SURUHANJAYA KOMUNIKASI DAN MULTIMEDIA MALAYSIA
MALAYSIAN COMMUNICATIONS AND MULTIMEDIA COMMISSION

HAND PHONE USERS SURVEY 2018

MALAYSIAN COMMUNICATIONS AND MULTIMEDIA COMMISSION, 2018

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Published by:
Malaysian Communications and Multimedia Commission
MCMC Tower 1, Jalan Impact, Cyber 6
63000 Cyberjaya, Selangor Darul Ehsan
Tel: +60 3 8688 8000 Fax: +60 3 8688 1000
Aduan MCMC: 1-800-188-030
http://www.mcmc.gov.my

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SECTION 1: EXECUTIVE SUMMARY

Since 2004, Malaysian Communications and Multimedia Commission (MCMC) has been conducting the Hand Phone Users Survey (HPUS) in Malaysia. In 2018, the Hand Phone Users Survey 2018 (HPUS 2018) provided information on the types of hand phone (i.e. basic phone, feature phone and smartphone), access and use of hand phones, mobile broadband data plan affordability and quality of service, Artificial Intelligence (AI) and Internet of Things (IoT) in smartphones, issues on Mobile Content Service (MCS), level of difficulty of SIM card registration and Mobile Number Portability (MNP) process, mobile privacy management, dependency and behaviour of hand phone users, awareness on 'Klik Dengan Bijak (KDB)' campaign, and demographic of hand phone users.

HPUS 2018 was conducted by interviewing 2401 respondents through Computer Assisted Telephone Interview (CATI) system. The findings from this survey show that:

- **Users of smartphone continue to increase –** Smartphone penetration rates grew by 2.1% from 75.9% in 2017 to 78.0% in 2018.
- **Video calls increase rapidly –** 69.3% of smartphone users made video calls compared with 53.4% in 2017, an increase of 15.9%.
- **High satisfaction rating among mobile-broadband data plan subscribers** – More than eight out of ten (82.4%) of mobile-broadband data plan subscribers are satisfied with the service delivered by their respective service providers.
- **Home surveillance is the most important Smart Home application** – More than seven out of ten (70.8%) respondents agreed that home surveillance is an important application for Smart Homes.
- **Better experience in SIM card registration** – After the implementation of the new Guidelines on Registration of End-Users of Prepaid Public Cellular Service, SIM card registration process recorded a 3.6% increase of easy experiences.
- **Improved awareness to protect personal data among Malaysians –** 65.8% of users were vigilant in protecting their hand phone using passwords compared to 64.5% in HPUS 2017 while 48.9% backed up their photos and contacts on their hand phone compared with 44.5% in HPUS 2017.
- **Law breaking behaviour while using hand phones were observed –** More than 20% of hand phone users admitted to using their devices while driving.

SECTION 2: INTRODUCTION

Background of survey

HPUS 2018 is a series of purpose built survey conducted by MCMC. This is in accordance with MCMC's regulation goal; to conduct market research. HPUS 2018 is realising this goal by collecting descriptive statistics pertaining to characteristics and behaviours of hand phone users in Malaysia.

Limitations and challenges

In the course of conducting this survey, some limitations and challenges were encountered. Firstly, difficulties to reach required number of samples. For this survey, a total of 17,630 calls were made to achieve 2,401 samples of hand phone users. Of the total calls made, we received no response from 50.7% respondents, 4.4% refused to participate and 25.4% numbers were inactive or invalid numbers. In other words, we had to make 14.2 calls to get one successful interview.

Efforts to reach respondents became more difficult when selected CATI Centre's telephone numbers were reported as an unwanted call with a mobile application called Truecaller. Mobile users used this app to block calls and SMSes from unwanted numbers. As a result, we were not able to reach around 50 respondents during the survey period.

Methodology

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 2018, there were 42.4 million mobile-cellular subscriptions with a penetration rate of 130.2% to a population of 32.6 million.

Fieldwork for this survey started on 12 November 2018 and ended on 27 February 2019. 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.

The survey adopted confidence level of 95% and precision of ±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 phones[1]

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 phones[2]

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 uses narrowband 2G EDGE/EDGE+ speeds for mobile data access. Several feature phone produced support of 3G network.

Smartphones[3]

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.

[1] Source: Mobile Handset Use in Digital Financial Services (03/2017), ITU
[2] ibid
[3] Source: International Telecommunication Union (ITU), 5th Meeting of the Expert Group on ICT Household Indicators (EGH)

Data Analysis

Types of data

HPUS 2018 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 2018:

Table 1: Types of data

Core data	Trend Data
1. Gender	1. Smartphone and feature phone users
2. Age group	2. Mobile-broadband data plan
3. Income category	3. Artificial Intelligence (AI) and Internet of Things (IoT)
4. Educational attainment	4. Mobile Content Services (MCS)
5. Urban-rural distribution	5. SIM card and Mobile Number Portability (MNP)
	5. Mobile privacy management
	6. Hand phone users' behaviours
	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 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 2: Mid-year population estimates 2018[4]

Background characteristic	Percent
Nationality	
Malaysian	89.7
Malay	50.3
Chinese	20.6
Other Bumiputera*	11.7
Indian	6.2
Others	0.9
Non-Malaysian	10.3

**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, 2018

SECTION 3: MAIN FINDINGS

Smartphone versus Feature Phone Users

According to HPUS 2018, percentage of smartphone users continue to rise from 75.9% in 2017 to 78.0% in 2018. Among others, inexpensive devices, subsidies, aggressive competitions and promotions among service providers as well as affordable packages were observed to be among driving factors for the growth. Growing use of and reliance on smartphone-based applications etc. also contributed to the increase.

On the other hand, feature phone users dropped by 5.1% from 31.0% in 2017 to 25.9% in 2018.

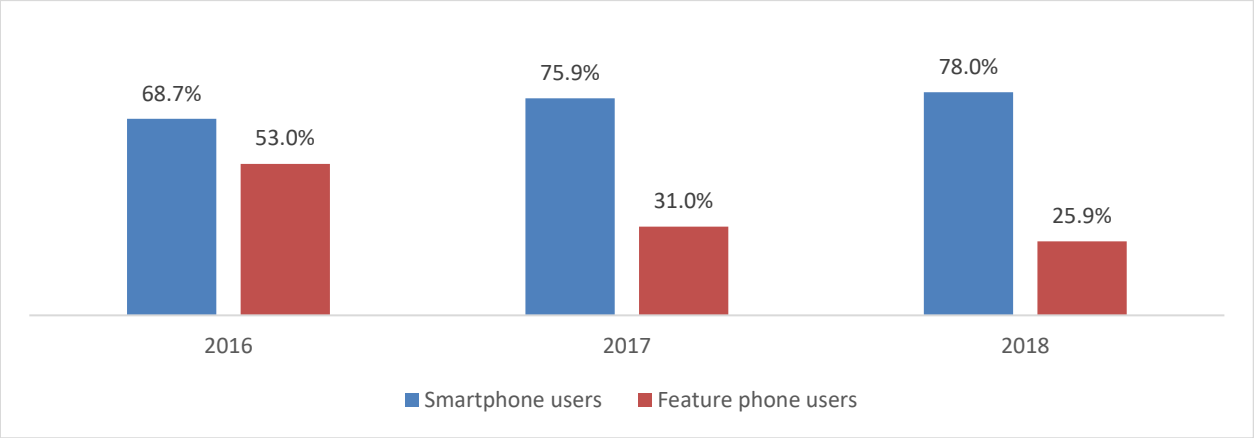

Figure 1: Percentage distribution of smartphone and feature phone users, 2016 to 2018[5]

It was observed that users of feature phones are prevalent among those aged 65 years old and above (70.3%). Higher feature phone users were also observed among pensioners, those with relatively low income group and those who reside in rural areas. Respondents aged below 20 years old are more inclined towards using smartphones (93.5%). The survey also found that as the age of respondents increases, the less likely the respondent is a smartphone user.

[5] **From 2016-2018**, 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?"

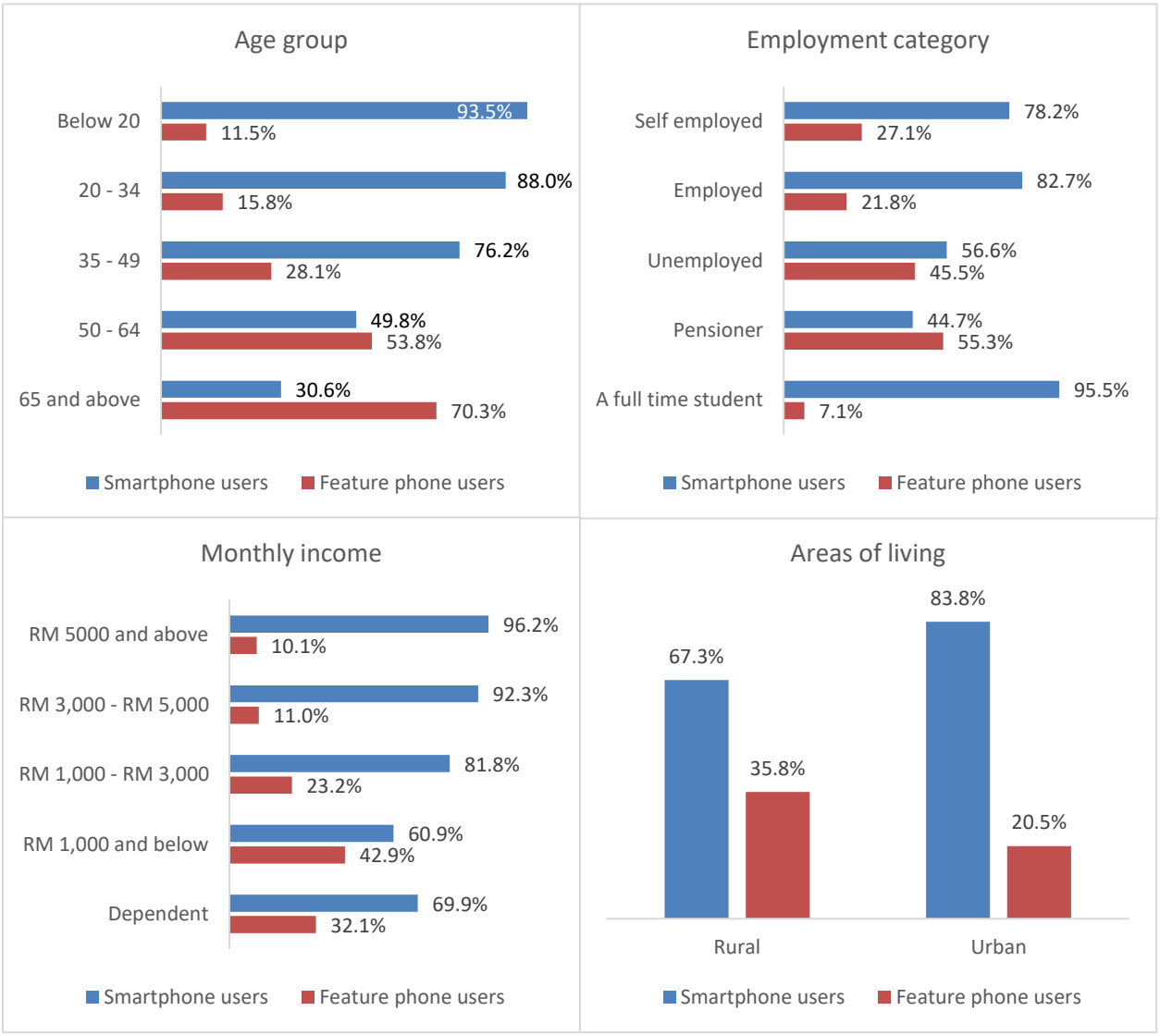

Figure 2: Adoption rate of smartphone and feature phone users by demographics

This survey further examined the respondents' reasons for not using smartphones[6]. Firstly, majority of feature phone users (81.8%) said that feature phones serves their needs and this continues to be the top reason for feature phone users not using smartphones. Secondly, 24.7% of them claimed that smartphone is expensive, and thirdly, they cited unavailable or weak 4G/LTE network coverage as the reason for not using smartphones (9.8%).

[6] This part of the survey only includes respondents who used feature phone only and do not use any smartphones. 21.6% of respondents do not use smartphones (users of feature phones only)

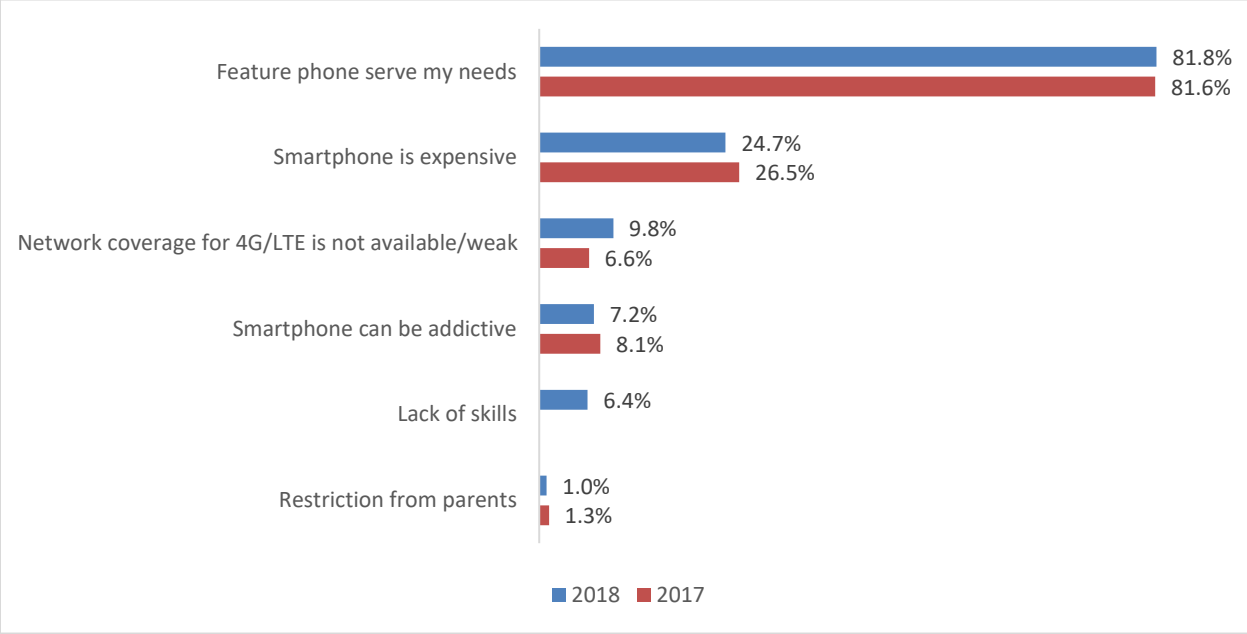

Figure 3: Percentage distribution on reason of still using feature phone

Note: 2.2% reported "others" which includes as temporary hand phone, missing or misplaced smartphone and battery issues in smartphones

When asked the feature phone users if they have intention to migrate to smartphone, more than three-quarters or 76.2% of them claimed that they have no intention to migrate to smartphone.

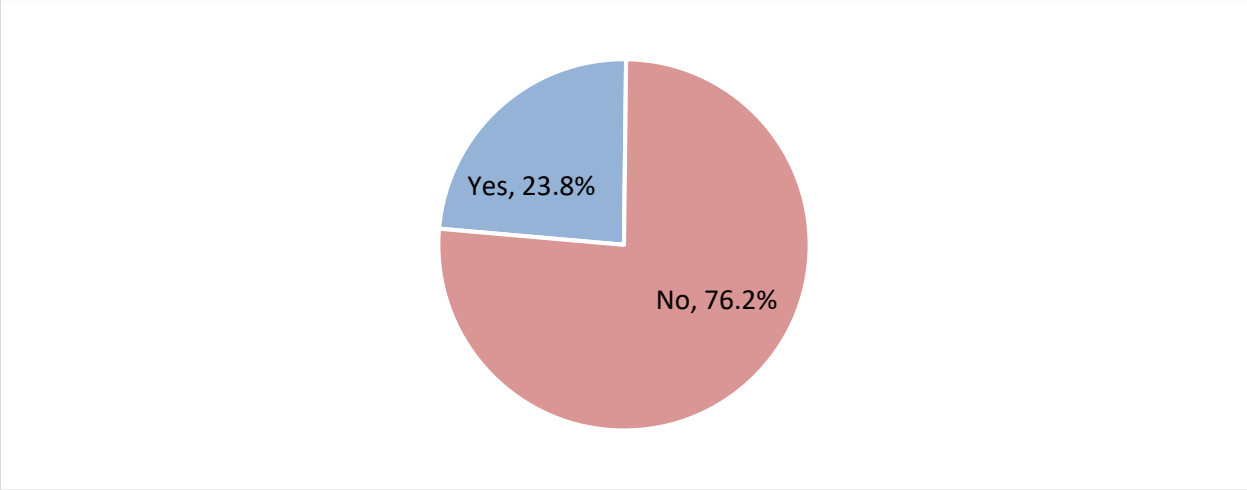

Figure 3: Willingness to migrate to smartphone

Smartphone Ownership

As compared with HPUS 2017, percentage of smartphone ownership grew marginally from 74.0% to 76.4%, an increase of 2.4%.

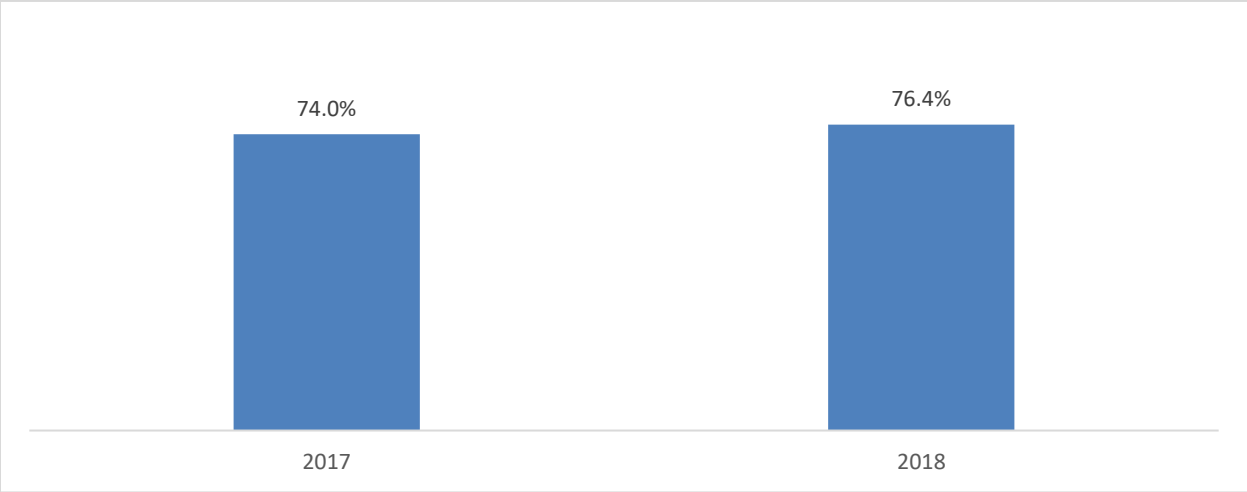

Figure 4: Smartphone ownership, 2017-2018

Similar to smartphone users, the adoption of smartphone ownership[7] is especially high among younger people and those with relatively high income and education levels.

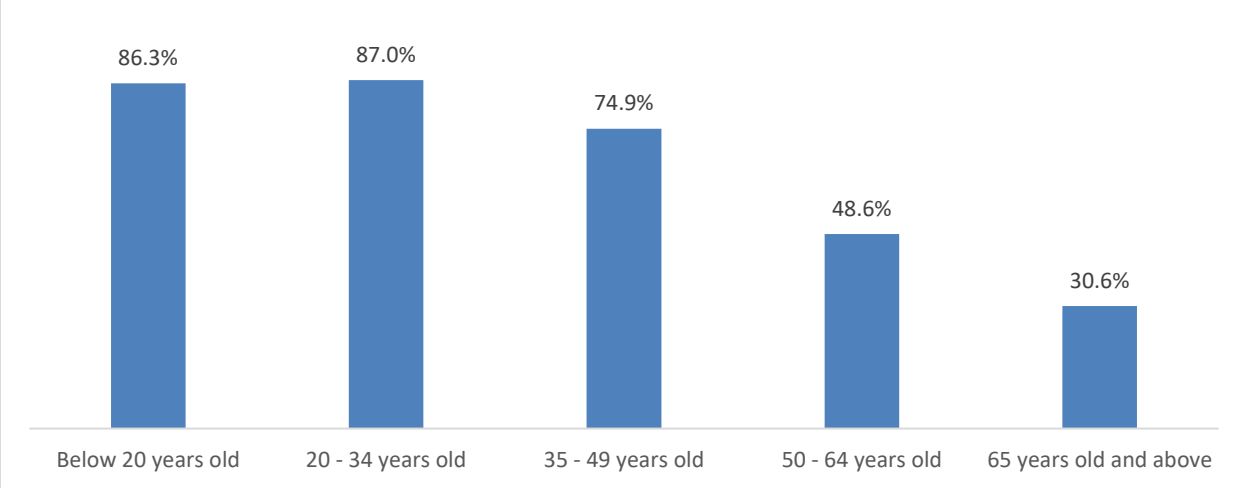

Figure 5: Adoption rate of smartphone owners by age group

[7] 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 6: Adoption rate of smartphone owners by income category

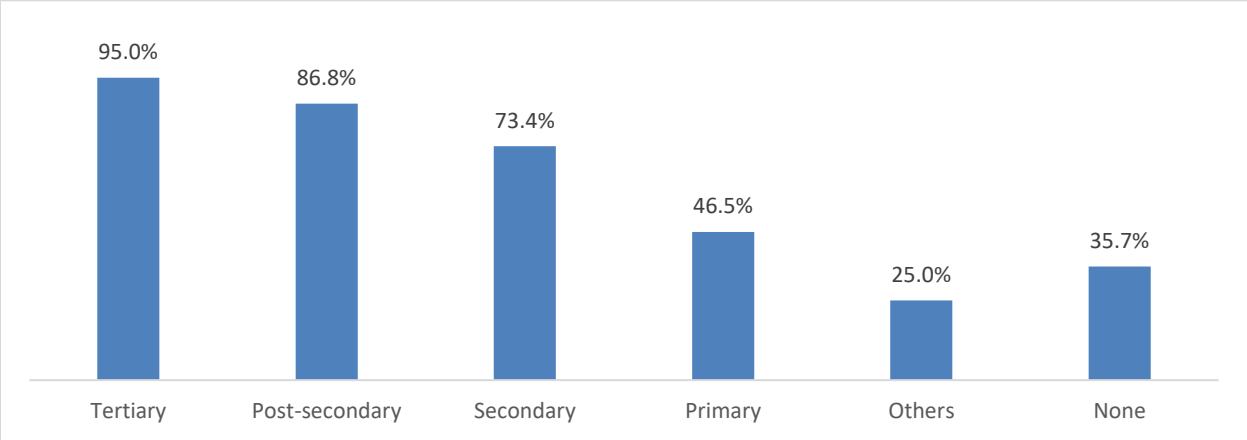

Figure 7: Adoption rate of smartphone owners by educational attainment

Internet Access by Smartphones and Feature Phones

Accessing the Internet while on-the-go are gaining popularity in Malaysia. Since 2012, the percentage of smartphone users who access the Internet through their smartphones increase by 25.8% or at average annual growth rate of 5.45%. In 2018, the HPUS 2018 found that 94.6% of smartphone users are using their phones to go online. Similarly, IUS 2018[8] also recorded high proportion of Internet users accessing the Internet using the mobile device.

[8] MCMC Internet Users Survey 2018: Device and Place to access Internet

Table 3: Percentage distribution of Internet access using smartphone by users

	2012	2013	2014	2015	2017	2018
Access Internet using smartphone (%)	68.8	78.5	90.1	92.4	94.8	94.6

Surprisingly, percentage of feature phone users who access the Internet via this device increase from 20.6% in 2017 to 25.1% in 2018. Of this, 65.4% users are able to access 3G network[9] on their feature phone. On the other hand, there are at least 1.4% of hand phone users who are still relying on basic phone to serve their basic communication need.

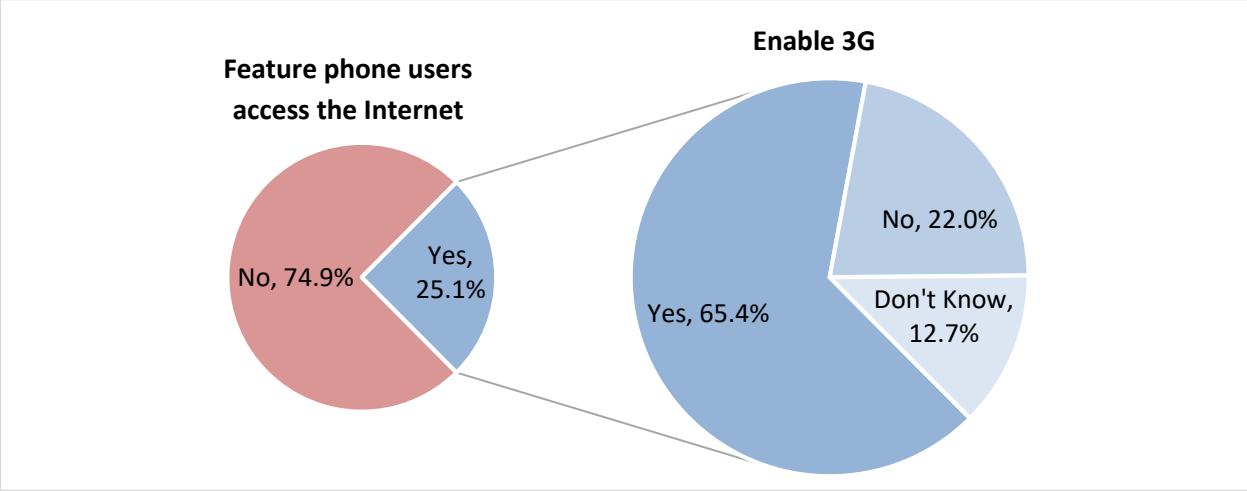

Figure 8: Percentage distribution of feature phones that are capable to access 3G

Activities of Smartphone Users

Mobile devices such as smartphones and all its variations have become an essential part of the modern individual's life. Communication, entertainment, finance, etc. are part of a long list of activities available on smartphones.

Communication continue to be the top activity among smartphones users with 98.1% of smartphone users are using their device for text messaging and sending voice notes (HPUS 2017: 98.5%). Of which, 90.0% of them claimed to perform this activity at least once a day. Aside from texting, 95.4% of respondents communicate through voice calls with majority or 60.0% of them do it on a daily basis.

Apart from texting, smartphones users also communicate via video calling. The survey found that 69.3% of respondents use their smartphones for video calling, an increase of 15.9% as compared with HPUS 2017

[9] 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"

(53.4%). High data allowance with affordable pricing was one of probable explanation that has caused the upsurge of video calling activities through smartphones. In addition, availability of video calling feature on various communications applications such as Apple's FaceTime, Skype, WhatsApp, WeChat etc. has encouraged more people to communicate via this platform.

"If it has a ringtone, it's not a camera", an ad campaign launched by digital camera makers a few years back to convince people that a cell phone is no substitute for a good camera[10]. Nonetheless, as technology is always evolving, smartphones have evolved to become the main tool for photography and videography. The survey found that 92.8% of smartphone users take photos and record videos using their device. It is probably no surprise that the ability to edit and share shots with others almost instantly has made this activity the third most popular activity this year.

The share of respondents using social media on their smartphones is statistically unchanged since 2017 amid a series of controversies over privacy and censorship on social media. The share slightly rose to 88.6% as compared with 88.1% recorded in HPUS 2017. Nonetheless, for many users, social media is part of their daily routine whereby as much as 85.3% of users, access to their social media account at least once a day.

A sizable majority of users continue to use smartphones as a medium for searching and browsing the Internet. Yet, the share has declined by a modest of 2.4% year-on-year to 85.1% (HPUS 2017: 87.5%). Of this, almost 70.0% of them do this activity on daily basis, showing a declining trend.

Previously, watching videos or movies, listening to music and playing games were grouped under one category, entertainment. For the first time in HPUS series, these three activities were separated this year in order for us to monitor more closely the users' behaviour of consuming digital contents particularly the growing trend of video and music streaming activities as well as online mobile gaming. Among these activities, watching videos or movies was the most popular (82.7%) followed by listening to music (71.9%) and playing games (56.4%). Just like video calling, these activities require high bandwidth that was made more affordable by service providers.

Watching movies or videos were mostly adopted across all the age group as shown in the figure below. Meanwhile, listening to music as well as playing games were the most popular among younger age groups.

[10] Arnsdorf, I. (2010). The Best Shot: Cell or Camera? Retrieved from https://www.wsj.com/articles/SB10001424052748704853404575322794209091082

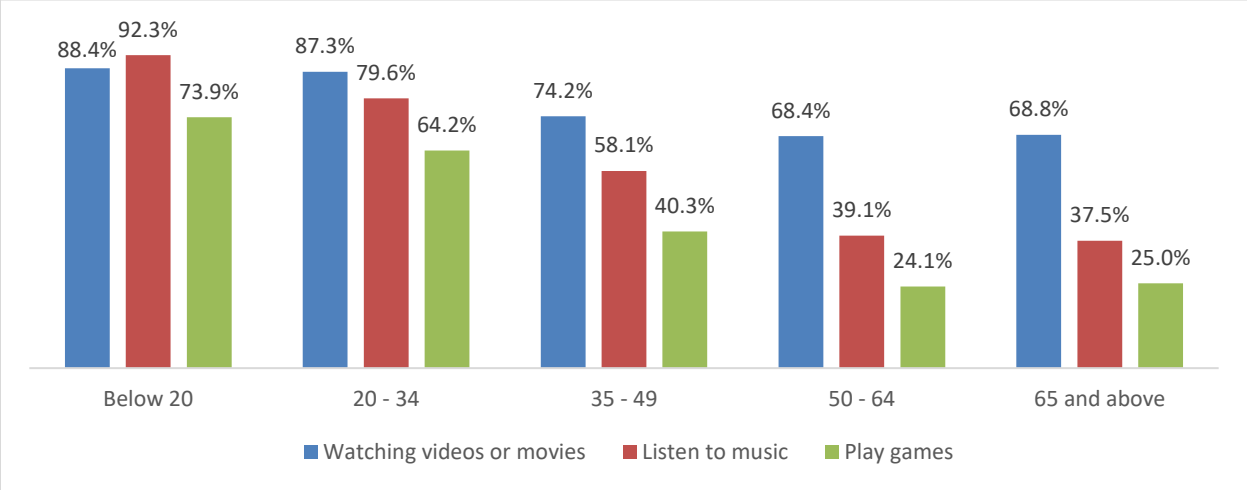

Figure 9: Adoption rate of smartphone Internet entertainment activities by age group

Emailing continues to rise as 64.1% (60.0% in 2017) of respondents undertaking this activity, with 41.8% of them send and receive emails on daily basis. Despite experienced a modest decline between HPUS 2015 (55.6%) and HPUS 2017 (49.7%), the share of reading activities on smartphone is again on the rise. The survey found that more smartphone users or 52.3% claimed to use their device for reading various materials such as newspaper, iBook, online journal etc. compared with 49.7% in HPUS 2017. The rise is a good start for the Government which has declared 2020 to 2030 as the National Reading Decade[11].

Smartphone also serves as an important tool for direction finding. Navigation applications such as Waze, Google Maps, HERE WeGo, etc. are easily available on almost all type of smartphone. As such, 74.8% of respondents claimed of using these applications on their smartphones. Of which, 14.4% of them use it on daily basis while 39.7% use it at least once a week and 38.0% at least once a month.

Banking-related activities such as bill payment, money transfer and checking of bank balance via smartphone are showing a rising trend among smartphone users. Accordingly, there was a slight increase by 5.3% as reported in HPUS 2017 to 42.8% in this survey. For record, IUS 2018 showed that smartphone is the most popular device for online banking activities[12].

E-Commerce Consumers Survey 2018 found that on average, an individual in Malaysia spent around RM470 per transaction in the last twelve months with smartphone being the most popular device used to shop online[13]. Accordingly, more than four out of ten (40.9%) smartphone users claimed they shop using

[11] RAJAENDRAM, R. (2018). Fostering a reading culture among Malaysians. Retrieved from https://www.thestar.com.my/news/education/2018/12/16/fostering-a-reading-culture-among-malaysians

[12] MCMC Internet Users Survey 2018: Device used for online banking

[13] MCMC e-Commerce Consumers Survey 2018: Device used to shop online

their smartphones with 63.7% of them do this at least once a month. After video calls, shopping through smartphones showed a high increase of 12.5% as compared with HPUS 2017[14] (28.4%).

Monitoring homes or business remotely via closed-circuit television (CCTV) in particular for security reasons still remain as the least popular activity (8.9%) in HPUS 2018. However, CCTV popularity is expected to rise as concerns for security and safety intensifies. In addition, affordable options in the market provide users more access to the monitoring system.

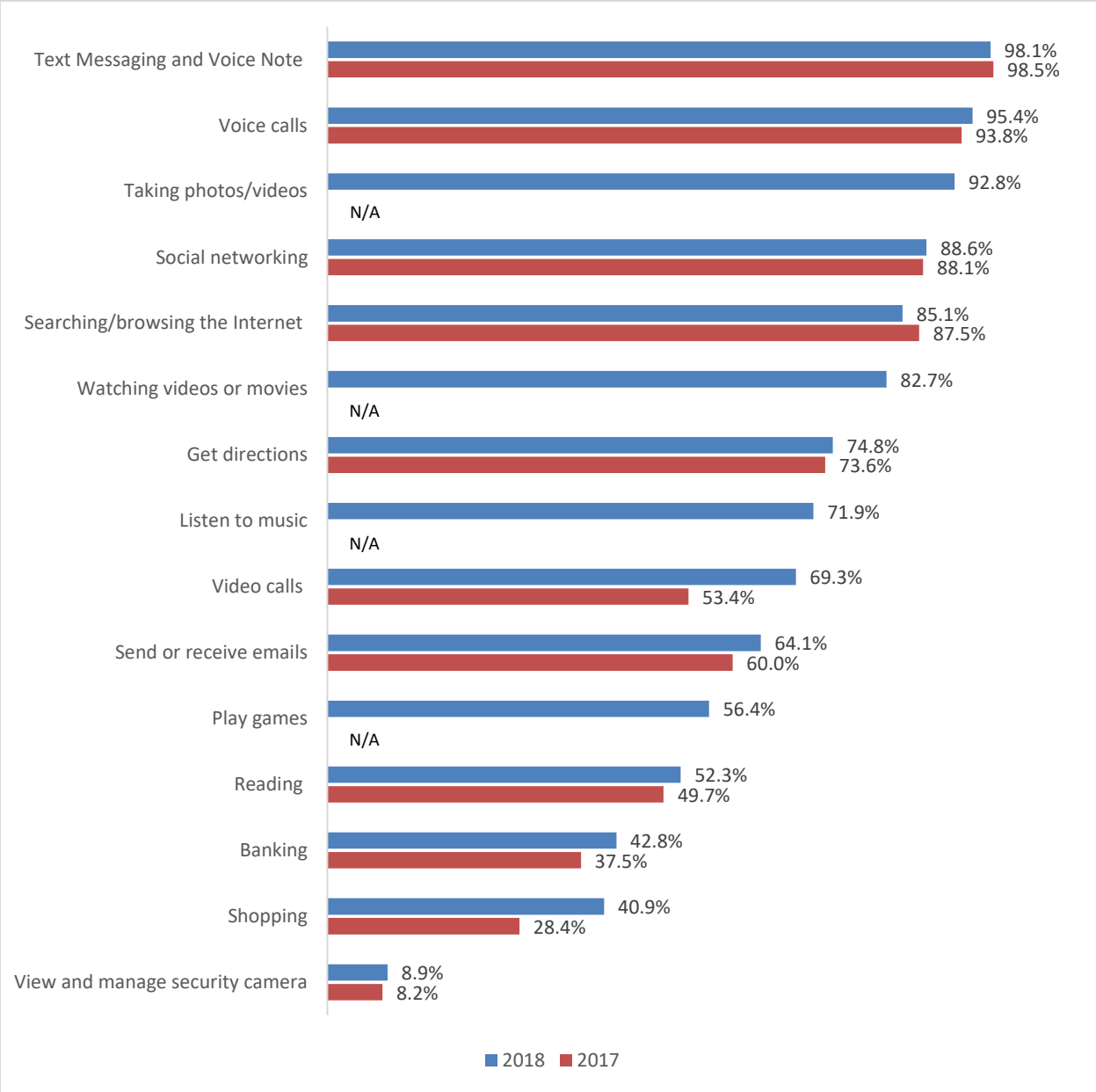

Figure 10: Percentage distribution of smartphone Internet activities by users, 2017-2018

[14] In HPUS 2017, smartphone users were asked if they made online purchases in a separate question. Meanwhile in HPUS 2018, "Shopping" was added to the list of smartphone activities.

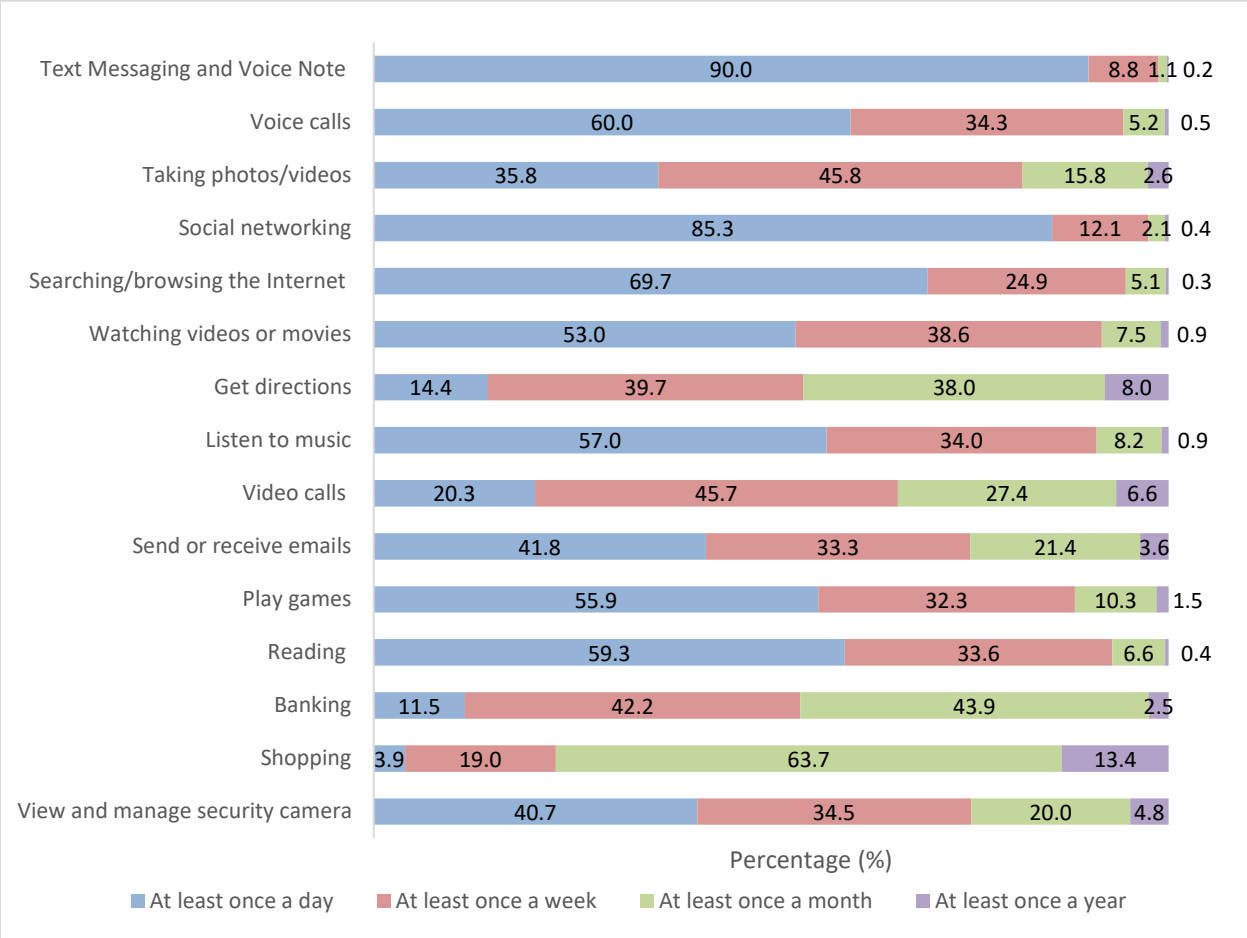

Figure 11: Percentage distribution of frequency of Internet activities by smartphone users

Mobile-broadband Data Plan Affordability and Quality of Service

In the fourth quarter of 2018, Malaysia recorded 36.8 million mobile-broadband subscriptions, an additional of more than 1.5 million subscriptions as compared with 2017[15]. With the continuous increase of mobile-broadband subscriptions, this section of HPUS 2018 intends to delve further into mobile broadband subscribers'[16] behaviour in term of their monthly spending, monthly data quota usage and level of satisfaction of mobile-broadband data plan that they are subscribed to. According to the survey findings, 62.8% hand phone users subscribed to a mobile-broadband data plan in 2018.

[15] Komunikasi & Multimedia: Fakta dan Angka Terpilih, 4Q 2018.
[16] A subscriber may have more than one subscriptions.

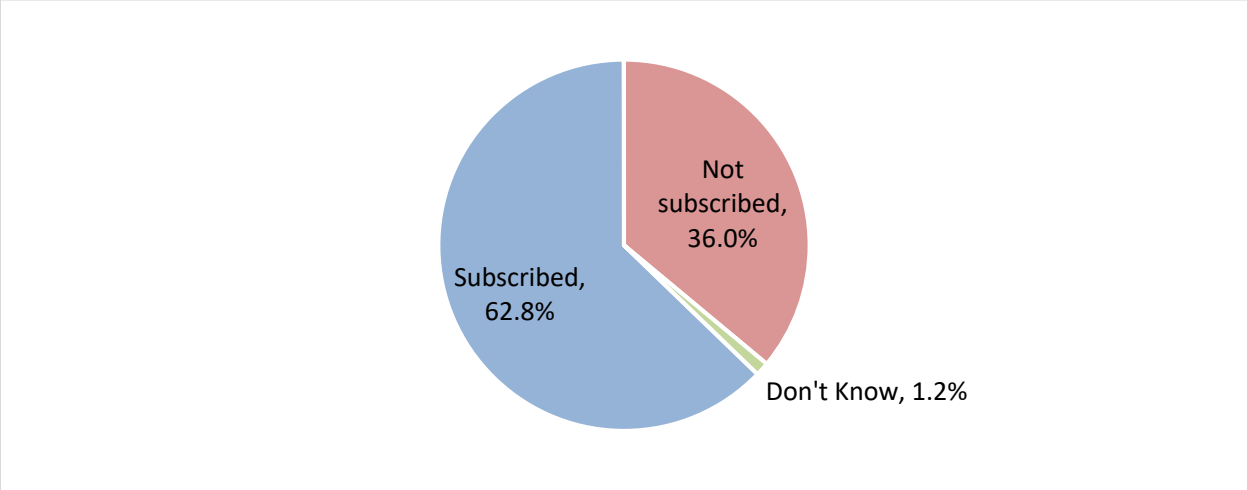

Figure 12: Percentage distribution of mobile-broadband data plan subscribers

Mobile-broadband data plan subscribers generally spend around RM30 – RM50 (31.2%) and RM50 – RM100 (28.5%) per month on their data plan.

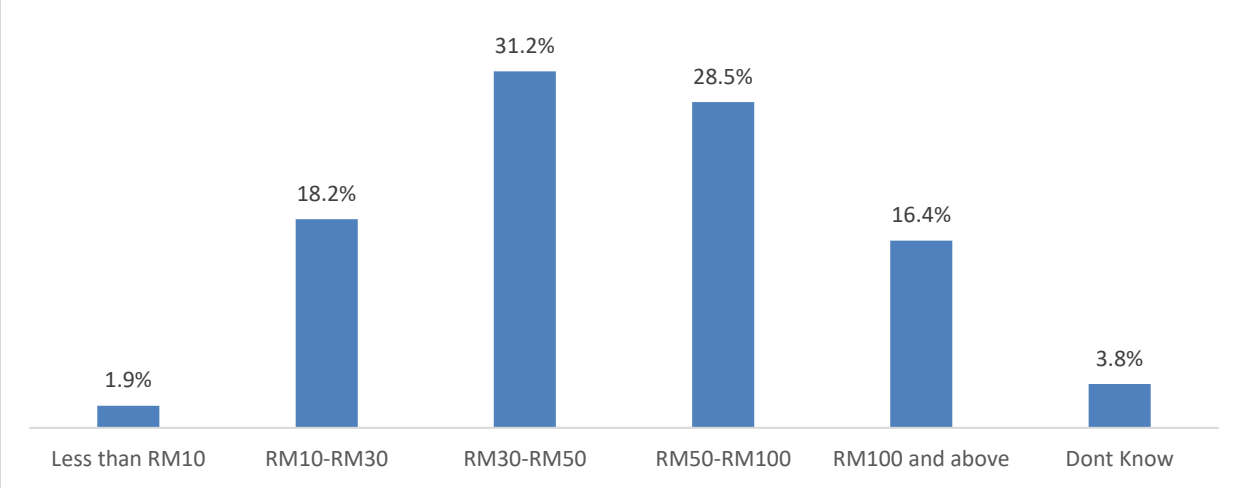

Figure 13: Percentage distribution of mobile-broadband data plan subscribers' monthly spending

Subscribers from lower income group with household income of RM1,000 – RM3,000 (34.6%) as well as RM1,000 and below (38.1%) mostly spent between RM30 to RM50 monthly for their mobile-broadband data plan. Subsequently, around RM50 – RM100 monthly spending was the top choice for RM3,000 – RM5,000 household income group subscribers (41.4%) while most of RM5,000 and above household income group subscribers (36.2%) spent about RM100 and above per month on their mobile-broadband data plan.

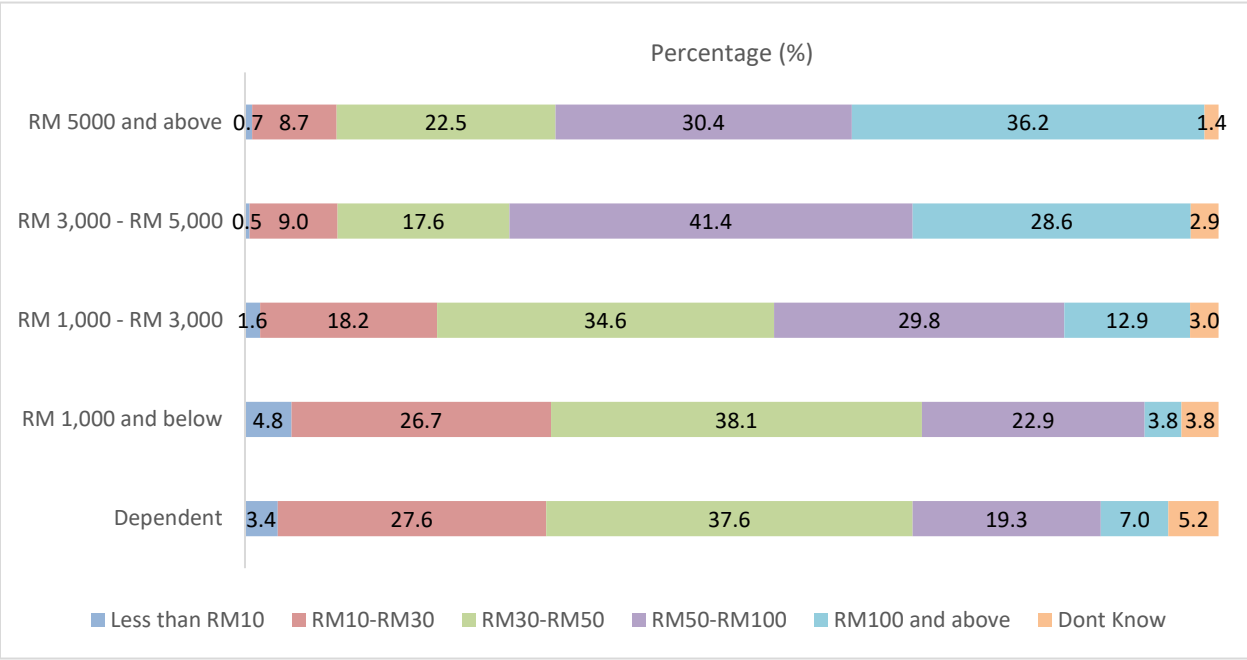

Figure 14: Percentage distribution of mobile-broadband data plan subscribers' monthly spending by income category

When they were asked about data allowance, 20.6% claimed to subscribe to 5GB – 10GB data plan, 19.0% subscribed to 10GB – 30GB and 17.3% are on 50GB and above.

Figure 15: Percentage distribution of mobile-broadband data plan subscribers' monthly data allowance

For level of satisfaction, the majority of subscribers (82.4%) are satisfied with their mobile-broadband data plan service providers. However, network coverage was found to be the topmost reason (54.1%) why 12.4% of subscribers are dissatisfied with their service providers. This is followed by broadband speed (45.1%) and price (28.2%).

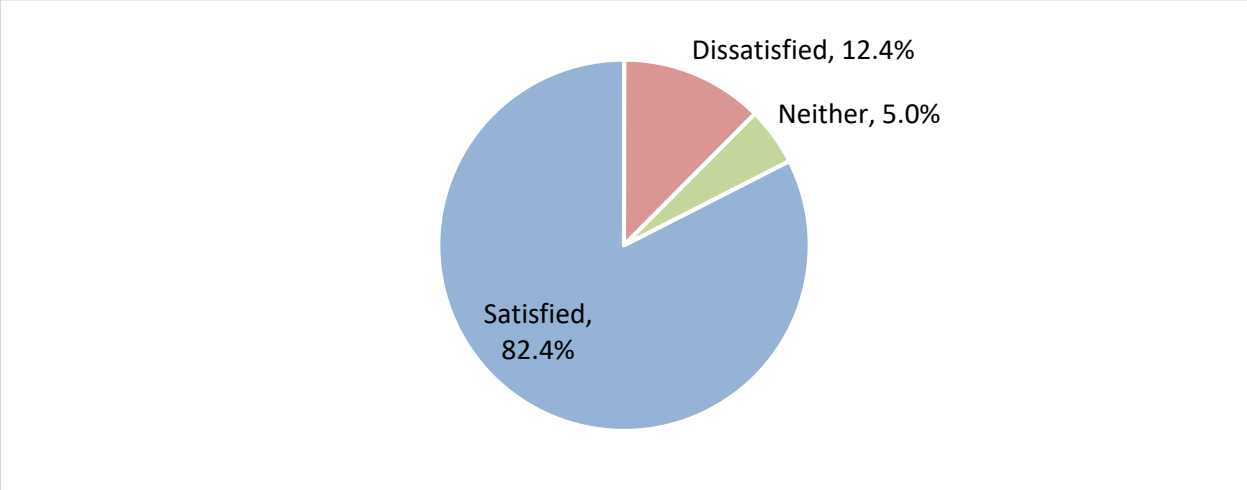

Figure 16: Percentage distribution of mobile-broadband data plan subscribers' satisfaction

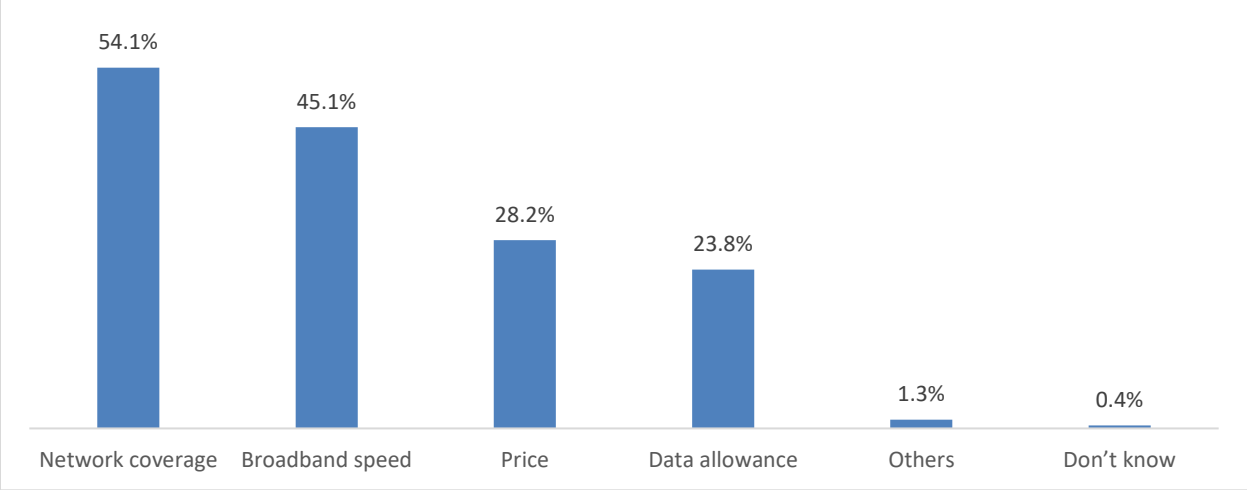

Figure 17: Percentage distribution of mobile-broadband data plan subscribers' dissatisfaction reason

The survey further investigates reasons for dissatisfied subscribers' not to porting out to another service provider. Amongst them, family and friends use the same service provider is found to be the most popular reason (27.2%) to make them remain with the current service provider. This is followed by the price of broadband plan (24.8%) and broadband coverage (19.1%).

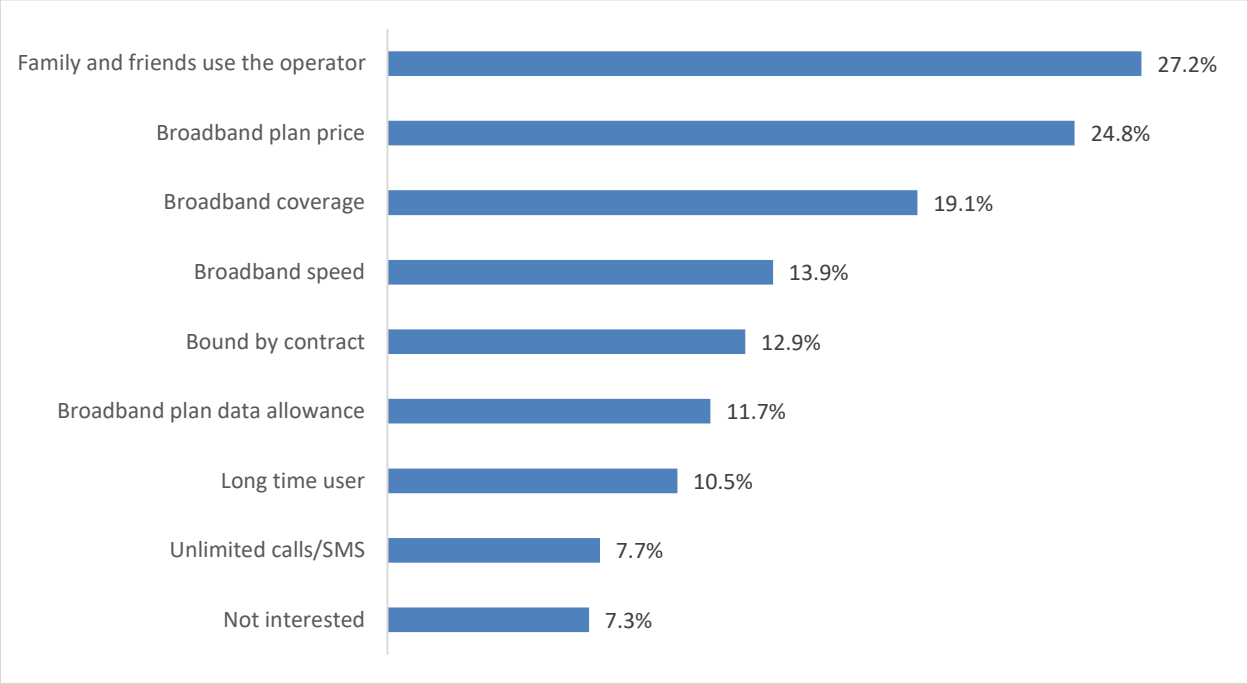

Figure 18: Percentage distribution of mobile-broadband data plan dissatisfied subscribers' reason not to port out

Artificial Intelligence (AI) and Internet of Things (IoT) in Smartphones

Artificial Intelligence (AI)[17] has created a huge impression on human interaction with their smartphones. This new addition to HPUS 2018 will study on the awareness of AI-enhanced applications, wearable devices and Smart Home applications. This survey found that route suggestion is the application where majority of respondents (65.4%) are aware of. Of this, 52.6% use the application. Route suggestion application such as Waze and Google Maps helps users find the best route to get to their destination by avoiding tolls, finding shortcuts, etc.

Translation is the second most popular AI-enhanced application as 51.3% of smartphone users are aware of and 35.8% of them claimed of using this application. Through the Internet, the world has become more open and users from all over the world are more connected with each other. Language has been a large barrier that interferes with the communication of people from different countries. Translation applications such as Google Translate and TripLingo aid the users in minimizing the language barrier, thus making the world more connected.

[17] Artificial intelligence (AI): An area of computer science concerned with the design of computer systems that exhibit human intelligence such as visual perception, speech recognition, decision-making, and translation between languages. Source: artificial intelligence | Definition of artificial intelligence in English by Oxford Dictionaries. Retrieved from https://en.oxforddictionaries.com/definition/artificial_intelligence

Communicating using our voices is the basic method of communication since birth. Subsequently, voice recognition systems are constantly upgraded to enable people to interact with technology simply by speaking to it. Voice assistance i.e. Google Assistant, Siri, Alexa, etc., and voice search showed similar awareness (41.7%) among smartphone users. However, the usage of these two applications are still low in comparison to their awareness level (22.1% and 19.6% respectively). In relation with voice recognition technology, voice-to-text also showed a similar development where a large gap between awareness (36.3%) and usage (17.7%) was observed.

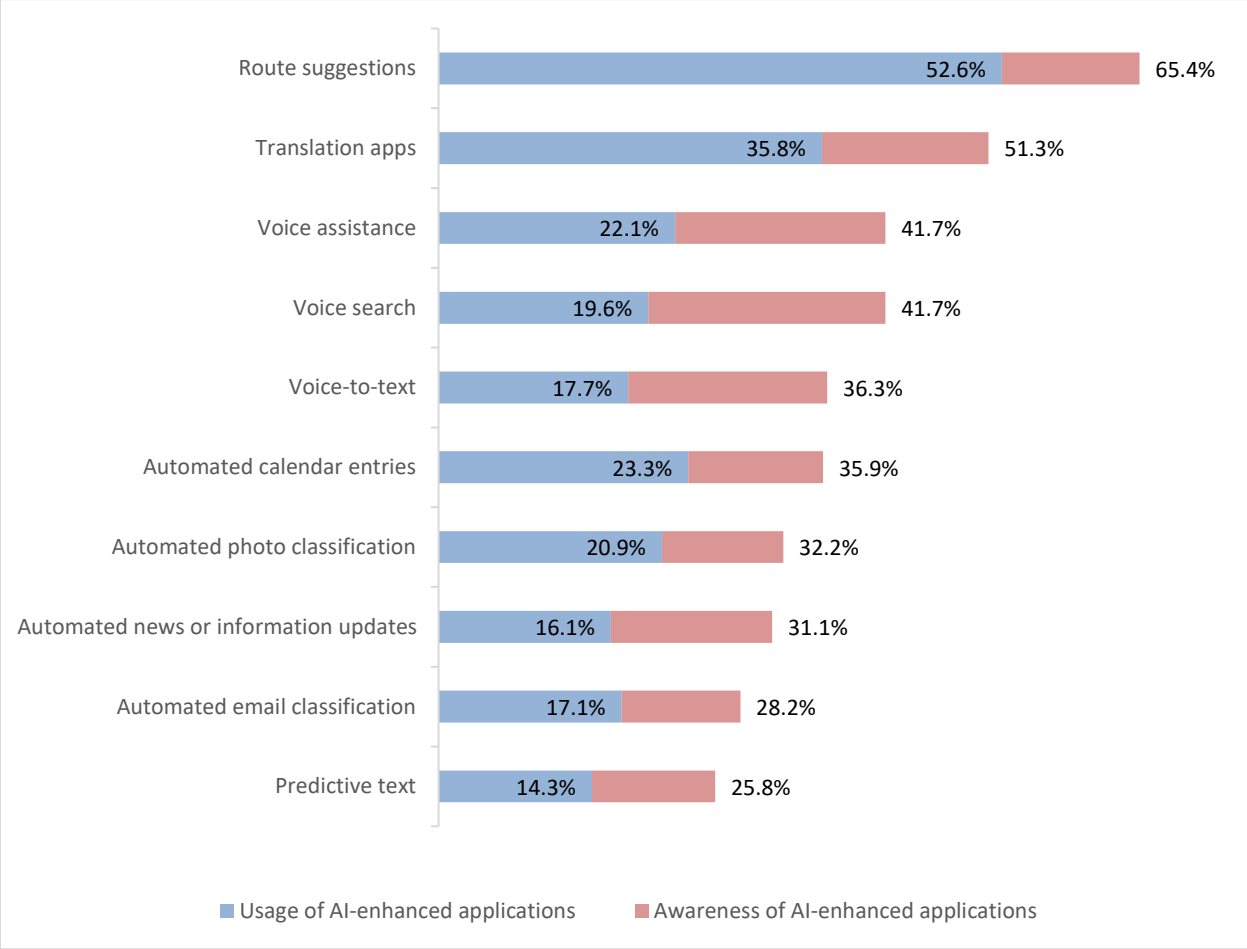

Figure 19: Percentage distribution of awareness and usage of AI-enhanced applications

Wearable device market has been growing since 2015 and Asia Pacific has recorded the second biggest wearable devices sales after North America[18]. However, the survey found that among hand phone users in Malaysia, only 10.6% of them own at least one wearable device.

[18] Wearables sales worldwide by region 2015-2021 | Statistic. (2017). Retrieved from https://www.statista.com/statistics/490231/wearable-devices-worldwide-by-region/

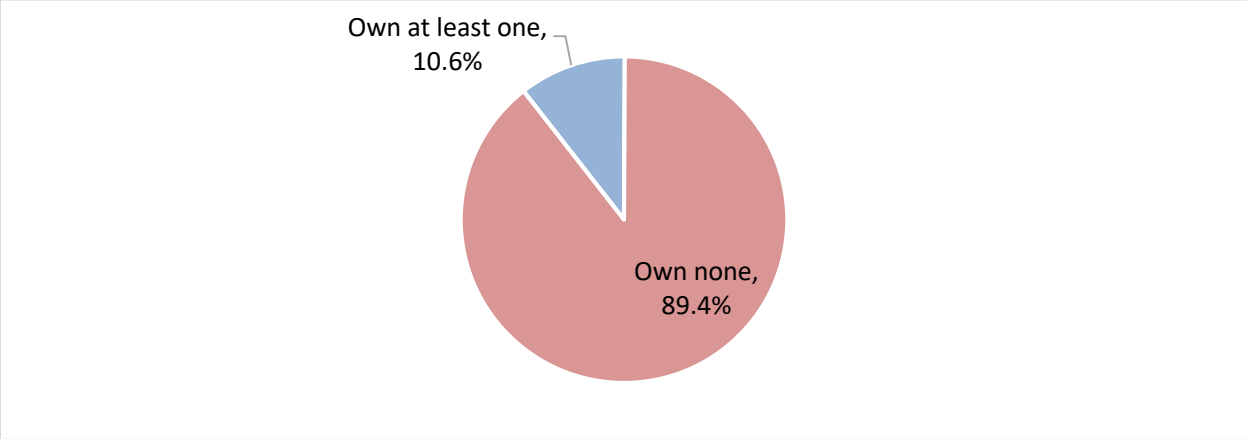

Figure 20: Percentage distribution of wearable device ownership

Of this, 68.6% of wearable device owners owned smart watches while 44.8% owned fitness bands. With affordable pricing and multiple functions, it was no surprise that smart watch and fitness band are leading the pack. Only 10.8% of wearable device owners had Virtual Reality (VR) headsets which are mainly used for gaming.

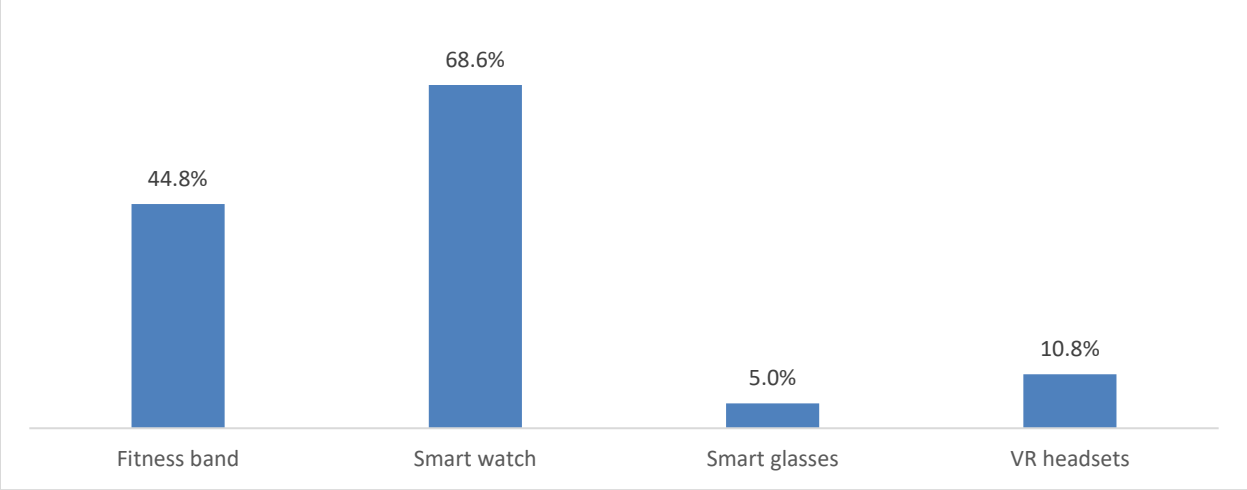

Figure 21: Percentage distribution of wearable device ownership by type of device

Between 1998 and the early 2000s, the first modern Smart Home technology products became available to consumers[19]. Smart Home technology lets users control and monitor their connected home devices remotely from their smartphones or other networked devices. HPUS 2018 studied the level of importance of several Smart Home applications available in the market.

[19] Hendricks, D. (2014). The History of Smart Homes. Retrieved from https://www.iotevolutionworld.com/m2m/articles/376816-history-smart-homes.htm

In this survey we present public perception in terms of level of importance in using the Internet of Things (IoT) in 5 elements of Smart Home concept. These include security, energy efficiency, atmosphere, entertainment and convenience[20].

First element of Smart Home application measured in this survey is home surveillance for security purposes i.e. to help reduce the risk of theft and break-in. The security element is at the top of the importance in this concept. More than seven out of ten (70.8%) respondents agreed that home surveillance is an important application for Smart Homes. Second and third are home control which consists of several useful applications such as controlling room temperature depending on individual presence, controlling blinds depending on the amount of sunlight and etc. Thus, this will support users in optimizing their energy consumption. Home control also provides comfort and bring a cosy atmosphere into your home. More than four out of ten (40.8%) respondents felt that home control is an important element of Smart Home application (21.4% important and 19.4% extremely important).

Fourth is home entertainment systems where among others, the system can display updated information required as well as suggesting media content consumption based on individual behaviour. Almost five out of ten (46.2%) of respondents agreed that home entertainment system is important to be part of a Smart Home. Finally is about home appliances where these appliances such as refrigerator, coffee machine, washing machine and etc. are transformed into a smarter version which can be connected and controlled by smartphones. Regarding this application, respondents are indifferent as important as well as not important has the same percentage of respondents (38.4%).

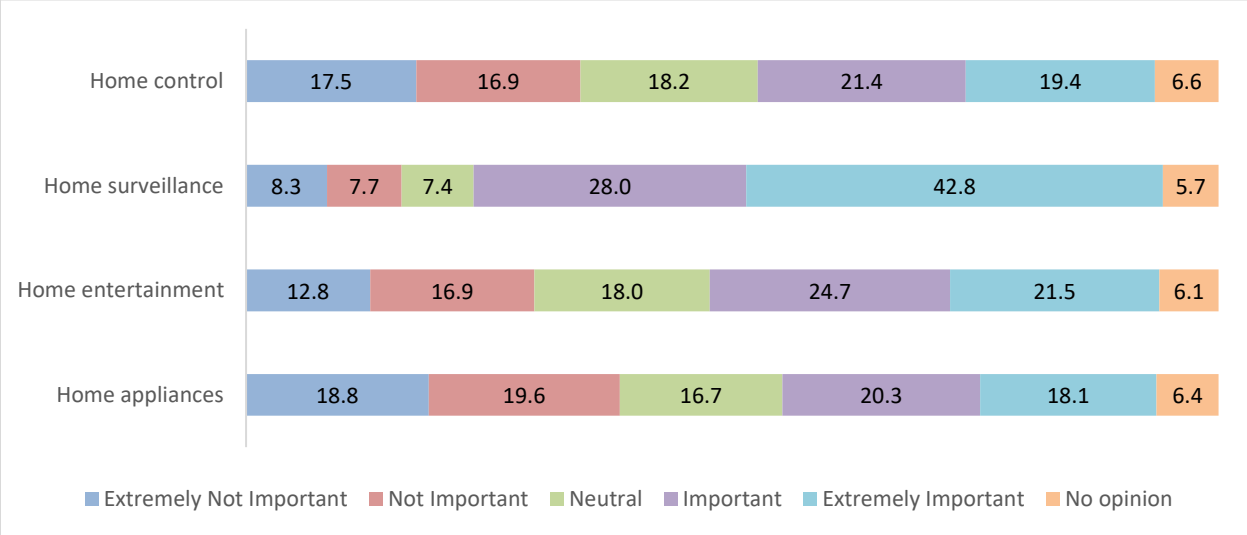

Figure 22: Percentage distribution of Smart Home applications' level of importance

[20] Carlson, T. (2016). The 5 Elements of Smart Homes. Retrieved from http://www.modernsmarthome.com/the-5-elements-of-smart-homes/

Mobile Content Services

As in HPUS 2017, HPUS 2018 also includes issues regarding Mobile Content Services (MCS)[21]. 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.

The survey found that 22.0% of hand phone users had subscribed or are subscribing to MCS, an increase of 5.4% as compared to last year (16.6% in HPUS 2017) with 56.3% on ringtones, 44.7% on games and 29.8% on wallpapers.

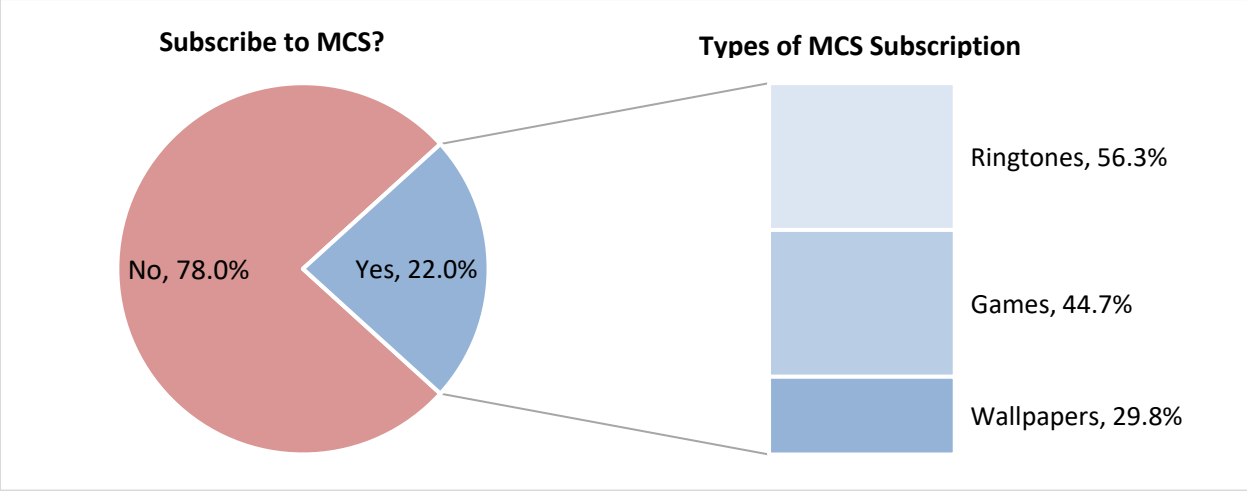

Figure 23: Percentage distribution of MCS subscribers by type of MCS subscription

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 are aimed at providing balance regulatory framework that can safeguard consumers' interests by promoting responsible service provisioning as well as laying foundation to continued growth of mobile content industry[22].

This survey further prompted the MCS subscribers on their experience being charged without consent. When asked about their experience on this issue, 32.1% claimed to have been a victim, a decrease of merely 1.0% as compared to last year (33.1% in HPUS 2017). Of which, 41.0% of them mentioned the incident happened before 2015.

[21] 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

[22] Convergence, Communications and Multimedia Policy and Regulatory Guide

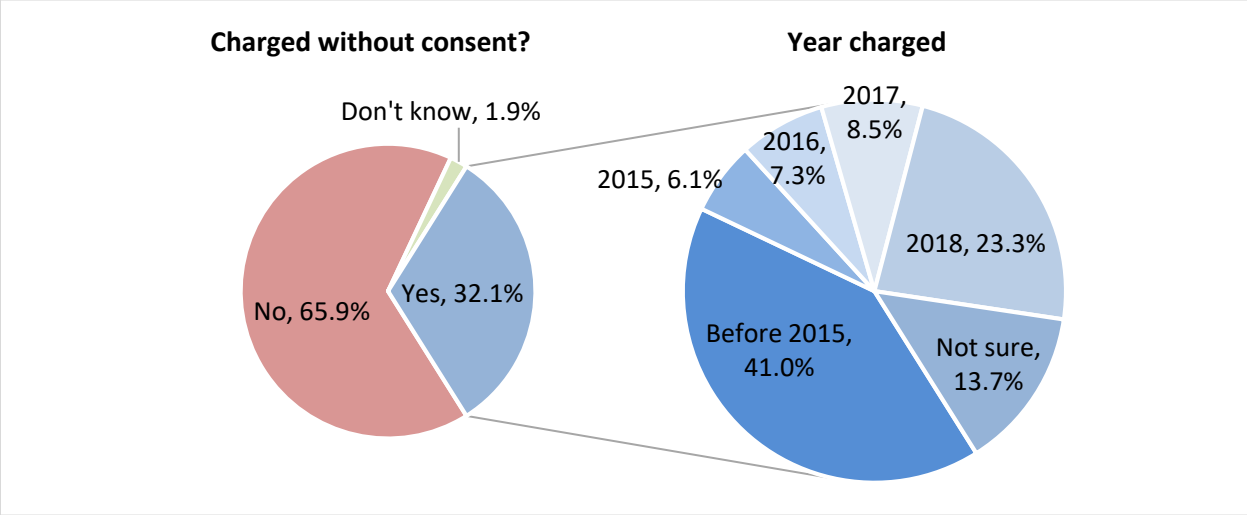

Figure 24: Percentage distribution of MCS subscribers being charged without consent by year charged

The survey further gathered opinion of hand phone users whether MCS is still relevant. It was found that the percentage of MCS subscribers who personally thought that MCS is not relevant has increased 11.3% to 59.2% as compared with HPUS 2017 (47.9%). Among those who said "No", more than five-in-ten hand phone users (52.8%) mentioned that content can be downloaded via Internet, followed by 39.8% claimed wide use of mobile apps and 36.6% said that it is no longer a trend.

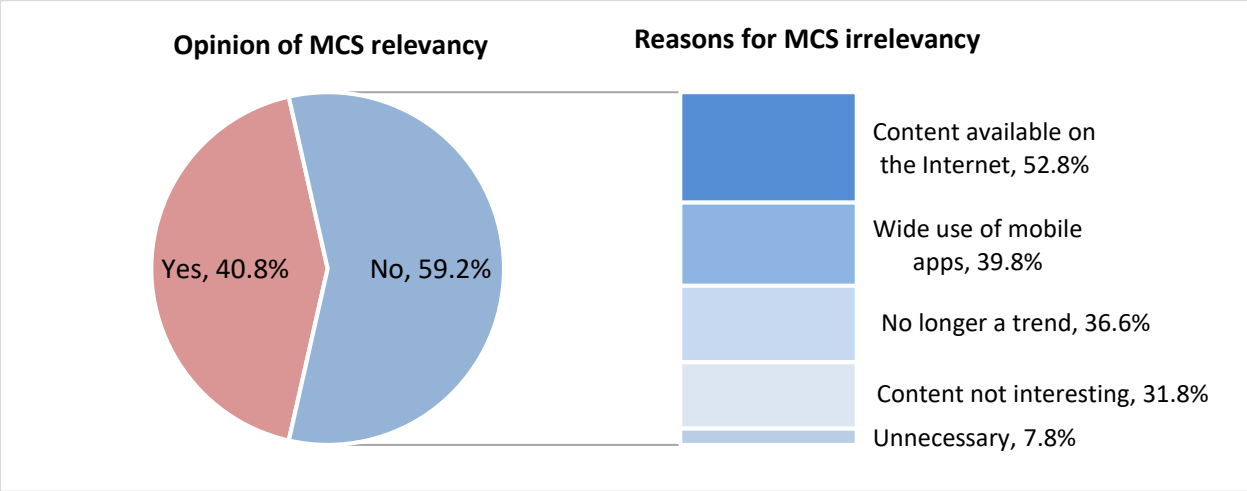

Figure 25: Percentage distribution of users by opinion on the relevancy of MCS

SIM Card and Mobile Number Portability

The process of SIM card registration in Malaysia is not complex. Users are required to visit their service providers' service centre, authorized agent or dealers with their mobile phone and identity card/passport for verification. Registration will be done electronically using either a MyKad reader, Optical Character Recognition, Biometric Reader or any other automated platform as approved by the MCMC.

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. The new guideline on prepaid registration issued by MCMC on June, 1 2017 and took effect on January 1, 2018. HPUS 2018 compares the SIM card registration experience for 2018 as compared to HPUS 2017. In 2018, the survey found that 23.2% of respondents registered a new SIM card.

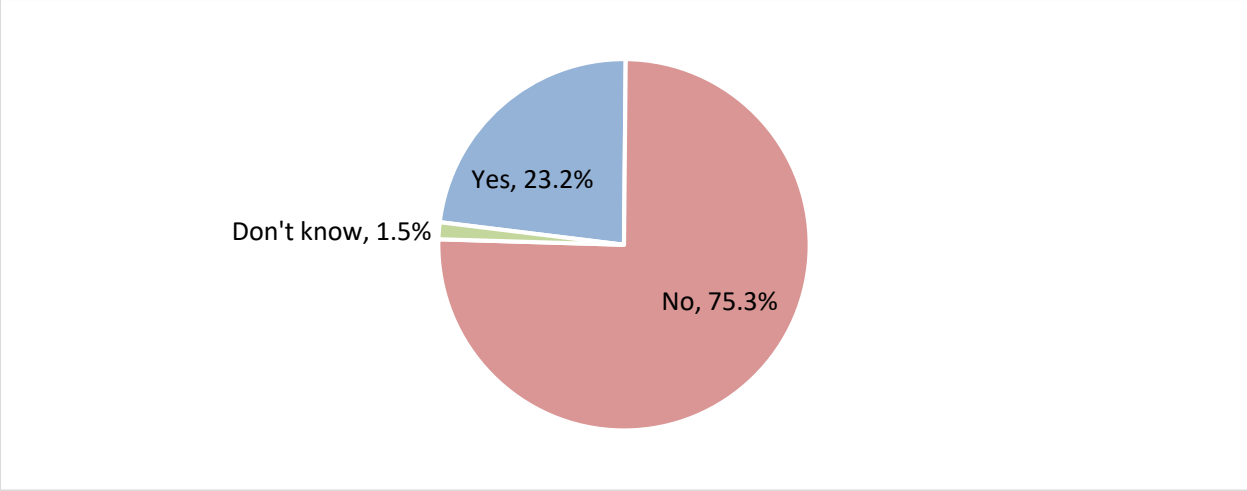

Figure 26: Percentage distribution of SIM card registration in 2018

After the commencement of the new guidelines, 88.9% of respondents had "easy" and "very easy" experiences in registering new SIM card in 2018. This was an increase of 3.6% as compared to the SIM card registration experience prior to the new guidelines (85.3%). Meanwhile, 7.8% of respondents considered the process as "difficult" and "very difficult" which was 4.3% lower than the SIM card experience in HPUS 2017 (12.1%).

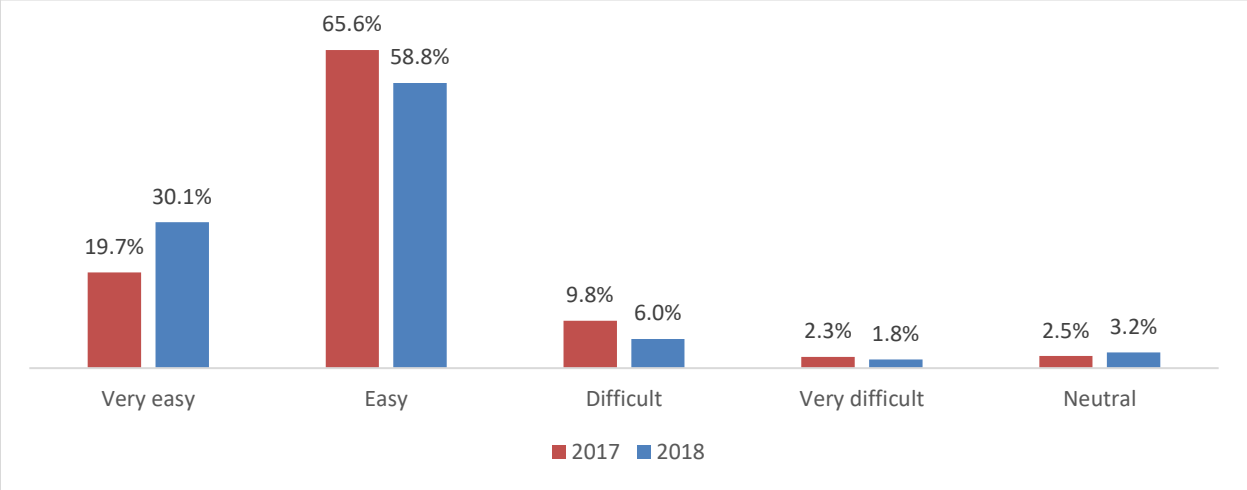

Figure 27: Percentage distribution of SIM card registration experience, 2017-2018

Based on the new guideline, service providers are not allowed to register more than five SIM cards per individual user. The survey found that most respondents had only one active SIM card (72.5%) per user. This is followed by 23.5% for two active SIM cards per user, an increase of 5.8% as compared with 2017 (17.7% in HPUS 2017).

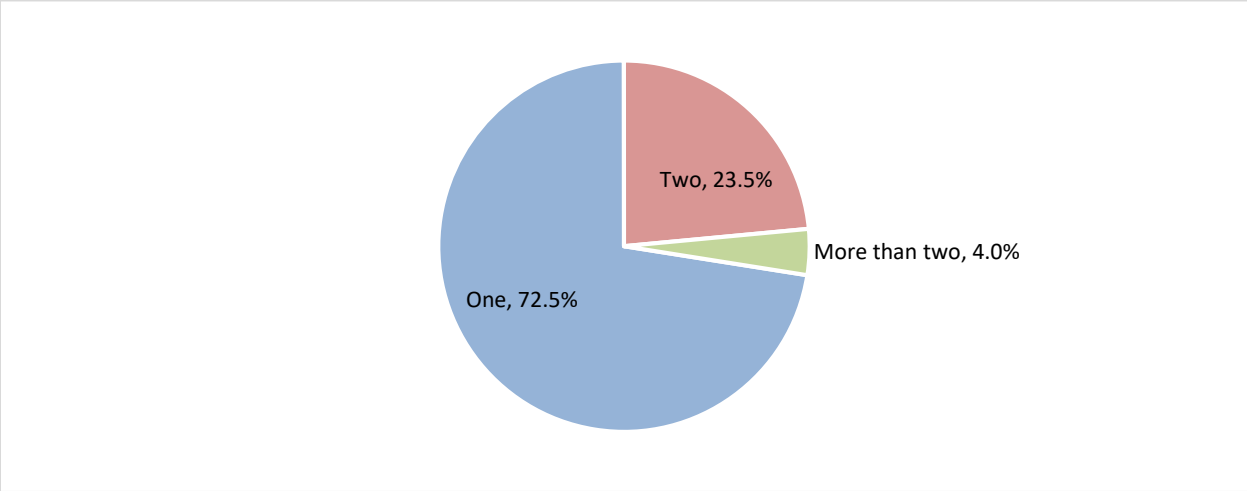

Figure 28: Percentage distribution of active SIM cards per user

Besides registering for a new SIM card, users may opt to switch over to another mobile service provider while retaining their existing mobile phone numbers through the Mobile Number Portability (MNP) service[23]. The survey found that 26.9% of respondents experienced using the MNP service to port out to another service provider.

[23] Convergence, Communications and Multimedia Policy and Regulatory Guide

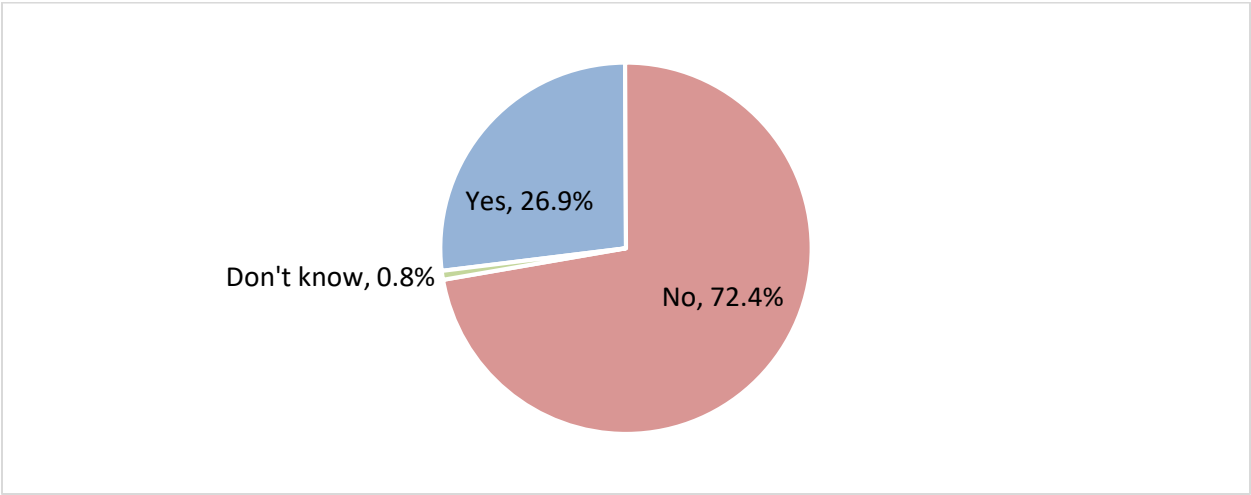

Figure 29: Percentage distribution of users experienced porting out to a new service provider

Amongst the MNP service users, results revealed that nearly 6 out of 10 (57.6%) of them claimed the process was easy. Meanwhile, 22.1% considered the process as "very easy" and less than 15.0% said it was difficult. Only 3.7% claimed that the MNP process was very difficult.

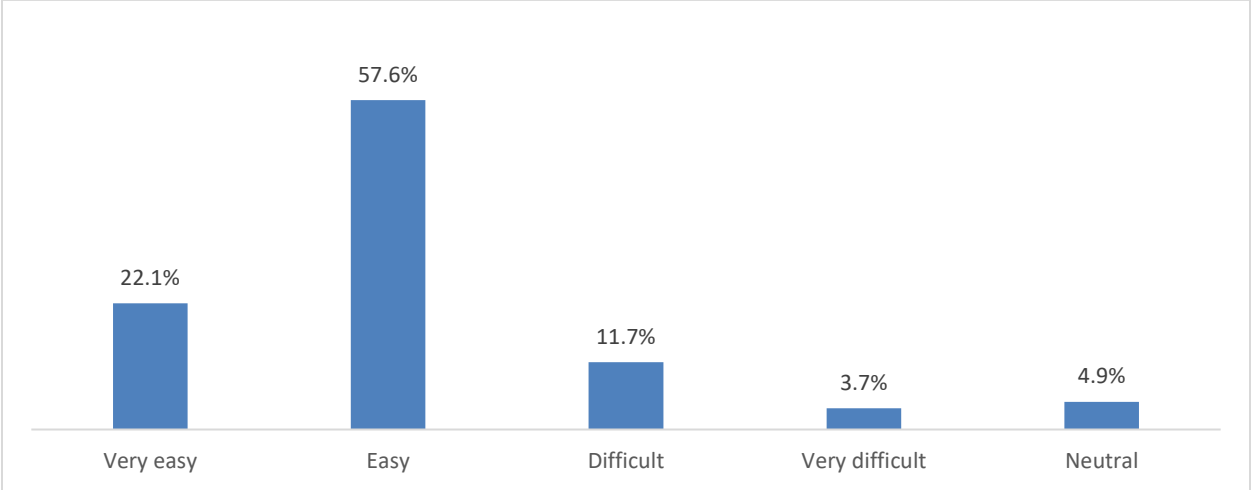

Figure 30: Percentage distribution of MNP service users' experience

Klik Dengan Bijak Campaign

The Internet has grown to be one of the most important basic necessity in the world. However, it is a double-edged sword with amazing capabilities, but also a perfect landscape for mayhem. 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	SECURITY	RESPONSIBILITY
To educate the public to use the internet in a secure manner.	To encourage people to be cautious when interacting online	To promote a positive use of networked media content in the community

Source: www.klikdenganbijak.my

This section identified the level of awareness among hand phone users on the KDB programmes. The survey showed that 19.6% of hand phone users were aware of this programme, an increase of 1.0% from HPUS 2017.

Among the hand phone users who were aware of the KDB programme, the top source was through television advertisements (57.1%). Promotion through KDB's social media i.e. Facebook, Instagram and YouTube was the second most popular source of information on the programme (26.7%). This was followed by radio advertisements (12.9%), MCMC website (7.4%) and newspaper advertisements (7.0%).

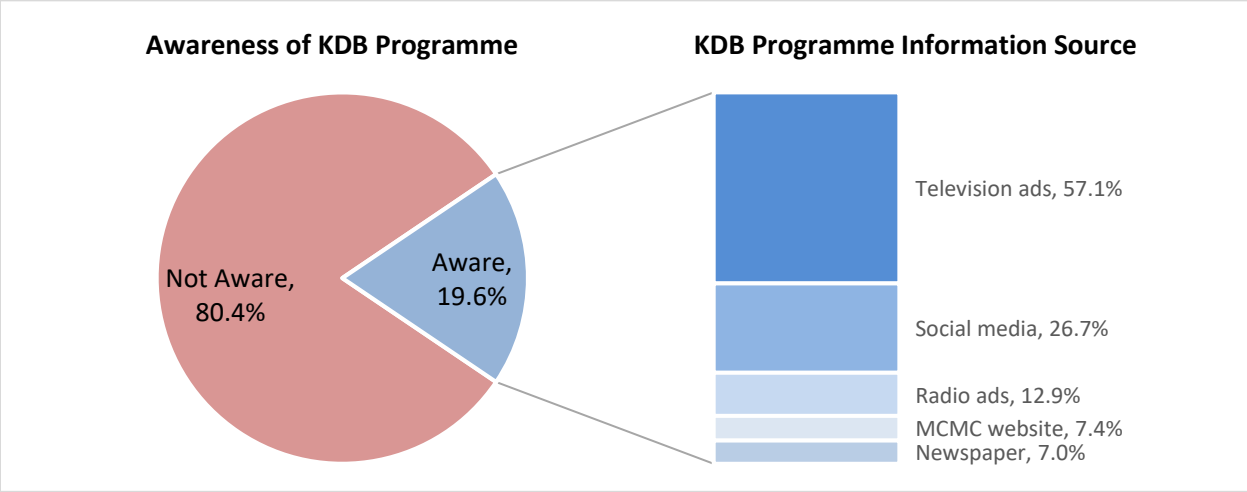

Figure 31: Percentage distribution of awareness and information source on KDB Programme among hand phone users

Mobile Privacy Management

The survey also put an effort to understand concerns on personal data breach in the event of lost or stolen hand phone. More than three out of ten (32.3%) hand phone users claimed to have experienced losing their device. Amongst them, more than half (52.1%) lost their hand phone by misplacing it and the remaining 47.9% lost their hand phone by theft.

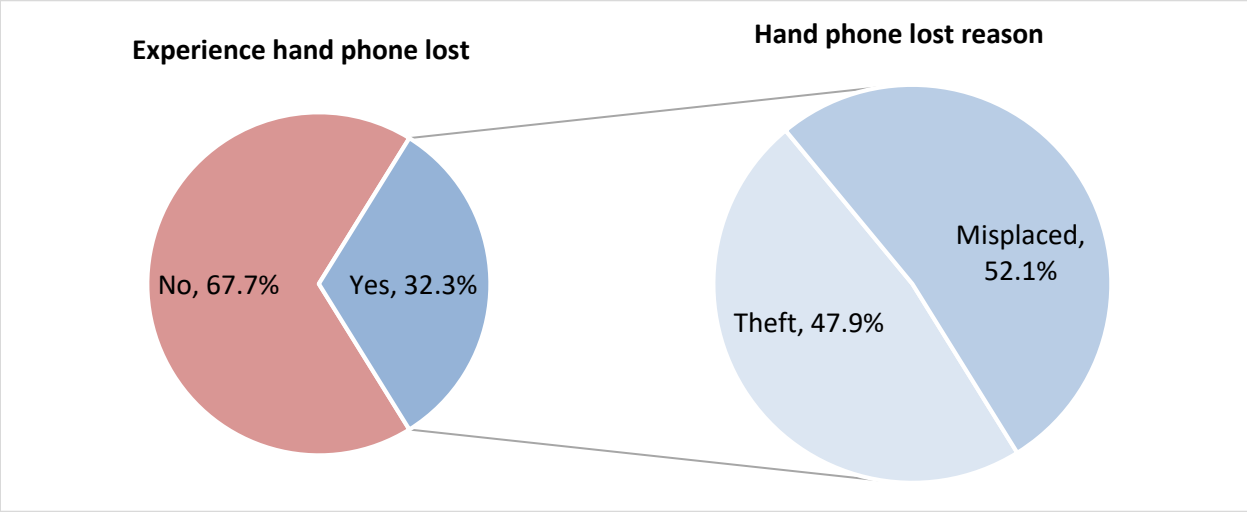

Figure 32: Percentage distribution of hand phone lost experience and reason

The findings also confirm that "No access to communication" (70.5%) and "Losing contact" (67.8%) were the top two concerns claimed by the hand phone users in the event of losing their devices. More than six out of ten users were concerned of the misuse of their social network or email identity by others (61.9%). Meanwhile, 59.7% feared that their personal photos will be leaked and 57.3% worried of the cost and hassle of replacing their lost hand phone. Nonetheless, 3.4% have no concerns to all of the above.

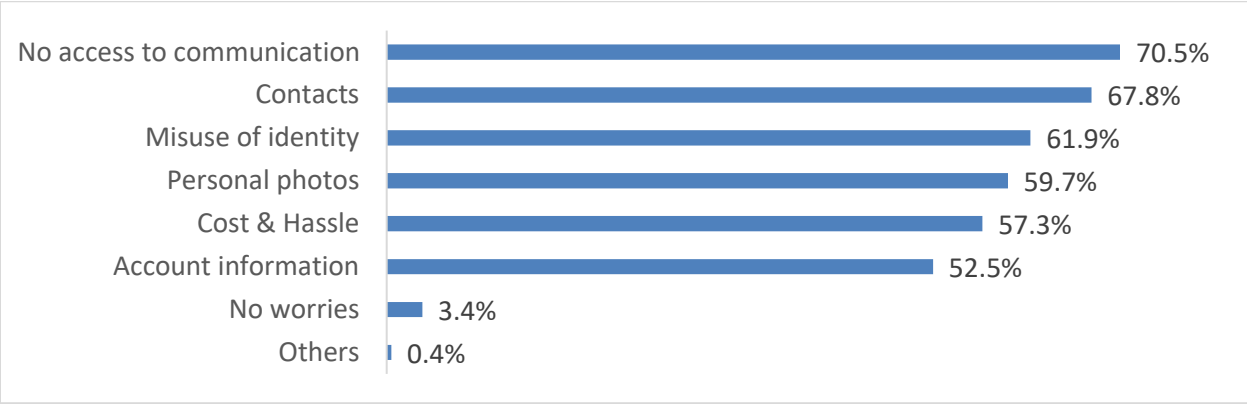

Figure 33: Percentage distribution of hand phone users' mobile privacy concerns

In addition, we also asked all smartphone users on steps taken to protect their personal data. Comparison with previous HPUS surveys shows that awareness among consumers on most of the steps taken to protect their personal data have improved. For instance, 65.8% of users are vigilant in protecting their hand phone using passwords compared to 64.5% in HPUS 2017, while 57.9% don't use untrusted applications or websites compared with 57.5% in HPUS 2017. Backing up photos and contacts showed the highest improvement as 48.9% of hand phone users performed this step compared with 44.5% last year. However, awareness on some steps had shown a decline. Not sending or accessing sensitive data from users' hand phone (53.0%) exhibited a slight decline as compared with 54.1% in HPUS 2017.

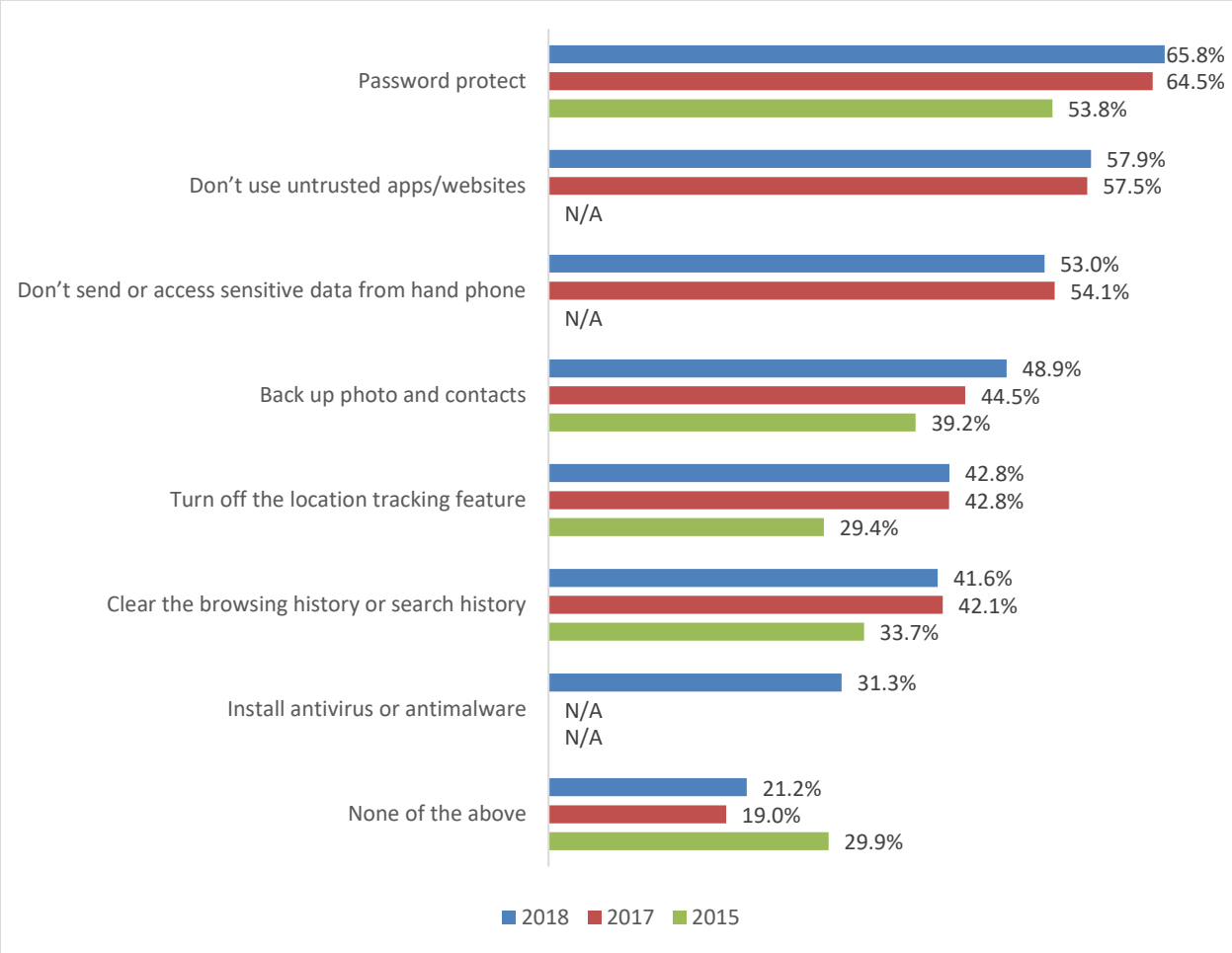

Figure 34: Percentage distribution of users on personal protection, 2015-2018

The survey further asked the hand phone users' opinion on their level of trust concerning confidentiality of their personal data kept by their service provider. More than five out of ten (56.7%) of hand phone users personally believed that service providers kept their data private, an increase of 4.0% from HPUS 2017 (52.7%). Meanwhile, the percentage of users who did not feel that their personal data is safe with service providers shows a slight decline from 21.7% in HPUS 2017 to 20.6% in HPUS 2018.

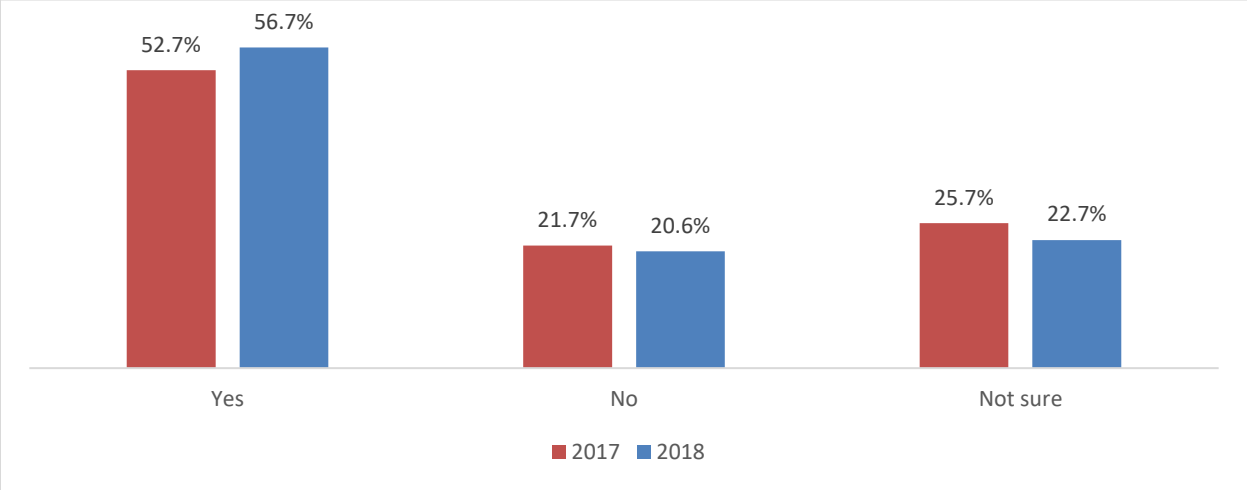

Figure 35: Percentage distribution of users' opinion on personal data kept by service providers is confidential, 2017-2018

Hand Phone Users' Behaviour

Few questions were asked related to users' dependency on their hand phone in order to gauge users' behaviour that might lead towards early signs of hand phone addiction. Findings showed more than one out of four hand phone users checked their phone constantly (every 30 minutes or lower), even with no notification (27.1%).

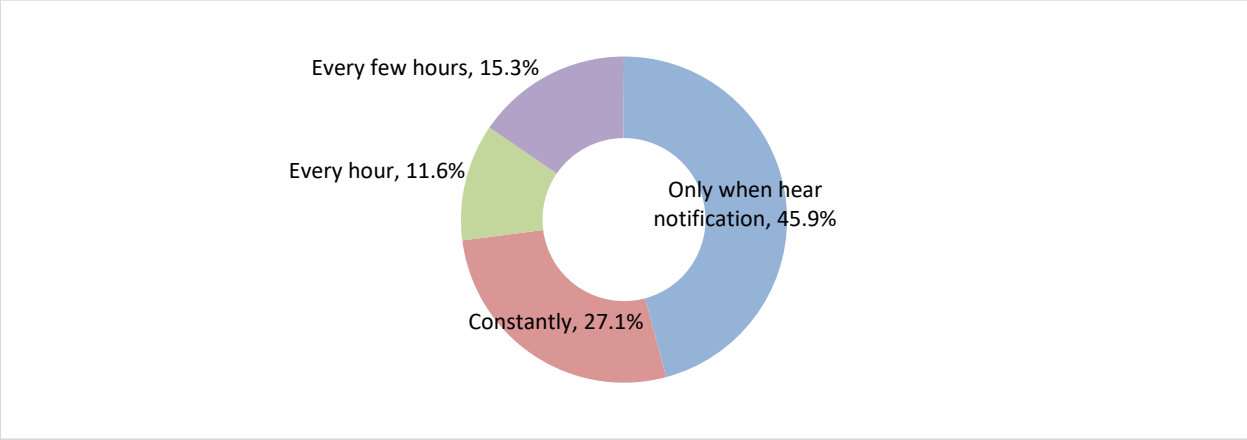

Figure 36: Percentage distribution of users' frequency of checking their phone in a day

More than three quarters of hand phone users (78.0%) claimed that they checked their hand phones before going to bed or in the middle of the night. Among others, more than half of hand phone users (52.1%) claimed they used their phones during meals with others. Almost four out of ten (3.5%) of hand phone users admitted to use their phone at prohibited places i.e. petrol stations with higher proportion observed among young adults aged 20-34 years old. The survey also found that 21.8% of hand phone

users admitted to use their devices while driving, particularly among those aged between 20 to 49 years old.

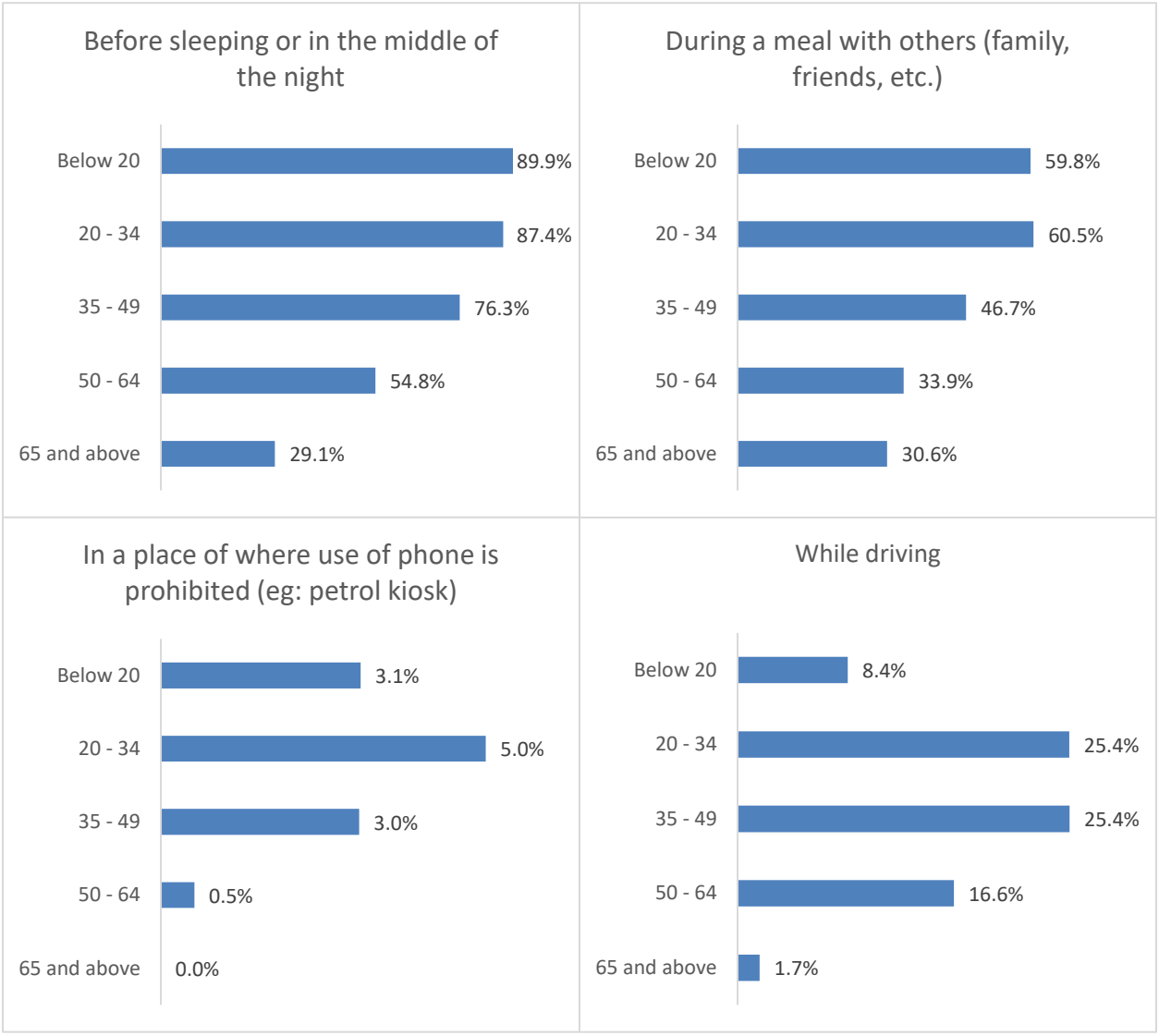

Figure 37: Percentage distribution of users using their phone while doing other activities by age group

The survey further prompted on the first thing smartphone users do when they check their hand phone after waking up (exclude turning off alarm). Majority of the respondents (75.9%) mentioned checking mobile messaging apps was the first thing they did after waking up. Meanwhile, 9.3% visited their social network accounts and 4.7% check their emails. Proportion of respondents checked their missed calls and determine the time after waking up were relatively low, 3.4% and 1.8% respectively.

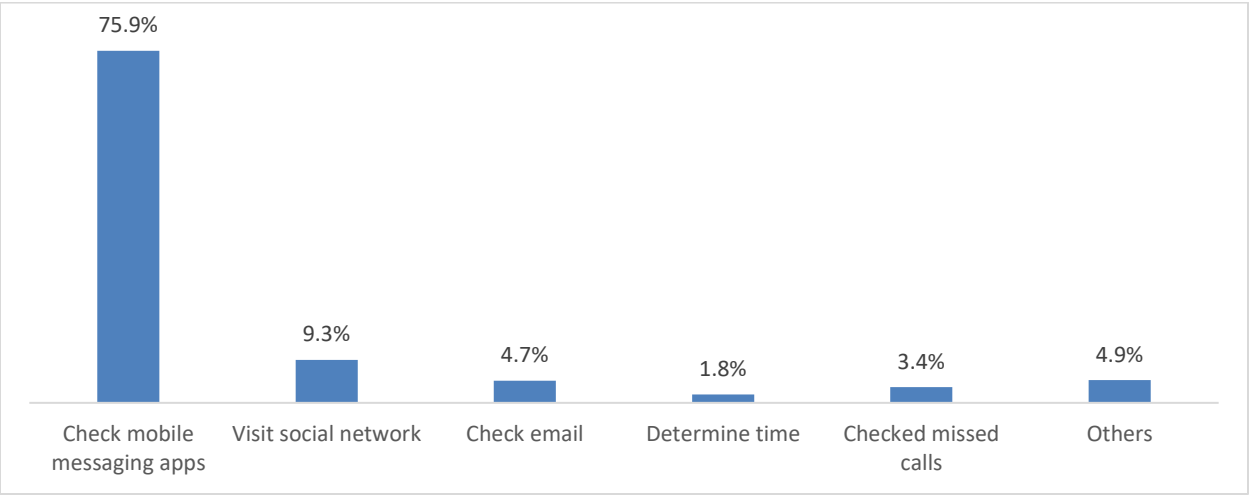

Figure 38: Percentage distribution of smartphone users on the first thing they check after waking up

SECTION 4: 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 4: **Percentage distribution of hand phone users by basic characteristics**

Background characteristic	Percent
Gender	
Male	58.4
Female	41.6
Broad Age Group	
Below 20 years old	8.9
20 – 34 years old	47.4
35 – 49 years old	26.3
50 – 64 years old	13.3
65 years old and above	4.0
Residence	
Urban	35.9
Rural	64.1
Region*	
Northern Region	17.7
Central Region	35.9
Southern Region	16.5
East Coast Region	12.9
Eastern Region	17.0
Educational Level**	
Primary	11.3
Secondary	49.3
Post-secondary	6.6
Tertiary	29.6

**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

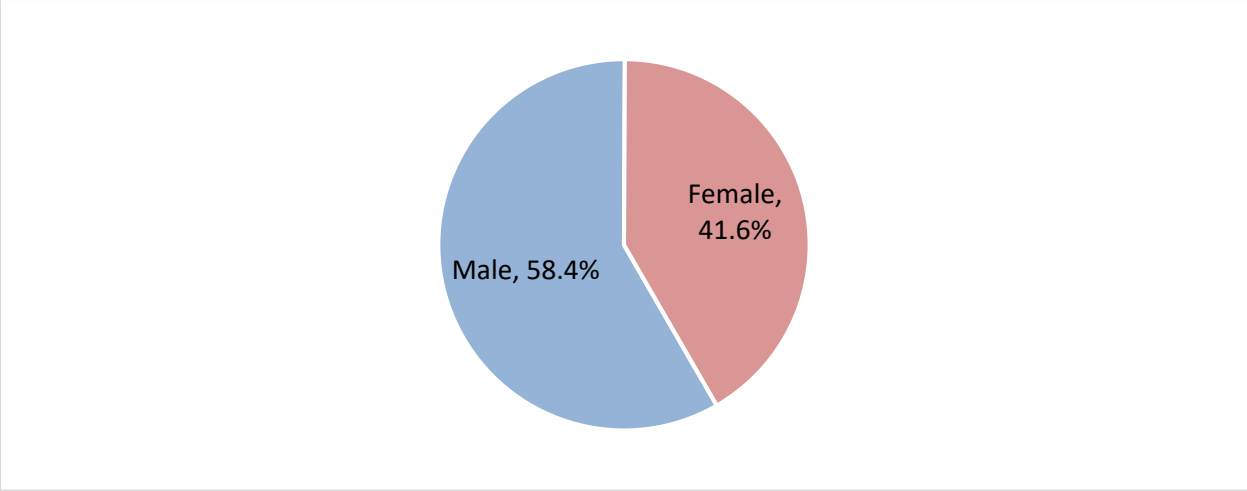

Figure 39: Percentage distribution by gender

Results shown that male users have continuously outnumbered female users. Males made up 58.4% while females account for 41.6%, a ratio of 1.40. Hand phone usage by gender has recorded a stable trend throughout the year.

Table 5: Percentage distribution of hand phone users by gender

Gender	2011	2012	2013	2014	2015	2016	2017	2018
Male (%)	55.2	56.5	57.6	56.9	56.9	56.9	58.9	58.4
Female (%)	44.8	43.5	42.4	43.1	43.1	43.1	41.1	41.6
Ratio	1.23	1.30	1.36	1.32	1.32	1.32	1.43	1.40

Age Group

The HPUS 2018 results reflect the demographic profile of young adults, from the age group of 20–24 with 17.9% of hand phone users. The second largest group was 25–29 which accounted for 15.5%. Meanwhile, the working age group (15-64 years old) represents 95.5% of hand phone users.

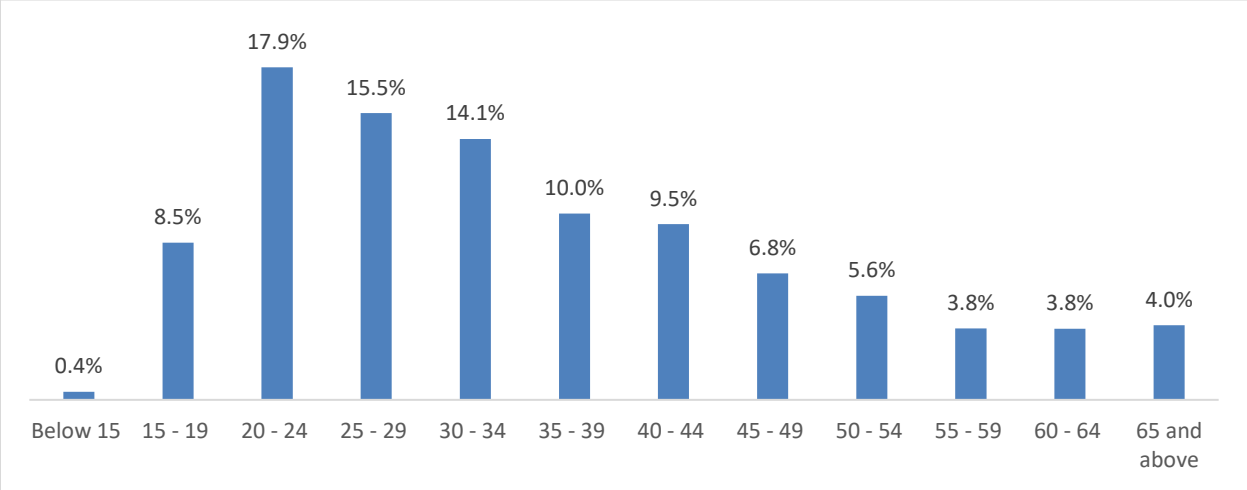

Figure 40: Percentage distribution of hand phone users by age category

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 1.79 to 1 in 2018.

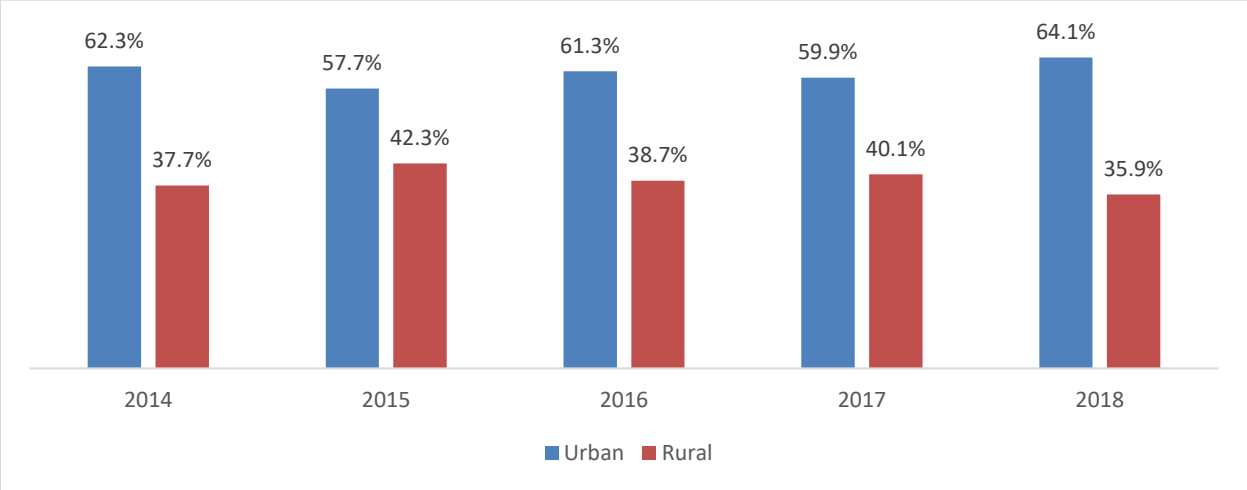

Figure 41: Percentage distribution of the user by rural-urban dissection

Income Category

The highest percentage of income range for hand phone users remained at RM 1,000 – RM 3,000 (39.7%). Meanwhile, the percentage of hand phone users with income above RM 3,000 increased from 17.7% in 2017 to 18.9% in 2018.

Table 6: Percentage distribution of hand phone users by monthly income

Income Category (%)	2014	2015	2016	2017	2018
Dependents	30.7	32.9	35.2	29.9	31.5
RM1,000 and below	17.4	19.8	15.2	12.9	9.9
RM1,000-RM3,000	36.6	34.9	32.6	39.3	39.7
RM3,000-RM5,000	10.1	8.6	10.2	11.3	12.0
RM 5,000 and above	5.2	3.8	6.8	6.4	6.9

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

SECTION 5: CONCLUSION

In the past five years, smartphone users have increased significantly from 53.4% in 2014 to 78.0% in 2018. The smartphone market growth was largely contributed by extensive mobile broadband coverage and intense competition by service providers, which has significantly dropped the mobile broadband packages pricing. In addition, smartphone prices have been made affordable by various smartphone manufacturers competing in the market i.e. mid-range smartphones with decent prices have features comparable to high-end flagship smartphones.

Users nowadays are more inclined towards higher bandwidth activities such as video calling, watching videos and playing games on their smartphones. Over-the-top (OTT) communication and video streaming applications such as WhatsApp and Netflix are popular among users. Video calling is expected to continue rising as WhatsApp, the most popular communication application in Malaysia[24] has launched a group video calling feature for up to four callers in July 2018[25]. In addition, service providers are providing additional data allowance for OTT video streaming applications as well as mobile games to attract more subscribers.

In line with the report by Consumer Forum Malaysia (CFM), network issues was the top complaint by consumers in 2018[26]. Improvement of network coverage and broadband speed are crucial to combat dissatisfaction among mobile-broadband data plan subscribers. Government through the National Fiberization Connectivity Plan (NFCP) which set to take place in 2019 is aimed to improve broadband quality and coverage. With the success of the NFCP pilot project in Jasin Melaka[27], subscribers should be excited on what's to come in 2020 and beyond.

MCMC through the Digital Lifestyle Malaysia (DLM) initiative aims to promote and accelerate the development and adoption of digital applications and services which includes Smart Home applications. Home surveillance should be the main focus for future Smart Home developments in Malaysia as this was the top priority mentioned by hand phone users.

[24] MCMC Internet Users Survey 2018: Communication Apps Users

[25] WhatsApp Blog. (2018). Retrieved from https://blog.whatsapp.com/10000646/Group-Calling-for-Voice-and-Video-Is-Here

[26] Complaints About Network and High-Speed Broadband (HSBB) Price Record an Increase in 2018 -. (2019). Retrieved from http://www.consumerinfo.my/complaints-network-high-speed-broadband-increase/

[27] NFCP Pilot Project Proved Successful, over 1,100 Homes in Jasin Enjoy High Speed Internet. (2019). Retrieved from https://www.tnb.com.my/announcements/nfcp-pilot-project-proved-successful-over-1100-homes-in-jasin-enjoy-hsbb

Awareness to protect personal data among Malaysians has improved in some aspects as compared to data gathered in 2017. Improvement in various preventive measures taken by hand phone users to protect their personal data is on the rise, thus reducing the risk of hand phone users from being scammed online.

It was observed that awareness on Klik Dengan Bijak (KDB) is relatively low among hand phone users. Since KDB is a very good outreach programme to ensure public use the Internet wisely, the level of awareness need to be enhanced in the future.

SECTION 6: 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 an asterisk 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	2016		2017		2018	
	Percent	RSE	Percent	RSE	Percent	RSE
Use feature phone	53.0	1.9	31.0	3.0	25.9	3.5
Use smartphone	68.7	1.4	75.9	1.1	78.0	1.1

Multiple response

Table 2

Smartphone phone users by age group	Percent	RSE
Below 20 years old	93.5	1.8
20 – 34 years old	88.0	1.1
35 – 49 years old	76.2	2.2
50 – 64 years old	49.8	5.6
65 years old and above	30.6	15.3

Table 3

Smartphone phone users by employment category	Percent	RSE
Self employed	78.2	2.6
Employed	82.7	1.3
Unemployed	56.6	4.5
Pensioner	44.7	11.9

A full time student	95.5	1.3

Table 4

Smartphone phone users by income category	Percent	RSE
RM 5000 and above	96.2	1.6
RM 3,000 - RM 5,000	92.3	1.7
RM 1,000 - RM 3,000	81.8	1.5
RM 1,000 and below	60.9	5.3
Dependent	69.9	2.4

Table 5

Smartphone phone users by areas of living	Percent	RSE
Rural	67.3	2.4
Urban	83.8	1.1

Table 6

Feature phone users by age group	Percent	RSE
Below 20 years old	11.5	18.9
20 – 34 years old	15.8	6.9
35 – 49 years old	28.1	6.4
50 – 64 years old	53.8	5.2
65 years old and above	70.3	6.6

Table 7

Feature phone users by employment category	Percent	RSE
Self employed	27.1	8.1
Employed	21.8	5.4
Unemployed	45.5	5.7
Pensioner	55.3	9.6
A full time student	7.1	21.6

Table 8

Feature phone users by income category	Percent	RSE
RM 5000 and above	10.1	23.4
RM 3,000 - RM 5,000	11.0	17.0
RM 1,000 - RM 3,000	23.2	6.0
RM 1,000 and below	42.9	7.6
Dependent	32.1	5.4

Table 9

Feature phone users by areas of living	Percent	RSE
Rural	35.8	4.6
Urban	20.5	5.0

Table 10

Reason for still using feature phone	2017		2018	
	Percent	RSE	Percent	RSE
Feature phone serve my needs	81.6	2.0	81.8	2.1
Smartphone is expensive	26.5	6.9	24.7	7.6
Network coverage for 4G/LTE is not available/weak	6.6	15.7	9.8	13.2

Restriction from parents	1.3	36.5*	1.0	43.5*
Smartphone can be addictive	8.1	14.0	7.2	15.6
Lack of skills	11.0	11.8	6.4	16.6
Others	81.6	2.0	2.2	29.2*

Multiple response

Table 11

Intention to change to smartphone	Percent	RSE
Yes	23.8	7.8
No	76.2	2.4

Table 12

Types of owners	2017		2018	
	Percent	RSE	Percent	RSE
Own smartphone	74.0	1.2	76.4	1.1
Own feature phone	30.2	3.1	25.0	3.5

Table 13

Smartphone phone owners by age group	Percent	RSE
Below 20 years old	86.3	2.7
20 - 34 years old	87.0	1.1
35 - 49 years old	74.9	2.3
50 - 64 years old	48.6	5.8
65 years old and above	30.6	15.3

Table 14

Smartphone phone owners by income category	Percent	RSE
RM 5000 and above	95.7	1.7
RM 3,000 - RM 5,000	92.0	1.8
RM 1,000 - RM 3,000	80.9	1.6
RM 1,000 and below	59.1	5.5
Dependent	66.7	2.6

Table 15

Smartphone phone owners by educational attainment	Percent	RSE
Tertiary	95.0	0.9
Post-secondary	86.8	3.1
Secondary	73.4	1.7
Primary	46.5	6.5
Others	25.0	95.7**
None	35.7	15.6

Table 16

Using hand phone to access Internet	Percent	RSE
Access Internet using feature phone	25.1	6.9
Access Internet using smartphone	94.6	0.5

Multiple response

Table 17

Feature phone enabled 3G	Percent	RSE
Yes	65.4	5.8
No	22.0	15.1
Don’t know	12.7	21.0

Table 18

Activities conducted on smartphones	2017		2018	
	Percent	RSE	Percent	RSE
Text Messaging and Voice Note	98.5	0.3	98.1	0.3
Voice calls	93.8	0.6	95.4	0.5
Video calls	53.4	2.2	69.3	1.6
Send or receive emails	60.0	2.0	64.1	1.8
Social networking	88.1	0.9	88.6	0.9
Searching/browsing the Internet	87.5	0.9	85.1	1.0
Banking	37.5	3.1	42.8	2.7
Shopping	28.4	3.7	40.9	2.9
Entertainment	83.7	1.1	N/A	N/A
Watching videos or movies	N/A	N/A	82.7	1.1
Play games	N/A	N/A	56.4	2.1
Listen to music	N/A	N/A	71.9	1.5
Reading	49.7	2.4	52.3	2.3
Get directions	73.6	1.4	74.8	1.4
View and manage security camera	8.2	8.1	8.9	7.6
Taking photos/videos	N/A	N/A	92.8	0.7
Others	0.7	28.4*	0.2	55.2**

Multiple response

Table 19

Subscription to mobile broadband data plan	Percent	RSE
Yes	62.8	1.6
No	36.0	2.7
Don’t know	1.2	18.6

Table 20

Mobile broadband data plan spending per month	Percent	RSE
Less than RM10	1.9	18.3
RM10-RM30	18.2	5.5
RM30-RM50	31.2	3.8
RM50-RM100	28.5	4.1
RM100 and above	16.4	5.8
Don’t know	3.8	12.9

Table 21

Mobile broadband data plan allowance per month	Percent	RSE
Less than 1GB	1.6	20.4
1-2GB	6.7	9.6
2-5GB	12.1	6.9
5-10GB	20.6	5.1

10-30GB	19.0	5.3
30-50GB	7.0	9.4
50GB and above	17.3	5.6
Don’t know	15.8	6.0

Table 22

Mobile broadband data plan service provider satisfaction	Percent	RSE
Yes	82.4	1.2
No	12.4	6.8
Don’t know	5.0	11.2

Table 23

Mobile broadband data plan dissatisfaction reason	Percent	RSE
Network coverage	54.1	6.7
Internet speed	45.1	8.1
Data allowance	23.8	13.1
Price	28.2	11.7
Others	1.3	63.4**
Don’t know	0.4	110.2**

Multiple response

Table 24

Mobile broadband data plan dissatisfaction but stay reason	Percent	RSE
Family and friends use the operator	27.2	12.0
Quality of internet coverage	19.1	15.0
Quality of internet speed	13.9	18.2
Internet package plan price	24.8	12.7
Internet package plan data allowance	11.7	20.1
Data roaming tariffs	3.7	37.2*
Bound by contract	12.9	19.0
Unlimited calls/SMS	7.7	25.4*
Long-time user	10.5	21.4
Troublesome to port out	7.3	26.1*
Will port out	4.1	35.2*
Service provider's great reputation	3.5	38.1*
Others, please specify	4.1	35.1*
Don’t know	3.3	39.4*

Multiple response

Table 25

Awareness of AI-enhanced applications	Percent	RSE
Predictive text	25.8	3.5
Route suggestions	65.4	1.5
Voice assistance	41.7	2.4
Voice search	41.7	2.4
Automated news or information updates	31.1	3.0
Translation apps	51.3	2.0
Voice-to-text	36.3	2.7
Automated email classification	28.2	3.3

Automated calendar entries	35.9	2.7
Automated photo classification	32.2	3.0
None of the above	26.2	3.4

Multiple response

Table 26

Usage of AI-enhanced applications	Percent	RSE
Predictive text	14.3	4.8
Route suggestions	52.6	1.5
Voice assistance	22.1	3.6
Voice search	19.6	4.0
Automated news or information updates	16.1	4.5
Translation apps	35.8	2.4
Voice-to-text	17.7	4.2
Automated email classification	17.1	4.3
Automated calendar entries	23.3	3.5
Automated photo classification	20.9	3.8
None of the above	11.1	5.7

Multiple response

Table 27

Ownership of wearable device	Percent	RSE
Own at least one	10.6	5.9
Own none	89.4	0.7

Table 28

Type of wearable device owned	Percent	RSE
Fitness band	44.8	7.0
Smart watch	68.6	4.2
Smart glasses	5.0	27.4*
VR headsets	10.8	18.0

Multiple response

Table 29

Importance of Smart Home applications - Home control	Percent	RSE
1	17.5	4.4
2	16.9	4.5
3	18.2	4.3
4	21.4	3.9
5	19.4	4.2
No opinion	6.6	7.7

Table 30

Importance of Smart Home applications - Home surveillance	Percent	RSE
1	8.3	6.8
2	7.7	7.1
3	7.4	7.2
4	28.0	3.3
5	42.8	2.4
No opinion	5.7	8.3

Table 31

Importance of Smart Home applications - Home entertainment	Percent	RSE
1	12.8	5.3
2	16.9	4.5
3	18.0	4.4
4	24.7	3.6
5	21.5	3.9
No opinion	6.1	8.0

Table 32

Importance of Smart Home applications - Home appliances	Percent	RSE
1	18.8	4.2
2	19.6	4.1
3	16.7	4.6
4	20.3	4.0
5	18.1	4.3
No opinion	6.4	7.8

Table 33

Mobile Content Services (MCS) subscribers	Percent	RSE
Yes	22.0	3.8
No	78.0	1.1

Table 34

Types of MCS subscribed	Percent	RSE
Games	44.7	4.8
Wallpaper	29.8	6.7
Ringtones	56.3	3.8
Others	0.3	77.0**

Multiple response

Table 35

Experience whereby respondents' credit/bill being charged of MCS without consent	Percent	RSE
Yes	32.1	3.0
No	65.9	1.5
Don't know	1.9	14.6

Table 36

Years being charged of MCS without consent	Percent	RSE
Before 2015	41.0	4.3
2015	6.1	14.1
2016	7.3	12.8
2017	8.5	11.8
2018	23.3	6.5
Not sure	13.7	9.0

Table 37

Opinion on the relevancy of MCS	Percent	RSE
Yes	40.8	2.5
No	59.2	1.7
Don't know	0.0	N/A

Table 38

Why users think MCS is not relevant	Percent	RSE
Wide use of mobile apps	39.8	3.3
Content can be downloaded via Internet	52.8	2.5
It is no longer a trend	36.6	3.5
The content is not interesting	31.8	3.9
Unnecessary	7.8	9.1
Others	1.2	24.4
Don't know about MCS	15.6	6.2

Multiple response

Table 39

Registration of new SIM card in 2018	Percent	RSE
Yes	23.2	3.7
No	75.3	1.2
Don't know	1.5	16.7

Table 40

Experience on level of difficulty of SIM Card registration	2017		2018	
	Percent	RSE	Percent	RSE
Very easy	19.7	4.4	30.1	6.5
Easy	65.6	1.7	58.8	3.5
Difficult	9.8	6.6	6.0	16.7
Very difficult	2.3	13.9	1.8	31.3*
Neutral	2.5	20.3	3.2	23.3

Table 41

Number of active SIM Cards	Percent	RSE
1	72.5	1.3
2	23.5	3.7
3	3.0	11.5
4	0.5	28.6*
5	0.2	49.1*
More than 5	0.3	38.8*

Table 42

Port out to new service provider (MNP)	Percent	RSE
Yes	26.9	3.4
No	72.4	1.3
Don't know	0.8	23.1

Table 43

Experience on level of difficulty of MNP	Percent	RSE
Very easy	22.1	7.4
Easy	57.6	3.4
Difficult	11.7	10.8
Very difficult	3.7	20.1
Neutral	4.9	17.4

Table 44

Awareness on "*Klik Dengan Bijak*" campaign	Percent	RSE
Yes	19.6	4.1
No	80.4	1.0

Table 45

Knowledge on "*Klik Dengan Bijak*" campaign source	Percent	RSE
Newspaper	7.0	16.9
MCMC Website	7.4	16.3
Social media	26.7	7.6
SMS/Messaging apps	5.2	19.6
Radio ads	12.9	12.0
Television ads	57.1	4.0
Don't Remember/Not Sure	0.8	52.7**
Friends and family	3.3	24.8
MCMC programs and roadshows	3.1	25.8*
Others	0.7	55.0**

Multiple response

Table 46

Lost hand phone experience	Percent	RSE
Yes	32.3	3.0
No	67.7	1.4

Table 47

Lost hand phone reason	Percent	RSE
Theft	47.9	3.7
Misplaced	52.1	3.4

Table 48

Mobile privacy biggest concern	Percent	RSE
Contacts	67.8	1.4
Misuse of identity (e.g. email, social network)	61.9	1.6
Cost & Hassle (of replacing the phone)	57.3	1.8
Account information (Bank or financial account information exposed)	52.5	1.9
Personal photos	59.7	1.7
No access to communication	70.5	1.3
Others	0.4	30.5*
No worries	3.4	10.8

Multiple response

Table 49

Action taken to protect personal data on hand phone	Percent	RSE
Password protect (pin, draw pattern, fingerprint)	65.8	1.5
Back up photo and contacts	48.9	2.1
Clear the browsing history or search history	41.6	2.4
Turn off the location tracking feature	42.8	2.4
Don't use untrusted apps/websites	57.9	1.7
Don't send or access sensitive data from hand phone	53.0	1.9
Install antivirus or antimalware	31.3	3.0
None of the above	21.2	3.9

Multiple response

Table 50

Opinion on whether personal data that kept by service provider is confidential	2017		2018	
	Percent	RSE	Percent	RSE
Yes	52.7	1.9	56.7	1.8
No	21.7	3.9	20.6	4.0
Not sure	25.7	3.5	22.7	3.8

Table 51

Frequency to check phone in a day	Percent	RSE
Constantly (Every 30 minutes or lower)	27.1	3.3
Every hour	11.6	5.6
Every few hours	15.3	4.8
Only when hear notifications	45.9	2.2

Table 52

Use hand phone while...	Percent	RSE
While driving	21.8	3.9
While attending class/college	19.7	4.1
During a meal with others (family, friends, etc.)	52.1	2.0
On public transportation	57.0	1.8
In a place of where use of phone is prohibited (e.g.: petrol kiosk)	3.5	10.7
While queuing (e.g.: queuing at the ATM machine)	43.3	2.3
While walking (e.g.: crossing the roads)	34.8	2.8
Public area (e.g.: hospital, cinema)	55.4	1.8
Before sleeping or in the middle of the night	78.0	1.1
None of the above	9.6	6.3

Multiple response

Table 53

The first thing to do after waking up	Percent	RSE
Check mobile messaging apps	75.9	1.3
Visit social network	9.3	7.2
Check email	4.7	10.3
Others	4.9	10.2
Determine time	1.8	17.1
Checked missed calls	3.4	12.3

Table 54

Gender distribution of hand phone users	Percent	RSE
Male	58.4	1.7
Female	41.6	2.4

Table 55

Age group distribution of hand phone users	Percent	RSE
Below 15 years old	0.4	31.0*
15 - 19 years old	8.5	6.7
20 - 24 years old	17.9	4.4
25 - 29 years old	15.5	4.8
30 - 34 years old	14.1	5.0
35 - 39 years old	10.0	6.1
40 - 44 years old	9.5	6.3
45 - 49 years old	6.8	7.5
50 - 54 years old	5.6	8.4
55 - 59 years old	3.8	10.2
60 - 64 years old	3.8	10.2
65 and above	4.0	10.0

Table 56

Urban and rural distribution of hand phone users	Percent	RSE
Rural	35.9	2.7
Urban	64.1	1.5

Table 57

Monthly income category distribution of hand phone users	Percent	RSE
RM 5000 and above	6.9	7.6
RM 3,000 - RM 5,000	12.0	5.6
RM 1,000 - RM 3,000	39.7	2.5
RM 1,000 and below	9.9	6.2
Dependent	31.5	3.0

Table 58

Highest level of education distribution of hand phone users	Percent	RSE
Degree or higher (include Advance Diploma)	15.8	4.7
Diploma	13.8	5.1
STPM/STAM/Certificate/UEC-Senior Middle Three	6.6	7.7
SPM/SPVM	31.4	3.0
Sijil 4 Thanawi /SMA	0.2	47.4*
PMR/UEC-Junior Middle Three	7.7	7.1
Secondary school	10.0	6.1
Primary school	11.3	5.7
Others	0.1	55.2**
None	3.1	11.5

LIST OF TABLES AND FIGURES

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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	*Klik Dengan Bijak*
MCMC	Malaysian Communications and Multimedia Commission
MCS	Mobile Content Services
MS	Mandatory Standard
MISR	Measuring of Information Society Report
MNP	Mobile Number Portability
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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