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MALAYSIAN COMMUNICATIONS AND MULTIMEDIA COMMISSION

HAND PHONE USERS SURVEY 2017

STATISTICAL BRIEF NUMBER TWENTY-TWO

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SECTION 1: EXECUTIVE SUMMARY

The Hand Phone Users Survey 2017 (HPUS 2017) is an annual survey conducted by Malaysian Communications and Multimedia Commission (MCMC). HPUS 2017 provides information on the characteristics and behaviours of hand phone users in Malaysia, as well as analysis to gauge changes in terms of users' behaviour and trends.

MCMC interviewed 2401 respondents through Computer Assisted Telephone Interview (CATI) system. The survey sourced on selected key indicators span from types of hand phone (i.e. basic phone, feature phone and smartphone), online activities of smartphone users, measures taken to protect personal data, concern on data privacy, level of trust on personal data kept by service providers, dependency and behaviour of hand phone users, awareness on '*Klik Dengan Bijak* (KDB)' campaign, issues on Mobile Content Service (MCS) and level of difficulty of SIM card registration process.

The survey draws attention to the following key themes and highlights covered by the data:

- **Users of smartphone continue to rise** – Smartphone penetration rates grew by 7.2% from 68.7% in 2016 to 75.9% in 2017.
- **Feature phone continues to meet needs of certain segment of users** – Despite percentage of feature phone users has decreased from 53.0% in 2016 to 31.0% in 2017, feature phone are still in demand especially for users from low income group with household income of RM 1,000 and below, foreign workers, as well as users aged 65 years old and above.
- **Rising access to Internet via smartphones** – Based on HPUS conducted since 2012, the percentage of smartphone users who used their phones for Internet access rose by 26.0%.

- **Using smartphones for e-Commerce gaining momentum** – Approximately 28.4% smartphone users made online purchases with majority of them (69.5%) making purchases via mobile Apps.
- **Improved awareness to protect personal data among Malaysians** – 64.5% of users were vigilant in protecting their hand phone using passwords compared to 53.8% in HPUS 2015 while 44.5% backed up their photos and contacts on their hand phone compared with 39.2% in HPUS 2015.
- **High dependency on hand phone were observed particularly among the youngsters** – More than 80% of the youngsters felt anxious and would go back if they ever left their phone, waking up in the middle of the night to check their smartphone, and could not last an hour to check their phone after waking up.

SECTION 2: INTRODUCTION

Background of survey

The Hand Phone Users Survey 2017 (HPUS 2017) is a twelfth series of purpose built survey conducted by MCMC. This is in line with MCMC regulation goal to conduct market research whereby to collect descriptive statistics pertaining to characteristics and behaviours of hand phone users in Malaysia.

Problem statement

HPUS is an annual survey conducted by MCMC since 2004 aimed to collect data pertaining to usage, behaviour and preferences of hand phone users in Malaysia. These data cannot be obtained through administrative data collection. For the purpose of this study, hand phone includes basic phone, feature phone and smartphone.

Over the past decade, hand phone was just merely a tool for communications. As technology evolved, the device has become more integral to people's life as it supports more services such as, computing access to the Internet and video streaming. Accordingly, the collection of data, in particular, the trends data may vary over time, as stakeholders commonly shift their focus and demand. Therefore, the survey should maintain its flexibility to adapt to evolving technology and needs of stakeholders.

Thus, HPUS intends to provide comprehensive and objective quantitative assessment for MCMC's internal and external stakeholders to facilitate developing relevant policies and strategies in their respective areas.

Development of research questions

HPUS is a study to describe characteristics and behaviour of hand phone users in Malaysia. Based on current issues and trends of hand phone usage, several research questions have been identified and developed as illustrated in table below:

Table 1: Development of research questions

	Scope	Indicators	Research Questions
1	Usage and ownership of hand phone	<ul style="list-style-type: none"> • % of smartphone and feature phone users • % of smartphone and feature phone ownership 	<ul style="list-style-type: none"> • What is the growth of smartphone as compared to feature phone users? • Does feature phone still serve users' needs? • What is the preferred device to access the Internet?
2	Activities on smartphone	<ul style="list-style-type: none"> • Time series analysis of activities on smartphone 	<ul style="list-style-type: none"> • What activities on smartphone which had gained or lost popularity?
3	Protection of personal data	<ul style="list-style-type: none"> • Measures taken to protect personal data • Concern on data privacy • Level of trust on personal data kept by service providers 	<ul style="list-style-type: none"> • What are users concerns in the event of losing their phone? • What are the step taken by hand phone users to protect their personal data? • Do hand phone users trust their service provider to keep their personal data?
4	Behaviour of hand phone users	<ul style="list-style-type: none"> • Dependency on hand phone • Hand phone behaviour 	<ul style="list-style-type: none"> • Which age group posed high dependency on their phone?
5	Regulatory measures/ initiatives for consumer protection	<ul style="list-style-type: none"> • Awareness on "<i>Klik Dengan Bijak</i>" • Issues on Mobile Content Services • SIM Card registration 	<ul style="list-style-type: none"> • What is the level of awareness of MCMC's various initiatives among hand phone users?

SECTION 3: METHODOLOGY

Target population and sample

The sample population was drawn from the main users of hand phones with Mobile Station International Subscriber Directory Number (MSISDN) identical to randomly generated numbers. They were the main users of prefix number 010, 011, 012, 013, 014, 016, 017, 018 and 019 networks. Both segments of postpaid and prepaid users were covered. The definitions of terminologies adopted in this survey were referenced to the international standards and existing frameworks. At the end of 2017, there were 42.3 million mobile-cellular subscriptions with a penetration rate of 131.2% to a population of 32.3 million.

Method of data collection

Fieldwork for this survey started on 9 August 2017 and ended on 7 September 2017. The survey was canvassed using a Computer Assisted Telephone Interview (CATI) system operating from MCMC CATI Centre in Cyberjaya. The questionnaire was administered by CATI. Trained interviewers called main users of randomly selected hand phone numbers to seek their co-operation. Responses given to pre-coded questions were clicked in, while open-ended responses were typed in. The survey reached a sample of 2,401 hand phone users.

Sampling technique

The survey adopted confidence level of 95% and precision of $\pm 2\%$. There was only one stage of sample selection as the survey adopted a simple random sample (SRS) approach. Sampling was done across networks with probability proportional to size of the networks in terms of subscriptions.

Terms and definition

Basic phones¹

Basic phone also called 'low-end' phones - are devices with limited feature sets, limited or no factory-installed or user-installable value added third party applications, and no or very limited data connectivity. The 'basic'- or 'low-end' - appellation is a throwback to the early days of the emergence of GSM mobile technology, where only basic functionality - such as call functions, SMS, Unstructured Supplementary Service Data (USSD) v1 functionality, and a phonebook - were needed (and available) to communicate.

Feature phones²

Feature phone has limited functionality and proprietary operating systems such as Bluetooth, WAP-based phone browsers and ability to install and run Java applets and applications and a camera. This device primarily use narrowband 2G EDGE/EDGE+ speeds for mobile data access. Several feature phone produced support of 3G network.

¹ Source: Mobile Handset Use in Digital Financial Services (03/2017), ITU

² ibid

Smartphones³

A mobile handset that is used as the person's primary phone device which has capabilities to perform Internet-based services and function like a computer, including having an operating system capable of downloading and running applications, also those created by third-party developers.

Method of data analysis

Types of data

HPUS 2017 distinguishes between annual core data, which are covered yearly for time series analysis and trends data on topical hand phone behaviours peculiar during the survey period. Specific requests from internal stakeholders were taken into account during the process of developing the survey's questionnaires. Table 2 illustrates the core and trends data captured in HPUS 2017:

Table 2: Types of data

Trend Data	Core data
1. Smartphone and feature phone users	1. Gender
2. Postpaid and prepaid users	2. Age group
3. Mobile Content Services	3. Income category
4. e-Commerce	4. Educational attainment
5. Managing mobile privacy	5. Urban-rural distribution
6. Behaviours of hand phone users	
7. Awareness on "Klik Dengan Bijak (KDB)" campaign	

Data Analysis

Basic frequency count was computed to assess the results pattern. Cross-tabulation between relevant indicators was done to identify significant

³ Source: International Telecommunication Union (ITU), 5th Meeting of the Expert Group on ICT Household Indicators (EGH)

relationships that would deduce meaningful inferences pertinent to the objectives.

Important findings were featured in the form of a report complemented with supporting charts and tables for the convenience of readers. Time series analysis was established in demographics and socio-economic tracking whilst the findings on current trends were analysed against evolutions that took place around the world. Information from external sources was also included as supplementary data to support any findings.

The data has been weighted to match nationality (Malaysian and non-Malaysian) and ethnicity distribution, where the mid-year population estimates from DOSM serves as the auxiliary information as follows:

Table 3: Mid-year population estimates 2017⁴

Background characteristic	Percent
Nationality	
Malaysian	89.6
Malay	50.0
Chinese	20.8
Other Bumiputera*	11.7
Indian	6.2
Others	1.0
Non-Malaysian	10.4

**Other Bumiputera includes Bumiputera Sabah/Sarawak and Orang Asli*

Finally, full results of the survey were appended in the form of percentage tables at the end of the report.

⁴ Current Population Estimates, DOSM , 2017

SECTION 4: MAIN FINDINGS

Users of smartphone rose to 75.9% in 2017

Smartphone has rapidly become the preference device for most Malaysian to remain connected. According to the survey, percentage of smartphone users continue to rise from 68.7% in 2016 to 75.9% in 2017. Driving factors include inexpensive devices, subsidies, aggressive campaigns and promotions by service providers, affordable voice-data packages, increasing use of and reliance on smartphones-based applications etc. are among key factors contributed to the growth.

The finding is in line with report by Growth from Knowledge (GfK) Cooperation anticipating strongest regional growth of smartphones demand in 2017, with Malaysia and Bangladesh contributing most to this growth⁵. On the other hand, the survey revealed that feature phone users dropped by 22.0% from 53.0% in 2016 to 31.0% in 2017.

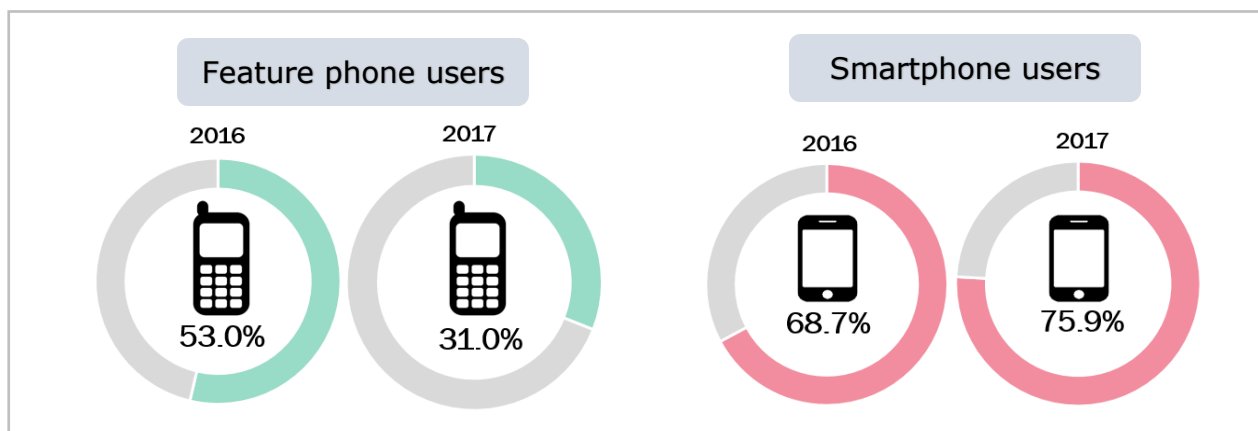


Figure 1: Percentage distribution of smartphone versus feature phone share, 2016 and 2017

⁵ Lucy Green (July 24, 2017), *Global smartphones demand peaks alongside a leap in average sales price in 2Q17*. Retrieved from <http://www.gfk.com/insights/press-release/global-smartphones-demand-peaks-alongside-a-leap-in-average-sales-price-in-2q17/>

Table 3⁶ below shows percentage distribution of smartphones and feature phones users from 2010 to 2017:

Table 4: Percentage distribution of hand phone users by type of phone

	2010	2011	2012	2013	2014	2015	2016	2017
Smartphones	14.0	12.0	26.0	37.4	53.4	52.3	68.7	75.9
Feature phones	86.0	87.3	74.0	61.8	46.4	47.6	53.0	31.0
Don't Know	-	0.7	-	0.8	0.2	0.1	-	-

68.3% of smartphone users have been using smartphones for more than 2 years

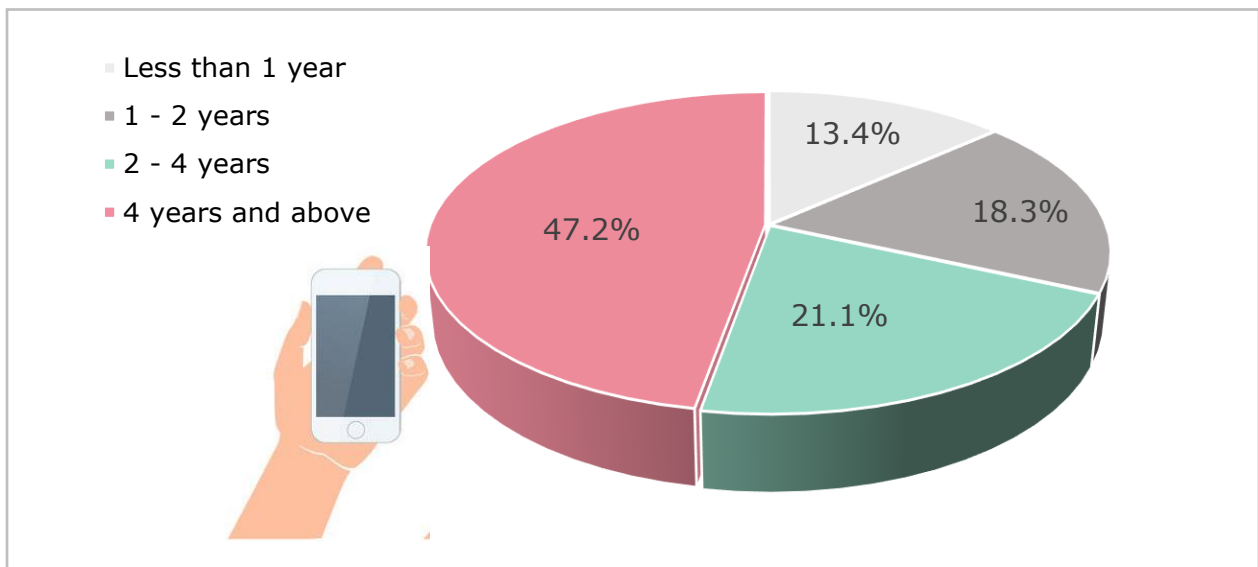


Figure 2: Percentage distribution on the number of years using smartphones

⁶ **From 2010 – 2015**, the percentage were mutually exclusive, whereby respondent were asked on the type of hand phone that they are using to answer the survey. (i.e feature phone or smartphone). Question: “The hand phone that you are using now to answer is..”

Meanwhile, on 2016-2017, the percentage were not mutually exclusive, where by respondent were asked on the type of hand phone that they are using. Question: “Do you use feature phone?” and “Do you use smartphone?”

The survey found that nearly 7 out of 10 (68.3%) smartphone users are holding onto their smartphones for more than 2 years. Of which, 47.2% mentioned that they have been using their smartphone over the last 4 years, followed by 21.1% already used it from 2 to 4 years. Meanwhile, only 13.4% claimed they have been using it less than 1 year. Different scenario can be observed in United States and European Countries, where on average their consumers kept their smartphone for at least 2 years before upgrading it⁷.

Ownership of smartphones

In line with International Telecommunication Union (ITU) data collection, HPUS 2017 also introduced a new question pertaining to the ownership of smartphone. Figure 3 shows that among hand phone users, 75.9% are smartphones users, while 74.0% are smartphone owners. The ownership⁸ is especially high among younger people and those with relatively high income and education levels (Figure 4 -6).

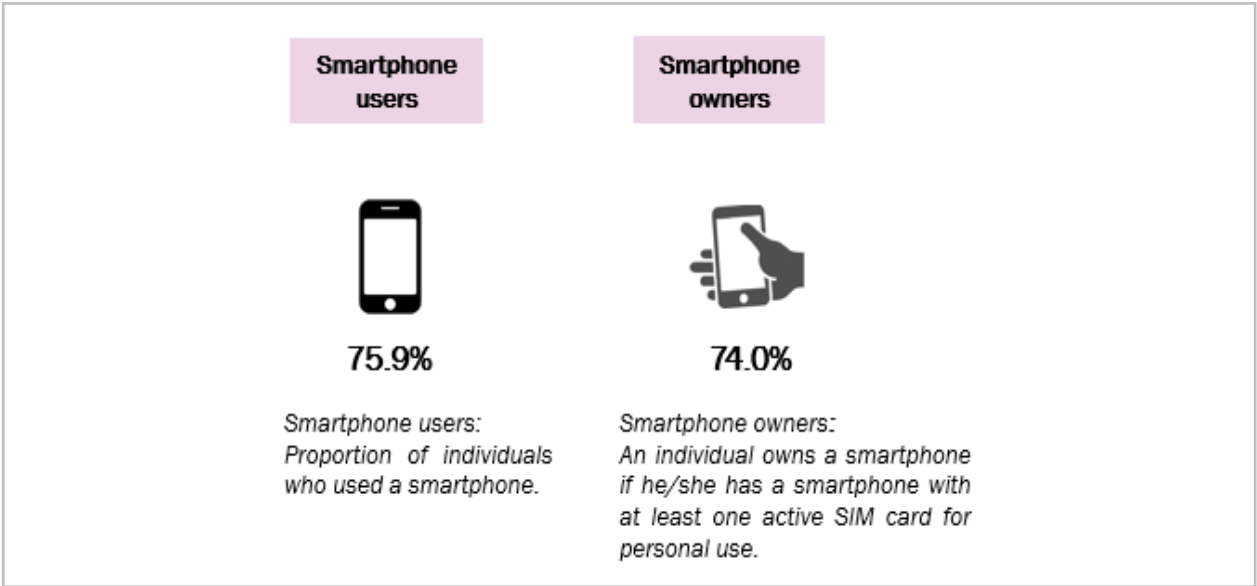


Figure 3: Smartphone users and ownership

⁷ Kantar Worldpanel Comtech (February, 2017), "An Incredible Decade For The Smartphone: What's Next?"

⁸ Based on Measuring the Information Society Report 2016 (MISR 2016), ITU have differentiate data collection on mobile-cellular use and ownership. (Use: Proportion of individuals who used a mobile cellular, Own: An individual who owns a mobile cellular if he/she has a mobile-cellular with at least one active SIM card for personal use)

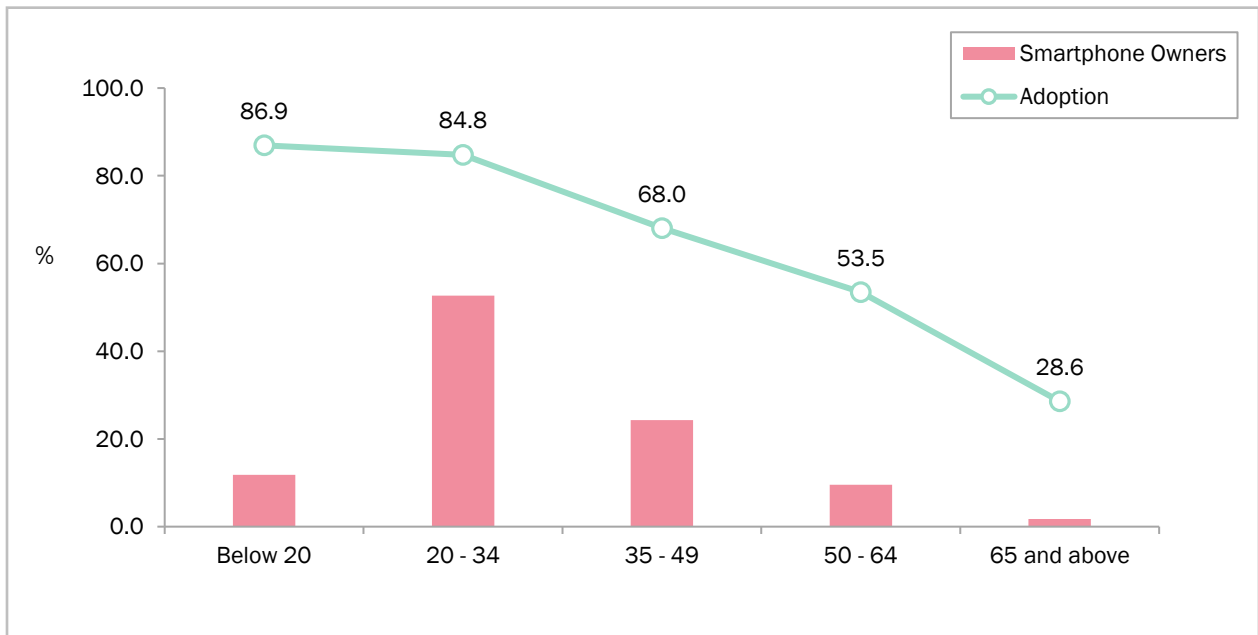


Figure 4: Percentage distribution of smartphone owners by age group (bar chart) and adoption rate of smartphone owners by age group (line graph)

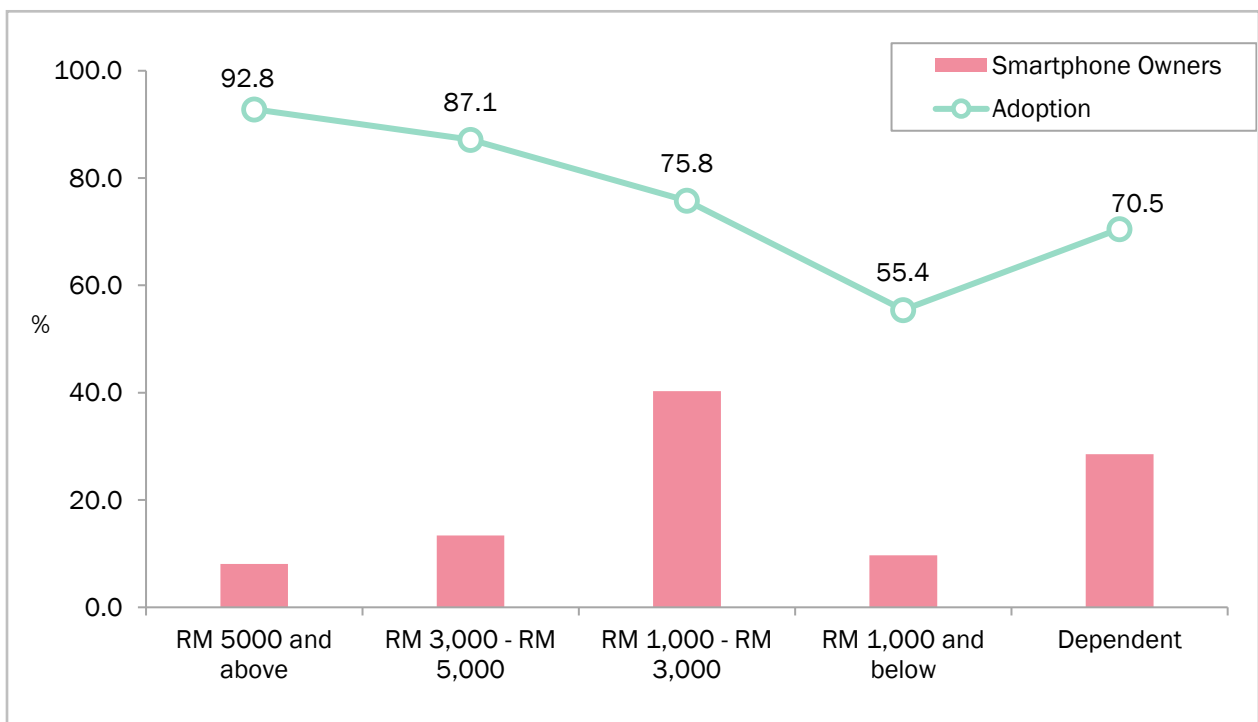


Figure 5: Percentage distribution of smartphone owners by income category (bar chart) and adoption rate of smartphone owners by income category (line graph)

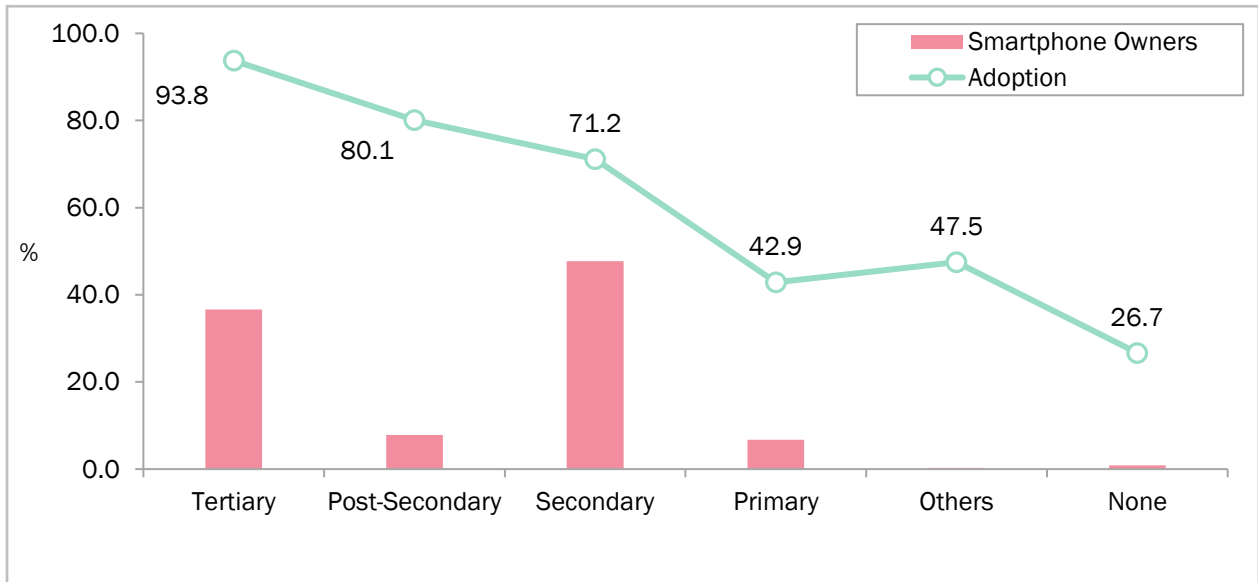


Figure 6: Percentage distribution of smartphone owners by highest educational attainment (bar chart) and adoption rate of smartphone owners by highest educational attainment (line graph)

Further, the survey also explored how many smartphones does respondents owned and the underlying factors of those who owned more than one smartphones. Based on Figure 7, result shows that 77.2% of smartphones owners are most likely to own only one smartphone. This is followed by 17.7% owning two and the remaining 5.1% respondents claimed to own three or more smartphones.

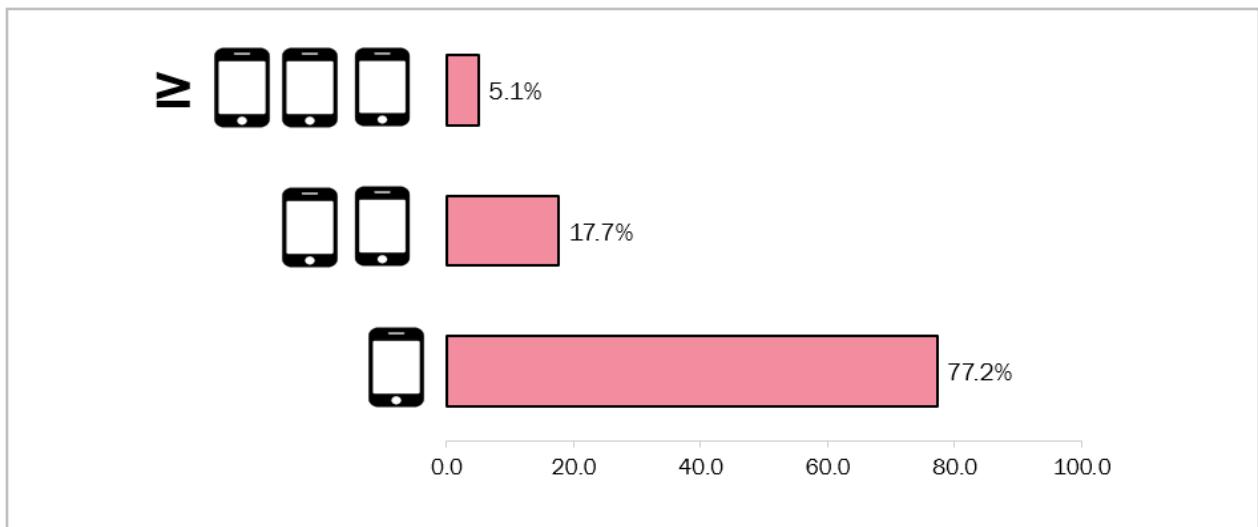


Figure 7: Percentage distribution of total smartphone owned by respondent

For those who owned more than one smartphone, 54.9% of respondents claimed the reason is to separate between personal and office use, 40.9% respondents used multiple smartphones as backup and 22.7% said that the purpose of having additional devices is to access the Internet without any data plan subscription. Whilst some respondents need for travelling purposes, child use, coverage and battery life.

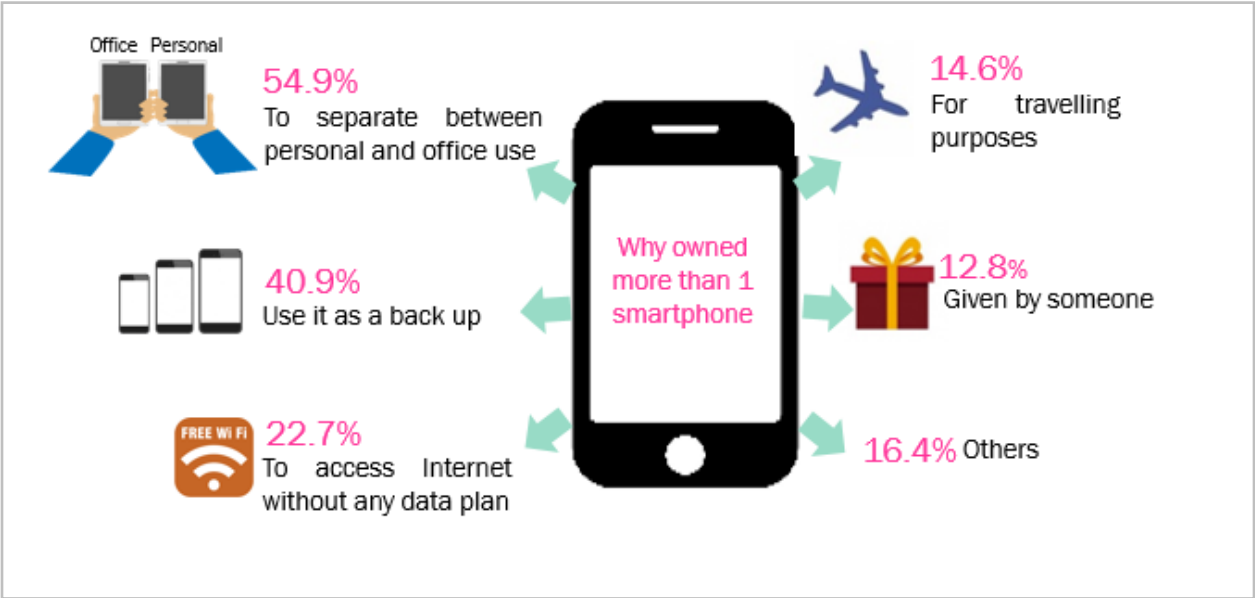


Figure 8: Percentage distribution of respondent who owned more than 1 smartphone⁹

⁹ Question asked to respondent who owned more than 1 smartphone

Feature phone continues to meet needs of certain segment of users

The benefits of feature phone are still in demand for quite a number of people, especially among respondents in the low income group with household income of RM1,000 and below (47.6%), including foreign workers (43.8%) as well as users aged 65 years old and above (73.7%) (Figure 9).



Figure 9: Feature phone users by demographic

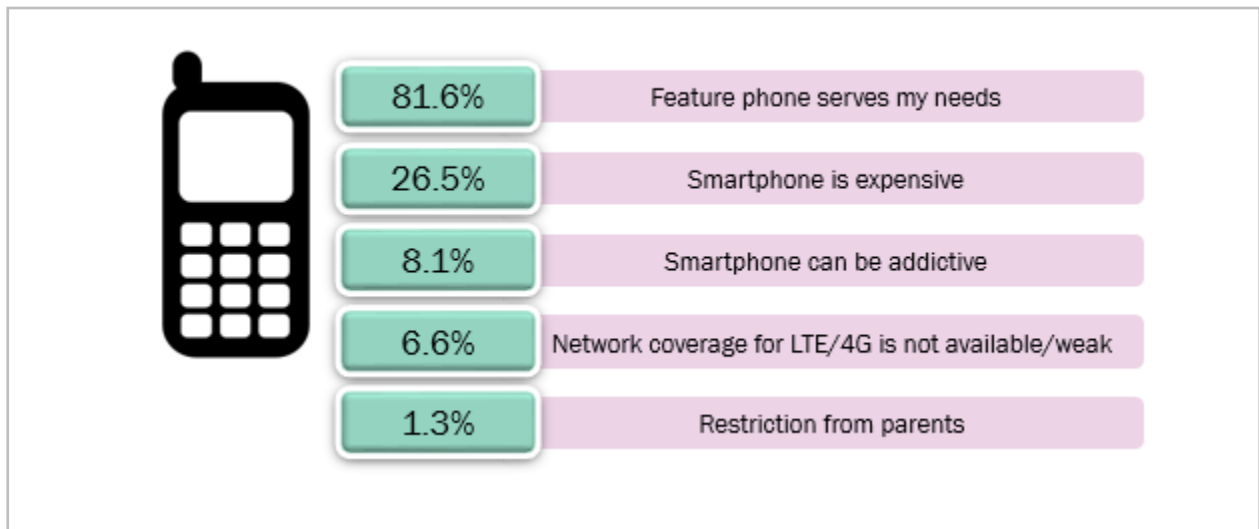


Figure 10: Percentage distribution on reason of still using feature phone

Note: 11.0% reported "others" which includes battery factor, features factor and lack of skills on using smartphones

This survey further examined the respondents' reasons for not using smartphones¹⁰. Firstly, majority of feature phone users (81.6%) said that the device serves their needs. Secondly, 26.5% of them claimed that smartphone is expensive, and thirdly, they are concerned on the impact of smartphones that can lead to addiction. We also asked the feature phone users if they have any intention to migrate to smartphone. Based on Figure 11, close to two thirds or 63.2% of the feature phone users claimed that they have no intention to change to smartphone.

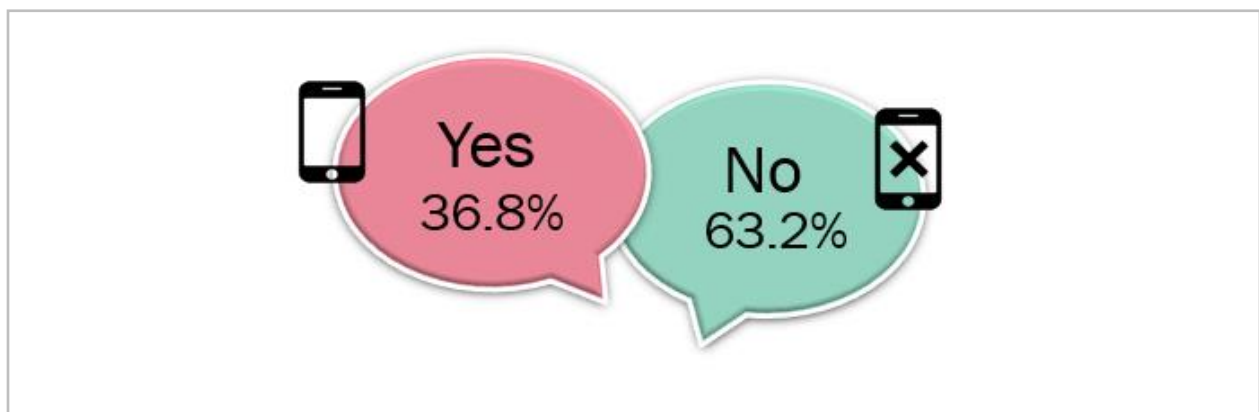


Figure 11: Willingness to migrate to smartphone

¹⁰ This part of the survey only include for respondents who used feature phone only and do not use any smartphones. 24.2% of respondents not using smartphones (users of feature phones only)

Internet-on-the-go

Based on HPUS conducted since 2012, the percentage of smartphone users who use their phones for Internet access rose by 26%. Similarly, our Internet Users Survey 2017 (IUS 2017) also recorded high proportion of Internet users accessing the Internet while on-the-go (84.0%)¹¹. In 2017, 94.8% of smartphone users are using their phones to go online.

Table 5: Percentage distribution of Internet access using smartphone by users

	2012	2013	2014	2015	2017
Access Internet using smartphone (%)	68.8	78.5	90.1	92.4	94.8
Do not access Internet through smartphone (%)	31.2	21.5	9.9	7.6	5.2

On the other hand, Figure 12 shows that 20.6% of feature phone users access Internet using their phone. Among them, 61.3% users were able to access 3G network¹² on their feature phone. Meanwhile, 33.3% said their phones have no capability to access 3G as their device only support 2G network (basic phone). However, it should be noted that 2G network still serves the *rakyat* as almost one third of respondents are still using 2G hand phones.

Some countries like Singapore¹³, Taiwan¹⁴ and Australia¹⁵ have already terminated 2G technologies to refarm spectrum for 4G-LTE networks.

¹¹ MCMC Internet Users Survey 2017: Device and Place to access Internet

¹² Guideline was given to respondent to identify the capability: " Feature phone that capable to access the 3G network will display 3G/H+ on top left/ right on home screen phone"

¹³ Chang V (March 2017), "All you need to know about 2G network shutdown". Retrieved from <http://www.straitstimes.com/tech/smartphones/all-you-need-to-know-about-the-2g-network-shutdown>

¹⁴ Shan S (March 2017), "Government aims to end all 2G services by August". Retrieved from <http://www.taipetimes.com/News/taiwan/archives/2017/03/20/2003667125>

¹⁵ Johnston R (December 2016), "Telstra's 2G Network is Officially No More: What you need to do". Retrieved from <https://www.gizmodo.com.au/2016/12/telstras-2g-network-is-officially-no-more-what-you-need-to-do/>

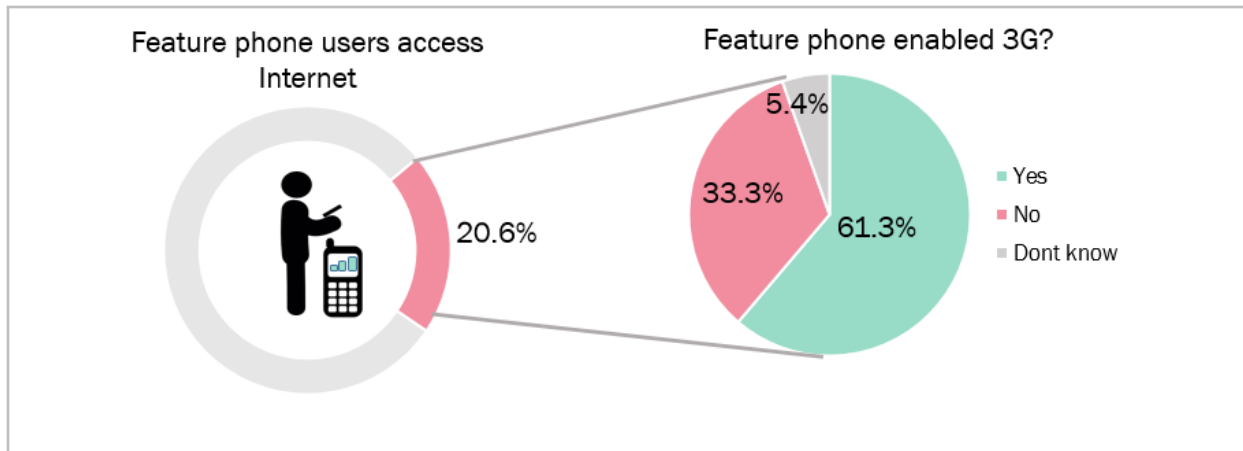


Figure 12: Percentage distribution of feature phones that are capable to access 3G

What people do on their smartphones?

Mobile devices, in particular smartphones are becoming part of our lifestyle, not just for communications but also as a platform for getting information, socializing, entertainment and performing banking activities.

Activities conducted on smartphones	Usage (%)	
	2015	2017
Text messaging & voice note	96.0	98.5
Voice calls	-	93.8
Social Networking	87.9	88.1
Search/Browsing Internet	90.0	87.5
Entertainment	78.7	83.7
Get Directions	69.3	73.6
Send or receive emails	60.2	60.0
Video calls	-	53.4
Reading	55.6	49.7
Banking	30.1	37.5
View manage security camera	11.5	8.2
Others	-	0.7

Figure 13: Percentage distribution of smartphone Internet activities by users

Communication continue to be the number-one activity among smartphones users. Majority or 98.5% of them are using their device for text messaging and voice over-the-top (OTT) services, such as WhatsApp, WeChat, Facebook Messenger, Viber etc, which is slightly higher compared with HPUS 2015 (96.0%). Of which, 90.7% of them claimed to perform this activity at least once a day. Apart from texting, 93.8% of respondents communicate through voice calls but not many of them do it on daily basis when compared with texting activity (65.1%).

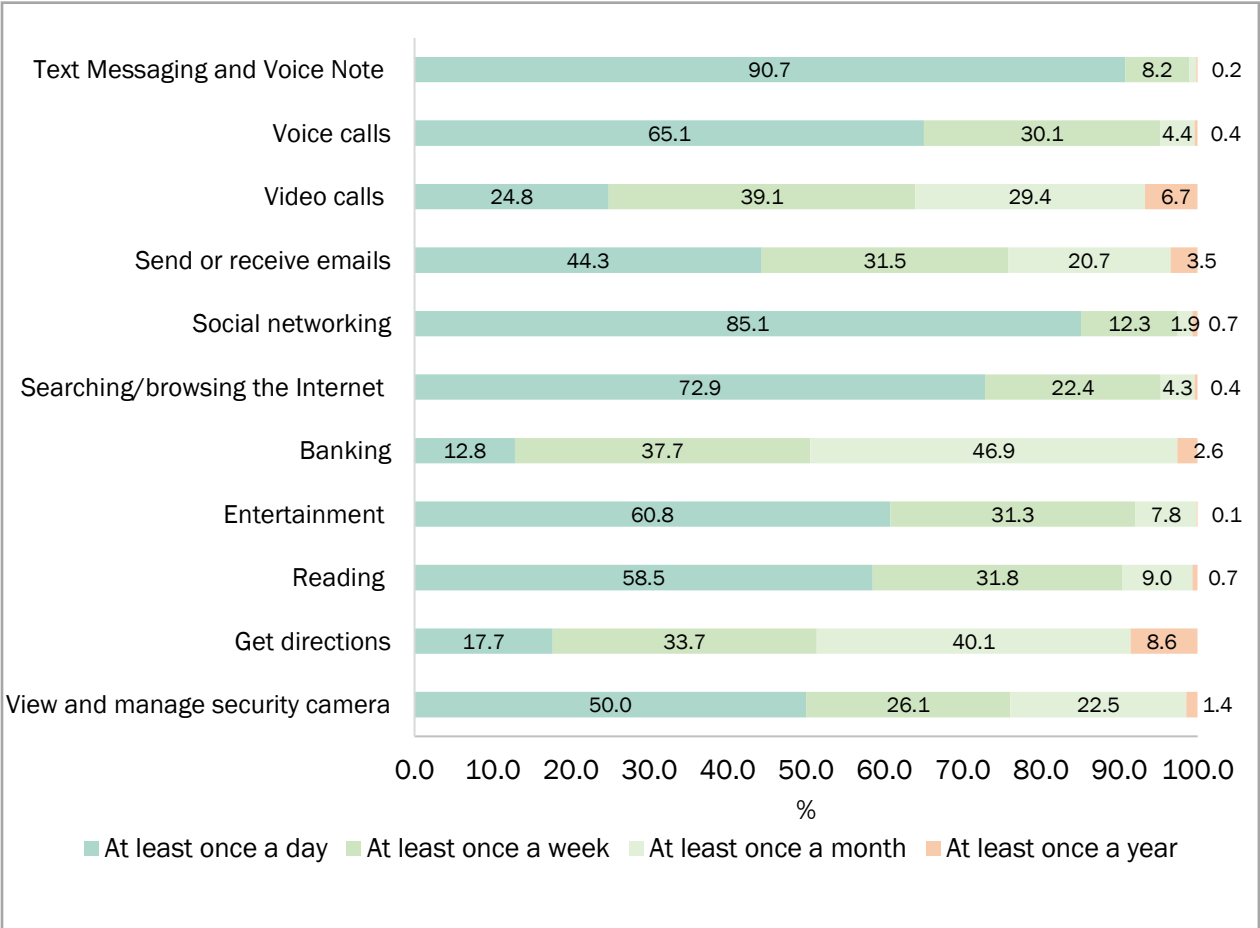


Figure 14: Percentage distribution of frequency of Internet activities by smartphone users

Furthermore, a growing number of smartphones with front-facing camera has made video calling easy to be used at anytime and anywhere. In addition, availability of video calling feature on various communications applications such as Apple’s FaceTime, Skype, WhatsApp, WeChat etc. combining with

affordable data package has encouraged more people to communicate via this platform. The survey found that 53.4% of respondents use their smartphones for video calling, with 24.8% of them using it at least once a day.

Email continues to be used, with 60.0% of respondents using it with 44.3% of them send and receive emails on daily basis.

Social networking media such as Facebook, Twitter, Instagram, LinkedIn, etc. continue to be major platforms connecting friends, families and colleagues. The usage of smartphone for social networking activities continue to increase from 87.9% in 2015 to 88.1% in 2017.

Despite showing a slight decrease, searching and browsing the Internet are still popular activity among smartphone users, with 87.5% claimed to perform this activity compared with 90.0% recorded in HPUS 2015.

Smartphone is becoming a portable entertainment device and widely used for watching videos or movies, play games and listen to music. The survey shows that 83.7% of respondents used their smartphone for entertainment activities where 60.8% of them do it at least once a day. The wider LTE coverage and affordable data packages have made it possible for users. As at 2016, percentage of the population covered by LTE mobile network in Malaysia increased to 88.0% from 71.0% recorded in 2015.

This survey also found that lesser smartphone users or 49.7% used their device for reading activity such as newspaper, iBook, online journal etc. compared with 55.6% in HPUS 2015.

Smartphone also serves as important tool for direction finding. Navigation applications such as Waze, GoogleMap, Apple Maps etc. are easily available on almost all type of smartphone. As such, 74.0% of respondents claimed of using these applications on their smartphones. Of which, 17.7% of them use it on daily basis while 33.7% use it at least once a week and 40.1% at least once a month.

Banking-related activities such as bill payment, money transfer and checking of bank balance via smartphone have yet to completely take off among smartphone users. Nonetheless, there was a slight increase by 7.4% as reported in HPUS 2017 to 37.5% in this survey.

Nonetheless, monitoring homes or business remotely via closed-circuit television (CCTV) in particular for security reason has dropped from 11.5% in 2015 to 8.2% in 2017. The decline might be due to availability of more integrated security solutions offered in the market, where consumers just need to subscribe to the 'security as a service' from solution providers. The emergence of Internet of Things (IoT) and cloud technologies allow disparate devices such as CCTV, smoke detectors, access control panels, sensors etc. are combined into one integrated solution. By subscribing to this service, larger volumes of data can be stored securely at dedicated server facilities, allowing users to archive video, audio and associated data for longer period and improve its accessibility using various devices.

Approximately 28.4% of smartphone users made online purchases

We also introduced questions on online shopping in HPUS 2017 to capture data and gauge e-Commerce activities amongst smartphone users. It was noted that nearly 3 out of 10 smartphone users (28.4%) made online purchases with majority of them (69.5%) making purchases via mobile Apps. This trend is higher particularly amongst young adults aged between 20 - 34 years old.

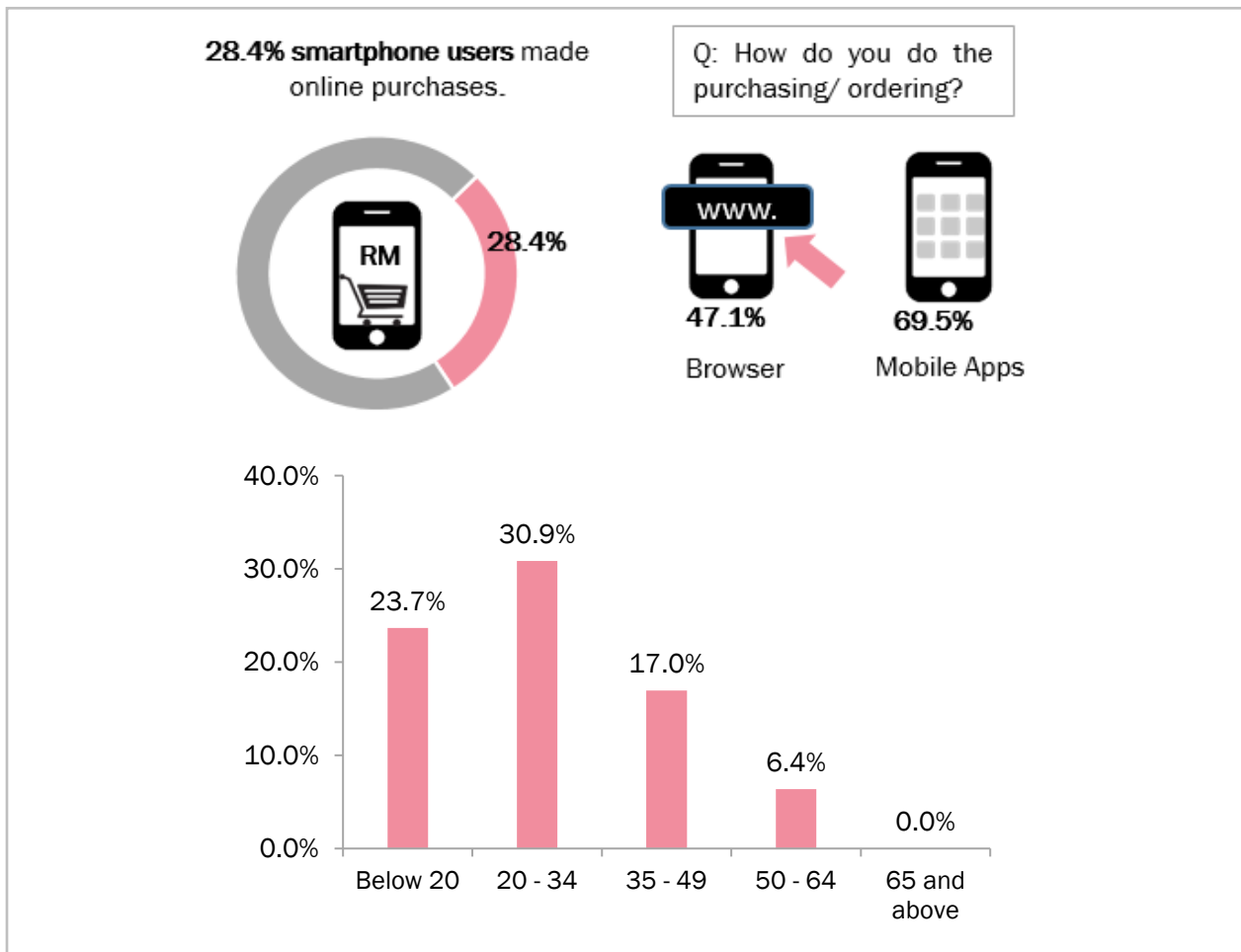


Figure 15: Percentage distribution of smartphone users performed e-Commerce activities

In terms of frequency of purchasing products or services online, 54.9% of smartphone users who conduct online purchasing claimed doing it at least

once a month, while 32.8% said once a year. Only 11.1% purchased at least once a week and 1.2% purchased daily.

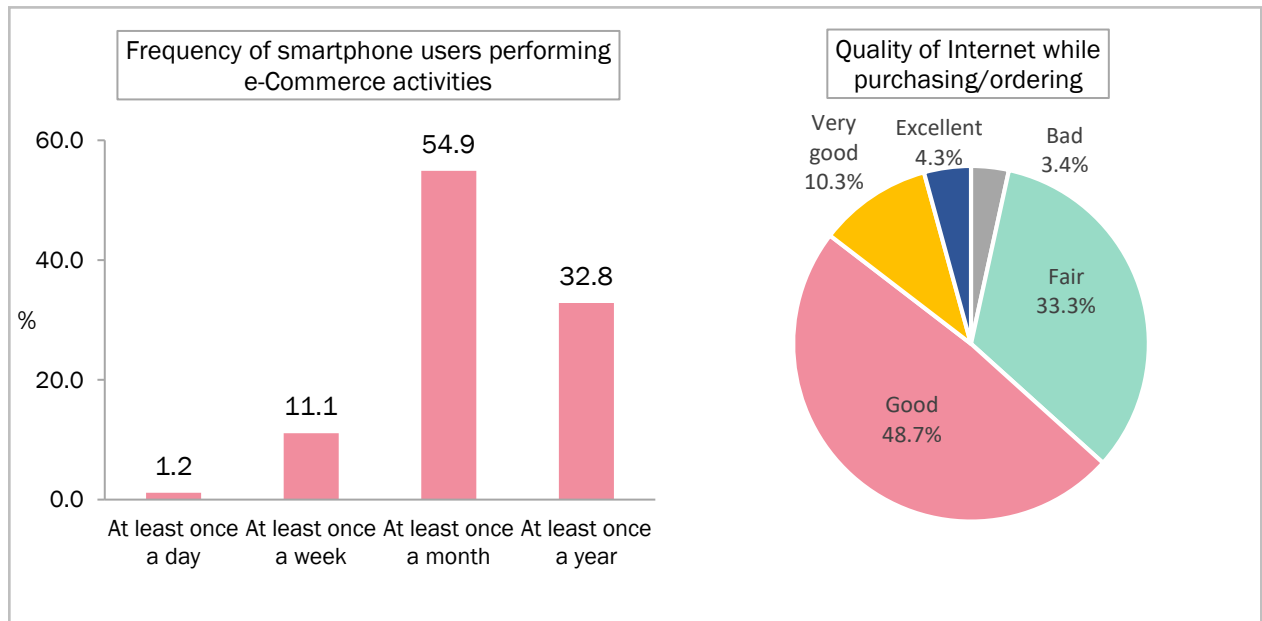


Figure 16: Frequency of smartphone users performing e-Commerce activities and quality of Internet while purchasing/ordering

Further, smartphone users who made online purchasing were asked about their perception on quality of the Internet while they made online purchasing. On average, the data suggests that users are satisfied with quality of the Internet, with 48.7% rate the quality as good followed by one third (33.3%) claimed the quality of Internet to be fair. About 10.3% claimed as very good while 4.3% said it is excellent. Only 3.4% rate the quality of Internet as bad while performing online purchases.

Issues on Mobile Content Services and SIM card registration

HPUS 2017 also includes Mobile Content Services (MCS)¹⁶ and Subscriber Identity Module (SIM) card registration. Under MCS section, the survey measures percentage of respondents subscribed to MCS, experience whereby their credit/bill being charged on MCS without their consent as well as their opinion on the relevancy of MCS. Meanwhile, in SIM Card Registration section, the survey focused on the level of difficulty on the process of SIM card registration in Malaysia.

Mobile Content Services

According to the Communications and Multimedia Consumer Forum of Malaysia (CFM), there has been a notable increase in the number of complaints over unsolicited or spam Short Message Service (SMS) in Malaysia in 2015¹⁷.

The survey found that 16.6% of hand phone users had subscribed or are subscribing to MCS with 50.8% on games, 50.3% on ringtones and 21.9% on wallpaper. A small number of respondents or 3.6% subscribed to sports, quizzes, fitness program and celebrity photos.

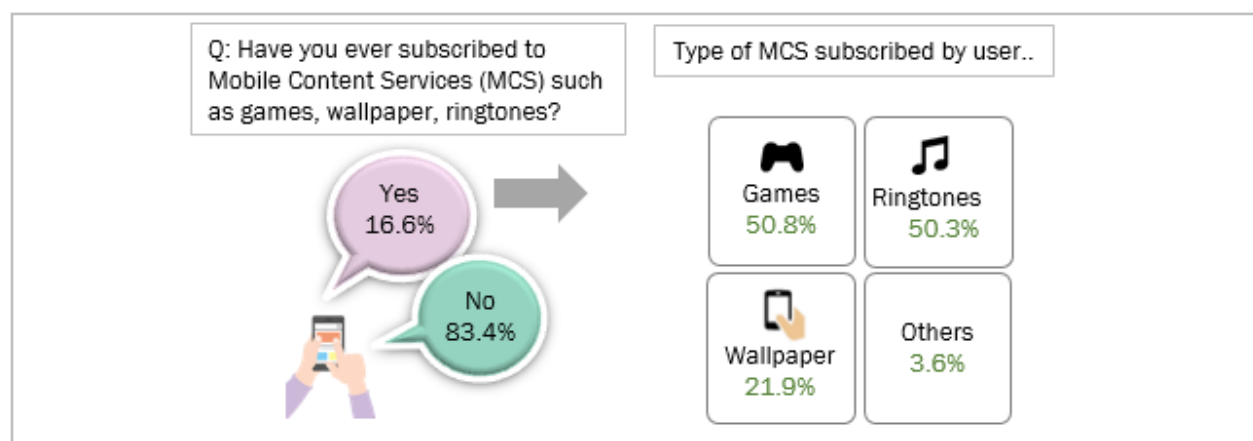


Figure 17: Percentage distribution of MCS subscribers by users

¹⁶ Mobile Content Services (MCS) has been defined in the Mandatory Standards for the Provision of Mobile Content Services, effective 1 July 2010, as any messaging service which provides content and is accessible on a mobile access device or fixed access device, for which charges may be imposed over and above the standard network charges of the relevant service provider. Source: MCMC

¹⁷ Digital News Asia (November 2015), "Spam SMS on the rise in Malaysia, CFM steps in". Retrieved from <https://www.digitalnewsasia.com/spam-sms-rise-malaysia-cfm-steps>

In view of consumers' welfare and rights, concern arises on the issue of sending unnecessary paid messages to unsuspecting mobile users. The Mandatory Standard (MS) for the Provision of MCS issued by MCMC took effect in July 2010. The MS are aimed at providing a balanced regulatory framework that can safeguard consumers interests by promoting responsible service provisioning as well as laying the foundation for a continued growth of mobile content industry¹⁸.

This survey further prompted the MCS subscribers on their experience being charged without consent. When asked about their experience being charged without their consent, 33.1% claimed to have been a victim. Of which, 38.4% of them mentioned the incident happened before 2015, followed by 22.9% and 20.9% in 2016 and 2017, respectively. The declining trends might be due to the extensive use of smartphone, whereby games, ringtone etc. can be downloaded free of charge or are built into the device.

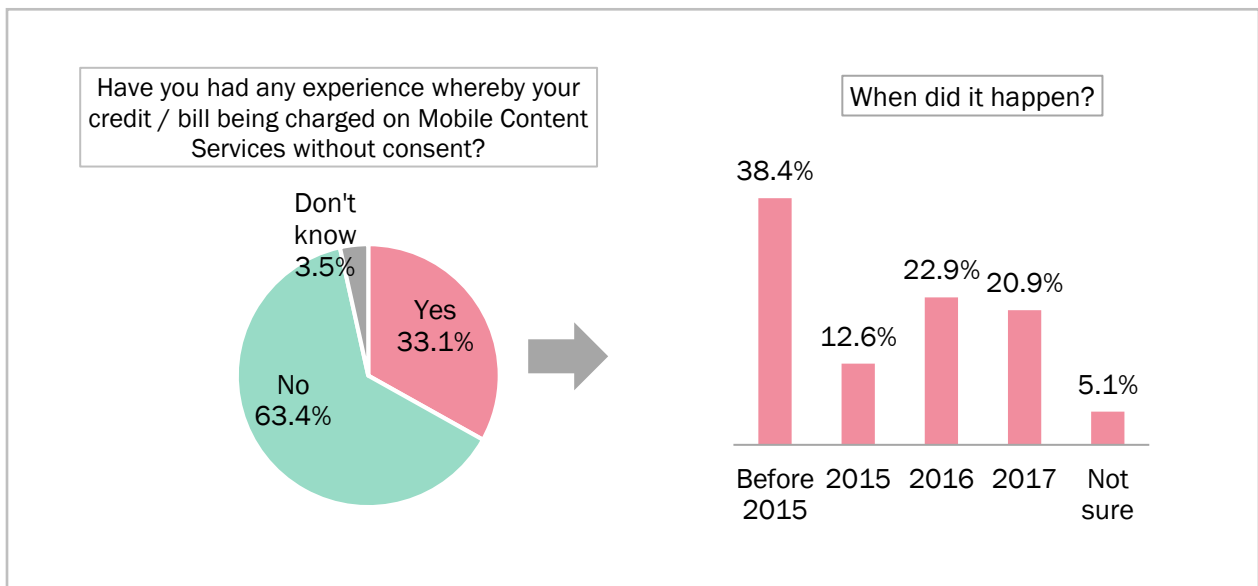


Figure 18: Percentage distribution of MCS subscribers being charged without consent

¹⁸ Convergence, Communications and Multimedia Policy and Regulatory Guide

The number of applications that are available in the market today has grown tremendously, from social networking, news, information and entertainment can be downloaded for free. Thus, the survey further gathered opinion of hand phone users whether MCS is still relevant. Based on Figure 19, it shows that the percentage of MCS subscribers who personally thought that MCS is relevant is almost equal with those who thought it is irrelevant (47.5% and 47.9%). Among those who said “No”, five-in-ten hand phone users mentioned that content can be downloaded via Internet, followed by 35.8% claimed that the content is not interesting and 32.2% said that it is no longer a trend.

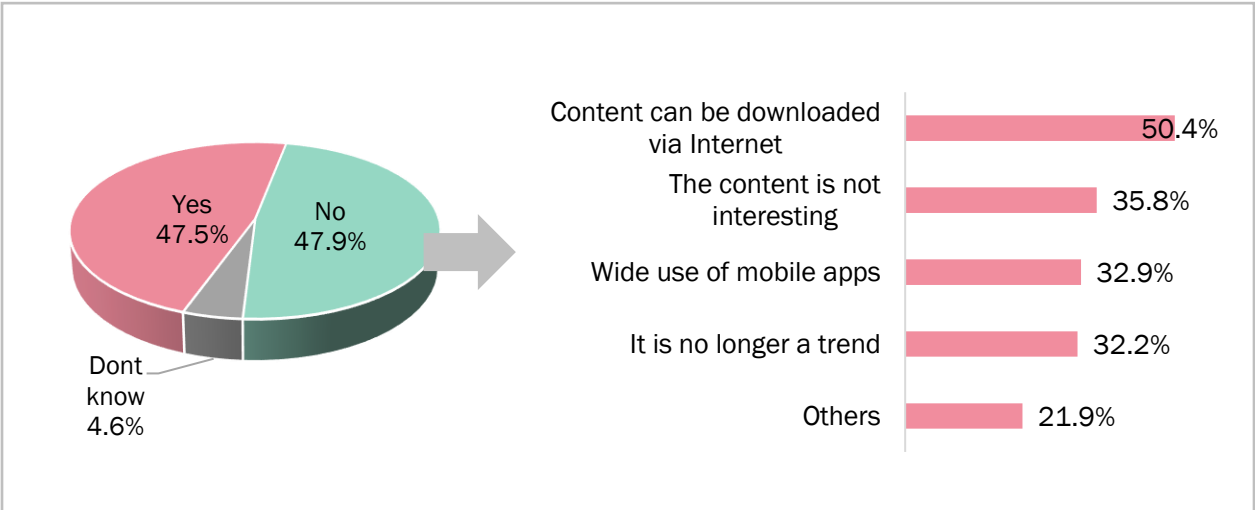


Figure 19: Percentage distribution of users by opinion on the relevancy of MCS

SIM card registration process

This part of the survey intends to gather opinion from hand phone users pertaining to the process of SIM card registration.

The process of SIM card registration in Malaysia is not complicated. To register, the users are required to visit their service providers’ service center, authorized agent or dealers with their mobile phone and identity card/passport for verification. Users are required to be personally present for registration; registration by proxy is not allowed. Registration will be done electronically

using either MyKad reader, Optical Character Recognition, Biometric Reader or any other automated platform as approved by the MCMC.

Results revealed that nearly 6 out of 10 (59.3%) hand phone users said the process was easy for them. Meanwhile, 17.8% considered the process as “very easy” and less than 10.0% said it was difficult. Nonetheless, the current process has caused a number of false registration incidents which led to security and data integrity issues. The verification exercise by MCMC which began in April 2017 and concluded at the end of May 2017 revealed, a total of 708,392 numbers were found to be unmatched.

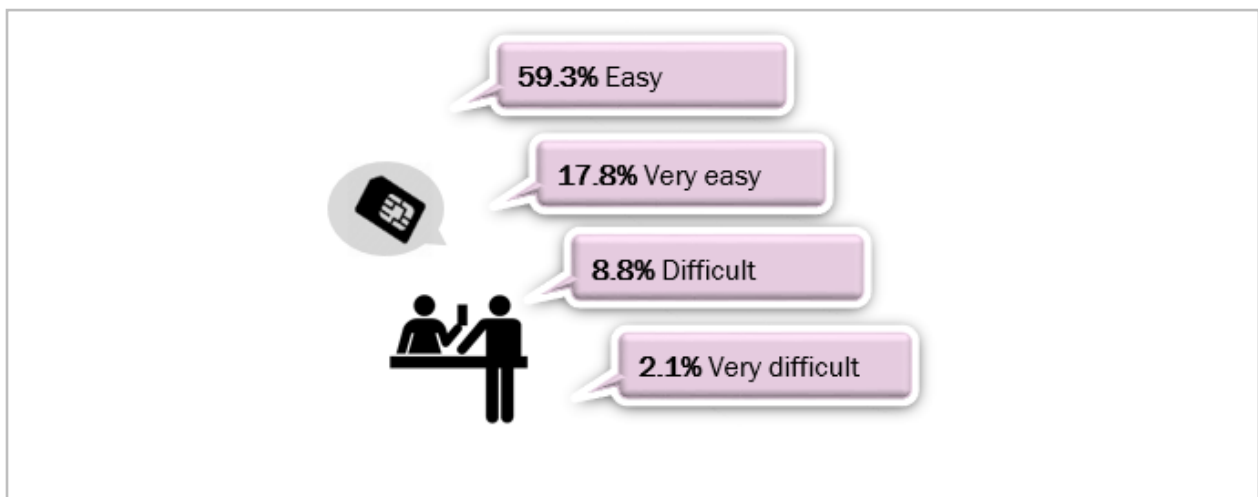


Figure 20: Percentage distribution of users by level of difficulty of SIM card registration

MCMC in collaboration with service providers had established an Industry Task Force for Data Verification, which aims to verify the integrity of prepaid subscriber’s database and to rectify unmatched data from service provider’s database.

As a result, MCMC had reviewed the Guidelines on Registration of End-Users of Prepaid Public Cellular Service, to further enhance the registration process and ensure that the interest and rights of consumers are being protected and looked after. The new guideline on prepaid registration issued by MCMC on June,1 2017 and took effect on January 1, 2018.

Awareness on *Klik Dengan Bijak* campaign

The evolution of technology has slowly taken an essential part in people's daily life. However, without proper use, it may be abused. Thus, it is very important to ensure the public use the Internet wisely. *Klik Dengan Bijak* (KDB) campaign is one of the proactive actions taken by MCMC in order to initiate a Public Awareness on Internet Safety campaign aimed for safety, security and responsibility:



SAFETY

To educate the public to use the internet in a secure manner.



SECURITY

To encourage people to be cautious when interacting online



RESPONSIBILITY

To promote a positive use of networked media content in the community

Source: www.klikdenganbijak.my

Thus, this segment attempts to identify the level of awareness among hand phone users on the KDB programme. The survey showed that 18.6% of hand phone users were aware of this programme. Among those who were aware, 38.5% had knowledge on the KDB programme.

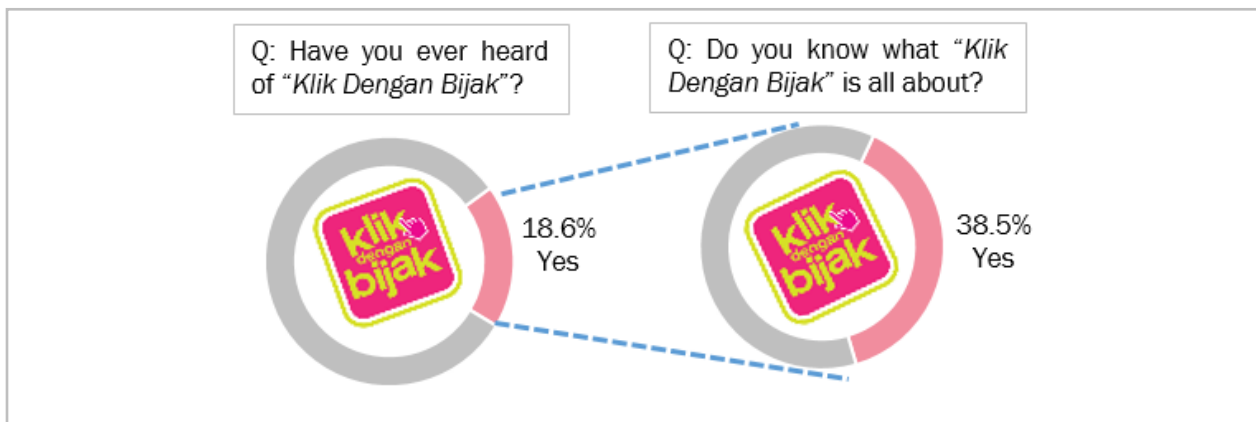


Figure 21: Awareness and Knowledge on KDB Programme among hand phone users

Postpaid and prepaid users

According to Communications and Multimedia Pocket Book of Statistics 2017, prepaid segment contributed the largest market share with 75.8%. In this section, prepaid users were asked whether they are aware on availability of itemized bills¹⁹. Majority (83.1%) of prepaid users do not know they can request for itemized billing from their service providers.

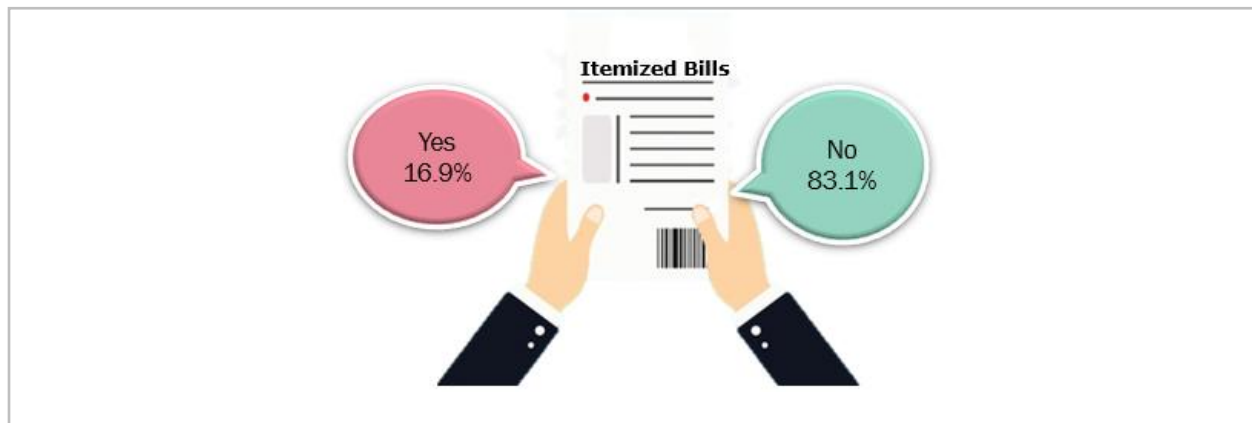


Figure 22: Percentage distribution of prepaid users on awareness on itemized bills for prepaid users

In terms of number of active SIM used by mobile phone users, the survey suggests that majority of users continue to use only one SIM and multiple SIM use is declining. Usage of one SIM increased to 68.0% as compared with 62.3% in HPUS 2014, up by 5.7 percentage points.

Meanwhile, for users with two SIMs, the percentage decreased by 3.6 percentage points during the same period. The same trend is seen for users with three, four and five SIMs.

¹⁹ Awareness on itemized bills was only asked to prepaid users

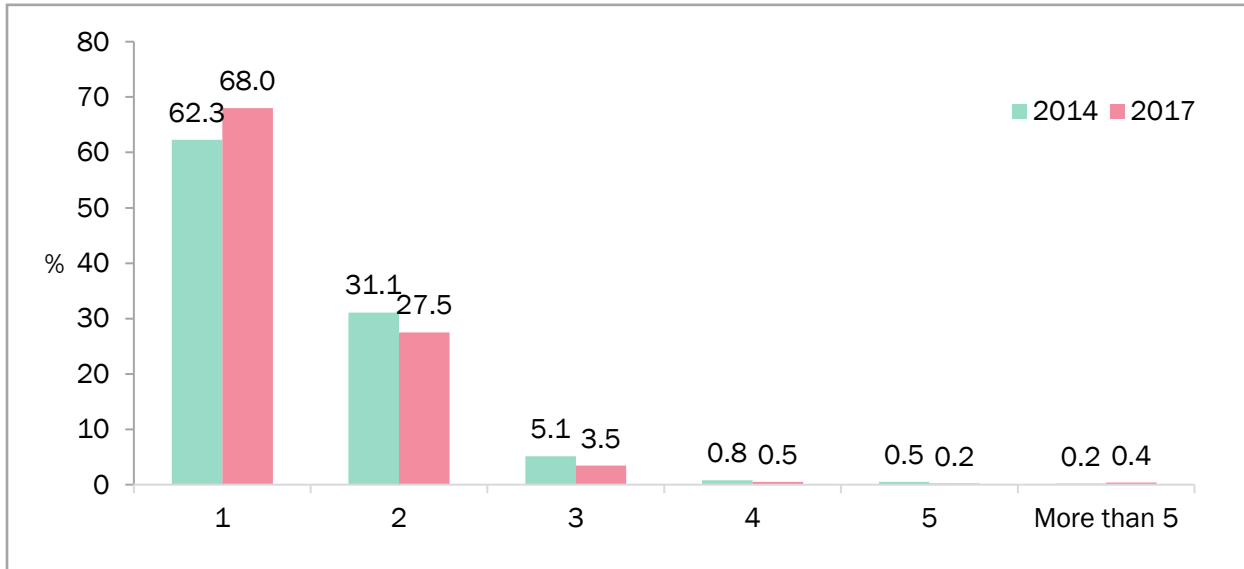


Figure 23: Percentage distribution of users by number of active SIMs

Whether we are subscribing to postpaid or prepaid plans, keeping track on the actual usage is very important. The survey further identified the monthly expenses on hand phone users bills (Figure 24)²⁰. More than half of hand phone users spent less than RM50 for their bills. Meanwhile, 26.7% spent between RM50 to RM100, 9.2% spent between RM100 to RM150, while 3.5% spent between RM150 to RM200. Only 5.8% had bills RM200 and above.

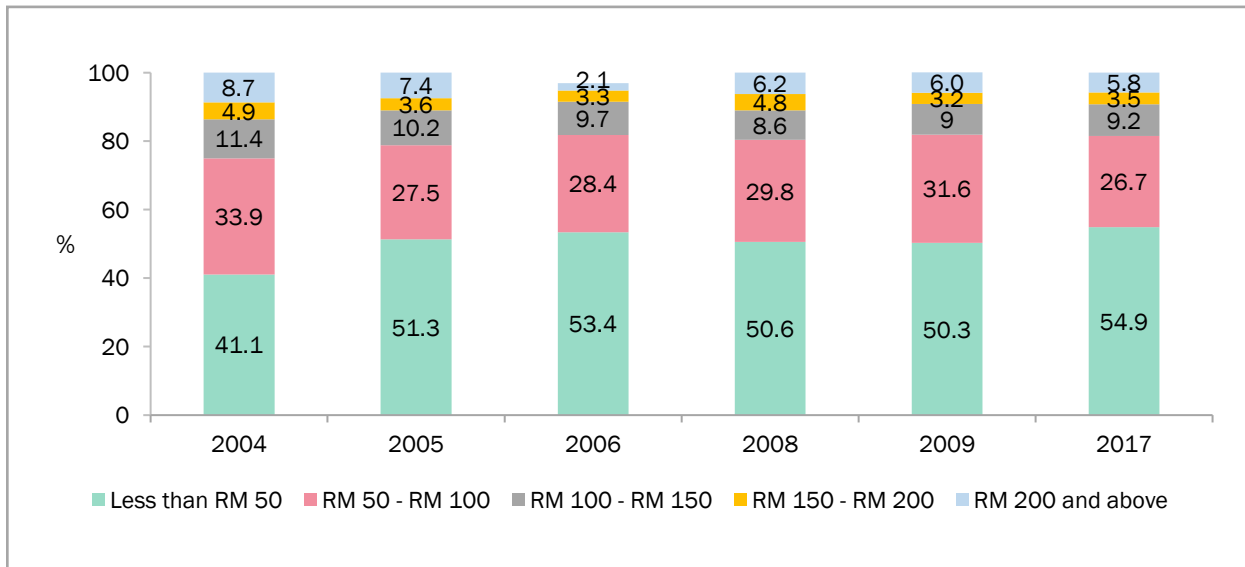


Figure 24: Percentage distribution of hand phone bills by users

²⁰ The hand phone bills are inclusive of GST

Managing mobile privacy

The survey also put an effort to understand concerns about breaching of personal information in the event of lost or stolen phone. It is found that “Losing Contact” (78.5%) and “No access to communication” (72.3%) were the top two concerns raised by the respondents in the event of losing their hand phones. Six out of ten users were concerned of misuse of their social network or email identity by others (66.8%). Meanwhile, 45.3% feared that their financials details would be stolen. Nonetheless, 2.7% have no concerns to all of the above.







					
78.5%	72.3%	66.8%	66.3%	61.1%	45.3%
Contacts	No access to communication	Misuse of identity (e.g. email, social network)	Cost and hassle (of replacing the phone)	Personal photos or text images	Account information (e.g. bank or financial account)

Figure 25: Percentage of users on mobile privacy concern

Note: 2.7% No worries

In addition, we also asked all smartphone users on steps taken to protect their personal data. Comparison with previous HPUS surveys show that awareness among consumers on the steps taken to protect their personal data have improved significantly. For instance, 64.5% of users are vigilant in protecting their hand phone using passwords compared to 53.8% in HPUS 2015, while 44.5% backed up their photos and contacts on their hand phone compared with 39.2% in HPUS 2015.







						
2015	53.8%	-	-	39.2%	29.4%	33.7%
2017	64.5%	57.5%	54.1%	44.5%	42.8%	42.1%
	Password protect (e.g. pin, draw pattern, fingerprint)	Don't use untrusted apps/websites	Don't send or access sensitive data from hand phone	Back up photo and contacts	Turn off the location tracking features	Clear browsing or search history

Figure 26: Percentage distribution of users on personal protection

Note: 19.0% do nothing

The survey further asked the hand phone users' opinion whether their personal data kept by their service provider is confidential, 52.7% of hand phone users personally believe that service providers kept their data confidential. Meanwhile, 21.7% mentioned that they did not feel that their personal data is safe with the service providers.

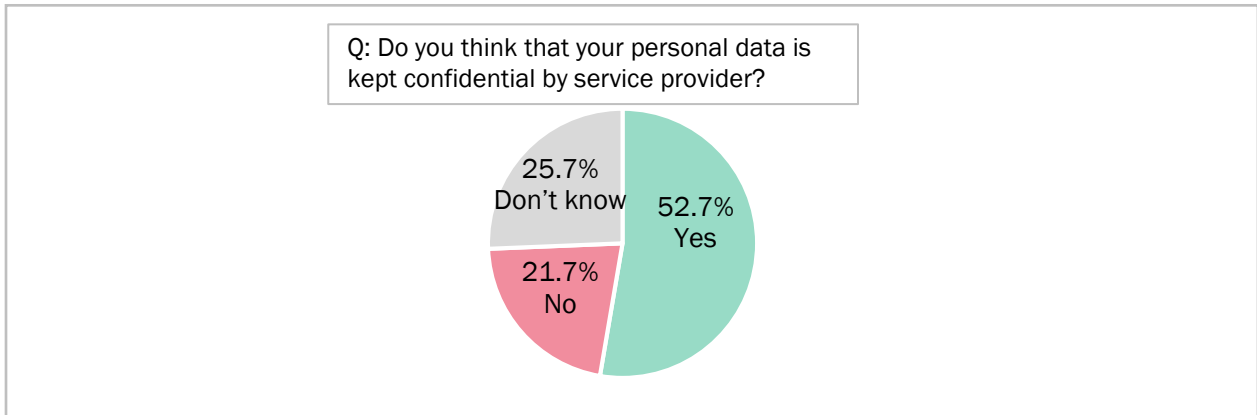


Figure 27: Percentage distribution of users' opinion on personal data kept by service providers is confidential.

Hand phone users behaviour

Few questions were asked related to users' dependency on their hand phone. Findings show at least 1 out of 4 hand phone users checked their phone constantly, even with no notification (24.9%).

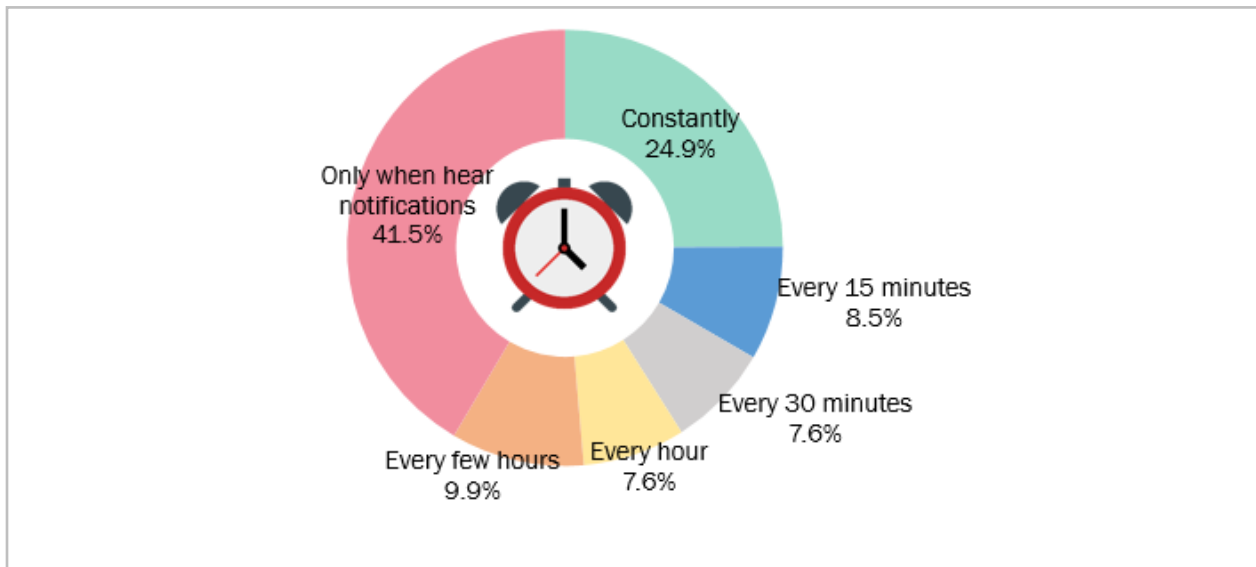


Figure 28: Percentage distribution of users on checking their phone in a day

More than three quarter of users, (77.3%) claimed they checked their hand phones before going to bed, or in the middle of the night, potentially affecting their sleep quality²¹. The survey also found that law-breaking behaviour of using hand phone while driving was admitted by 21.5% of users, with higher proportion of young adults aged 20 – 34 years old. Other than that, at least 5 in 10 hand phone users claimed they use their hand phone during meals (57.6%) and 5.6% admitted to use their phone where phone is prohibited such as at petrol station and cinema, particularly among youngsters (aged 20 years old and below).

²¹ The light affects the body's production of the sleep hormone melatonin, which makes it harder to fall asleep. Harvard Health Letter (May, 2012, Retrieved from <https://www.health.harvard.edu/staying-healthy/blue-light-has-a-dark-side>)

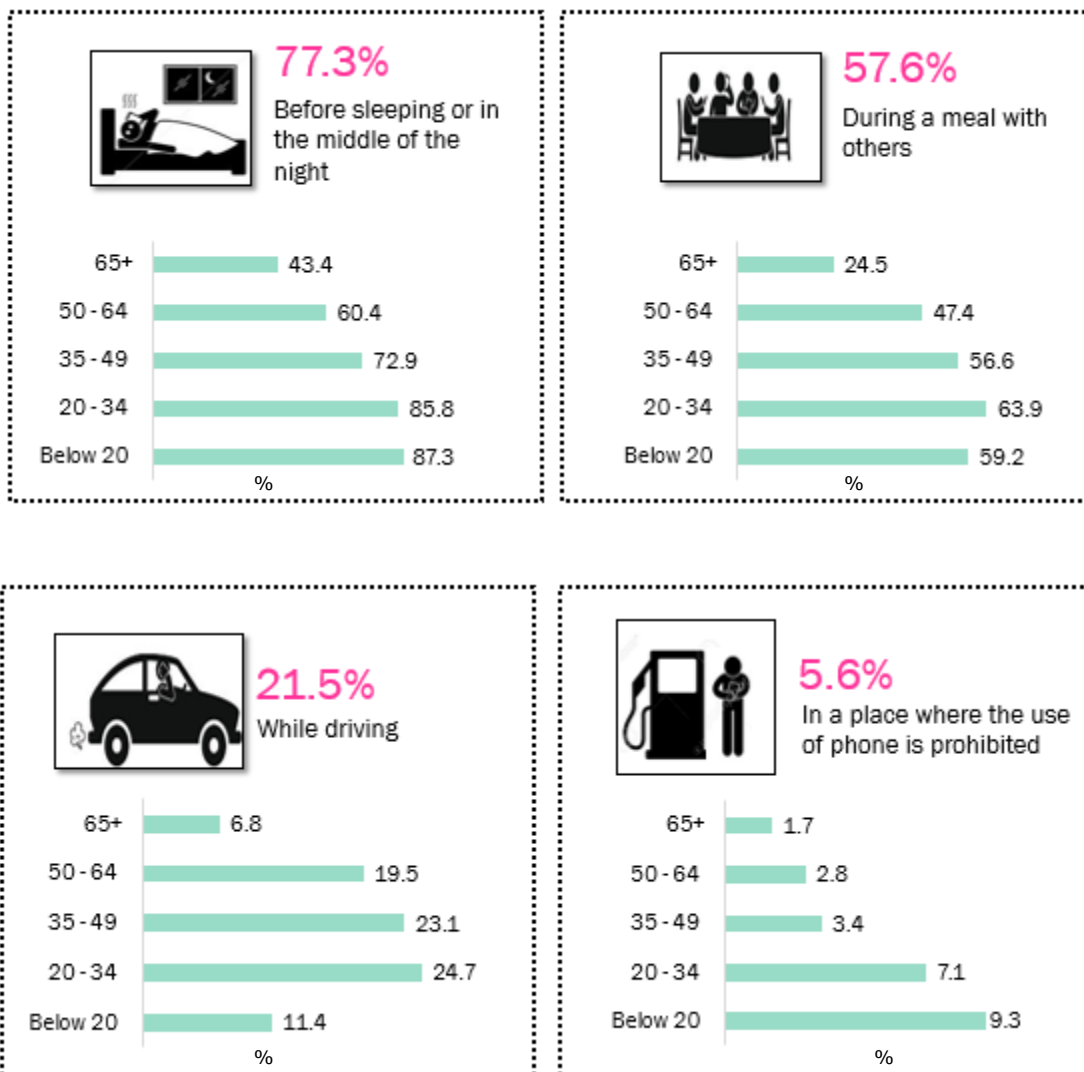


Figure 29: Percentage distribution of users using their phone while doing other activities

Further questions were asked on time taken to check their phone after waking up. Survey found that 81.3% of hand phone users can't last an hour to check their phones after wake up. Meanwhile, less than 20.0% of hand phone users took more than 1 hour before checking their hand phone after wake up²².

²² Note: 0.3% claimed they did not check at all



Figure 30: Percentage distribution of users checking their phone after waking up

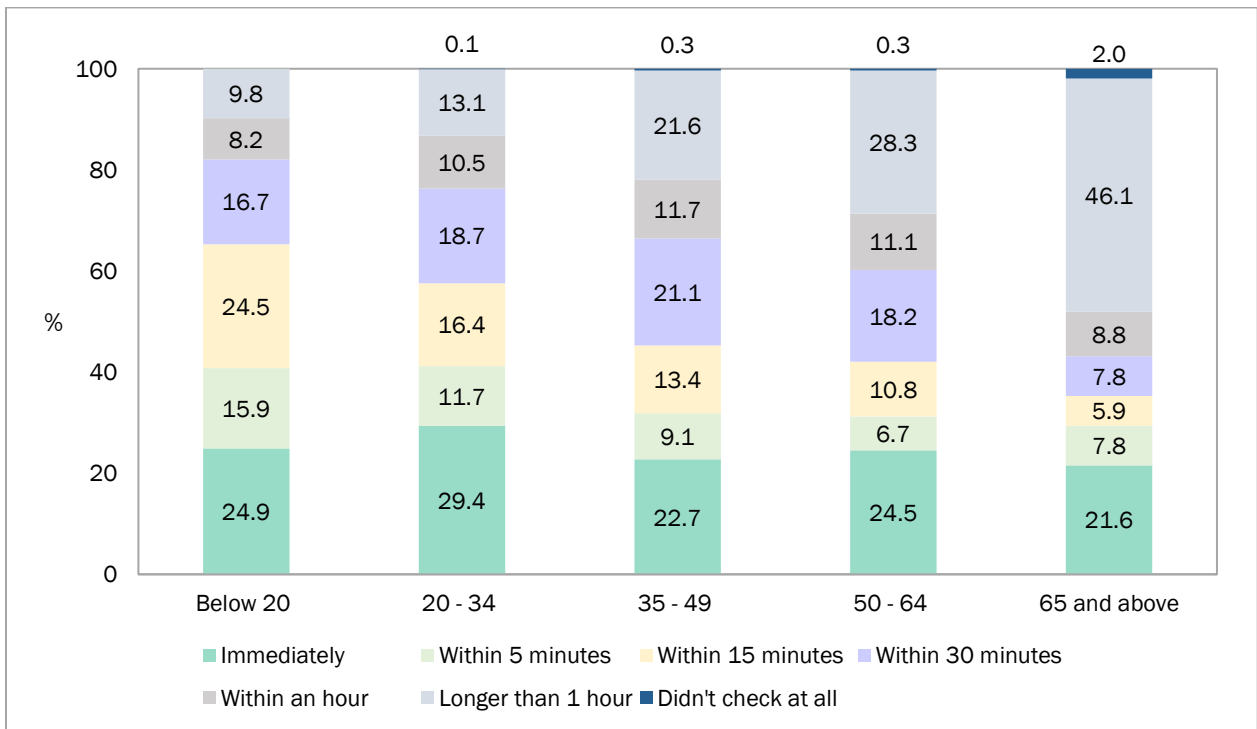


Figure 31: Percentage distribution of users checking their phone after waking up by age group

The survey further prompted on the first thing smartphone users do when they check their hand phone after waking up. Majority of the respondents (73.0%) claimed checking mobile messaging apps was the first thing they did after waking up. Meanwhile, 7.3% visit their social network and 5.6% check their missed calls. Less than 5.0% of respondents determine time using their smartphone (3.4%) and check their email after waking up (3.1%).

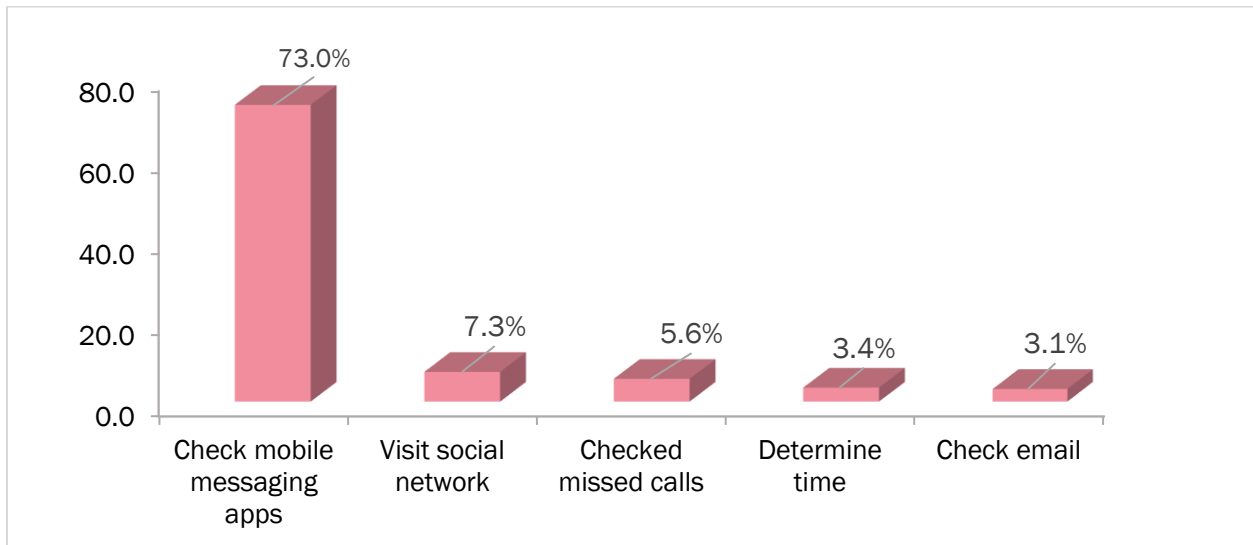


Figure 32: Percentage distribution of smartphone users on the first thing they check after waking up

Another trend behaviour this survey attempted to discover is users' attachment to their hand phone where respondents were asked if they ever turn back if they left their hand phones. Not surprisingly, the survey suggests that users have a strong attachment to their hand phones; especially among young adults with 85.8% of hand phone users would go back if they ever left their phone. Only 14.2% say they will not do so.

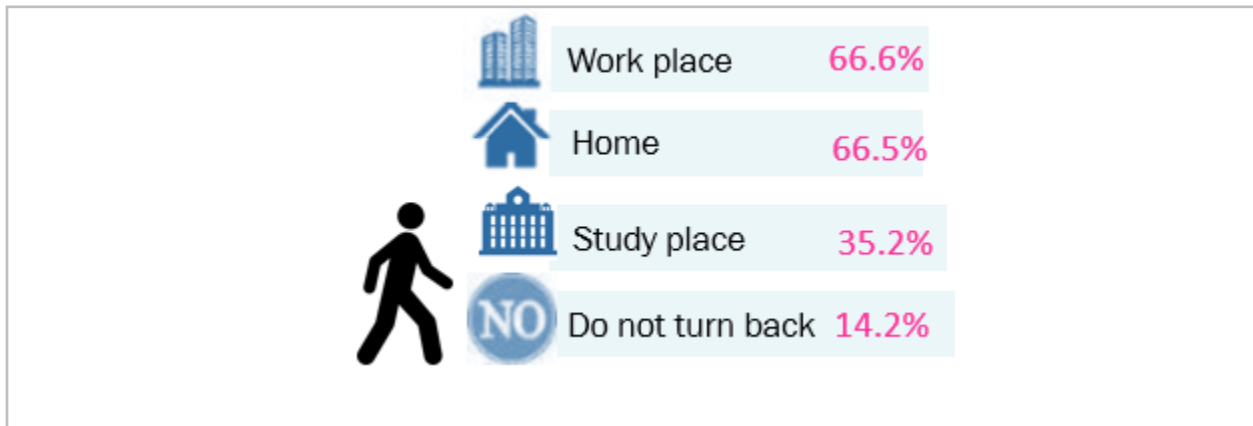


Figure 33: Percentage distribution of users on turning back if they ever left their phone

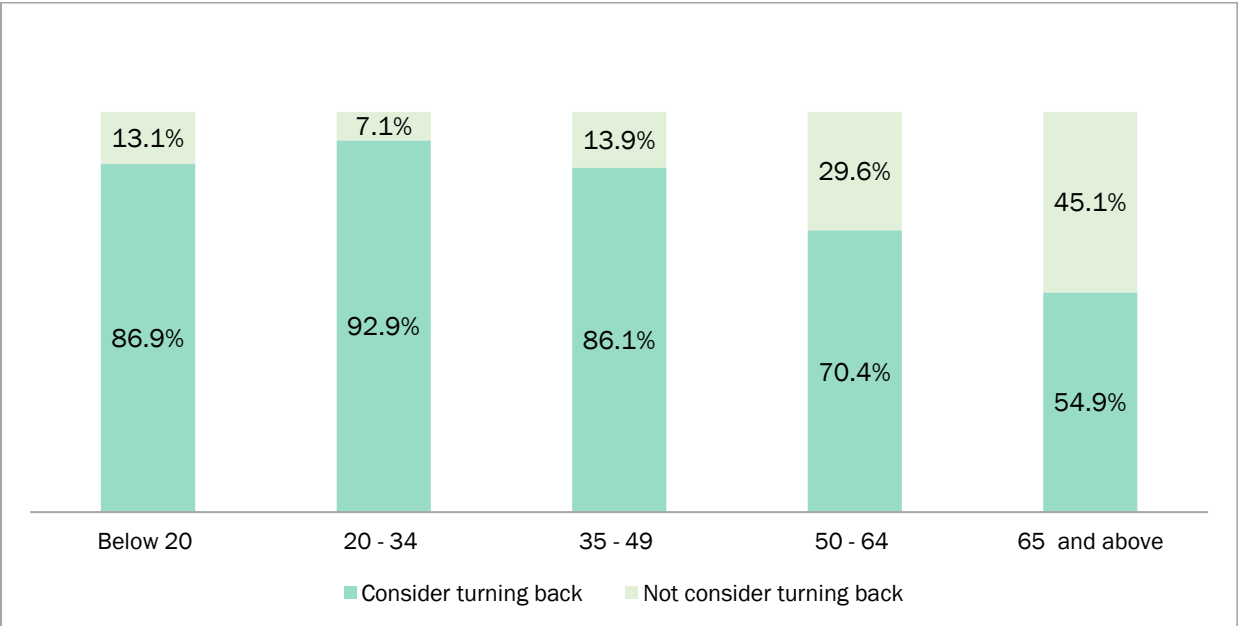


Figure 34: Percentage distribution of users on consideration of turning back if they ever left their phone, by age group

SECTION 5: RESPONDENTS' DEMOGRAPHIC

This section provides an overview of the demographic characteristics and socio economic profile of hand phone users. There are five (5) demographic variables discussed in this section, namely; gender, age at the time of the survey, residence, education level and income.

Table 6: Percentage distribution of hand phone users by basic characteristics

Background characteristic	Percent
Gender	
Male	58.9
Female	41.1
Broad Age Group	
Below 20 years old	10.1
20 – 34 years old	45.9
35 – 49 years old	26.4
50 – 64 years old	13.2
65 years old and above	4.5
Residence	
Urban	59.9
Rural	40.1
Region*	
Northern Region	19.4
Central Region	33.1
Southern Region	15.4
East Coast Region	13.4
Eastern Region	18.7
Educational Level**	
Primary	11.6
Secondary	49.6
Post-secondary	7.3
Tertiary	28.9

*Northern Region includes Kedah, Perak, Perlis and Pulau Pinang; Central Region includes Negeri Sembilan, Selangor, W.P. Kuala Lumpur and W.P. Putrajaya; Southern Region includes Johor and Melaka; East Coast Region includes Kelantan, Pahang and Terengganu; Eastern Region includes Sabah, Sarawak and W.P. Labuan

**Individuals with formal education only. Primary: Primary school, Secondary: SPM/SPVM and Lower Secondary: PT3/PMR, Post-Secondary: STPM/STAM/Certificate, Tertiary: Diploma, advanced diploma, degree and higher

Gender

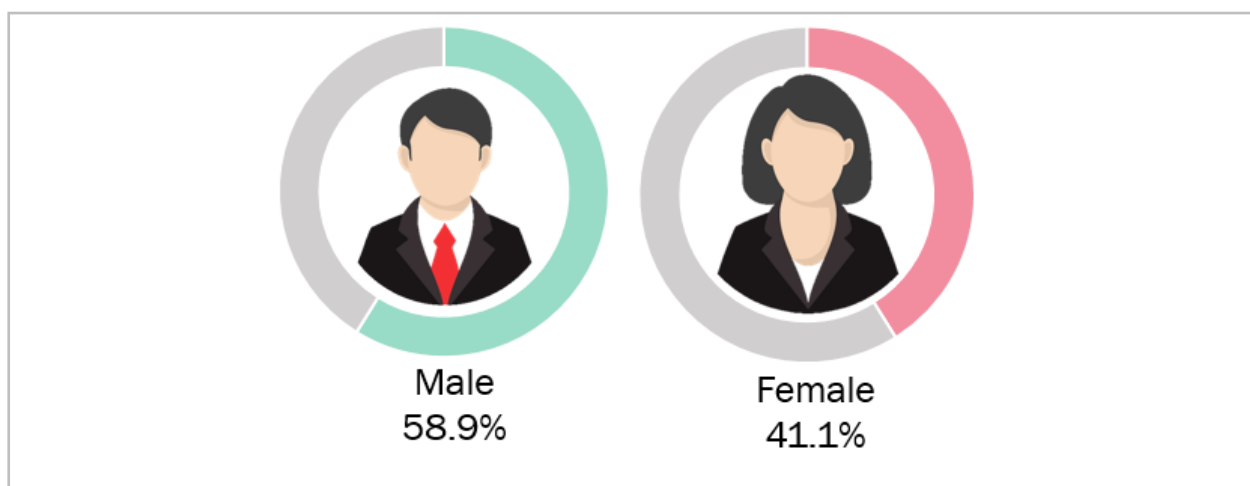


Figure 35: Percentage distribution by gender

Results revealed that male users have continued to outnumbered female users. Males made up 58.9% while females account for 41.1%, a ratio of 1.43. Hand phone usage by gender has recorded a stable trend throughout the year.

Table 7: Percentage distribution of hand phone users by gender

Gender	2011	2012	2013	2014	2015	2016	2017
Male (%)	55.2	56.5	57.6	56.9	56.9	56.9	58.9
Female (%)	44.8	43.5	42.4	43.1	43.1	43.1	41.1
Ratio	1.23	1.30	1.36	1.32	1.32	1.32	1.43

Age group

The HPUS 2017 results reflect the demographic profile of young adults, from the age group of 20–24 with 18.4% users. The second largest group was 25–29 which accounted for 14.2%. Meanwhile, the working age group (15-64 years old) represents 95.1%.

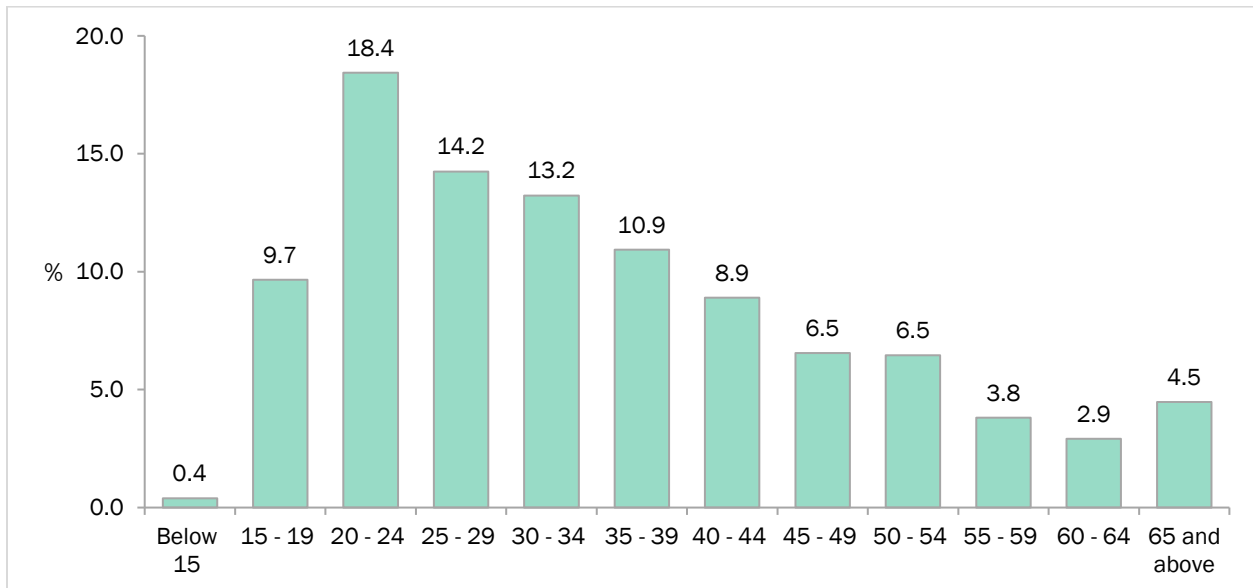


Figure 36: Percentage distribution of hand phone users by age category

Mobile-cellular telephone penetration rate by state

The percentage share of hand phone users' base by state was used to estimate mobile-cellular telephone penetration rate per 100 inhabitants by state. Table 8 below shows all states except W.P. Labuan have recorded penetration rate above 100% in 2017.

Table 8: Mobile-cellular telephone penetration rate per 100 inhabitants by state

State	2013	2014	2015	2016	2017	Trends
Johor	140.9	156.7	129.6	143.3	137.2	
Kedah	137.0	121.9	142.0	120.1	101.6	
Kelantan	127.9	117.5	159.6	119.6	121.5	
Melaka	115.0	159.2	140.0	137.6	151.3	
Negeri Sembilan	167.2	153.3	141.6	150.6	150.1	
Pahang	130.0	148.3	160.9	127.0	109.0	
Perak	122.4	149.2	120.9	124.1	133.4	
Perlis	123.5	103.7	143.0	126.2	171.7	
Pulau Pinang	162.2	143.8	146.8	146.6	127.9	
Sabah	111.9	107.4	130.2	116.9	112.4	

State	2013	2014	2015	2016	2017	Trends
Sarawak	120.8	113.0	123.5	132.0	124.2	
Selangor	164.5	156.1	157.2	164.7	138.2	
Terengganu	141.7	156.5	165.5	132.7	133.1	
WP Kuala Lumpur	231.2	220.8	205.0	206.0	185.7	
WP Labuan	91.3	171.2	133.8	122.6	99.8	
WP Putrajaya	103.3	191.3	210.0	150.2	112.4	

Urban-rural distribution

The survey found that there is marginal disparity of hand phone users between those who are living in urban and rural areas. The ratio of urban and rural hand phone users is 1.5 to 1 in 2017.

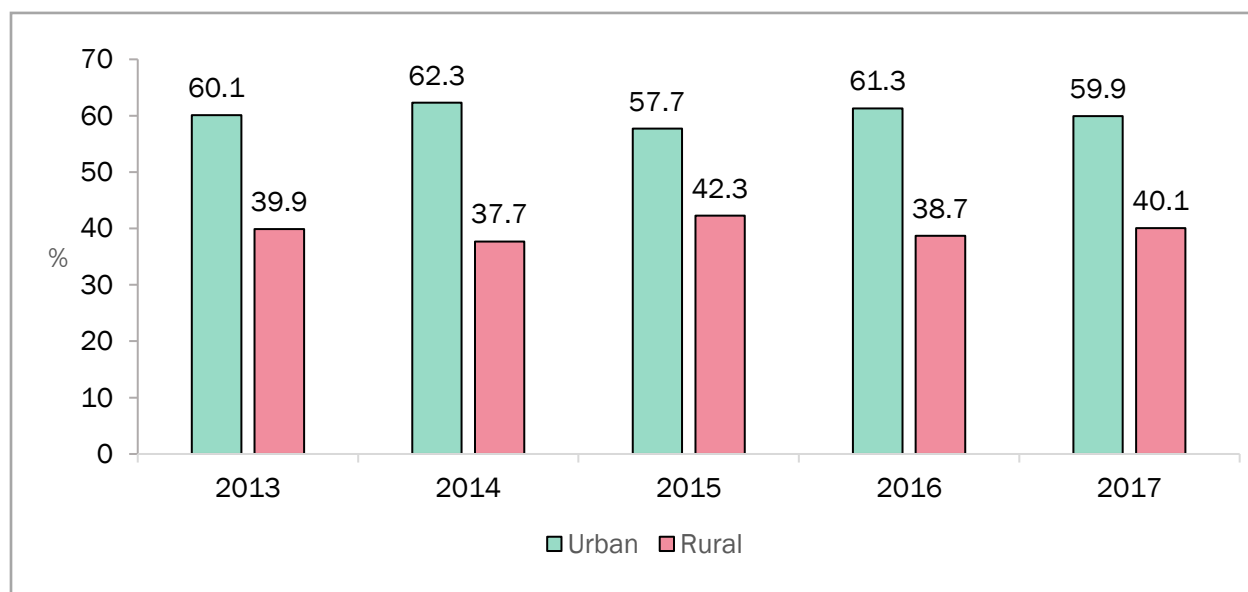


Figure 37: Percentage distribution of the user by rural-urban dissection

Income category

The highest percentage of income range for hand phone users remained at RM 1,000 – RM 3,000 (39.3%). Meanwhile, the percentage of hand phone users with income above RM 3,000 increased from 12.4% in 2015 to 17.7% in 2017.

Table 9: Percentage distribution of hand phone users by monthly income

Income Category (%)	2012	2014	2015	2016	2017
Dependents	33.7	30.7	32.9	35.2	29.9
RM1,000 and below	19.6	17.4	19.8	15.2	12.9
RM1,000-RM3,000	36.5	36.6	34.9	32.6	39.3
RM3,000-RM5,000	7.2	10.1	8.6	10.2	11.3
RM 5,000 and above	3.0	5.2	3.8	6.8	6.4

Note: Income range includes lower boundary and dependents are those with no recurrent income.

SECTION 6: CONCLUSION

Smartphone users have doubled during the past five years (2013: 37.4%, 2017: 75.9%). The growth was primarily contributed by extensive mobile broadband coverage and intense competition, which has significantly dropped the mobile broadband packages. For instance, entry-level package for prepaid market dropped from RM28@1GB to RM20@1.5GB. Meanwhile for postpaid market, the entry-level package dropped from RM28@1GB to RM28@3GB²³. In addition, smartphone prices have been made affordable by the service providers' innovative packages. Hence, it is encouraging hand phone users to migrate to smartphone coupled with their demand for various digital services.

Wider adoption of smartphone in terms of usage as well as growing number of mobile apps, e-commerce transactions will be conducted on the go via smartphone. Thus, businesses should take this as an opportunity to leverage on the mobile platform. Necessary adjustment is required in order for the businesses to embrace this shift and remain competitive in the landscape of digital economy.

On the other hand, more than half (63.2%) of feature phone users remain loyal to their device as they have no intention to change to smartphone. Majority of them claimed their phones serve their needs. Thus, it can be deduced that 2G network is still needed to support basic and feature phone users who are mainly from the low income group with household income of RM1,000 and below (including foreign workers) as well as group of users aged 65 years old and above.

²³ Comparison of entry level packages between Jan 2015 and Dec 2017

Awareness to protect personal data among Malaysians has improved as compared to data gathered in 2015. Various preventive measures were seen to be taken by hand phone users to protect their personal data. For instance, 64.5% of users were vigilant in protecting their hand phone using passwords compared to 53.8% in HPUS 2015, while 44.5% backed up their photos and contacts on their hand phone compared with 39.2% in HPUS 2015.

High dependency on hand phone was observed among respondents, in particular the youngsters. For instance, more than 80% of them feel anxious and would go back if they had left their phone, waking up in the middle of the night to check their phone and could not last an hour to check their phone after waking up. Awareness and education campaigns on the consequences of too high dependency on hand phone need to be continued. Outreach programs such as *Klik Dengan Bijak* is the best platform to reach consumers for this purpose.

SECTION 7: TABLES

Caution is required in the use of the estimates tabulated below.

While the MCMC takes every care to minimise non-sampling errors, which cannot be quantified, the estimates presented are also subject to sampling error, which is a measure of the chance variation that occurs because a sample, and not the entire population is canvassed. The sampling error of an estimate is usually expressed as a percentage of that estimate to give the relative sampling error (RSE) of that estimate.

In general, estimates that are small are subject to high RSEs. As a guide, only estimates with RSEs of 25% or less are considered reliable for general use. Estimates with RSEs greater than 25% but less than or equal to 50% are denoted with asterisks in these tables and should be used with caution; while estimates with RSEs greater than 50% are denoted by two asterisks and are considered too unreliable for general use. However, these estimates may be aggregated with others until an RSE of less than 25% is obtained.

Confidence intervals for very small estimates should be based on the binomial distribution rather than the normal approximation to the binomial. As an alternative, the method of Korn and Graubard, 1998 may also be used.

Percentages may not add up to 100 because of rounding.

Table 1

Types of users	Percent	RSE
Use feature phone	31.0	3.0
Use smartphone	75.9	1.1

Multiple response

Table 2

Period of using smartphone	Percent	RSE
Less than 1 year	13.4	6.0
1 - 2 years	18.3	4.9
2 - 4 years	21.1	4.5
4 years and above	47.2	2.5

Table 3

Ownership by type of hand phone	Percent	RSE
Own feature phone	30.2	3.1
Own smartphone	74.0	1.2

Multiple response

Table 4

Adoption on smartphone ownership by age group	Percent	RSE
Below 20 years old	86.9	2.5
20 – 34 years old	84.8	1.3
35 – 49 years old	68.0	2.7
50 – 64 years old	53.5	5.2
65 years old and above	28.6	15.3

Table 5

Adoption on smartphone ownership by income category	Percent	RSE
RM 5000 and above	92.8	2.3
RM 3,000 - RM 5,000	87.1	2.4
RM 1,000 - RM 3,000	75.8	1.9
RM 1,000 and below	55.4	5.1
Dependent	70.5	2.4

Table 6

Adoption on smartphone ownership by education level	Percent	RSE
Tertiary	93.8	1.0
Post-Secondary	80.1	3.8
Secondary	71.2	1.8
Primary	42.9	6.9
Others	47.5	34.3*
None	26.7	22.3

Table 7

Total number of smartphone owned by respondent	Percent	RSE
1	77.2	1.3
2	17.7	5.1
3	3.5	12.4
4	0.7	27.9
5	0.4	36.4*
More than 5	0.4	37.7*

Table 8

Reason own more than 1 smartphone	Percent	RSE
To separate between personal and office use	54.9	4.5
For travelling purposes	14.6	12.0
To access Internet without any data plan (eg: WiFi)	22.7	9.2
Use it as a back up	40.9	6.0
Given by someone	12.8	13.0
Others	16.4	11.2

Multiple response

Table 9

Feature phone users by income category	Percent	RSE
RM 5000 and above	6.1	32.0*
RM 3,000 - RM 5,000	20.9	11.9
RM 1,000 - RM 3,000	32.0	4.8
RM 1,000 and below	47.6	6.0
Dependent	31.6	5.5

Table 10

Feature phone users by nationality	Percent	RSE
Malaysian	29.5	3.3
Non-Malaysian	43.8	7.2

Table 11

Feature phone users by age group	Percent	RSE
Below 20 years old	12.4	17.1
20 - 34 years old	21.0	5.8
35 - 49 years old	38.3	5.0
50 - 64 years old	51.0	5.5
65 years old and above	73.7	5.8

Table 12

Reason for still using feature phone	Percent	RSE
Feature phone serve my needs	81.6	2.0
Smartphone is expensive	26.5	6.9
Network coverage for 4G/LTE is not available/weak	6.6	15.7
Restriction from parents	1.3	36.5*
Smartphone can be addictive	8.1	14.0
Others	11.0	11.8

Multiple response

Table 13

Intention to change to smartphone	Percent	RSE
Yes	36.8	5.4
No	63.2	3.2

Table 14

Using hand phone to access Internet	Percent	RSE
Access Internet using feature phone	20.6	7.2
Access Internet using smartphone	94.8	0.5

Multiple response

Table 15

Feature phone enabled 3G	Percent	RSE
Yes	61.3	6.4
No	33.3	11.4
Don't know	5.4	33.5*

Table 16

Activities conducted on smartphones	Percent	RSE
Text Messaging and Voice Note (eg,SMS,Whatsapp, WeChat,etc)	98.5	0.3
Voice calls (Normal calls, Whatsapp call, etc)	93.8	0.6
Video calls (Normal video calls, Face time, Whatsapp Video Call, etc)	53.4	2.2
Send or receive emails	60.0	2.0
Social networking	88.1	0.9
Searching/browsing the Internet (Facebook, Instagram, Twitter, etc)	87.5	0.9
Banking	37.5	3.1
Entertainment (watching videos or movies, play games, listen to music)	83.7	1.1
Reading (Newspaper, iBook, online journals)	49.7	2.4
Get directions (Waze, Google Map)	73.6	1.4
View and manage security camera	8.2	8.1
Others	0.7	28.4*

Multiple response

Table 17

Smartphone users made online purchases	Percent	RSE
Yes	28.4	3.7
No	71.6	4.6

Table 18

How smartphone users did the purchasing/ ordering on E-commerce	Percent	RSE
Via Mobile website	47.1	4.7
Via Mobile apps	69.5	3.0

Multiple response

Table 19

How often smartphone users made online purchasing/ordering	Percent	RSE
At least once a day	1.2	40.7*
At least once a week	11.1	12.4
At least once a month	54.9	4.0
At least once a year	32.8	6.3

Table 20

Smartphone users made online purchases by age category	Percent	RSE
Below 20 years old	23.7	6.1
20 - 34 years old	30.9	2.2
35 - 49 years old	17.0	3.4
50 - 64 years old	6.4	5.3
65 years old and above	0.0	9.7

Table 21

The quality of Internet while purchasing/ ordering	Percent	RSE
Bad	3.4	23.3
Fair	33.3	6.2
Good	48.7	4.5
Very good	10.3	13.0
Excellent	4.3	20.8

Table 22

Mobile Content Services (MCS) subscribers	Percent	RSE
Yes	16.6	4.6
No	83.4	0.9

Table 23

Types of MCS subscribed	Percent	RSE
Games	50.8	5.0
Wallpaper	21.9	9.5
Ringtones	50.3	5.1
Others	3.6	26.1*

Multiple response

Table 24

Experience whereby respondents' credit/bill being charged of MCS without consent	Percent	RSE
Yes	33.1	2.9
No	63.4	1.6
Don't know	3.5	10.8

Table 25

Years being charged of MCS without consent	Percent	RSE
Before 2015	38.4	4.5
2015	12.6	9.3
2016	22.9	6.5
This year (2017)	20.9	6.9
Not sure	5.1	15.2

Table 26

Opinion on the relevancy of MCS	Percent	RSE
Yes	47.5	2.1
No	47.9	2.1
Don't know	4.6	9.3

Table 27

Why users think MCS is not relevant	Percent	RSE
Wide use of mobile apps	32.9	4.2
Content can be downloaded via Internet	50.4	2.9
It is no longer a trend	32.2	4.3
The content is not interesting	35.8	3.9
Others	21.9	5.6

Multiple response

Table 18

Experience on level of difficulty of SIM Card registration	Percent	RSE
Very easy	17.8	4.4
Easy	59.3	1.7
Difficult	8.8	6.6
Very difficult	2.1	13.9

Table 19

Awareness on "Klik Dengan Bijak" campaign	Percent	RSE
Yes	18.6	4.3
No	81.4	1.0

Table 20

Knowledge on "Klik Dengan Bijak" campaign	Percent	RSE
Yes	38.5	6.0
No	61.5	3.7

Table 21

Awareness on itemized bills for prepaid users	Percent	RSE
Yes	16.9	5.4
No	83.1	1.1

Table 22

Number of active SIM Card	Percent	RSE
1	68.0	1.4
2	27.5	3.3
3	3.5	10.8
4	0.5	29.0*
5	0.2	46.3*
More than 5	0.4	33.0*

Table 23

Total hand phone bill per month	Percent	RSE
Less than or equal RM50	54.9	1.9
RM 50 - RM 100	26.7	3.4
RM 100 - RM 150	9.2	6.5
RM 150 - RM 200	3.5	10.8
RM 200 and above	5.8	8.3

Table 24

Mobile privacy biggest concern	Percent	RSE
Contacts	78.5	1.1
Misuse of identity (e.g. email, social network)	66.8	1.4
Cost & Hassle (of replacing the phone)	66.3	1.5
Account information (Bank or financial account information exposed)	45.3	2.2
Personal photos	61.1	1.6
No access to communication	72.3	1.3
Others	4.9	9.0
No worries	2.7	12.3

Multiple response

Table 25

Action taken to protect personal data on hand phone	Percent	RSE
Password protect (pin, draw pattern, fingerprint)	64.5	1.5
Back up photo and contacts	44.5	2.3
Clear the browsing history or search history	42.1	2.4
Turn off the location tracking feature	42.8	2.4
Don't use untrusted apps/websites	57.5	1.8
Don't send or access sensitive data from hand phone	54.1	1.9
Do nothing	19.0	4.2

Multiple response

Table 26

Opinion on whether personal data that kept by service provider is confidential	Percent	RSE
Yes	52.7	1.9
No	21.7	3.9
Not sure	25.7	3.5

Table 27

Frequency to check phone in a day	Percent	RSE
Constantly	24.9	3.5
Every 15 minutes	8.5	6.7
Every 30 minutes	7.6	7.1
Every hour	7.6	7.1
Every few hours	9.9	6.2
Only when hear notifications	41.5	2.4

Table 28

Use hand phone while..	Percent	RSE
While driving	21.5	3.9
While attending class/college	20.5	4.0
During a meal with others (family, friends, etc)	57.6	1.8
On public transportation	59.4	1.7
In a place of where use of phone is prohibited (eg: petrol kiosk)	5.6	8.4
While queuing (eg: queuing at the ATM machine)	40.8	2.5
While walking (eg: crossing the roads)	35.8	2.7
Public area (eg: hospital, cinema)	60.8	1.6
Before sleeping or in the middle of the night	77.3	1.1

Multiple response

Table 29

How soon respondent check hand phone after waking up	Percent	RSE
Immediately	26.3	3.4
Within 5 minutes	10.7	5.9
Within 15 minutes	15.3	4.8
Within 30 minutes	18.5	4.3
Within an hour	10.5	6.0
Longer than 1 hour	18.4	4.3

Table 30

The first thing to do after waking up	Percent	RSE
Check mobile messaging apps	73.0	1.4
Visit social network	7.3	8.3
Check email	3.1	13.1
Determine time	3.4	12.4
Checked missed calls	5.6	9.6

Table 31

Consideration of respondents to turn back if they left their phone at...	Percent	RSE
Work place	66.6	1.4
Study place	35.2	2.8
Home	66.5	1.4
Do not consider to turn back if they left their phone	14.2	5.0

Multiple response

Table 32

Gender distribution of hand phone users	Percent	RSE
Male	58.9	1.7
Female	41.1	2.4

Table 33

Age group distribution of hand phone users	Percent	RSE
Below 15 years old	0.4	32.3*
15 - 19 years old	9.7	6.2
20 - 24 years old	18.4	4.3
25 - 29 years old	14.2	5.0
30 - 34 years old	13.2	5.2
35 - 39 years old	10.9	5.8
40 - 44 years old	8.9	6.5
45 - 49 years old	6.5	6.3
50 - 54 years old	6.5	3.9
55 - 59 years old	3.8	10.3
60 - 64 years old	2.9	11.8
65 and above	4.5	9.4

Table 34

Urban and rural distribution of hand phone users	Percent	RSE
Rural	40.1	2.5
Urban	59.9	1.7

Table 35

Monthly income category distribution of hand phone users	Percent	RSE
RM 5000 and above	6.4	7.9
RM 3,000 - RM 5,000	11.3	5.8
RM 1,000 - RM 3,000	39.3	2.6
RM 1,000 and below	12.9	5.3
Dependent	29.9	3.2

Table 36

Highest level of education distribution of hand phone users	Percent	RSE
Degree or higher (include Advance Diploma)	14.8	4.9
Diploma	14.1	5.0
STPM/STAM/Certificate/UEC-Senior Middle Three	7.3	7.4
SPM/SPVM	30.0	3.1
Sijil 4 Thanawi /SMA	0.6	26.2*
PMR/UEC-Junior Middle Three	8.1	6.9
Secondary school	10.9	5.8
Primary school	11.6	5.6
Others	0.4	32.6*
None	2.3	13.3

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LIST OF ABBREVIATIONS

CATI	Computer Assisted Telephone Interview
CCTV	Closed-circuit television
DOSM	Department of Statistics Malaysia
EDGE	Enhanced Data for Global Evolution
GfK	Growth from Knowledge
IDC	International Data Cooperation
IMEI	International Mobile Equipment Identity
IoT	Internet of Things
ITU	International Telecommunication Union
IUS	Internet Users Survey
KDB	<i>Klik Dengan Bijak</i>
MCMC	Malaysian Communications and Multimedia Commission
MCS	Mobile Content Services
MS	Mandatory Standard
MISR	Measuring of Information Society Report
MSISDN	Mobile Station International Subscriber Directory Number
RSE	Relative sampling error
SRS	Simple Random Sampling
SMS	Short Message Services
USSD	Unstructured Supplementary Service Data

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