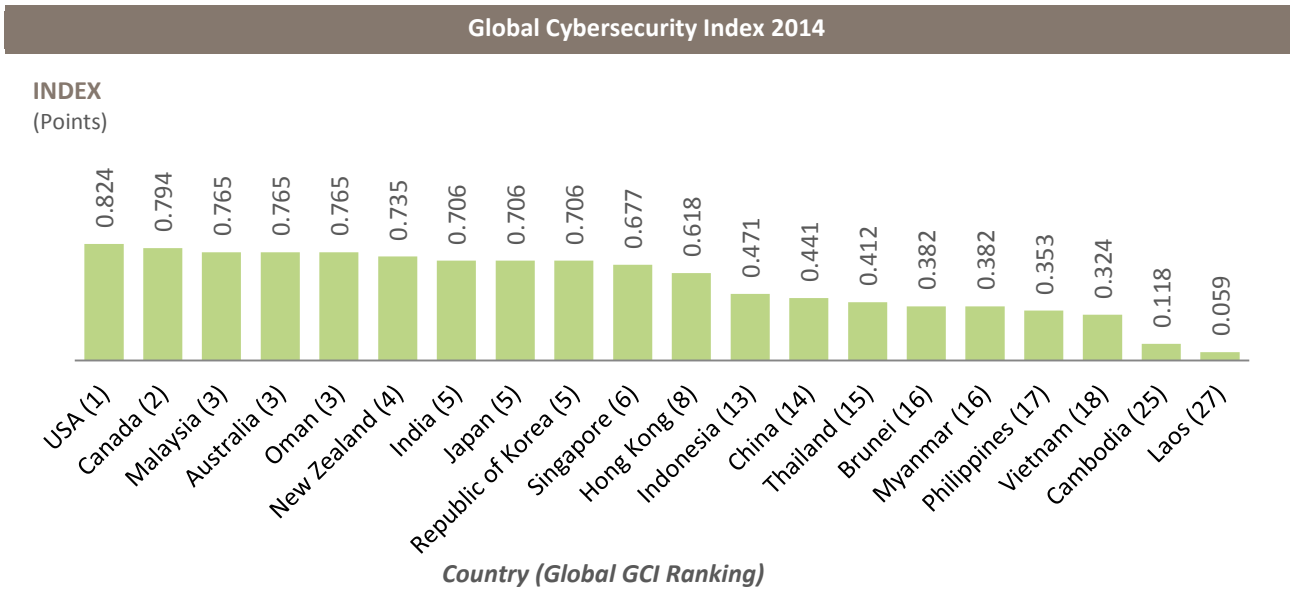
The CAs have indicated various strategies to cultivate the use of digital certificates and create awareness on the importance of security online and identity authentication. They have also offered a wide range of products to cater to different stakeholders. The CAs have also conducted training at a Trust Centre to nurture security professionals in this field. Furthermore, the CAs have formed international collaborations with foreign partners from Norway and Thailand for further development.

Malaysia Ranked 3rd in Global Cybersecurity Index

The ITU Global Cybersecurity Index (GCI) was first introduced in December 2014. The aim of the Index is to measure and rank the level of cybersecurity development for all the 193 member countries. The goals include:

- Promote Government cybersecurity strategies at national level;
- Drive security implementation efforts across industries and sectors;
- Integrate security into the core of technological progress; and
- Foster a global culture of cybersecurity.

The GCI looks at a country's level of commitment in five areas namely legal, technical, organisational, capacity building and cooperation. The GCI as a development index is designed to define national milestones and identify gaps. However, GCI is not a measure of technical capability or a refined assessment of effectiveness of a nation's cybersecurity strategies.



Source: ITU

Figure 6.5 Global Cybersecurity Index 2014

Ongoing national initiatives have propelled Malaysia to rank third globally from a total of 104 countries which have responded to the ITU survey. With an index of 0.765, Malaysia shares the same ranking as Australia and Oman. Within Asia Pacific, Malaysia is considered to have outperformed other countries with its number one placing.

Various national-level initiatives clustered under the cybersecurity umbrella were considered for the GCI grading. For instance, the MCMC led Critical National Information Infrastructure (CNII) readiness has contributed to Malaysia's cybersecurity readiness. MCMC is tasked to ensure all the CNII entities in the country are certified under MS ISO/IEC 27001:2007 Information Security Management System (ISMS).

In addition, as part of community initiatives to educate Internet users, MCMC strives to ensure greater efforts on online safety through the *Klik Dengan Bijak*® campaign.

Klik Dengan Bijak® Campaign

2014 marked the start of Phase 2 of *Klik Dengan Bijak*® (KDB) or 'Click Wisely'. KDB is a public awareness programme on Internet safety initiated by MCMC in 2012. Phase 2 of KDB programme, spanning two years (2014 – 2015), focuses on four key messages to educate the public as follows:

- Stop cyber bullying;
- Don't spread false information;
- Dangers of oversharing; and
- Avoiding online scams.

The target audience for Phase 2 are children between 13 to 18 years old and parents and guardians. The objectives of KDB are as follows:

Safety	**To educate the public to use the Internet in a safe manner**
Security	**To remind the public to be careful in all their online interactions**
Responsibility	**To promote positive use of the Internet to and by the public**

Source: MCMC
Figure 6.6 KDB Objectives

KDB continues to reach out to social media users through Facebook, Instagram and YouTube. There were over 13,300 likes on KDB Facebook and 767 followers on Instagram. As at end 2014, KDB has completed 542 programmes with a total of nearly 200,000 participants nationwide.

In 2014, MCMC launched the KDB website and a mobile game app called *Klik Hunter.* In order to create greater awareness pertaining to Internet safety and security, KDB has also increased engagement with media partners including online, print and broadcasters.

Key Message for KDB Phase 1 (2012 – 2013):
- ***Think before you post; and***
- ***Ensuring your privacy/ personal information is protected.***

MCMC continues to engage with multi-stakeholders from various ministries and agencies in KDB activities. In 2014, KDB has engaged with a new strategic partner, UNICEF Malaysia, as part of our efforts to ensure child online protection. The existing strategic partners for KDB since 2013 are KKMM, Ministry of Education, Ministry of Women, Family and Community Development, Ministry of Science, Innovation and Technology, Ministry of Youth and Sports, PDRM, The National Service Training Programme or *Program Latihan Khidmat Negara* (PLKN), Scouts Association of Malaysia, International Multilateral Partnership Against Cyber Threats (IMPACT) and Industry Forums like CFM and CMCF.

MODULE 7: POSTAL AND COURIER

Postal Service

National Postal Strategy (NPS)

The National Postal Strategy is a five-year blueprint for the period of 2010 to 2014. The NPS sets out the roadmap for the development of postal and courier sector in Malaysia and contributes towards the growth of Malaysian economy.

In 2014, the NPS implementation in its final year marked industry configurations to transform and meet the new market challenges especially e-commerce demand. The following are milestones and initiatives for the year:

- Minimum Price Policy of RM5 for mail delivery services under 500 gram by non-universal service licensees was approved by the Government and implemented on 1 January 2015;

- International World Youth Stamp Exhibition participated by exhibitors and vendors from 40 countries held at Kuala Lumpur Convention Centre from 1 to 6 December 2014. It attracted almost 10,000 visitors; and

- First Postal Industry Road Safety Championship and Carnival *#SampaiDenganSelamat* was held in November 2014 to emphasise and raise awareness of road safety. This was promoted in championship and carnival format.

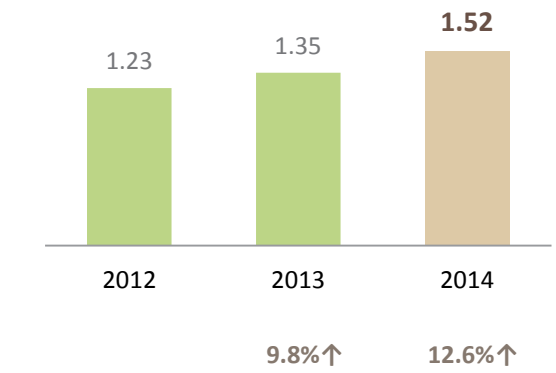
Snapshots of NPS Major Achievements 2010 – 2014	
Year	**Major Achievements**
2010 – 2011	▪ Implementation of Rural Postal Transformation Programme Phase 1 ▪ Enforcement of new domestic tariff
2012	▪ Cabinet approval of Postal Service Act 2012 ▪ Implementation of Courier Industry Development Plan 2012- 2014 ▪ Autonomous liberalisation of courier service sub-sector by the Government ▪ Universal Postal Union Doha Congress – Malaysia voted as Postal Operator Council member
2013	▪ Gazette of Postal Service Act 2012 ▪ Commencement of 5 days a week for postal operations ▪ Implementation of new courier service scheme of Class A, Class B and Class C Licences ▪ Enforcement of new international tariff ▪ Implementation of *Pelan Transformasi Pos Sabah dan Sarawak Fasa* 2 (Sabah and Sarawak Postal Transformation Programme Phase 2)
2014	▪ World Youth Stamp Exhibition ▪ Postal Industry Road Safety Championship and Carnival

Source: MCMC

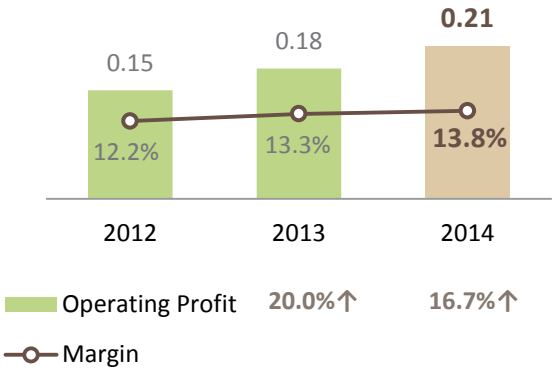
Figure 7.1 Snapshots of NPS Major Achievements 2010 – 2014

Pos Malaysia Bhd

REVENUE
(RM billion)



OPERATING PROFIT/MARGIN
(RM billion/%)



- Pos Malaysia recorded revenue of RM1.52 billion in 2014 as compared with RM1.35 billion in 2013. This represents an increase of RM0.17 billion or equivalent to 12.6% growth.
- The positive performance was mainly from its courier and retail segments. The courier segment registered a revenue growth of 27.8% to RM0.46 billion in 2014 compared with RM0.36 billion in 2013. This was driven by increasing walk-in customers, innovative prepaid products and the growing e-commerce market.
- Its retail segment revenue increased by 22.2% to RM0.22 billion in 2014 from RM0.18 billion in 2013. This was supported by increased contributions from insurance products and its pawn broking Ar-Rahnu services.

SEGMENTATION

	Revenue (RM billion)			YoY Growth (%)	
	2012	2013	2014	2013	2014
Mail	0.71	0.75	0.77	5.6	2.7
Courier	0.30	0.36	0.46	20.0	27.8
Retail	0.17	0.18	0.22	5.9	22.2
Others	0.05	0.06	0.07	20.0	16.7

Note: Pos Malaysia revenue adjusted to calendar year basis

Source: Industry, MCMC

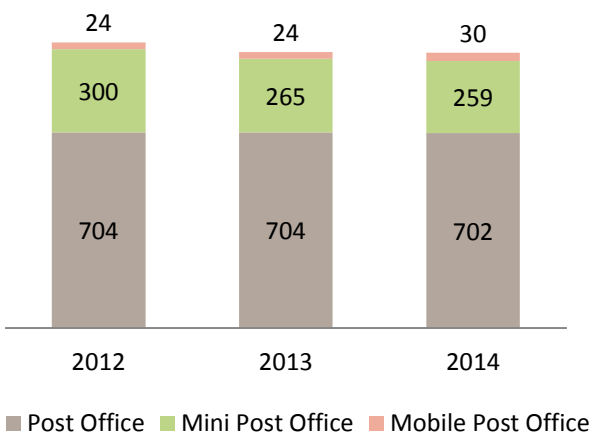
Postal Access

All post offices and mini post offices are computerised with online system

As at end 2014, there were a total of 991 operational postal outlets in Malaysia including 702 post offices, 259 mini post offices and 30 mobile post offices. The mini post office is a single counter post office operated by a third party appointed by Pos Malaysia. All post offices and mini post offices are computerised with online system. In 2014, there were 454 computerised post offices in urban and 245 in rural areas.

The marginal decline in number of post offices was due to closure or termination of mini post offices, as a result of the operators breaching terms of the agreement, personal reasons, lack of staff and others.

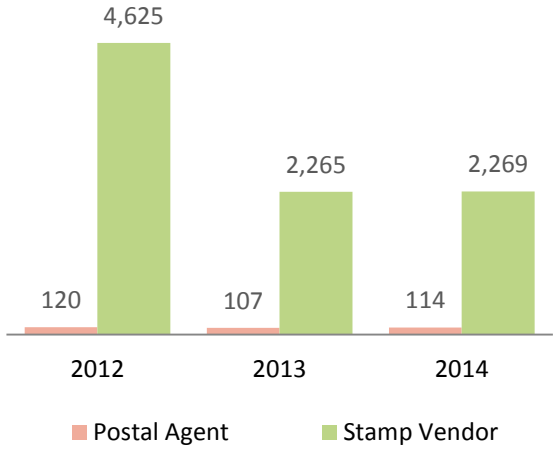
Number of Postal Outlets 2012 – 2014



Source: MCMC

Figure 7.2 Number of Postal Outlets 2012 – 2014

Postal Establishments 2012 – 2014



Source: MCMC

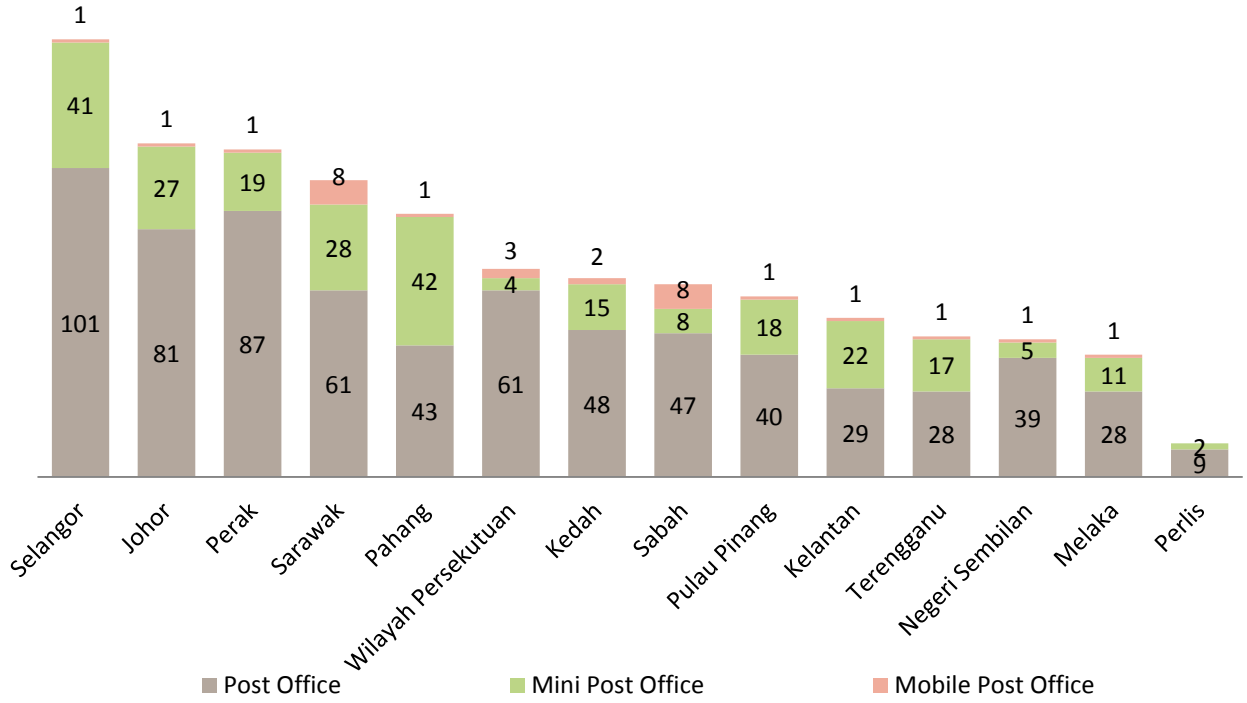
Figure 7.3 Postal Establishments 2012 – 2014

In terms of postal establishments, there were 114 postal agents and 2,269 stamp vendors throughout Malaysia. Although the total number of post offices and mini post offices in 2014 has declined, the total number of postal agents, stamp vendors and mobile post offices has increased.

Notably, mobile post offices or Pos-on-Wheels offer a range of services similar to a normal post office. It is equipped with Very Small Aperture Terminal (VSAT) for online transactions and caters mainly for rural and remote areas. Note that, a mobile post office is able to provide services to a minimum of five rural locations. As such, the 30 mobile post offices are able to provide postal access to a minimum of 150 rural locations all over Malaysia.

Figure 7.4 shows that the highest number of postal outlets available in Malaysia is in Selangor which has 143 postal outlets in total. This comprises 101 post offices, 41 mini post offices and one mobile post office. Meanwhile, Johor is next highest with total of 109 followed by Perak with total of 107 postal outlets. Under the implementation of *Pelan Transformasi Pos Sabah and Sarawak* programme, Sabah and Sarawak operate the highest number of mobile post offices, namely, eight in each state.

Postal Outlets by States 2014



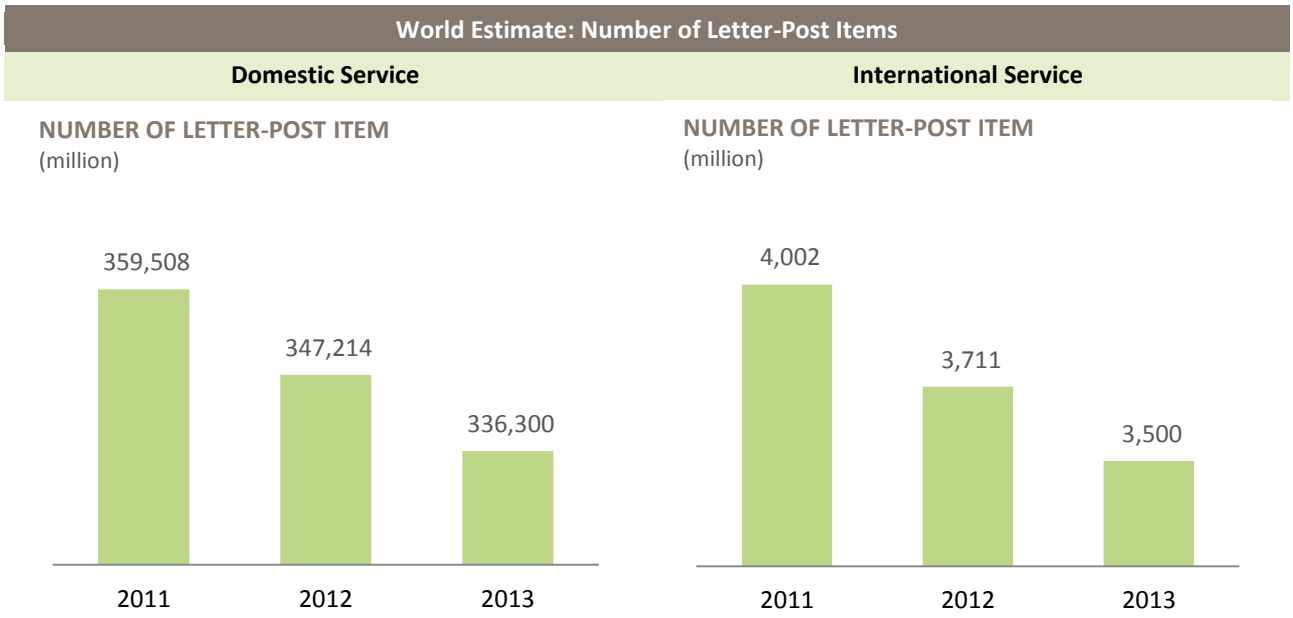
Source: MCMC

Figure 7.4 Postal Outlets by States 2014

Postal Traffic

Increasing trends of digital lifestyle and online businesses have reduced the volume of standard mail. According to Universal Postal Union, an estimated 240 million small packets travelled through the letter-post stream in 2013. It showed the overall volumes in terms of number of items have decreased, however the average weight of items is heavier. The increase in tonnage is the reason of the letter-post stream continues to account for 43.4% of global public postal revenues.

Figure 7.5 shown the world estimate for the total number of letter-post traffic marked 339,800 million items in 2013, which consisted of 336,300 million domestic and 3,500 million international items. There was a decline between 3% and 6% on the number of letter-post items for both domestic and international service from 2012 to 2013.



Source: Universal Postal Union

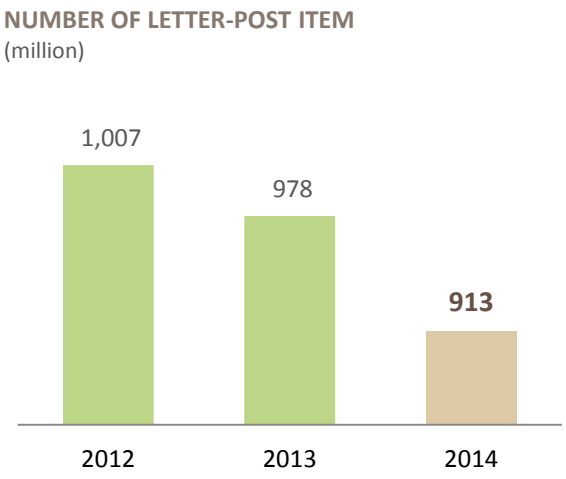
Figure 7.5 World Estimate: Number of Letter-Post Items, Domestic and International Service

Pos Malaysia also experienced a similar downward trend in both domestic and international services.

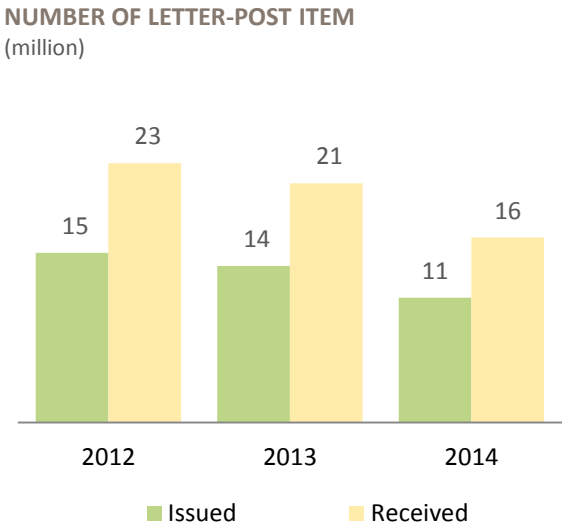
Figure 7.6 shows the number of letter-post items for domestic service declining to 913 million in 2014 from 978 million in 2013. For international service, the number of letter-post items for incoming mail letters has declined to 16 million in 2014. At the same time, outgoing mail letter also showed similar trend from 15 million in 2012 to 11 million in 2014.

Pos Malaysia: Number of Letter-Post Items

Domestic Service



International Service



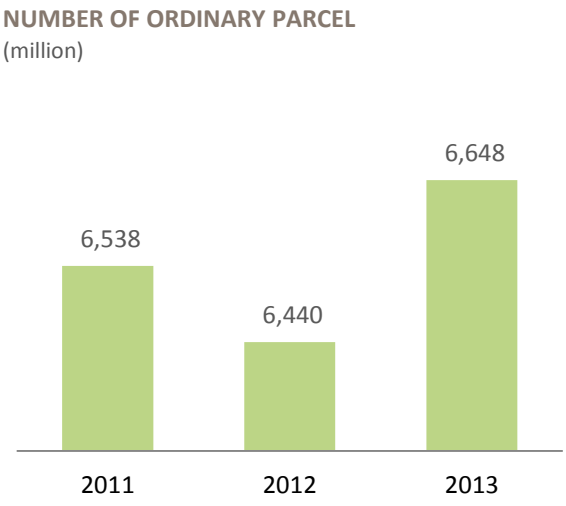
Source: Pos Malaysia, MCMC

Figure 7.6 Pos Malaysia: Number of Letter-Post Items, Domestic and International Service

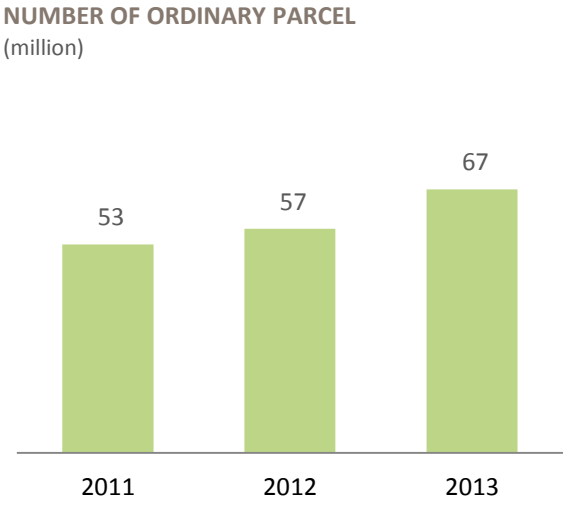
Referring to ordinary parcels, the Universal Postal Union indicated almost 19% of postal revenues came from parcels and logistics in 2013 with total parcel traffic estimated at 6,715 million items. The total parcel comprises 6,648 million items from domestic service and 67 million from international service. Hence, the domestic and international services have increased by 3.2% and 17.5% respectively since 2012.

World Estimate: Number of Ordinary Parcels

Domestic Service



International Service

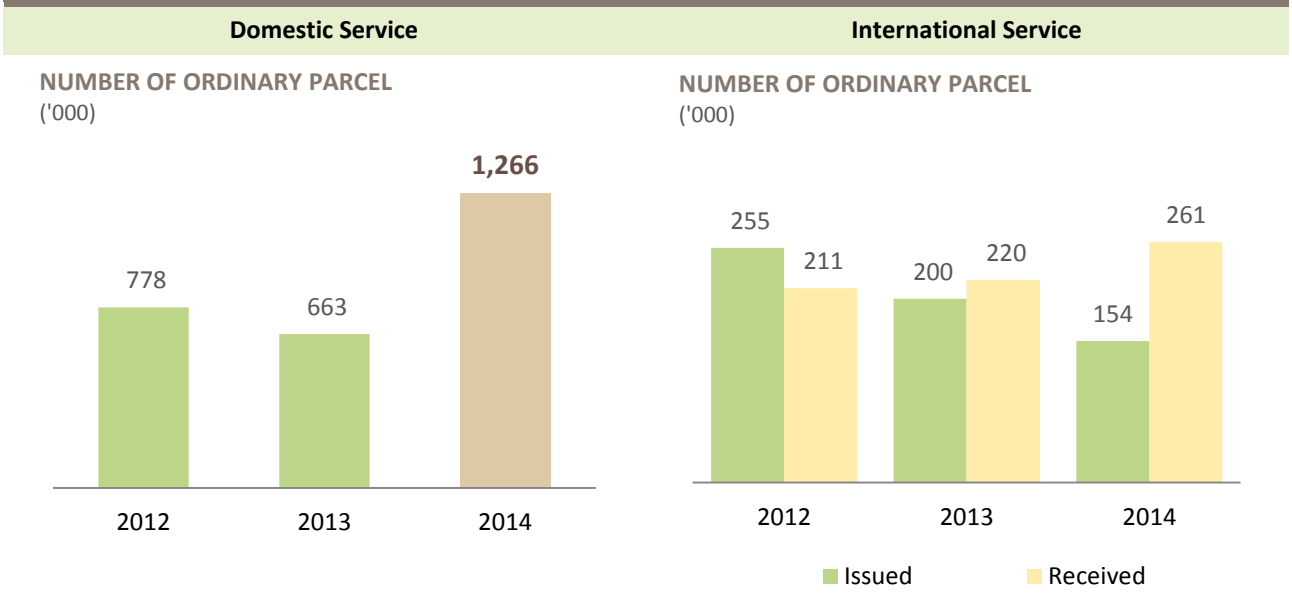


Source: Universal Postal Union

Figure 7.7 World Estimate: Number of Ordinary Parcels, Domestic and International Service

Figure 7.8 shows the number of ordinary parcels for both domestic and international services for Malaysia from 2012 to 2014. The number of ordinary parcels for domestic service almost doubled in 2014 compared with 663,000 in 2013. For international service, incoming parcels showed a steady increasing trend to 261,000 in 2014 from 211,000. However, the volume for outgoing parcels has declined from 255,000 to 154,000 between 2012 and 2014.

Pos Malaysia: Number of Ordinary Parcels



Source: Pos Malaysia, MCMC

Figure 7.8 Pos Malaysia: Number of Ordinary Parcels, Domestic and International Service

Philately

Philately can be described as the collection of postal material for various purposes, for example, postage stamps, letters, covers and other related material.

Number of Stamp Themes Issuance 2010 – 2014

Source: MCMC

Figure 7.9 Number of Stamp Themes Issuance 2010 – 2014

This collection is usually documented to commemorate major historical events and special or memorable events. Figure 7.9 shows the number of stamp themes issued from 2010 to 2014.

Pos Malaysia issued 16 thematic stamps and first day covers in 2014. The most popular themes were President Obama's Visit to Malaysia, Malaysia-China Year of Friendly Exchanges, 57th Independence Celebration and Malay Folk Stories. These achieved 100% quantity sold. Figure 7.10 lists the stamp themes issuance in 2014.

Stamp Themes 2014		
No.	**Themes**	**Date of Issue**
1	Horses	27 January 2014
2	Roses Series II	14 February 2014
3	Museums & Artifacts – Unveiling Hidden Treasures	13 March 2014
4	President Obama's Visit to Malaysia	26 April 2014
5	City of Museums – Melaka and Jogja	24 May 2014
6	Malaysia – China (Year of Friendly Exchanges 2014)	31 May 2014
7	Grand Opening of World Scout Bureau	18 June 2014
8	Kuala Lumpur International Airport 2 (KLIA2)	24 June 2014
9	Malaysian Fruits	17 July 2014
10	57th Independence Celebration	31 August 2014
11	Joint Issue Malaysia – Hong Kong	17 October 2014
12	Malay Folk Stories	27 October 2014
13	World Youth Stamp Exhibition 2014 – KLCC	05 November 2014
14	World Youth Stamp Exhibition 2014	01 December 2014
15	40 Years Reign of Sultan Pahang	23 December 2014
16	Sultan Abdul Halim Mu'adzam Shah Bridge	31 December 2014

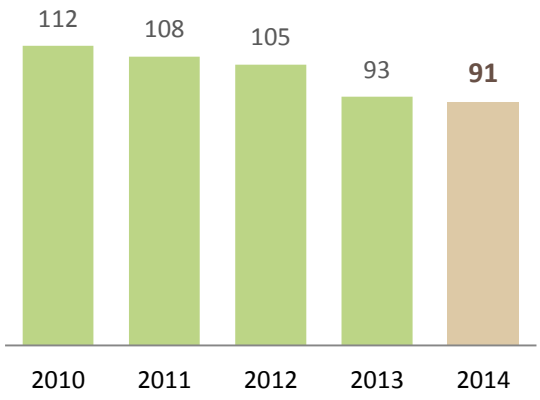
Source: Pos Malaysia

Figure 7.10 Stamp Themes 2014

Courier Industry Licensing and Revenue

Courier service licences totalled 91 in 2014

Number of Courier Licences Issued 2010 – 2014



Source: MCMC

Figure 7.11 Number of Courier Licences Issued 2010 – 2014

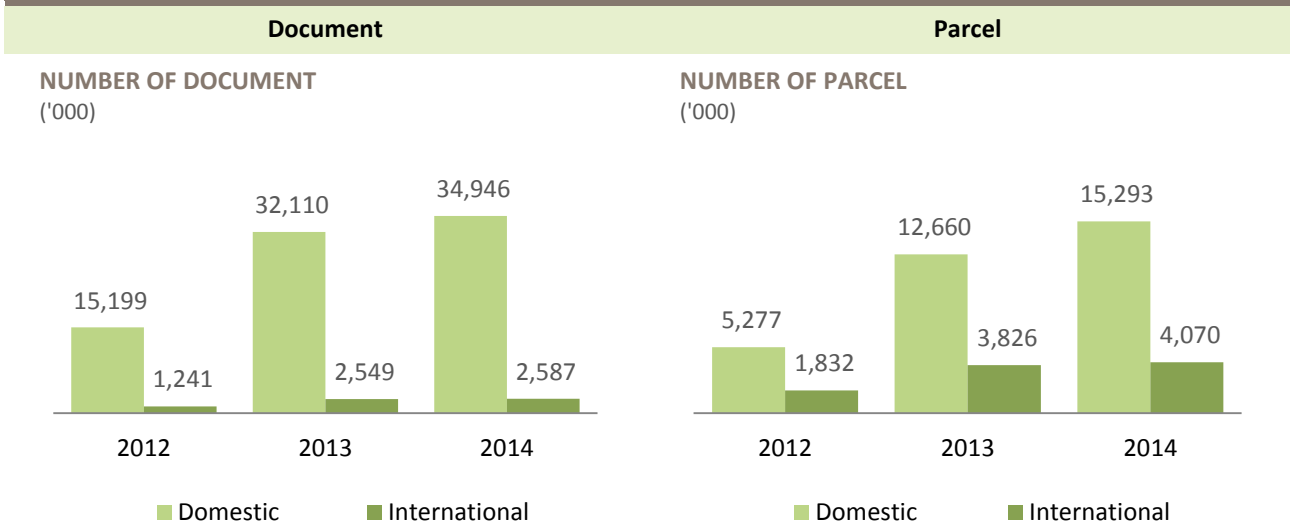
As at end 2014, there were 91 courier licensees comprising local and multinational companies. The number of courier licences issued from 2010 to 2014 is shown in Figure 7.11.

The total number of courier licences by the class scheme in 2014 are 22 Class A, 32 Class B and 37 Class C licensees.

Courier Traffic

Figure 7.12 shows the number of documents for domestic service continues to increase. In 2014, there were 35 million documents from 32 million in 2013 and 15 million in 2012. Concurrently, the number of parcels for domestic service continues to grow, recording 15 million in 2014 from 13 million in 2013. Note that both document and parcel for domestic service in 2013 doubled from these in 2012. There was a double digit increase in 2014 from 2013. This was due to the rise of e-commerce which has contributed consistently to the local courier services. The local e-commerce websites are spurring the growth of the industry into another level of service delivery, for example Zalora, Lazada, Groupon, Mudah.com.my and Cari.com.my.

Courier Traffic 2012 – 2014



Source: MCMC

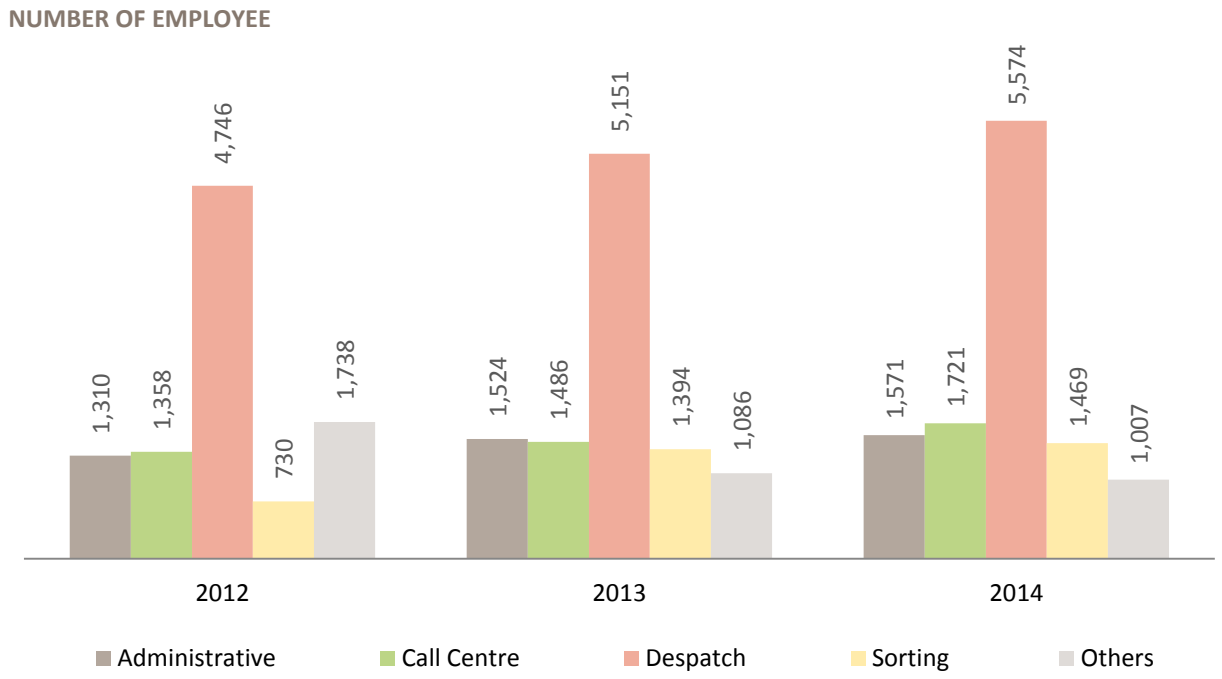
Figure 7.12 Courier Traffic 2012 – 2014: Document and Parcel

Increasing despatch employees to expedite delivery

Courier sector is a highly labour intensive industry. In 2014, the courier sector employed a total of 11,342 employees, with almost half of this are from despatch group. As for call centre, there was an increase by 16% to 1,721 employees in 2014 from 1,486 employees in 2013. The increment reflects the importance of these two categories of services to fulfil consumer demand. In short, the importance of customer service to expedite delivery of items and manage product related enquiries.

For reference, the "Others" category includes operation centre, sales, financial and customer service. This category has declined by 7% to 1,007 employees from 1,086 employees in 2013.

Employees in Courier Industry According to Job Function 2012 – 2014



Note: Others include operation centre, sales, financial and customer service

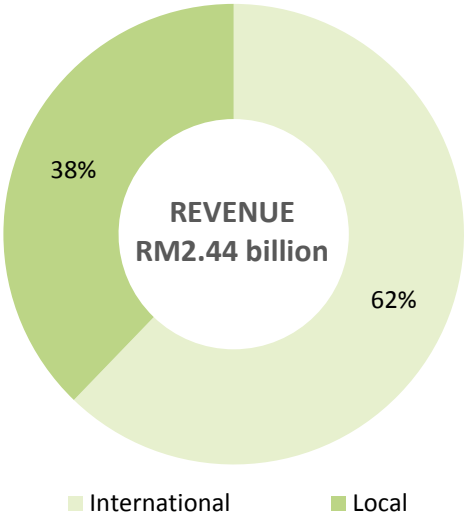
Source: MCMC

Figure 7.13 Employees in Courier Industry According to Job Function 2012 – 2014

Total Revenue of Top 10 Courier Service Providers

In 2014, the total revenue of Top 10 courier service providers was RM2.44 billion. Out of these, 62% was from the four international courier service providers and the remaining from the six local courier service providers. The service providers are shown in Figure 7.14.

Top 10 Largest Courier Service Providers by Revenue 2014



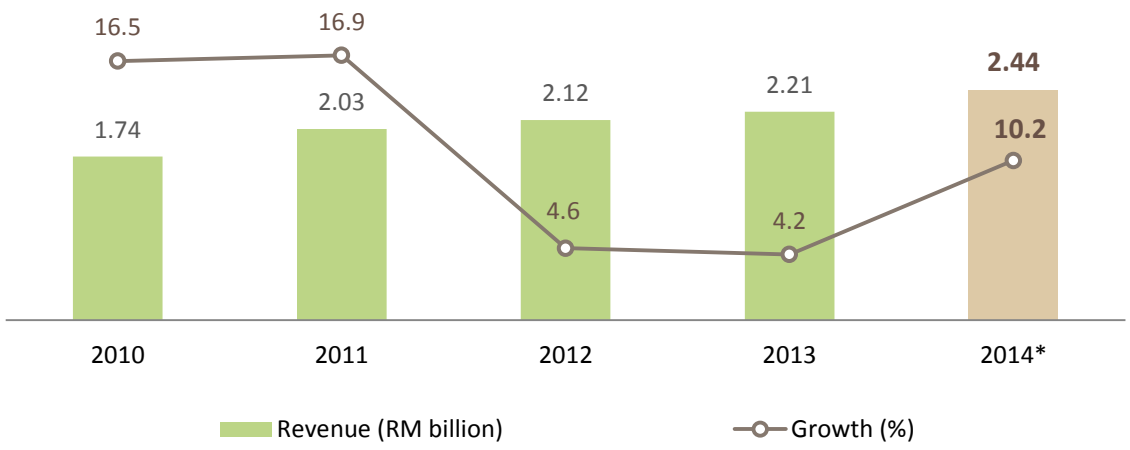
Local
ABX Express (M) Sdn Bhd
City-Link Express (M) Sdn Bhd
GD Express Sdn Bhd
Nationwide Express Courier Services Bhd
PosLaju (Pos Malaysia Bhd)
Skynet Worldwide (M) Sdn Bhd
International
DHL Express (M) Sdn Bhd
Federal Express Services (M) Sdn Bhd
TNT Express Worldwide (M) Sdn Bhd
United Parcel Service (M) Sdn Bhd

Source: Industry, MCMC

Figure 7.14 Top 10 Largest Courier Service Providers by Revenue 2014

As a result of the growing trend in courier traffic in Malaysia, the total revenue of these top 10 courier service providers have grown in sync. The revenue of these 10 courier service providers has increased steadily, that is, from RM2.12 billion in 2012 to RM2.44 billion in 2014. In 2014, the courier revenue increased at a relatively strong pace of 10.2% from the previous year.

Top 10 Courier Service Providers Revenue 2010 – 2014



**Estimates*

Source: Industry, MCMC

Figure 7.15 Top 10 Courier Service Providers Revenue 2010 – 2014

In 2014, courier service providers leveraged on innovation to provide various new products and services to improve sales. Pos Malaysia, for example, implemented partnerships with several e-commerce sites. TNT Express started its medical warehouse and distribution centre, which are dedicated to the medical-devices market. The focus was particularly on surgical devices and instruments that require highly specialised distribution to hospitals such as time-critical delivery, return management and consignment stock management.

Furthermore, ABX Express implemented mobile scanners by using mobile phones to report real time shipment status for deliveries and pick-ups.

Mitigating Consumer Complaints

As at end 2014, MCMC received a total of 121 complaints on postal and courier services compared with 103 received in 2013. The complaints were lodged through various channels, for instance, consumer forums and agencies, such as Public Complaint Bureau and Prime Minister's Office.

Referring to the postal and courier complaints received by MCMC, late delivery remains as the highest complaints category. In 2014, complaints received on lost items come in second, followed by unsatisfactory services. In the course of mitigating the complaint, service providers will normally respond with a call to apologise to the consumer. On the other hand, compensation is made based on the agreeable terms and conditions between both parties.

Complaints Received by MCMC 2012 – 2014			
Category	**2012**	**2013**	**2014**
Late delivery	30	40	61
Lost items	16	16	23
Unsatisfactory services	10	26	16
Unsatisfactory customer service	4	6	12
Others	4	7	3
Unsatisfactory charges	-	4	3
Delivery personnel attitudes	2	4	2
Unlicensed/ Illegal provider	0	0	1
Total	**66**	**103**	**121**

Source: MCMC
Figure 7.16 Complaints Received by MCMC 2012 – 2014

QoS is the main priority of service providers in this industry. Consumers have high expectations in postal and courier services, especially timely delivery and good condition of the items delivered. Consumers do not tolerate late delivery or losses of items, particularly consumers in small medium businesses or online business operators. Such businesses rely on the items to be delivered on time to prevent loss of income and avoid dispute with their customers.

Service providers take measures to resolve complaints

The table below shows the three most challenging complaints received by service providers and the measures taken in resolving these issues.

Top Three Challenging Complaints Received by Service Providers		
No.	**Type of Complaint**	**Measures Taken**
1	Late delivery	Late delivery could also be due to staff shortage for various reasons. In order to ensure prompt delivery, measures taken include online tracking and implementing "Performance of Successful Delivery" to measure the delivery performance.
2	Shipments damaged/lost	Investigations are conducted when an item is declared lost. This includes every stage of the delivery process and staff involved in handling the item. Supporting documents such as police report are required for investigation and before any claim is approved.
3	Customs clearance issue	Among the measures taken to improve customs clearance and follow-up are to streamline processes to expedite delivery and keeping customers updated on status of the delivery. With regard to multinational companies, training sessions are conducted for the customer service team in order for them to better manage customer expectations and on the Malaysian Customs Procedures and local processes.

Source: Industry, MCMC

Figure 7.17 Top Three Challenging Complaints Received by Service Providers

MODULE 8: OUTLOOK 2015

C&M industry to remain stable with moderate growth

In 2015, the C&M industry is expected to remain stable with moderate growth upon continued resilience in the national economy. This is affirmed by the industry analysts which indicated that communications connectivity and services would continue to grow in 2015.

This growth is expected despite the disruptive force of relatively new communications services such as OTT, apps and social media on traditional C&M business models. Broadband take-up, especially mobile broadband remains one of the major influences for continued revenue growth. Mobile Internet revenue has experienced strong growth for the past three years. This development also has its basis on the Government focusing on working with industry stakeholders in increasing broadband connectivity and Internet take-up.

The next phase of growth from 2015 onwards, is to increase emphasis on affordability, usage and innovative services. Simultaneously, there is a requirement to improve C&M skills and intensify usage so as to benefit most from potential new and innovative services in a digital economy.

Research companies such as JP Morgan expects global data to continue growing at high rates. They estimated data usage to grow at continued rapid pace of about 30% to 50% per year to 2018. This is echoed by Cisco, reporting that by 2019, average traffic per mobile-connected end user device to grow with a CAGR of 51% from 2014.

Hence, it is expected for Malaysia to follow this trend in view of the nation's higher mobile and broadband take-up rates. Therefore, it is of utmost importance that infrastructure deployment by service providers is paced appropriately to accommodate the rising data demand in our digital economy.

Infrastructure investment for continuing growth

In 2015, the C&M industry is expected to continue to invest in high speed broadband infrastructure deployment. Also, in order to meet the 50% population coverage target by 2017, the continuous roll-out of 4G LTE wireless broadband remains essential to fulfil the data demand of subscribers and sustained affordable usage.

In Malaysia, over recent years, network modernisation efforts by service providers including 3G networks have been successful in delivering quality high speed mobile Internet to subscribers. Such efforts are not only to ensure quality of service, but critical to maintain high level of quality of experience for subscribers.

HSBB 2 and SUBB deployments are expected to fuel capacity and coverage of fixed broadband in Malaysia. HSBB 2 is expected to upgrade existing network to 100Mbps and addition 250,000 ports. With funding of RM1.8 billion, this project is expected to benefit 2.8 billion households. Meanwhile, SUBB deployment is expected to emphasise increasing bandwidth in the sub urban as well as rural areas. The investment is planned to involve a total of RM1.6 billion.

As for the broadcasting industry, DTTB infrastructure and network facilities is expected to be developed in phases to support fully digitalised FTA stations by 2017.

Moving Towards the Digital Economy

Embarking on digital lifestyle journey

Mobile apps, games, data analytics, online TV, mobile health, connected transport and many other applications are emerging to drive data usage and new services. These mobile-centric applications are increasing the demand for mobile Internet and mobile broadband which is available to support emerging digital lifestyle trends. This augurs well for the development of Internet of Things (IoT) in Malaysia.

The Government, businesses and citizen alike can in the immediate future reap the digital opportunities for sustained economic growth including better livelihood and work efficiency. Initiatives such as e-Government and smart transportation can provide enhanced efficiency in management and citizen engagement. Most importantly, initiatives such as big data and analytics in network monitoring and business process development require collaboration within the ecosystems to create value for businesses and the nation.

Businesses are encouraged to leverage on digital mobility for better productivity, better supply chain management and improved business agility to respond to customers. As for the individual, they can enjoy better quality of life with digital living such as Robots@Home and mobile healthcare.

Connected living enabled by communication services

Whether it is for connected home, connected city or connected work, connectivity remains among the key factors for the success of digital nation. In Malaysia, wide communications coverage by both mobile and fixed services are paving a solid foundation to drive digital lifestyle for Malaysians and digital economy for businesses.

In this era of computing and communications convergence, the adoption of digital lifestyle is enabled by ready access to infrastructure, enhanced communication services supported by higher speed and increasing content and applications services.

The emerging digital economy is encouraging new business models as the boundary between the virtual digital and physical worlds continue to blur. The supply to meet requirement, that is, the adoption of connected living product offerings such as disruptive mobile Internet applications and smart usage needs business models are expected to drive content development in Malaysia.

The Government's commitment towards development for digital economy is evidenced by the allocation of RM100 million fund under MCMC for creative digital content projects in National Budget 2015. These digital creative content include animation, film, arts and design, cultural heritage, as well as online content including Internet portal and mobile apps.

Security and privacy

Nevertheless, it is important to note that amid the rapid development in the digital environment, issues arising involving data protection, encryption and privacy requires continued attention. Vigilance includes surveillance of devices and monitoring of applications for security and desired quality.

In this age of emerging IoT, the growing numbers of widely-dispersed sensors and networking technologies pose security risks that are potentially even larger than with PCs or mobile phones alone. Therefore, security and protection are critical factors that require attention for progressive development by industry players and stakeholders in the IoT ecosystem.

Conclusion

Notably, our immediate target is to grow the C&M industry as well as C&M as an enabler to support other economic sectors, thus, meeting the aspirations of a developed nation status in 2020. Towards achieving this target, we need to focus on sustainable development while sourcing new and innovative business models for greater revenue generation.

Going forward, 2015 highlights the start of many ICT opportunities and emerging services to fulfil the needs of digital lifestyle and thriving towards a smart nation. These opportunities are for stakeholders in the C&M ecosystem to tap into, but they would need to deal with various issues along the way such as facilitating intense usage and enhancement of ICT skills. It is worthwhile to note that these opportunities can be fully capitalised when all stakeholders continue to join hands and leverage on each other's strengths while also sourcing for cross channel trusted partners in broadcast and content industries.

LIST OF ABBREVIATIONS

3D	Three-dimensional
3G	3rd Generation
4G LTE	4th Generation Long Term Evolution
	A
AAE-1	Asia-Africa-Europe-1
ACE	"Access", "Certainty", "Efficiency"
Adex	Advertising Expenditure
ADSL	Asymmetric Digital Subscriber Line
AKLEH	Ampang-Kuala Lumpur Elevated Highway
ARPU	Average Revenue Per User
ASP (C)	Applications Service Provider (Class)
ATF	Asia Television Forum
	B
B2B	Business-to-Business
BAS	Broadband Access Service
BNM	Bank Negara Malaysia
	C
CA	Certifying Agency
CAGR	Compound Annual Growth Rate
Capex	Capital Investment
CAS	Conditional Access System
	Content Applications Service
CASBAA	Cable & Satellite Broadcasting Association of Asia
CASP (I)	Content Applications Service Provider (Individual)
CCAM	Creative Content Association of Malaysia
C&M	Communications and Multimedia
CFM	Communications and Multimedia Consumer Forum of Malaysia
CIDF	Creative Industry Development Fund
CIIP	Common Integrated Infrastructure Provider
CMA	Communications and Multimedia Act 1998
CMCF	Communications and Multimedia Content Forum of Malaysia
CNII	Critical National Information Infrastructure
CSR	Corporate Social Responsibility
	D
DDoS	Distributed Denial of Service
DEL	Direct Exchange Line
DIAS	Dial Up Internet Access Service
DLL	Digital Leased Line Service
DMBH	Digital Multimedia Broadcasting Hub
DTH	Direct-To-Home
DTTB	Digital Terrestrial Television Broadcasting
DUKE	Duta-Ulu Kelang Expressway
DVB-T2	Digital Video Broadcasting - 2nd generation
	E
ELITE	North-South Expressway Central Link
ESA	End-point Service Availability
ETP	Economic Transformation Programme

	F
FIFA	Federation Internationale de Football Association
FINAS	National Film Development Corporation Malaysia
FM	Frequency Modulation
FTA TV	Free-to-Air Television
FYE	Financial Year Ended
	G
Gbps	Gigabyte per second
GCI	Global Competitiveness Index
GNI	Gross National Income
GHz	Gigahertz
GLC	Government-linked Company
GSM	Global System for Mobile Communications
	H
HD	High Definition
HDTV	High Definition Television
HFC	Hybrid Fibre Coaxial
HSBB	High Speed Broadband
HSBB 2	High Speed Broadband Phase 2
HSBB-A	High Speed Broadband Access
HSBB-T	High Speed Broadband Transmission
	I
IBC	In-Building Coverage System
IBG	Interbank GIRO
IC3	International Creative Content Conference
ICT	Information and Communications Technology
IDI	ICT Development Index
iDTV	Integrated Digital TV
IoT	Internet of Things
IP	Internet Protocol
IPC	Integrated Parcel Centre
IPTV	Internet Protocol Television
ISMS	Information Security Management System
IT	Information Technology
ITU	International Telecommunication Union
ITU-IMPACT	International Telecommunication Union-International Multilateral Partnership against Cyber Threats
	J
JAKIM	*Jabatan Kemajuan Islam Malaysia*
JKJR	Road Safety Department of Malaysia
JPJ	Road Transport Department
	K
KDB	*Klik Dengan Bijak*® or Click Wisely
KESAS	Shah Alam Expressway
KKMM	Ministry of Communications and Multimedia Malaysia
KLIA	Kuala Lumpur International Airport
KLIA2	Kuala Lumpur International Airport 2
KLwyse	Kuala Lumpur World Youth Stamp Exhibition
KPDNKK	Kementerian Perdagangan Dalam Negeri, Koperasi dan Kepenggunaan
KPI	Key Performance Indicator
KTW1M	*Kampung Tanpa Wayar 1Malaysia* or 1Malaysia Wireless Village

	L
LATAR	The Kuala Lumpur-Kuala Selangor Expressway
LCCT	Low Cost Carrier Terminal
LCD	Liquid-Crystal Display
LDP	Damansara-Puchong Expressway
LEKAS	Kajang-Seremban Highway
LPF	Film Censorship Board
LTE	Long Term Evolution
	M
M2M	Machine to Machine
MACRI	Malaysian Association of Creativity and Innovation
Mbps	Megabits Per Second
MDeC	Multimedia Development Corporation
MEASAT	Malaysia East-Asian Satellite
MENA	Middle East & North Africa
MEX	MAJU Expressway
MIPCOM	Marché International des Contenus Audiovisuels
MIPTV	Marché International des Programmes de Télévision
MMS	Multimedia Messaging Service
MNO	Mobile Network Operator
MOH	Ministry of Health
MSS	Mutual Separation Scheme
MRR2	Middle Ring Road 2
MVNA	Mobile Virtual Network Aggregator
MVNO	Mobile Virtual Network Operator
	N
NBI	National Broadband Initiatives
NFP (I)	Network Facilities Provider (Individual)
NKEA CCI	National Key Economic Area Communications Content and Infrastructure
NKVE	New Klang Valley Expressway
NPE	New Pantai Express Way
NPS	National Postal Strategy
NSE	North-South Expressway
NSP (I)	Network Service Provider (Individual)
	O
Opex	Operation Expenditure
OSS	Operating Support System
OTC	Over-the-counter
OTT	Over-the-Top
	P
PCS	Public Cellular Services
PDRM	*Polis Diraja Malaysia*
PI1M	*Pusat Internet 1Malaysia* or 1Malaysia Internet Centre
PKI	Public Key Infrastructure
PLKN	*Program Latihan Khidmat Awam* or National Service Training Programme
PPR	*Program Perumahan Rakyat*
PPS	Public Payphone Service
PSTN	Public Switched Telephone Network Service

	Q
QoQ	Quarter-on-Quarter
QoS	Quality of Service
	R
RAN	Radio Access Network
R&D	Research and Development
RTM	Radio Televisyen Malaysia
	S
SD	Standard Definition
SDSL	Symmetric digital subscriber line
SEA-ME-WE 5	South East Asia-Middle East-Western Europe 5
SI	Service Information
SIM	Subscriber Identity Module
SIRIM	Standards and Industrial Research Institute of Malaysia
SKVE	South Klang Valley Expressway
SLC	Special Licence Conditions
SME	Small and Medium Enterprise
SMS	Short Message Service
SUBB	Sub Urban Broadband
SVOD	Subscription Video on Demand
	U
UHD	Ultra High Definition
UNITEN	Universiti Tenaga Nasional
URL	Uniform Resource Locator
USD	United States Dollar
USP	Universal Service Provision
	V
VAS	Value Added Services
VOD	Video on Demand
VoLTE	Voice over LTE
VSAT	Very Small Aperture Terminal
	W
WEF	World Economic Forum
Wi-Fi	Wireless Fidelity
WiMax	Worldwide Interoperability for Microwave Access
WPKI	Wireless Public Key Infrastructure
	Y
YoY	Year-on-Year

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