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This paper describes the Hand Phone Users Survey 2004 that was conducted by the Malaysian Communications and Multimedia Commission (MCMC) from 22 July to 19 September 2004, to collect primary data to derive indicators related to mobile communications.

The survey covered core areas pertaining to demographic and socio-economic variables as well as trend variables in mobile communications. This survey will be repeated annually in order to build up a useful time series in respect of the core variables and at the same time fathom changing trends in usage.

Main findings follow the narrative below in Appendix B.

History and purpose of the survey

This is the first ever purpose built Hand Phone Users Survey conducted by the MCMC. The primary purpose of this survey is to estimate proportions of the subscriber base that fall into the classes of the various categorization schemes of the key variables.

Proper use of these estimated proportions in conjunction with the total known subscriber base as well as population estimates from the Department of Statistics, Malaysia (DOSM) will facilitate the derivation of the various hand phone penetration rates.

These include hand phone penetration rates by

- state
- ethnicity
- gender
- broad age group; and
- the urban and rural sectors

The survey also probes the following:

- SMS usage

- average monthly charges
- preferred payment plan

- multiplicity of hand phone ownership and use
- incidence of fixed lines
- inclination to use hand phone over fixed line phone

- educational attainment
- broad occupational classes
- income classes

Target population

The target population included all hand phones on all digital platforms in the states and territories making up the Federation of Malaysia. Both postpaid or prepaid lines were covered. On the other hand, hand phones on analogue platforms were out of the scope of this survey.

Time and geographic coverage of the survey

The survey was canvassed using a CATI solution and operated out of MCMC's CATI Centre. As noted above, the canvassing period extended from 22 July to 19 September 2004.

No statistical unit and no segment of the target population was excluded on the grounds of geographical inaccessibility or service non coverage or on any other grounds.

Sample Design

Size of target population

The size of the target population was 12,316,788 subscriptions.

Survey frame

The survey frame consists conceptually of all active hand phone numbers on the digital platform The frame has no source. In its place, a random hand phone number generator was used and the required number of numbers was generated and pumped into the CATI system. Inactive numbers, were replaced until the required number of active numbers were obtained.

Since a random hand phone number generator was used, the number of units in the frame is deemed to be the same as the number of units in the target population.

Sample selection procedure

The sample size was determined as 4,925 units. (see **Sample Size Determination for Multinomial Population, S. Chakravarty**)

There was only one stage of sample selection as the survey adopted a SRS approach.

As at 30 June 2004, there were 12,316,788 hand phone subscriptions on the 5 digital networks operating in the country. Hence, the range of natural numbers from 1 to

12,316,788 were divided into 5 bands with start and end points that take the number of subscriptions each network had into consideration.

Thus if the first network had n_1 subscriptions then the band of natural numbers starting from 1 through to n_1 is allocated to it. The second network with say n_2 subscriptions will have the band $n_1 + 1$ to $n_1 + n_2$ allocated to it and so on until the fifth network which will have a band terminating with the number 12,316,788.

This is shown in the table below:-

Network	Number of subscriptions	Band starts at	Band ends at
1	n_1	1	n_1
2	n_2	$n_1 + 1$	$n_1 + n_2$
3	n_3	$n_1 + n_2 + 1$	$n_1 + n_2 + n_3$
4	n_4	$n_1 + n_2 + n_3 + 1$	$n_1 + n_2 + n_3 + n_4$
5	n_5	$n_1 + n_2 + n_3 + n_4 + 1$	12,316,788

Table 1: Network serial number banding

A *no-duplicates* random number generator that allows specifications for the smallest number in the range (1), the largest number in the range (12,316,788) as well as the number of numbers within that range to be randomly generated was used. This random number generator runs in an Microsoft EXCEL application. In this way, 4,925 numbers were generated and displayed in one column of an EXCEL spreadsheet.

This column of 4,925 random numbers were then sorted and parsed into the five bands of natural numbers mentioned above.

If x_l numbers are found in the band for network 1 then x_l hand phone numbers are to be generated for network 1 and so on until all 4,925 numbers are generated.

The contribution to sample size appears in the table below:-

Network	Contribution to sample size
012	1,764
013	633
016	1,052
017	255
019	1,221
Sample size	4,925

Table 2 : Contribution to sample size

Response rates and their derivations

AAPOR's standards were adhered to in defining and calculating response rates as follows:

- Less than 50% of all applicable questions answered (with other than refusal or no answer) equals break-off,

- 50% to 80% equals partial, and;

- more than 80% equals complete.

Interviews consist of Completes (I) and Partials (P)

Eligible non-interviews (non-response) consist of refusals, break-offs (R) and non-contacts (NC).

The table below summarizes the final disposition for the Hand Phone Users Survey, 2004:

Interviews		Non-response			Total
Completes (I)	Partials (P)	Refusals	Break-offs	Non-contacts (NC)	
		(R)			
3504	0	20	394	1007	4,925

Table 3 : Final disposition of cases

Outcome rates calculated according to AAPOR's standard definitions are as follows:

Response Rates

RR1 = RR2 = RR5 = 71.1%
RR3 AND RR4 are not applicable to the survey

Cooperation Rates

COOP1 = COOP2 = COOP3 = COOP4 =89.4 %

Refusal Rates

REF1 = REF2= REF3 = 8.4%

Contact Rates

CON1 = 79.9 %

CON2 and CON3 are not applicable to the survey

Summary of sources of bias

The main concern was that interviewers did not always stick to the prescribed wordings in the questionnaire. However the questions that were asked were not that subjective as to make this a serious issue.

Related to this is the fact that the questionnaire was available only in 2 languages viz Bahasa Malaysia and English. When a Chinese or Tamil speaking respondent was contacted, the interviewer had to translate on the spot and the re was no guarantee of consistency from one interviewer to another or from one interview to another given the same interviewer.

Data Collection

Nature of instrument used

The survey used a questionnaire that asked 13 to 16 questions depending on answers given by respondents. Though not demarcated as such, the questions asked fall roughly into 3 main sections; Q1 to Q6 touched on demographics, Q7, Q15 and Q16 on socio-economics while the rest focused on user practices.

Method of administering the instrument

The questionnaire was administered by CATI. Interviewers call up main users of selected hand phone numbers to seek their cooperation. Answers given to precoded questions were clicked in while open ended answers were typed in. Interviewing time extended from 10:00 am to 5:00 pm on weekdays and weekends.

A variant of the observation method was also used. Thus, in the case of refusals, interviewers are asked to record what he thought was the gender and the ethnicity of the person who took the call, assumed to be the main user. Toward this end, the interviewers were asked to try their level best to persuade cooperation. The exchange that ensued will help them determine gender and ethnicity. These cases were treated as break-offs rather than refusals in the computation of outcome rates. There were 394 such cases.

Copies of survey instrument

There are two language versions of the survey instrument viz a Bahasa Malaysia and an English version. The English version is appended to this report as Appendix A. The actual questionnaire used was bilingual and was scripted using NIPO CATI systems. It therefore differed in appearance from the one in Appendix A.

Type of disclosure limitations used

The questionnaire was designed such that no information that can be traced to any respondent were asked. The question on location of the usual state of residence required only road names and/or housing estates. No house or lot numbers were required.
All interviewers had to sign a confidentiality statement before starting work

Data Presentation

Critical concepts and definitions of key variables

Critical concepts

The hand phone

The hand phone is seen as personal and not household equipment. This is because hand phones are normally taken away by their main users when they leave the house or office. Also, when the hand phone rings at home, more often than not the person who answers it is the main user as calls received by that device are expected to be for him.
(see also The main user below)

The main user

The main user may or may not be the legal owner of the device. He may also not be the one who pays for the bills incurred as in the case of supplementary subscriptions and company paid subscriptions.

Definitions of key variables

Ethnicity

The main user could also be of non-Malaysian nationality. Non Malaysians who identify themselves with any Malaysian community are accepted as such.

The ethnicity of an off-spring of mixed parentage is Malay if either parent is Malay, or recorded as reported or takes the ethnicity of the father if undecided.

Age

Age referred to age as at last birthday.

Usual state of residence

Usual state of residence referred to the state where the respondent has a home and has stayed continuously there for the past 6 months.

If he has stayed for less than 6 months but knows beyond reasonable doubt that he will be there for at least 6 months continuously, then he should be counted in that state. This is especially so in cases where the respondent has just been transferred in, prior to the interview taking place.

If a respondent knows that he will be moving to another state shortly but has not done so yet at the time of the interview then he should not be counted as a resident of the state where he is moving to. This is especially so in cases where the respondent is in notice of transfer but has not moved yet.

Usual state of residence does not refer to the state where ancestral homes or *kampungs* are located.

Highest level of education

Except in the case of Diploma s and Degrees, foreign qualifications were classified according to number of years of schooling received. The operational equivalents are as follows:

- less than 6 years – some primary schooling,
- 7 to 9 years – PMR,
- 10 to 11 years – SPM,
- 12 to 13 years - STPM

The number of hand phones used

Refers to the number of SIM cards rather than the physical phones. One phone may be fitted with different SIM cards at different times of the day.

Monthly hand phone charges

Refers to average charges on the hand phone through which the interview took place and does not include the charges on another hand phone that the respondent might have.

In the case of prepaid subscriptions, the monthly hand phone charges refer to the average top up per month.

SMS
Includes MMS

MALAYSIAN COMMUNICATIONS AND MULTIMEDIA COMMISSION

HAND PHONE USERS SURVEY
2004

Questionnaire

July 2004

Hello, << wait for response>>

<<If a small child answers, ask "May I speak to your Dad / Mom?">>

<<When an adult comes>> **Good morning / afternoon / evening. I am** <<name of interviewer>> **from the Malaysian Communications and Multimedia Commission. We are doing a study to compile statistics about hand phone users and will not be trying to sell you anything. May I speak to the main user of this hand phone?**

<< If person at the other end is main user>>

You have been selected at random to participate in this study. May I have around 10 **minutes of your time to answer 15 simple questions? The answers you give will be kept confidential and will be used only for this study.**

For more information on this survey you may ring 1-800-888-030. Please feel free to interrupt me if you don't understand any question or request for clarification. Can we start now?

<< <u>OR</u> when main user comes to the phone, reintroduce yourself and start the survey>>

Non-response
Where applicable, say "Thank you" politely, hang up and note telephone number for follow-up. Tick the reason for non-response below:

1		NO ANSWER	7		LANGUAGE BARRIER ( )
2		BUSY	8		REFUSED
3		ANSWERING MACHINE	9		DISCONNECTED/NONWORKING
4		VOICEMAIL	10		TARGET RESPONDENT NOT AVAILABLE
5		HANG UP	11		CALLBACK REQUESTED ( )
6		NOISE	12		OTHERS, SPECIFY [ ]

<u>Question 1</u>

Judging by your voice, am I right if I say you are << Make a guess and read out your guess first. If unsure guess Male >>

1 ☐ Male   2 ☐ Female

<u>Question 2</u>

And you are << Make a guess and read out your guess first>>

1 ☐ Malay   3 ☐ Chinese   5 ☐ Others
2 ☐ Bumiputra(Sabah/Sarawak)   4 ☐ Indian

<u>Question 3</u>

What is your age as of last birthday please?
<<If reluctant>>
OK, Would you mind telling me which age category you would fall into?

1 ☐ Below 15   6 ☐ 35 – 39
2 ☐ 15 – 19   7 ☐ 40 - 44
3 ☐ 20 – 24   8 ☐ 45 - 49
4 ☐ 25 – 29   9 ☐ Above 50
5 ☐ 30 – 34

<u>Question 4</u>

What is your usual state of residence?

1 ☐ Johor   10 ☐ Selangor
2 ☐ Kedah   11 ☐ Terengganu
3 ☐ Kelantan   12 ☐ Sabah
4 ☐ Melaka   13 ☐ Sarawak
5 ☐ Negeri Sembilan   14 ☐ W. P. Kuala Lumpur
6 ☐ Pahang   15 ☐ W.P. Labuan
7 ☐ Penang   16 ☐ W.P. Putrajaya
8 ☐ Perak
9 ☐ Perlis

Question 5

The next question will only be used to help me determine whether you are in an urban area. Can you tell me your complete address but leaving out the house number or lot number?

Question 6

May I know the highest level of education you have completed?

1	☐	None	5	☐	SPM, SPVM or equivalent
2	☐	Still schooling	6	☐	STPM or equivalent
3	☐	Some primary schooling	7	☐	Diploma
4	☐	PMR	8	☐	Degree

Question 7

What type of payment plan are you on?

1 ☐ Postpaid   2 ☐ Prepaid

Question 8

Do you use more than one hand phone, as the main user ?

1 ☐ Yes   2 ☐ No

(If No, skip to Q10.)

Question 9

How many hand phone do you use as the main user?

☐ Hand phone (s)

Question 10

How much is your monthly hand phone charges on average on this hand phone ?

1 ☐ <= RM50
2 ☐ RM50 <Bill <= RM100
3 ☐ RM100 <Bill <= RM150

4 ☐ RM150 <Bill<= RM200
5 ☐ > RM200

Question 11

How many SMS/MMS messages do you send in a day on average?

1 ☐ 1
2 ☐ 2
3 ☐ 3

4 ☐ 4
5 ☐ 5
6 ☐ More than 5

Question 12

Is there a fixed line telephone where you live?

1 ☐ Yes

2 ☐ No

<<If No, go to Question 14>>

Question 13

If you are at home, and if the fixed line telephone is available, would you still use your hand phone?

1 ☐ Yes

2 ☐ No

(End here for student user :Q6 Answer 2)

Question 14

May I know what is your occupation?

Question 15

**And finally, would you mind telling me which monthly income category you fall into?**

1 ☐ Inc <= RM1,000   3 ☐ RM3,000 <Inc<= RM5,000
2 ☐ RM1,000 <Inc<= RM3,000 4 ☐ Inc > RM5,000

                5 ☐ Refuse to answer

That's all I need to ask you. Thank you for your help. Just in case you missed it,

my name is <<name of interviewer>> **and I am calling you from the Malaysian**

Communications and Multimedia Commission. Goodbye.

Hand phone Users Survey

Highlights

Some main findings of the Hand phone Users Survey 2004 are as follows:

Percentage distribution of subscribers by state

.24.8 %   13.2 %   9.5 %
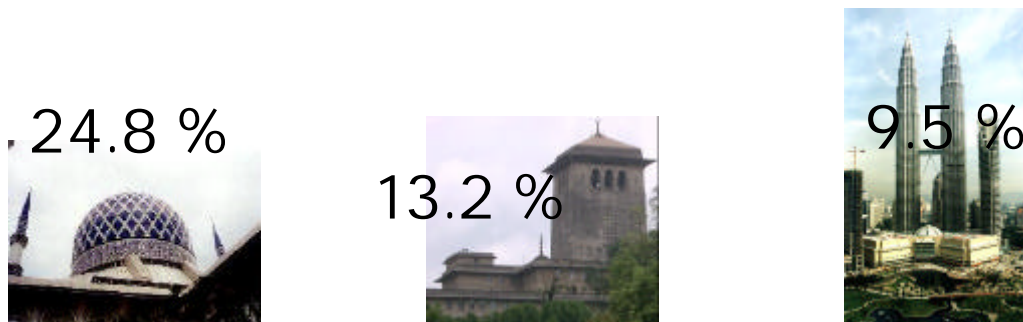
The picture that emerged from the survey showed that Selangor takes the lion's share of the subscriber base accounting for 24.8 per cent. This is followed by Johor (13.2 per cent) and WPKL (9.5 per cent). Percentages in the other states range from 2.5 per cent to 8.1 per cent with the exceptions of Perlis and the Federal Territories of Labuan and Putrajaya where the proportions are 0.7 per cent, 0.2 per cent and 0.2 per cent respectively.

A more meaningful indicator may be calculated by relating these figures to the population of the states concerned to derive the penetration rate.

Percentage distribution of subscribers by ethnicity

The survey showed that Malays account for 47.5 per cent of the subscriber base while the Chinese account for 32.4 per cent. Indians take up 6.9 per cent, Bumiputra Sabah and Sarawak 5.4 per cent while other minorities and foreigners take up the remaining 7.8 per cent.

Percentage distribution of subscribers by gender

There appears to be a divide in access to mobile telephony if the near equal numbers of the sexes (51:49) in Malaysia is anything to go by. Survey results show that males make up 61.1 per cent of the subscriber base while females take up the remaining 38.9 per cent.

61.1%   38.9%

The corresponding penetration rates are 59.8 and 39.5 respectively.

Percentage distribution of subscribers by broad age groups

The younger set has made their presence felt in the subscriber base.
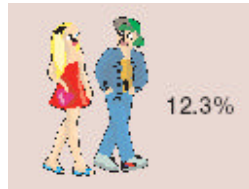
Pre-teens and teens (users up to the age of 19) already account for 12.3 per cent of the subscriber base. Adults (users from 20 to 49 years of age as at last birthday) accounted for 78.8 per cent while seniors (aged 50 and above) account for 9.0 per cent.

Percentage distribution of subscribers by urban-rural sector

The percentage distribution by urbanicity is work in progress in collaboration with the DOSM and the results will be issued as a supplement to this report.

Percentage distribution of subscribers by educational attainment

Of those not in school, 31.0 per cent was made up of users who had up to lower secondary education while 41.2 per cent had up to upper secondary education. Only 19.6 per cent had diplomas and degrees.

However this does not mean that the highly educated are shunning hand phones. This statistic is a reflection of their relatively smaller numbers in society.

Percentage distribution of subscribers by payment plan

There is a preponderance of prepaid users over post paid users in the ratio of 81.4 to 18.6. A 99% confidence interval for this estimated proportion of prepaid is **79.6 % to 83.2 %.** (0.814 +/- 2.58*0.0186)

This is supported by secondary statistics which showed a percentage of 79.9 in July and 80.3 in August 2004 for prepaid which are well within the interval estimate. This attests to the accuracy of findings in general of the Hand Phone Users Survey 2004.

Percentage distribution of subscribers by broad occupational classes

Again this is work in progress; this time in collaboration with the Ministry of Human Resources (MOHR). Adherence to the Malaysian Standard Classification of Occupations (MASCO) developed by the MOHR enhances the usefulness of our data as well as enables interna tional comparisons. The results will be issued as a supplement to this report.

Multiplicity of hand phone ownership and use (%)

The majority (87.1 per cent) of users reported using only one hand phone. 11.6 per cent reported using 2 hand phones while 1.2 per cent reported using more than 2 hand phones.
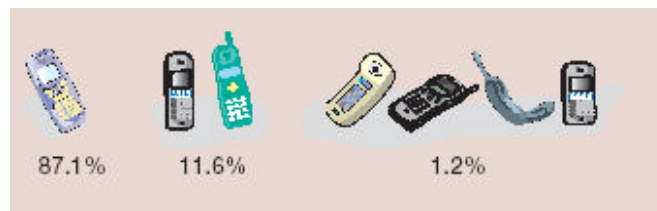
Average monthly charges

41.1 per cent of users do not exceed RM 50.00 per month on the average while 33.9 per cent spent between RM 50.00 to RM 100.00 per month on average. A further 11.40 per cent spent between RM 100.00 to RM 150.00 while 13.6 % had monthly bills in excess of RM 150.00.

SMS usage

SMS usage is significant, with 74 % users in the subscriber base. As many as 31.7 % reported sending out more than 5 SMS messages in a day on ave rage.

Incidence of fixed lines

More than half of the respondents (57.5%) reported that they do not have a fixed line in their usual residences.

Inclination to use hand phone over fixed line phone

As many as 50.7 % of those with fixed lines at home reported an inclination to use the hand phone over the fixed line phone even if it was not in use.

This could be due to the narrowing differentials between the tariffs or a more affluent society or both.
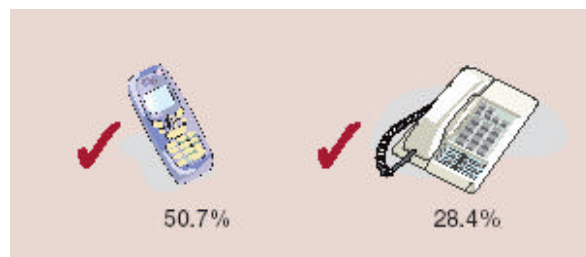
Income classes of users

As much as 30 % of users reported monthly incomes of less than RM 1,000 while 41.5 % had incomes ranging from RM 1,000 to RM 3,000. 6.7 % earned from RM 3,000 to RM 5,000 and 2.7 % had incomes in excess of RM 5000. 19.1 % reported having no income at all.
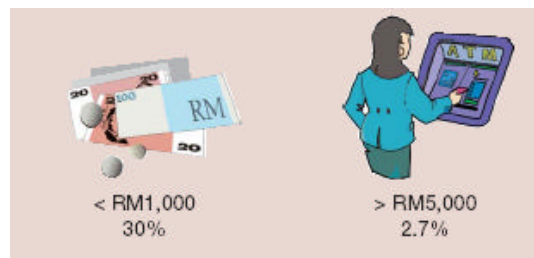
A copy of the report that has national level tables as well as RSE tables may be downloaded from MCMC website: **http://www.mcmc.gov.my**