

A Survey on the Opinions of Malaysians Pertaining to Mobile Phone Features: Price, Feature, Function, Technology and Accessory

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ABSTRACT

Today, the mobile phone is no longer a luxurious item that only the high-income group can afford, but has become an important item of telecommunication and is affordable to people from all walks of life. Hence, knowledge of mobile phone purchasers' preferences is useful to the industry as it would impact the sales of mobile phones. This paper presents the outcomes of a survey on the purchasing preferences on the mobile phones. Data was collected from 200 respondents with age ranging from 10 years to 51 years and above via a questionnaire survey. Results show that the majority of Malaysians are willing to spend between RM401-RM600[†] to purchase a mobile phone; the short messaging service (SMS) is used widely by users aged 31 years and above; the ringtones is the most popular entertainment function preferred by all the five age groups surveyed; the personal organiser is most preferred by those aged between 10-50 years; the digital camera is the most popular embedded mobile phone technology by all the five age groups surveyed; and the battery is considered the most important accessory in a mobile phone.

Key words: Opinions, Mobile phone features, User preferences, Malaysians.

INTRODUCTION

A decade ago, mobile phones were considered luxurious items that were beyond the means of the medium and low income groups. Today, they have made their way into our daily lives as a considerably cheap and important means of telecommunication for people from all walks of life. Astoundingly, the growth of mobile phone usage and mobile networks has been so strong that it even weathered the financial crisis of 1997. In South East Asia, cellular mobile subscribers grew at an average of 63 per cent a year between 1991 and 1997. During the financial crisis in 1997, the number of subscribers continued to grow, though at a lower rate of 45 per cent a year. The growth rate increased sharply in the year 2000 to 75 per cent, the highest increase since 1995 (Datafile of Asia Pacific Telecommunication, 2002).

[†]1 US\$ = RM4.00 (approx.)

Mobile phones in Malaysia began to proliferate from 1980 to 1989 with the introduction of cellular phones. Multiple base stations were located relatively close to each other, and there were protocols for the automated hands-off between two cells when a phone moved from one cell to the other. During this period, mobile phones were somewhat larger than current ones, and many were designed for permanent installation in cars or as transportable phones (Koh, 2003). As technology improved, the larger phones evolved into smaller hand-held phones.

Two main technologies are used in mobile phones - cellular and satellite. Earlier mobile phones were analogue-based whereas newer ones are digital-based (Bellis, 2001). Presently, there are several different cellular technologies, which include Global System for Mobile (GSM), Code Division Multiple Access (CDMA), and Digital Enhanced Cordless Telecommunication (DECT). The mobile phone technology is often divided into several generations, the 1-generation (1G), 2-generation (2G), 2.5-generation (2.5G) and the 3-generation (3G). The evolution of the mobile phone can be depicted as in Figure 1 (Koh, 2003). There are different methods of classifying what constitutes a particular generation. One is chronological, based on the time of introduction with $\frac{1}{2}$ generations introduced for advances based on a particular technology. The second method is based on the data rate. One classification puts the boundaries between generations as follow: 2G is 7-28.8kbit/s, $2\frac{1}{2}$ G is 50-144kbit/s and 3G is 384kbit/s-2Mbit/s. The main drive in the evolution of mobile phones from 2G to 2.5G and 3G has been an increase in the available data rate. The fourth generation (4G) is expected to roll out in the year 2010 (Captick, 2004).

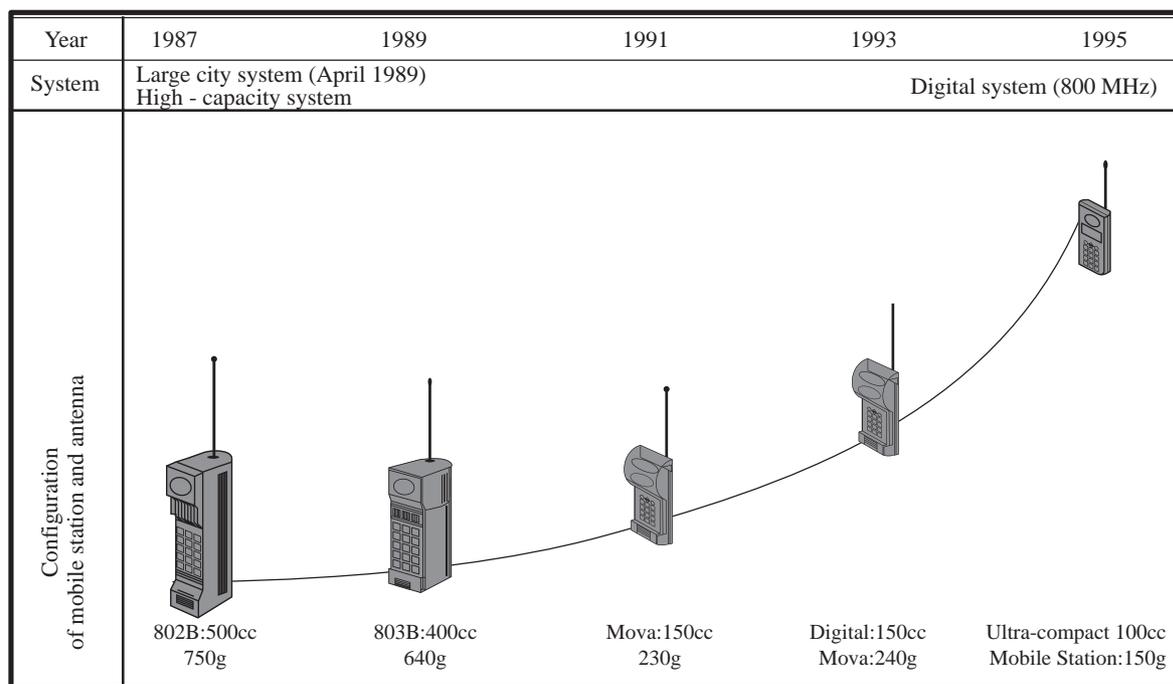


Figure 1. Evolution of the Mobile Phones (NTT DoCoMo Corporation, 2000).

The evolution of mobile phones to today's 3G has contributed to the production of attractive mobile phone features and high-tech functions, not only in large quantity but also at competitive prices. Today, the affordable price and convenience in telecommunication brought about by the mobile phones have made it possible for almost every member in a family in Malaysia, ranging from the working parents, non-working modern housewives to even primary schoolchildren, to own a mobile phone.

The Growth of Mobile Phones Subscribers in Malaysia

One area of the Malaysian telecommunication sector that has been prospering is the mobile phone market. The Malaysian cellular phone penetration is about 7.48 million at the end of 2001, a 38 per cent increase over the previous year's figure of about 3.03 million. Based on the statistics from the DataFile of Asia-Pacific Telecommunication (2002), mobile telephony in Malaysia has exceeded the 4.6 million fixed line subscribers by about 0.78 million. Overall, the growth in mobile phone users has increased tremendously from 1990 to 2001, as shown in Table 1 and Figure 2. From Figure 2, it can be observed that there has been an exponential growth in mobile phone subscribers from 1990 to 2001. In the figure, the dotted line represents the actual growth while the solid line represents the extrapolated growth.

Table 1. Growth of Mobile Phone Subscribers.

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Subscribers ('000)	78	132	206	340	572	872	1514	1995	2184	3034	5384	7477

(Source: Malaysian Communication and Multimedia Commission: Operators, 2002)

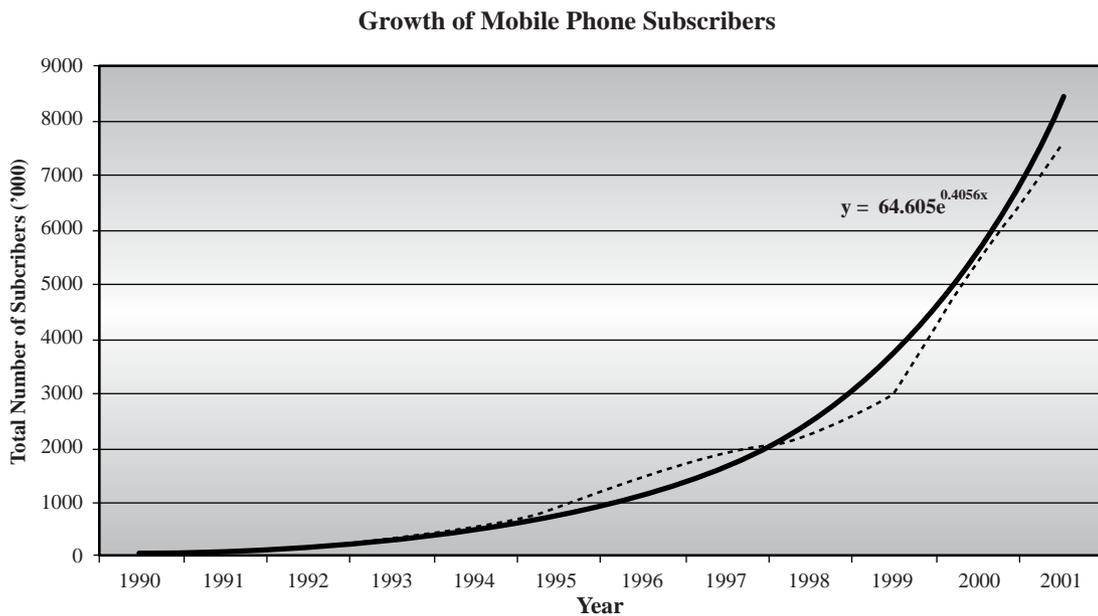
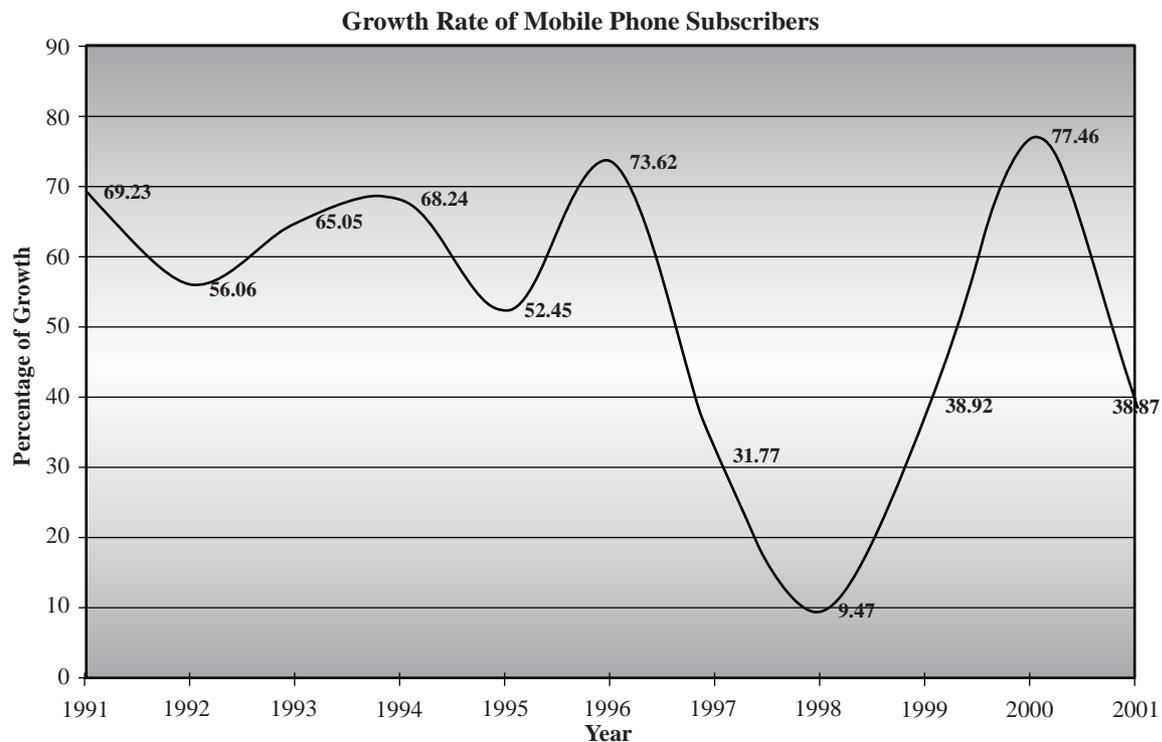


Figure 2. Growth of Mobile Phone Subscribers.

The percentage growth rate of mobile phone subscribers for a specific year is based on the difference in percentage between the current growth rate for the specific year and the growth rate of the previous year. The growth rate of mobile phone subscribers is represented graphically in Figure 3. In the calculations, the base year taken was 1990 (Koh, 2003).



(Source: Malaysian Communication and Multimedia Commission: Operators, 2002)

Figure 3. Growth Rate of Mobile Phone Subscribers.

SURVEY METHODOLOGY

In view of the significant growth of mobile phone subscribers in Malaysia, it would be interesting to investigate the preferences of users when purchasing of a mobile phone, as they would inevitably impact on mobile phone sales. Thus, a survey was conducted to collect data from the mobile phone users. The survey was conducted from 16-29 December 2003 (two weeks), covering Malaysians of age ten years and above from four states in Malaysia that include Kuala Lumpur, Selangor, Malacca and Kedah. This study involved a 5-member team in a project assignment for the second year software engineering students. It was aimed at understanding and applying the concepts and principles of project management and to gain a real life experience in conducting a questionnaire survey within one semester (12 weeks). Two weeks were allocated for the questionnaire survey as the students were required to allocate time for other tasks such as the questionnaire design, questionnaire screening, data entry, data analysis and project tracking and reporting.

Surveys can be conducted using the questionnaires or through interviews. Questionnaires are usually paper-and-pencil instruments that the respondent completes, while interviews are completed by the interviewer, based on what the respondent says. In a questionnaire survey, there are different ways to conduct such a study. These include mail survey, group-administered questionnaire, online Website survey, and telephone survey (American Statistical Association, 2004; Trochim, 2004). The advantages and disadvantages of using these various ways were carefully studied and analysed. The group-administered survey, using hardcopy questionnaires was chosen. This allows the questionnaires to be conducted in a group and collected on the spot. It saves time, is inexpensive and easy to conduct. These advantages are not present in other types of survey such as the online Website survey in which the data collected may not be reliable. Mail survey and telephone survey are tedious, time-consuming and costly to conduct (Fink and Kosecoff, 1985; Salant and Dillman, 1994).

1. Survey Sampling Technique

Before the survey was carried out, a sampling technique must first be determined to define a subset of the survey population. There are a few sampling techniques, namely, randomisation, stratification, cluster sampling and model-based sampling (Cochran, 1977; Garson, 2004). In this study, the randomisation sampling technique was selected and the questionnaires were distributed to respondents without predetermined pattern or plan to meet the survey's goal. The results of the sample survey from 200 respondents were used to make inferences. This sample size was decided in view of the constraints of the duration of survey (2 weeks) and the availability of manpower (5 people) to conduct the survey. The reason for taking a random sample is to maximise the probability that the sample is representative of the population from which it is drawn.

2. Design of Questionnaire

In a questionnaire survey, the results of analysis are highly dependent on a well-designed questionnaire. Thus, during the design of the questionnaire, issues pertaining to the type of question and question content were considered.

2.1 Determine the Type of Question

The survey questions can be divided into two broad types – structured (fixed-format question) and unstructured (free-format question). The questionnaire used in this study consists of two sections, namely, respondents' details and respondents' preferences in the mobile phones that comprised eleven structured questions and one unstructured question which allow the respondents to write down their opinions or comments freely. Of the eleven structured questions in section 2, three questions are of dichotomous type, that is, the questions ask for a yes/no response. Eight questions are of multiple-option format, that is, the respondents need to select only one among the options provided. There is no scale-based question in the questionnaire (Trochim, 2004). A sample of the questionnaire is included in Appendix I.

2.2 Determine the Question Content

The questions asked in the questionnaire elicit information relevant for analysis. The questions have been made simple and easy-to-understand to avoid confusion and misunder-

standing. The content of the questionnaire is limited to within two pages, as a lengthy questionnaire which exceeds four pages could decrease the response rate (Trochim, 2004). The questions focus on the aspects of mobile phone features in terms of size and colour, its functions and technology such as message sending services, digital camera, and the amount that the users are willing to spend when purchasing a mobile phone. Prior to the actual survey, a pilot test was conducted. From the test, weaknesses found in the questionnaire such as unnecessary questions were dropped; grammatical mistakes, typing mistakes and ambiguous questions were corrected and re-phrased.

3. Types of Error

As in any survey, opinion surveys are subjected to various types of error. Consequently, the survey results may incorrectly reflect the sample population. Errors in opinion surveys arise from two main sources: sampling and measurement (response) difficulties. There are four main types of sampling and measurement problems (Salant and Dillman, 1994; Som, 1996; Garson, 2004).

a. Coverage Error

Depending on the survey mode, contacting some members of the sample population might be impossible. The deviation between the sampling frame (those for whom surveyors have contact information) and the sample population causes coverage error. In this study, this error is difficult to overcome as it is not possible for five people to conduct surveys which cover all the fourteen states in Malaysia within two weeks. Hence, the data collected merely represent the opinions of the respondents surveyed from the four states covered in the study.

b. Sampling Error

Survey data will always have sampling error as only a small subset from the whole population is drawn as the sample. This error can be controlled by just increasing the sample size. In this survey, however, it is difficult and impossible to increase the sample size to include respondents from all the fourteen states as the project team members were given only two weeks to conduct the survey.

c. Non-response Error

In addition, because some people refuse to participate, survey data suffer from non-response error when a significant number of people in the survey sample do not respond to certain questions in the questionnaire and they are different from the other respondents who answered those questions. This problem was overcome by asking the respondents to answer the questionnaires on the spot, thus ensuring that all the questions are answered.

d. Measurement Error

Even if potential respondents can be contacted and agree to participate, they may not answer the survey questions accurately or completely, thus, causing measurement error. In this study, this error was eliminated by designing a simple, easy-to-understand and easy-to-answer questionnaire. As the questions are unbiased and related to respondents' opinions of the mobile phones that they are using, it is unlikely that measurement error will arise.

ANALYSIS OF SURVEY OUTCOMES

In this survey, altogether 200 sets of questionnaires were collected and used for analysis. Before analysis was carried out, the questionnaires were checked to ensure that all the questions were answered. Of the 200 respondents, 103 (51.5%) are male and 97 (48.5%) are female as shown in Figure 4. There are 39 (19.5%), 73 (36.5%), 29 (14.5%), 33 (16.5%) and 26 (13.0%) respondents from the age groups of 10-20, 21-30, 31-40, 41-50, and 51 years and above, respectively, as shown in Figure 5.

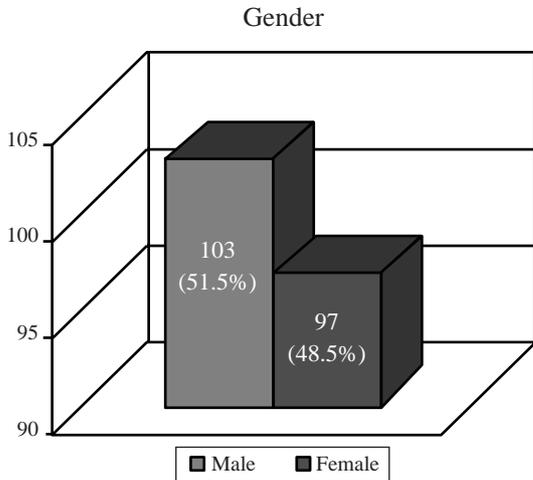


Figure 4. Gender of Respondents.

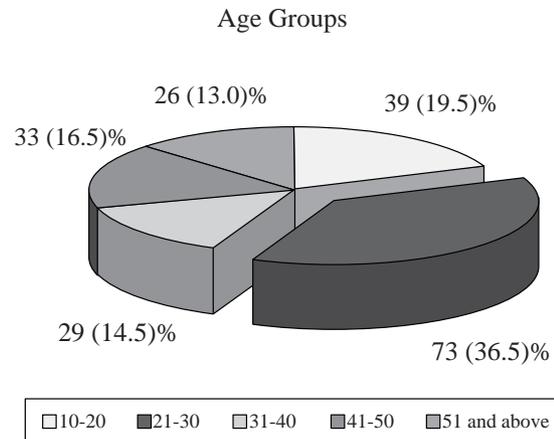


Figure 5. Age Groups of Respondents.

1. Brand of Mobile Phone

Among the 200 respondents, 48.3%-66.7% of them ranging from the age group of 10-21 years to the age group of 51 years and above, are using the Nokia phones (Figure 6). This trend is very obvious in the two age groups of 10-20 and 21-30 years old. An interview with a mobile phone sales executive was held on 31 March 2004 to understand the reasons for the popularity of the Nokia brand among the mobile phone users. According to him, Nokia offers a wide range of mobile phones and accessories at affordable prices which are competitive with other brands. In addition, Nokia phones batteries are readily available, unlike some brands of mobile phones that produce batteries in batches and stop production after a particular batch is sold out. Another reason for the popularity of the Nokia brand is durability. Mobile phone users who own different brands of mobile phones claimed that the Nokia phones are more durable compared to the other brands.

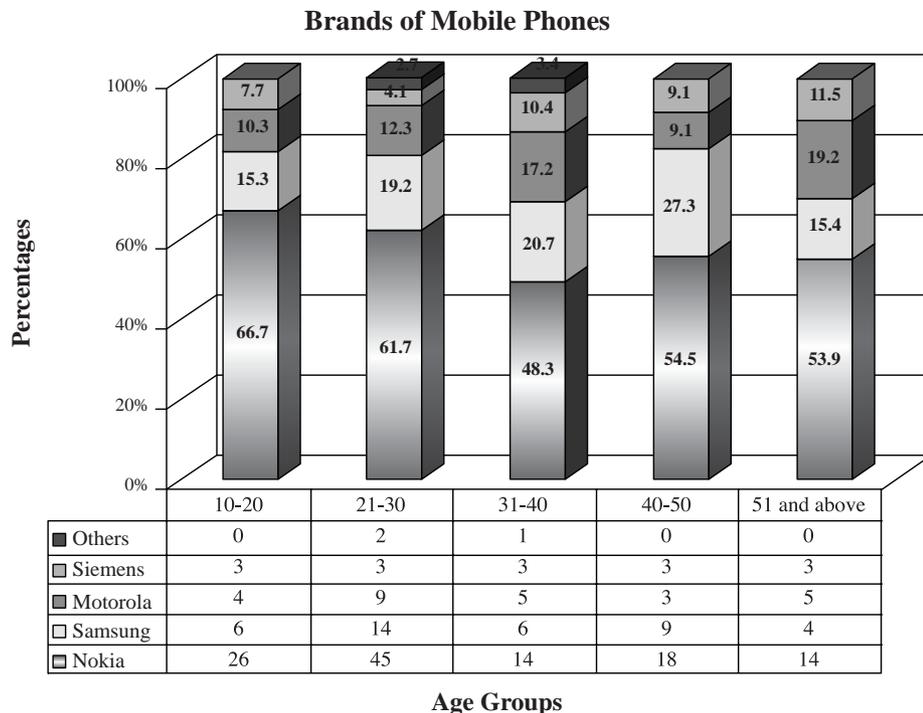


Figure 6. Mobile Phones Currently Used According to Brands.

2. Ways of Getting Mobile Phone

As shown in Figure 7, of the 200 respondents of the four age groups ranging from 21-30 years to 51 years and above, 63.0%-80.7% purchased the mobile phones themselves. These users are from the working group and hence, they can afford to purchase the mobile phone themselves. For the age group of 10-20 years, 23 (59.0%) out of 39 respondents stated that their purchases were sponsored by their family. These come from the non-working group and do not have a regular source of income. They would require sponsorship from the family members such as their parents, relatives or elder siblings to get the mobile phones for them. Indeed, besides providing the basic needs, parents today provide mobile phones for their children as a necessity as the mobile phone is the fastest means to track and locate the whereabouts of their children, especially when they have not yet returned home after the schooling hours. This new role played by the mobile phones is reflected by the fairly high percentage (59.0%) of mobile phones which are sponsored by family members. Some respondents, constituting about 3.5-13.7% from all the five age groups, received their mobile phone as a prize from competitions or as presents from friends.

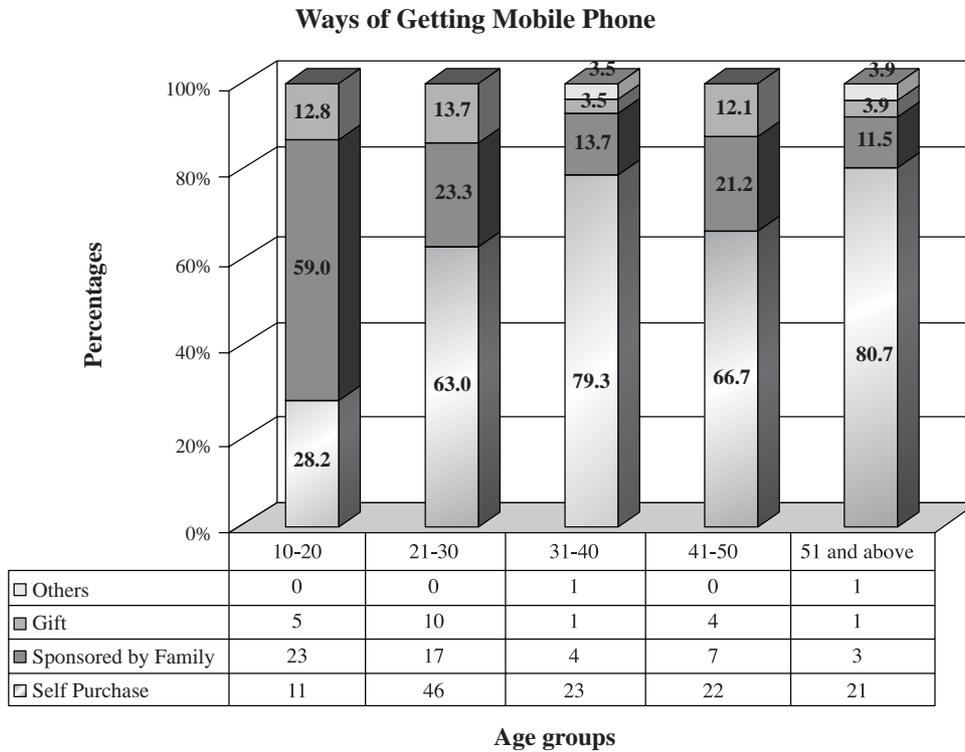


Figure 7. Ways of Getting Mobile Phone.

3. Amount Willing to Spend to Purchase a Mobile Phone

In Figure 8, in the age group of 10-20 years, 11 (28.2%) out of 39 respondents are willing to spend from RM201-RM400 to purchase a mobile phone. There are 10 (25.6%) and 9 (23.1%) respondents who are willing to spend from RM401-RM600 and RM600-RM800, respectively to purchase a mobile phone. This shows that the majority of them are willing to spend from RM201-RM800 for a mobile phone. In the age group of 21-30 years, 21 (28.8%) out of 73 respondents are willing to spend from RM401-RM600 and RM600-RM800, respectively, to purchase a mobile phone. Also, there are 13 (17.8%) respondents who are willing to spend from RM201-RM400 and a similar number of respondents willing to spend RM800 and above. Only 5 (6.8%) respondents are willing to spend below RM200 to purchase a mobile phone. This could imply that the respondents of this age group are willing to spend a reasonable amount to purchase a fairly good mobile phone at a price from RM401-RM800.

In the age group of 31-40 years, none of the respondents would spend below RM200 to purchase a mobile phone. This implies that the respondents of this age group are willing to spend more than RM200 to purchase a fairly good mobile phone. Also, in this competitive market, mobile phones that are priced below RM200 might not be equipped with the necessary features and embedded technologies that the users desire. Thus, 11 (37.9%) out of 29 respondents are willing to spend from RM401-RM600. Indeed, some are willing to spend from RM601-RM800 (8, 27.6%) and even RM800 and above (8, 27.6%). This age group is willing to invest more to purchase a fairly high-tech mobile phone as they could be of the high-income group from the age group of 31-40 years old.

For the age group of 41-50 years, 7 (21.2%) out of 33 respondents are willing to purchase a mobile phone at price below RM200, and another 7 (21.2%) respondents are willing to spend from RM201-RM400, and similarly another 7 (21.2%) respondents from RM601-RM800. Six (18.2%) respondents from this age group are willing to spend from RM401-RM600, and another 6 (18.2%) respondents are willing to spend RM800 and above to purchase a mobile phone. For the age group 51 years and above, 9 (34.6%) and 6 (23.1%) out of 26 respondents are willing to purchase a mobile phone at price from RM401-RM600, and RM800 and above, respectively. Also, 5 (19.2%) respondents from this age group are willing to spend from RM201-RM400 and another 5 (19.2%) respondents are willing to spend from RM601-RM800. Only 1 (3.9%) respondent will spend below RM200 to purchase a mobile phone.

In general, irrespective of the age group, the respondents are willing to spend from RM401-RM600 to purchase a mobile phone. Most respondents who are willing to spend from RM601-RM800 and RM801 and above, are from the age groups of 21-30 (28.8%) years and 31-40 (27.6%) years, respectively. This implies that respondents of age between 21-40 years are willing to invest more to purchase a good and high-tech mobile phone.

4. Features Considered When Purchasing a Mobile Phone

The advancement in science and technology (S&T) has contributed to the great reduction in size and weight of mobile phones. Mobile phones today can be as small as a palmtop and weigh from 750g (in the 1980s) to 150g (in the 1990s) (Koh, 2003). Hence, the size of mobile phone is certainly one of the factors that the users would consider when purchasing a mobile phone. Of the 200 respondents, 169 (84.5%) indicated that they would consider the size when purchasing a mobile phone (Figure 9). For obvious reasons, they would prefer to have small and slim mobile phones which are light and easy to carry.

Besides the size, the latest technology has enabled mobile phones to have full-colour screen instead of a monochrome screen such as a blue or green screen. Today, colour screen has become a popular feature in a mobile phone. In this survey, 149 (74.5%) respondents indicated that they would consider the colour of the screen when purchasing a mobile phone. When this feature is compared with size, it is obvious that the size takes precedence as it relates to the weight of a mobile phone. In addition, a mobile phone with full-colour screen is still considerably expensive in Malaysia.

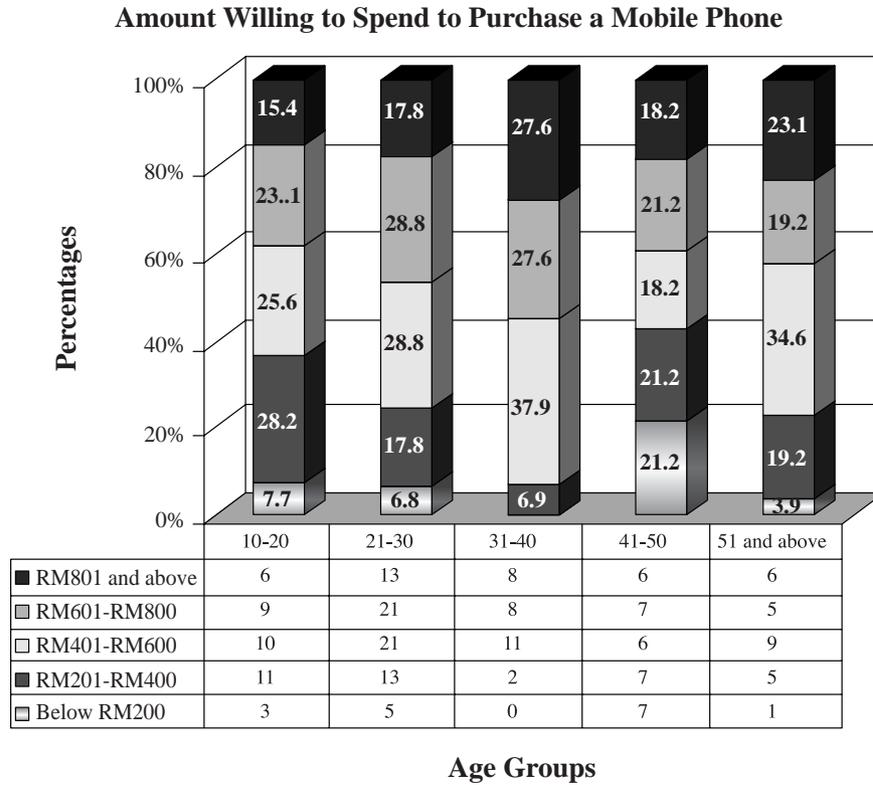


Figure 8. Amount Willing to Spend to Purchase a Mobile Phone.

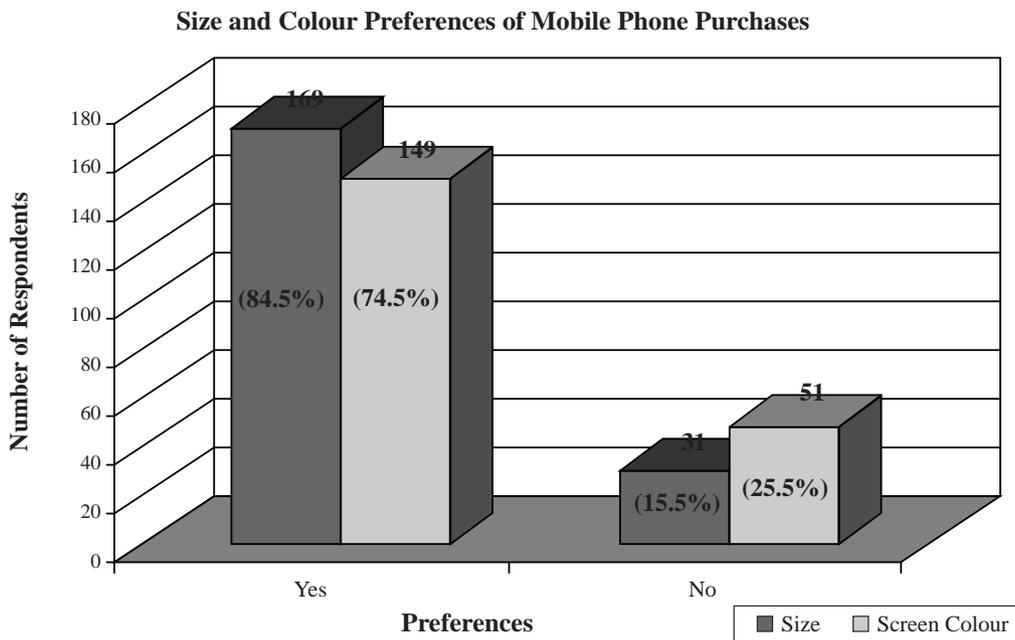


Figure 9. Size and Screen Colour Preference of Mobile Phone Purchases.

5. Preference of Messaging Functions, Entertainment Functions, Miscellaneous Functions, Embedded Technologies and Accessories of Mobile Phone

Although mobile phones allow users to establish communication at any time and any where, the cost in making a voice call within the country or abroad, using a mobile phone is rather expensive, especially for a call of long duration. Sending a message via short messaging service (SMS), multimedia messaging service (MMS), and electronic messaging service (EMS) have enabled users to pass messages (communicate) at a very much cheaper rate than voice calls. Besides, the entertainment functions such as the games, ringtones, radio and MP3 players have helped keep users entertained and occupied while waiting for a friend in a restaurant or cinema, during lunch break, or after schooling or working hours.

In addition, creativity and innovations in the mobile phone telecommunication industry have added to a wide range of high-tech functions such as taking pictures, using a built-in digital camera, effective and efficient transmission of data at higher speed and at cheaper rate without a dial-up modem, connection to make it possible to watch TV news, using the General Packet Radio Service (GPRS) and surfing the Internet via wireless application protocol (WAP) (Koh, 2003). Furthermore, other miscellaneous functions such as incorporating a calculator, stop watch, personal organiser and clock into a mobile phone have made it a comprehensive and useful tool, not only for telecommunication but also fulfilling the daily needs. Mobile phone users from the working group, especially the sales executives do not need to carry a personal organiser, calculator or a telephone directory of their customers, as the mobile phone can store all the information required and offers all the functions provided by the other tools. This survey investigated which of these functions and technologies are most preferred and important to the mobile phone users. It also considered which accessories the users deemed to be most important in a mobile phone. These include the housing, battery, hands-free kit and charger. The outcomes of these investigations are presented in detail in the following sections.

5.1 Preference of Messaging Functions

Among the messaging functions, it is obvious that short messaging service (SMS) is most preferred as indicated by 10 (34.5%), 17 (51.5%), and 14 (53.8%) out of 29, 33 and 26 respondents of the age groups of 31-40 years, 41-50 years, and 51 years and above, respectively (Figure 10).

The multimedia messaging service (MMS) seems to be the most-preferred messaging function of those in the age group of 21-30 years as indicated by 31 (42.5%) out of 73 respondents. This messaging service is also fairly preferred by 12 (30.8%), 10 (34.5%), 12 (36.4%) out of 39, 29 and 33 respondents of the age groups of 10-20, 31-40, and 41-50 years, respectively. For electronic messaging service (EMS) which incorporates text and picture message, it is preferred by 14 (35.9%) respondents in the age group 10-20 years. This messaging service is also fairly preferred by 9 (31.0%) and 8 (30.8%) respondents from the 31-40 and 51 years and above age groups, respectively.

Overall, SMS, MMS and EMS are used mostly by those in the 51 years and above (53.8%), 21-30 (42.5%), and 10-20 (35.9%) years age groups. This implies that the mobile phone users of these three age groups send more messages than users from the other two age

groups. Among the three messaging services, SMS is most preferred as it is very much cheaper than MMS and EMS. In addition, there are many contests and enquiry services that require participants to submit the answers or enquiries via SMS. These include the SMS quizzes and contests organised by various companies and advertised over the television or mobile phones, and the enquiry on the polling centres provided for the voters during the 11th General Election which was held on 21 March 2004. These SMS contests and enquiries have further popularised the use of SMS among the three messaging services. On the other hand, EMS is generally of lower preference as indicated by the low percentage among the users from the two age groups of 21-30 (13, 17.8%), and 41-50 years (4, 12.1%). This could be due to the fact that EMS is still a rather new messaging function which has low user awareness and yet to be widely accepted. Nevertheless, it is expected to become increasingly popular as sending a picture would become a trend of tomorrow in situations where a picture explains better than text.

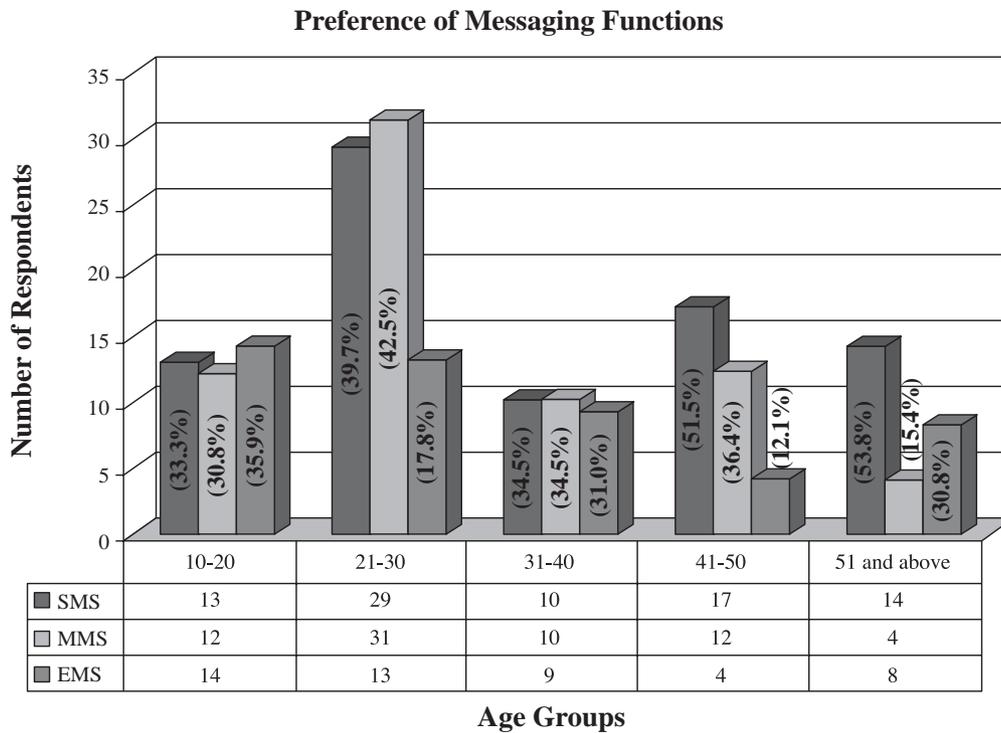


Figure 10. Preference of Messaging Functions in a Mobile Phone.

5.2 Preference of Entertainment Functions

Among the four types of entertainment functions that include games, ringtones, radio and MP3 player surveyed, ringtones appears to be most preferred. This is indicated by 14 (35.9%), 22 (30.1%), 10 (34.5%), 11 (33.3%), and 10 (38.5%) out of 39, 73, 29, 33 and 26 respondents of the age groups of 10-20, 21-30, 31-40, 41-50 and 51 years and above, respectively (Figure 11). For the 21-30 years age group, 22 (30.1%) out of 73 respondents indicated that besides ringtones, MP3 player is also the most-preferred entertainment function. This shows that irrespective of the age group, the ringtones function is generally the most-preferred entertainment function.

It is also interesting to note that mobile phone games seem to be least popular among the four entertainment functions surveyed. Nevertheless, they are most popular in the 21-30 years age group as indicated by 15 (20.5%) respondents, and least popular among the other four age groups, in particular those in the age group of 51 years and above, as indicated by 2 (7.7%) respondents only.

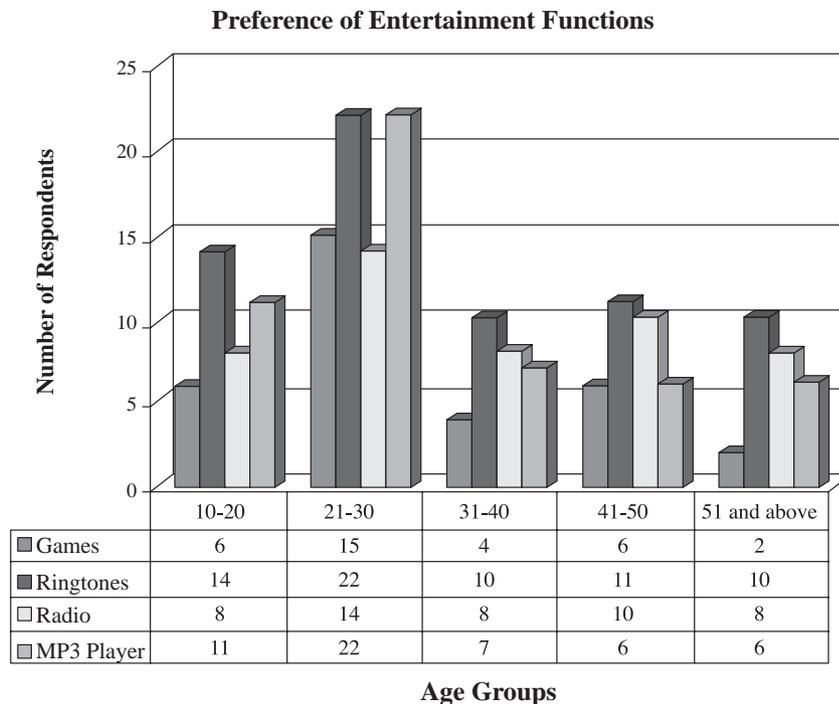


Figure 11. Preference of Entertainment Functions in a Mobile Phone.

5.3 Preference of Miscellaneous Functions

Of the various miscellaneous functions surveyed, the personal organiser is most preferred by those of age ranging from 10-50 years as indicated by 17 (43.6%), 40 (54.8%), 14 (48.3%), and 15 (45.5%) out of 39, 73, 29, and 33 respondents of the four age groups of 10-20, 21-30, 31-40 and 41-50 years, respectively (Figure 12). For the age group of 51 years and above, however, the most-preferred miscellaneous function in a mobile phone is the clock as indicated by 9 (34.6%) out of 26 respondents. This preference is the next-preferred miscellaneous function of the other four age groups with age ranging from 10-50 years.

The next preferred of the miscellaneous functions of the age group of 51 years and above are the calculator and personal organizer as indicated by 8 (30.8%) respondents each. Again, in this survey, there is a similarity in the most-preferred miscellaneous function in the four age groups with ages ranging from 10-50 years but differs from the age group of 51 years and above. Besides the four miscellaneous functions considered, there is a very small number of users from the age groups of 10-21 (1, 2.6%), 41-50 (3, 9.1%), and 51 years and above (1, 3.8%), who prefer other miscellaneous functions such as the chat and reminders.

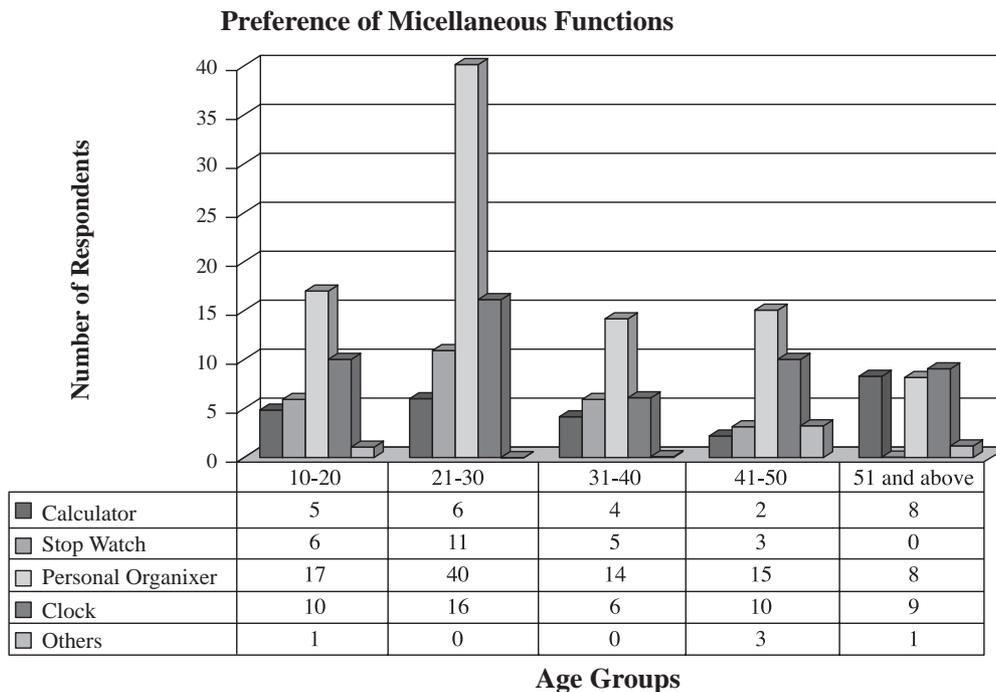


Figure 12. Preference of Miscellaneous Functions in a Mobile Phone.

5.4 Preference of Embedded Mobile Phone Technologies

Among the technologies incorporated into mobile phones, digital camera is most preferred among the five age groups as indicated by 16 (41.0%), 28 (38.4%), 13 (44.8%), 13 (39.4%), and 12 (46.2%) out of 39, 73, 29, 33 and 26 respondents, respectively (Figure 13). Today, the digital camera in a mobile phone is used not only to capture pictures of items, people or scenery, but also has many other uses.

The next-preferred embedded technology in a mobile phone is the General Packet Radio Service (GPRS)/Wireless Application Protocol (WAP). This is true among the four age groups with ages ranging from 10-50 years, specifically those in the age group of 21-30 years (26, 35.6%). For the 41-50 years age group, besides GPRS/WAP technology, Bluetooth (9, 27.3%) is also the technology of equal preference. On the other hand, for the age group of 51 years and above, the next-preferred embedded mobile phone technology is infrared connectivity (6, 23.1%). Indeed, compared to the other four age groups, this technology is most preferred by this age group after the digital camera. Hence, it is obvious that the digital camera and GPRS/WAP are the two latest embedded mobile phone technologies that are

more favoured by the young mobile phone users from the 21-30 years age group. The latest technologies which include the GPRS/WAP and Bluetooth are not preferred by the 51 years and above age group. This implies that the younger generation is able to keep up with and accept the new technologies, compared to the older generation.

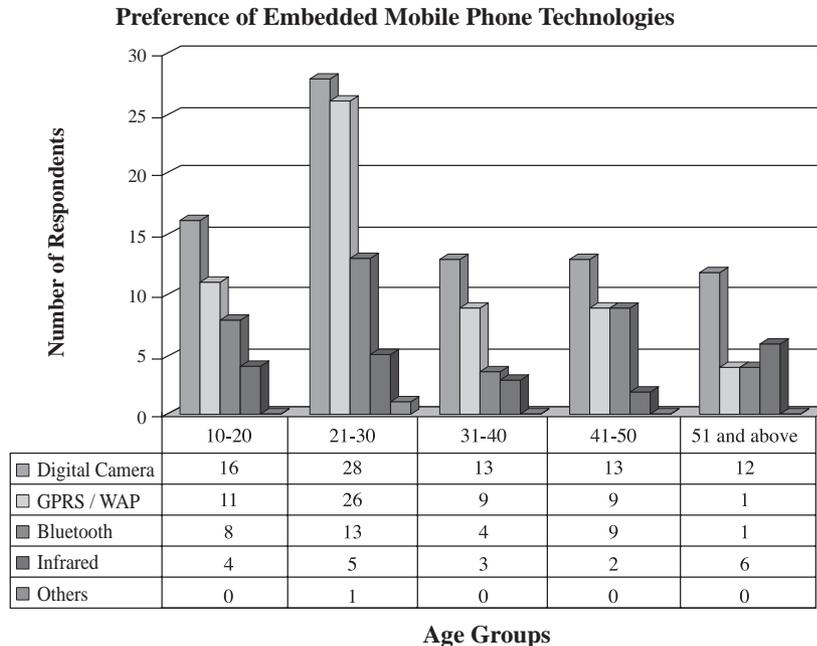


Figure 13. Preference of Embedded Mobile Phone Technologies.

5.5 Preference of the Most Important Accessory

Of the four types of mobile phone accessories surveyed, all the age groups agreed that battery is the most important accessory of a mobile phone. This is indicated by 12 (30.8%), 46 (63.0%), 19 (65.5%), 26 (78.8%) and 24 (92.3%) out of 39, 73, 29, 33 and 26 respondents of the five age groups, respectively (Figure 14). This finding is obvious as the battery determines how long a mobile phone can be used when the users are out of the house or office. Without a battery or a 'dead' battery, the mobile phone would not be able to function at all. Hence, it is important for the mobile phone manufacturers to produce good quality batteries which not only can offer longer supply of power without having to re-charge but also one that has longer life span before replacement.

Besides the battery, the next important accessory is the battery charger as indicated by the two age groups of 10-21 years (11, 28.2%) and 41-50 years (4, 12.1%). For some respondents, however, the "hands-free kit" (HFK) which consists of an earpiece, microphone, lapel clip, interconnection cable and connector, is also of importance. It facilitates answering phone calls while both hands are busy. This is indicated by the respondents from the two age groups of 21-30 years (10, 13.7%) and 31-40 years (6, 20.7%). This could be due to the fact that these respondents often receive phone calls while traveling on the road or busy working with both hands. For the age group of 51 years and above, however, the next important accessory to the two remaining respondents is the charger (1, 3.8%) and HFK (1, 3.8%), respectively.

It is also obvious that the housing which is the casing (appearance) of the mobile phone and comes in various attractive colours, is least preferred by all the five age groups. It is only preferred by the younger generation of the two age groups of 10-20 (6, 15.4%) and 21-30 years (9, 12.3%). Indeed, it is of very low preference to the age group of 41-50 years (1, 3.0%) and not preferred at all by both the age groups of 31-40 years and 51 years and above.

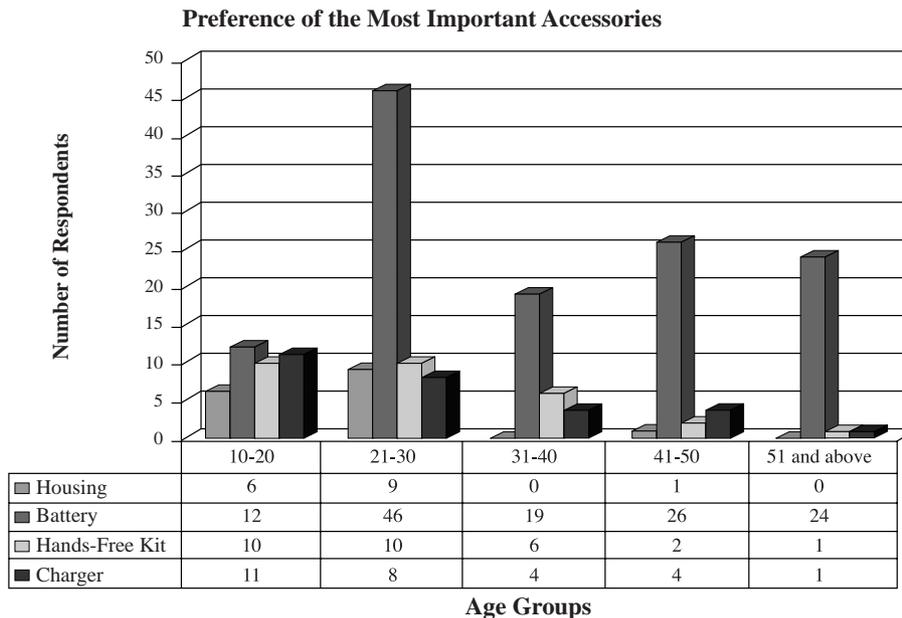


Figure 14. Preference of Most Important Accessories in a Mobile Phone.

5.6 Necessary to Have All the Latest Features in Mobile Phone

When the 200 respondents were asked whether it was necessary to have all the latest features in a mobile phone when purchasing one, 136 (68.0%) respondents replied in affirmative while the remaining 64 (32.0%) respondents said that it was not necessary (Figure 15). This shows that as more attractive features and better functions and technologies are being created and invented, the demand of the users for high-quality mobile phones also increases. They would not use a mobile phone that cannot meet their requirements. Many users are willing to invest an amount which is within their means to purchase a mobile phone that is equipped with all the latest features, functions and technologies that they need to use daily, especially those that can help them in their work. Only users who do not need to use such attractive features and high-tech functions would be willing to use a mobile phone that is equipped with the very basic features and functions only.

Necessary to Have All the Latest Features in Mobile Phone

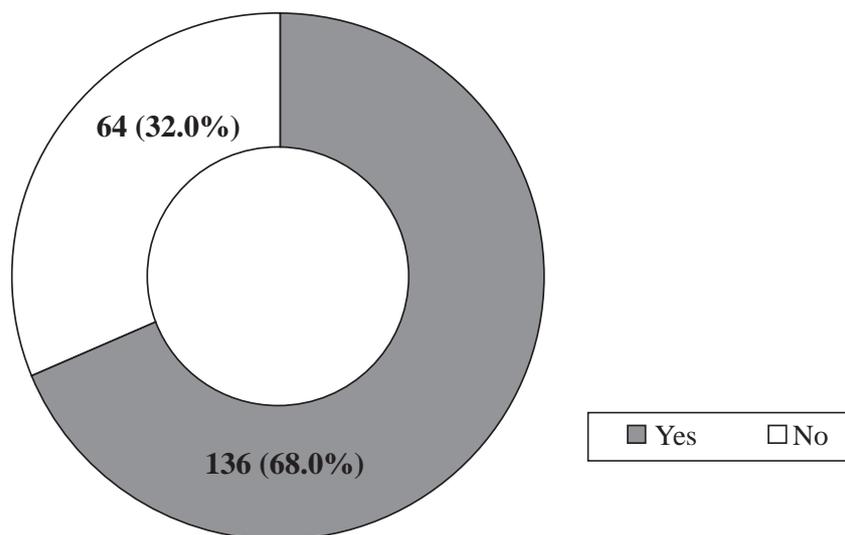


Figure 15. Preference of Most Important Accessory in a Mobile Phone.

DISCUSSION AND CONCLUSION

The outcomes of the questionnaire survey reveal some of the important opinions of the mobile phone users which are very useful to the mobile phone telecommunication industry, specifically the mobile phone manufacturing industry. Analyses of the survey give an overview of the opinions and expectations of mobile phone users of the five age groups ranging from 10 to 51 years and above. Findings from the survey would help the mobile phone manufacturers to produce the type of mobile phones that meet the requirements and preferences of the users.

The questionnaire in this study has been designed to achieve unbiased responses. All the 200 respondents answered all the structured questions but none of them wrote any comments for the unstructured (open-ended) question. This indicates that all the respondents prefer to save time by choosing from the options provided rather than writing down their opinions on the questionnaire which requires them to think and at the same time is time-consuming.

Table 2 shows a summary of the survey outcomes in terms of the amount (in RM) that the users are willing to invest when purchasing a mobile phone, the most preferred messaging functions, entertainment functions, miscellaneous functions, embedded mobile phone technologies, and the accessories that are most important to the mobile phone users. It is obvious that the outcomes reflect only the opinions and preferences of the 200 respondents from the four states surveyed in Malaysia. It cannot be taken as the opinions and preferences

of mobile phone users from all the fourteen states in Malaysia. In order to obtain country-wide opinions, data need to be collected from a reasonable sample size of respondents from all the fourteen states in Malaysia. Nevertheless, the outcomes have achieved the survey objectives and are very useful to the mobile phone manufacturing industry.

Table 2. Summary of the Preferences of Mobile Phone Users.

Opinions (Most Preferred)	Age Groups				
	10-20	21-30	31-40	41-50	51 and above
Amount a User is Willing to Spend to Purchase a Mobile Phone	RM201- RM400 (28.2%)	RM401- RM600 RM601- RM800 (28.8%)	RM401- RM600 (37.9%)	Below RM200 RM201- RM400 RM601- RM800 (21.2%)	RM401- RM600 (34.6%)
Messaging Functions	EMS (35.9%)	MMS (42.5%)	SMS (34.5%) MMS (34.5%)	SMS (51.5%)	SMS (53.8%)
Entertainment Functions	Ringtones (35.9%)	Ringtones (30.1%) MP3 Player (30.1%)	Ringtones (34.5%)	Ringtones (33.3%)	Ringtones (38.5%)
Miscellaneous Functions	Personal Organiser (43.6%)	Personal Organiser (54.8%)	Personal Organiser (48.3%)	Personal Organiser (50.0%)	Clock (34.6%)
Embedded Mobile Phone Technologies	Digital Camera (41.0%)	Digital Camera (38.4%)	Digital Camera (44.8%)	Digital Camera (39.4%)	Digital Camera (46.2%)
Most Important Accessories	Battery (30.8%)	Battery (63.0%)	Battery (65.5%)	Battery (78.8%)	Battery (92.3%)

In addition, besides the aspects surveyed in the questionnaire, there are also other interesting issues to be investigated. These include the opinions on the rates charged to make a call and sending messages via SMS, MMS and EMS. Also, it is important to investigate the problems encountered by the users when using a mobile phone. These include limited coverage, misconnection, no connection during heavy rain, limited memory size for sending and storing messages, message sent but not received, hacking, to name a few. Certainly, the outcomes from such investigations would be very useful and crucial to the mobile phone service providers as a means to further improve services to the mobile phone users in Malaysia.

ACKNOWLEDGEMENTS

The authors would like to acknowledge the following students namely, Lee Chin Aik, Adeline Lee Mei Yin, Ang Pek Koon, Nalini Soundram, and Sathiabama Balakrishnan, from the Department of Software Engineering, Faculty of Computer Science & Information Technology, University of Malaya, for their efforts and assistance in data collection via the questionnaire survey. Also, sincere thanks to Mr. Kok Soon Eng, Director of FocusPoint Communication, Sale and Service, for agreeing to an interview and providing important information about some issues related to the brands, features and functions of mobile phones.

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