CHAPTER FOUR
RESULTS

The previous chapter described the subjects, the materials, the procedure used in the collection and analysis of the data, as well as the data analysis.

This part presents the findings from the questionnaire which are divided into four parts as follows:

Part 1: General information of respondents

Part 2: Information about mobile phone usage and the manual reading behavior of respondents

Part 3: Factors motivating respondents to read user manuals for mobile phones

Part 4: Other suggestions for improving mobile phone user manuals

4.1 GENERAL INFORMATION OF RESPONDENTS

In part one of the questionnaire, there were five questions (question no. 1-5) asking about the respondents' personal data.

From Table 3, the majority of the respondents in the study were females, representing 66.0%, while males accounted for 34.0%.

Table 3. Gender of the Respondents

1. Gender	Frequency (N)	Percent (%)
• Male	34	34.0
• Female	66	66.0
Total	**100**	**100.0**

Table 4 shows that 42.0% of the respondents were aged between 26-30 years old, followed by those who were aged between 31-35 years old (29.0%). The percentage of the respondents who were aged below 25 years old was 15.0%. Nine respondents (9.0%) were aged between 36-40 years old, while 4.0% were aged between 41-45 years old. One respondent (1.0%) was aged more than 45 years old.

Table 4. Age of the Respondents

2. Age (years)	Frequency (N)	Percent (%)
• Below 25	15	15.0
• 26-30	42	42.0
• 31-35	29	29.0
• 36-40	9	9.0
• 41-45	4	4.0
• Over 45	1	1.0
Total	**100**	**100.00**

Table 5 shows that 48.0% of the respondents had a Master's degree level of education, followed by those who obtained a Bachelor's degree at 47.0%. The respondents who had below Bachelor's degree level of education accounted for 3.0%, while 2.0% of them had a Doctoral degree.

Table 5. Educational Level of the Respondents

3. Highest Educational Level	Frequency (N)	Percent (%)
• Below Bachelor's degree	3	3.0
• Bachelor's degree	47	47.0
• Master's degree	48	48.0
• Doctoral degree	2	2.0
Total	**100**	**100.0**

From table 6, almost all of the respondents in this survey were private company employees, representing 96.0%. Of the respondents, 3.0% were business owners and only 1.0% of them worked in governmental/state enterprise organization. None of the respondents in this study worked as homemakers.

Table 6. Occupation of the Respondents

4. Occupation	Frequency (N)	Percent (%)
• Business owner	3	3.0
• Private company employee	96	96.0
• Government/State enterprise official	1	1.0
• Homemaker	-	-
Total	**100**	**100.0**

Table 7 shows that 39.0% of the respondents earned 20,001-30,000 baht per month, whereas 22.0% had an income per month between 30,001-40,000 bath. 21.0% of the respondents received a monthly salary below 20,000 baht, 13.0% earned more than 50,000 baht a month, and 5.0% of them earned 40,001-50,000 baht.

Table 7. Income per Month of the Respondents

5. Income per Month (Baht)	Frequency (N)	Percent (%)
• Below 20,000	21	21.0
• 20,001 – 30,000	39	39.0
• 30,001 – 40,000	22	22.0
• 40,001 – 50,000	5	5.0
• Over 50,000	13	13.0
Total	**100**	**100.0**

4.2 INFORMATION ABOUT MOBILE PHONE USAGE AND THE MANUAL READING BEHAVIOR OF RESPONDENTS

From Table 8, respondents who had used the mobile phone for over 10 years accounted for 34.0%, followed by 8-9 years, 24.0%; and 6-7 years, 22.0%. Of the respondents, 11.0% had used a mobile phone for 4-5 years; 8.0% for 2-3 years; and 1.0% for less than 1 year.

Table 8. Information about the Respondents' Experience in Using Mobile Phone

6. Mobile Phone Using Experience	Frequency (N)	Percent (%)
• Less than 1 year	1	1.0
• 2-3 years	8	8.0
• 4-5 years	11	11.0
• 6-7 years	22	22.0
• 8 -9 years	24	24.0
• Over 10 years	34	34.0
Total	**100**	**100.0**

From Table 9, the respondents who bought a new mobile phone every 2-3 years accounted for 57.0%. Twenty-seven respondents (27.0%) reported that they did not change or buy a new mobile phone unless their own devices were damaged. Of the respondents, 8.0% bought a new phone every 6-12 months, while 3.0% of them, every 4-6 years. Three respondents (3.0%) stated that they bought a new mobile

phone when they lost their phones, and two of them (2.0%) said they did when new models of the mobile phones were launched.

Table 9. Information about Purchasing New Mobile Phones

7. Purchasing a New Mobile Phone	Frequency (N)	Percent (%)
• Every 6-12 months	8	8.0
• Every 2-3 years	57	57.0
• Every 4-6 years	3	3.0
• Not changing or buying a new mobile phone unless it was damaged.	27	27.0
• Others	5	5.0
Total	**100**	**100.0**

Table 10 shows that the majority of the respondents (70.0%) read user manuals, while 30.0% of them did not.

Table10. Number of the Respondents Who Read and Did Not Read Mobile Phone User Manuals after Buying a New Phone

8. Reading User Manuals after Buying a New Mobile Phone	Frequency (N)	Percent (%)
• Yes	70	70.0
• No	30	30.0
Total	**100**	**100.0**

From Table 11 to Table 14, the information of 70 respondents who read manuals after buying a new mobile phone are presented.

In Table 11, 57 respondents (81.4%) stated that they read the manuals because they wanted to learn the new operating functions of the mobile phone. Eleven respondents (15.7%) mentioned that they wanted to find out ways to solve problems encountered when using the mobile phone. Only two respondents (2.9%) read the manuals because they wanted to learn safety information regarding the mobile phone operation.

Table 11. Reasons Respondents Read Mobile Phone User Manuals after Buying a New Mobile Phone

9. Reasons for Reading User Manuals	Frequency (N)	Percent (%)
• To learn new operating functions of the mobile phone	57	81.4
• To solve problems encountered when operating the mobile phone	11	15.7
• To know safety information regarding the mobile phone operation	2	2.9
Total	**70**	**100.0**

Table 12 shows that 28 respondents (40.0%) selectively read some sections in user manuals that they were interested in only one time. Twenty-one respondents (30.0%) read their user manuals every time they wanted to know about new operating functions that they had never used, followed by 13 respondents (18.6%) who read the whole manuals for one time after buying the new mobile phone. Eight respondents (11.4%) read user manuals every time they encountered problems when using their mobile phones.

Table 12: Reading Behavior of the Respondents Who Read Mobile Phone User Manuals

10. Manual reading behavior	Frequency (N)	Percent (%)
• Read the whole manual only one time after buying a new mobile phone	13	18.6
• Selectively read some sections only one time after buying a new mobile phone	28	40.0
• Read every time when needing information about new operating functions that had never been used	21	30.0
• Read every time when faced with operating problems	8	11.4
Total	**70**	**100.0**

From Table 13, 60 respondents (85.7%) stated that they read the section explaining the operating functions of the mobile phone, followed by 9 respondents

(12.9%) who preferred to read the troubleshooting section. One respondent (1.4%) read the section indicating the safety information for using the mobile phone.

Table 13. Sections in Mobile Phone User Manuals Which the Respondents Wanted to Read Most

11. Section the Respondents Wanted to Read Most	Frequency (N)	Percent (%)
• Section explaining the operating functions of the mobile phone	60	85.7
• Safety information section	1	1.4
• Troubleshooting section	9	12.9
Total	**70**	**100.0**

Table 14 indicates that 35 respondents (50.0%) found the explanations about the operating functions of the mobile phone were insufficient to help them understand those functions. Twenty-four respondents (34.3%) could not find the sections they wanted to read. Eight respondents (11.4%) complained that the font sizes used in the manual were too small, whereas 3 respondents (4.3%) mentioned that there were too many technical terms.

Table 14. Problems Which the Respondents Often Encountered When Reading Mobile Phone User Manuals

12. Problems Mostly Encountered in User Manuals	Frequency (N)	Percent (%)
• Hard to find the sections to read	24	34.3
• Insufficient explanations about the operating functions of the mobile phone	35	50.0
• Too small font size	8	11.4
• Others	3	4.3
Total	**70**	**100.0**

The following tables (Table 15 and Table 16) show the information from the 30 respondents who did not read user manuals.

Table 15 shows that 25 respondents (83.4%) already understood the basic operations of the mobile phone. Two respondents (6.7%) mentioned that they did not

have time to read the manual. One respondent (3.3%) complained that the manual did not contain the information he/she wanted to read, while another one (3.3%) stated that the language used in the manual was too difficult to read and understand. The rest of them (3.3%) stated that the manual was too big to be easily carried.

Table 15. Reasons the Respondents Did Not Read Mobile Phone User Manuals

13. Reasons for not Reading User Manuals	Frequency (N)	Percent (%)
• No time to read	2	6.7
• Had previous knowledge about basic operations of the mobile phone	25	83.4
• No desired information contained in user manuals	1	3.3
• Difficult language	1	3.3
• Others	1	3.3
Total	**30**	**100.0**

Table 16 displays that 19 respondents (63.3%) asked for help from other people when they faced operating problems. Three respondents (10.0%) called and asked for help from the mobile phone distributor. Two respondents (6.7%) called and asked for help from the mobile phone manufacturer of the brand they were using. For the other six respondents (20.0%), four of them mentioned that they searched for solving problem techniques from websites, while 2 respondents used the trial and error method.

Table 16. Problem Solving Methods of the Respondents Did Not Read Mobile Phone User Manuals

14. Problem Solving Methods	Frequency (N)	Percent (%)
• Asked for help from others	19	63.3
• Called and asked for help from the mobile phone manufacturer	2	6.7
• Called and asked for help from the mobile phone distributor	3	10.0
• Others	6	20.0
Total	**30**	**100.0**

4.3 **FACTORS MOTIVATING RESPONDENTS TO READ USER MANUALS FOR MOBILE PHONES**

In the third part of the questionnaire, the respondents (both who read and did not read user manuals) were asked to rate the motivating factors which influenced them to read user manuals. The factors were divided into two sub-sections: (1) content and language and (2) format. The analysis is based on a five-point-rating scale, ranging from the "Most influential" to the "Least influential". The criteria and meaning of the scores is presented as follows:

Rating Score	Range of Average Score	Description
5	4.21-5.00	Most influential
4	3.41-4.20	Very influential
3	2.61-3.40	Moderately influential
2	1.81-2.60	Slightly influential
1	1.00-1.80	Least influential

The following are the results shown in terms of percentage, mean and meaning. The results are presented as follows:

4.3.1 **Content and Language Factors**

Table 17 presents the results of the motivating factors in terms of content and language in user manuals.

Statement 15: 44.0% of the respondents agreed that having explanations covering all of the operating functions of the mobile phone was a very influential factor. 30.0% of them stated that this factor was moderately influential, while 21.0% agreed that it was the most influential. 4.0% of the respondents said it was slightly influential, and for 1.0%, it was the least influential. The mean score was at the very influential level (3.80).

Statement 16: The percentage of the respondents who stated that having detailed explanations in the troubleshooting section was a very influential factor was equal to that of the subjects who were moderately influenced; that is, 36.0% each. 16.0% of the respondents agreed that this factor was the most influential,

11.0% agreed that it was slightly influential, and 1.0% said it was the least influential. The mean score was at the very influential level (3.55).

Statement 17: Nearly half of the respondents (48.0%) agreed that having detailed explanations in the safety section was a moderately influential factor, followed by 31.0% who stated that this factor was very influential. The same percentage of the respondents thought that this factor was the most influential, and those who said it was slightly influential, amounted to 10.0% each. Only 1.0% of them indicated that it was the least influential. The mean score was at the moderately influential level (3.39).

Statement 18: Of the respondents, 36.0%, agreed that having clear and easy-to-understand technical term explanations was a moderately influential factor, followed by 31.0% of them who stated that this factor was very influential. Next, 18.0% of them said it was the most influential, 14.0% mentioned that it was slightly influential, and 1.0% said it was the least influential. The mean score was at the very influential level (3.51).

Statement 19: Of the respondents, 38.0% agreed that producing manuals written in easy language was very influential. 29.0% of the respondents stated that this factor was moderately influential. 24.0% of them said the most influential; 7.0%, slightly influential; and 2.0%, the least influential. The mean score was at the very influential level (3.75).

To sum up, for all the content and language factors, the item on explanations on how the mobile phone functions work was rated the highest (mean = 3.80), followed by easy-to-understand language (mean = 3.75), and detailed explanations on troubleshooting (mean = 3.55).

The average score for content and language factors was 3.60, which was at the very influential level.

Table 17. Content and Language Factors

Content and Language Factors	Most Influential (5)	Very Influential (4)	Moderately Influential (3)	Slightly Influential (2)	Least Influential (1)	Mean	Meaning
Statements	(%)	(%)	(%)	(%)	(%)	M	Level of Influence
15. There are explanations covering all of the mobile phone operating functions to help readers understand how those functions work.	21.0	44.0	30.0	4.0	1.0	3.80	Very
16. There are detailed explanations in the troubleshooting section to help the readers correctly solve the problems found when operating the mobile phone.	16.0	36.0	36.0	11.0	1.0	3.55	Very
17. There are detailed explanations in the safety section to make readers aware of any danger that might occur when using the mobile phone.	10.0	31.0	48.0	10.0	1.0	3.39	Moderately
18. The explanations of the technical terms are clear and easy to understand.	18.0	31.0	36.0	14.0	1.0	3.51	Very
19. The overall language used in the manual is easy to understand.	24.0	38.0	29.0	7.0	2.0	3.75	Very
Average score						**3.60**	**Very**

4.3.2 Format Factors

In terms of format factors, they were separated further into 3 sub-sections as in the questionnaire: (1) manual size and binding, (2) illustration, and (3) font and color. As a result, Table 18-20 present each sub-section with percentage, mean, and average mean.

From Table 18, the research results can be described as follows:

Statement 20: Almost half of the respondents (48.0%) stated that compact and portable manual size was a very influential factor, followed by 31.0% of them who rated this factor as being moderately influential. The percentage of the respondents who stated that this factor was the most influential and those who stated it was slightly influential was the same, i.e., 10.0% each. Only 1.0% of them indicated that it was the least influential. The mean score was at the very influential level (3.56).

Statement 21: Of the respondents, 43.0% agreed that durable binding was a very influential factor, while 31.0% of them stated it was moderately influential. 14.0% of them indicated that this was at the most influential factor, while 12.0% of them said it was slightly influential. None of the respondent said it was the least influential. The mean score was at the very influential level (3.59).

In summary, the average score of format factors was 3.57, which was at the very influential level.

Table 18. Format Factors

Format Factors Statements	Most Influential (5) (%)	Very Influential (4) (%)	Moderately Influential (3) (%)	Slightly Influential (2) (%)	Least Influential (1) (%)	Mean M	Meaning Level of Influence
20. Manual size is compact and portable.	10.0	48.0	31.0	10.0	1.0	3.56	Very
21. The binding is durable (pages are not easily torn).	14.0	43.0	31.0	12.0	0.0	3.59	Very
Average score						**3.57**	**Very**

From Table 19, the research results can be described as follows:

Statement 22: Of the respondents, 41.0% agreed that having crisp illustrations of the operating functions in user manuals was a very influential factor, followed by 33.0% of them who rated this factor as being moderately influential. 16.0% of the respondents indicated this factor was the most influential, while 10.0%

stated it was slightly influential. However, none of them said it was for the least influential. The mean score was at the very influential level (3.63).

Statement 23: Nearly half of the respondents (47.0%) stated that having illustrations that were relevant to the operating functions of the phone was a very influential factor. Of the respondents, 28.0% rated this factor as being moderately influential, 16.0% said it was for the most influential, 9.0% mentioned that it was slightly influential, and none of them stated it was the least influential. The mean score was at the very influential level (3.70).

Statement 24: The percentage of the respondents who agreed that having enlarged font size was a very influential factor accounted for 46.0%, followed by 31.0% stated that it was moderately influential. Of the respondents, 14% said it was slightly influential, 8.0% agreed that it was the most influential, and 1.0% said the least influential. The mean score was at the very influential level (3.46).

Statement 25: Of the respondents, 41.0% indicated that inserting symbols to help the readers locate the sections they wanted to read was a very influential factor. 32.0% of the respondents agreed that this factor was moderately influential, 17.0% indicated it was the most influential, 9.0% stated it was slightly influential, and 1.0% said it was the least influential. The mean score was at the very influential level (3.64).

Statement 26: Of the respondents, 41.0% indicated that using clear safety warning symbols was moderately influential, while 33.0% of them mentioned that this factor was very influential. Next, 11.0% said this was the most influential and 15.0% said it was slightly influential. None of the respondent agreed that this factor had the least influence. The mean score was at the moderately influential level (3.40).

In conclusion, of all the illustration factors, the item on illustrations relevant to the function explanations was rated the highest (mean = 3.70), followed by symbols for locating the specific sections (mean = 3.64), and crisp illustrations of the operating functions (mean = 3.63). The average score of illustration factors was 3.56, which was at the very influential level.

Table 19. **Illustration Factors**

Illustration Factors	Most Influential (5)	Very Influential (4)	Moderately Influential (3)	Slightly Influential (2)	Least Influential (1)	Mean	Meaning
Statements	(%)	(%)	(%)	(%)	(%)	M	Level of Influence
22. Illustrations of the operating functions are crisp.	16.0	41.0	33.0	10.0	0.0	3.63	Very
23. Illustrations of the operating functions are relevant to the explanations of those functions.	16.0	47.0	28.0	9.0	0.0	3.70	Very
24. Illustration sizes are large enough to allow the readers see the details in the illustrations easily.	8.0	46.0	31.0	14.0	1.0	3.46	Very
25. There are symbols to help readers locate the sections they want to read.	17.0	41.0	32.0	9.0	1.0	3.64	Very
26. There are clear safety warning symbols.	11.0	33.0	41.0	15.0	0.0	3.40	Moderately
Average score						**3.56**	**Very**

From Table 20, the research results can be described as follows:

Statement 27: Of the respondents, 42.0% stated that having easy-to-read font styles in the user manuals was a very influential factor, followed by 34.0% of them who said this factor was moderately influential. 18.0% of the respondents voted this factor as being the most influential, while 6.0% said it was slightly influential. No respondent stated that this factor was at the least influential level. The mean score was at the very influential level (3.72).

Statement 28: More than half of the respondents (51.0%) agreed that using enlarged font sizes for the headings was a very influential factor. Of the respondents, 34.0% stated that large font was moderately influential. In addition, 8.0% of them rated this factor to be the most influential, and 7.0% of the respondents

said it was slightly influential. No respondent stated that this factor was the least influential. The mean score was at the very influential level (3.60).

Statement 29: Of the respondents, 45.0% stated that using enlarged font sizes for the text in the body was a very influential factor, followed by 40.0% of them who rated this factor to be moderately influential. 8.0% of the respondents were said it was slightly influential, and for 7.0% of them, it was the most influential. No respondent stated that this factor was the least influential. The mean score was at the very influential level (3.51).

Statement 30: Of the respondents, 37.0% indicated that using clear and nice-looking font colors was moderately influential, while 27.0% of them agreed that it was very influential. 26.0% of the respondents rated this factor as being slightly influential; 6.0%, the most influential; and 4.0%, the least influential. The mean score was at the moderately influential level (3.05).

Statement 31: Of the respondents, 35.0% agreed that using bright colors for the safety warning symbols was moderately influential, while 34.0% of them mentioned that this factor was very influential. Next, 20.0% of the respondents said it was slightly influential, 7.0% said it was the most influential, and 4.0% said it was the least influential. The mean score was at the moderately influential level (3.20).

Statement 32: Of the respondents, 47.0% mentioned that using front covers printed in color was moderately influential, while 29.0% of them agreed that this factor was very influential. For 13.0% of them, it was slightly influential; for 6.0%, the least influential; and for 5.0%, the most influential. The mean score was at the moderately influential level (3.14).

The average score of font and color factors was 3.37, which was at the moderately influential level.

Table 20. **Font and Color Factors**

Font and Color Factors Statements	Most Influential (5) (%)	Very Influential (4) (%)	Moderately Influential (3) (%)	Slightly Influential (2) (%)	Least Influential (1) (%)	Mean M	Meaning Level of Influence
27. Font styles used in the manual are easy to read. (e.g. space between each character is not too wide or too close, handwriting font styles are avoided, etc.)	18.0	42.0	34.0	6.0	0.0	3.72	Very
28. Font size of the headings is large enough to help the readers distinguish the headings from the text in the body part easily.	8.0	51.0	34.0	7.0	0.0	3.60	Very
29. Font size of the text in the body part is enlarged to lessen readers' eye strain when reading the manual.	7.0	45.0	40.0	8.0	0.0	3.51	Very
30. Font colors look nice and clear. (e.g. they are not dull, blurry, or faded)	6.0	27.0	37.0	26.0	4.0	3.05	Moderately
31. Colors of the safety warning symbols are bright enough to draw the readers' attention.	7.0	34.0	35.0	20.0	4.0	3.20	Moderately
32. Front cover is printed in color.	5.0	29.0	47.0	13.0	6.0	3.14	Moderately
Average score						**3.37**	**Moderately**

Comparing the average mean score in each group of the motivating factors—content and language, manual size and binding, illustration, font and color factors—it was noticeable that content and language factors received the highest score (mean = 3.60), followed by manual size and binding factors (mean = 3.57), illustration factors (mean = 3.56), and font and color factors (mean = 3.37).

4.4 OTHER SUGGESTIONS FOR IMPROVING MOBILE PHONE USER MANUALS

There were suggestions for improving user manuals from 17 respondents as follows.

4.4.1 Content and Language

There were two main points recommended by six respondents:

1) Use simple language for explanations. 1, 2, 3 point outlines for instruction was preferred. Moreover, technical terms should be avoided.

2) Add more explanations about new operating functions of the mobile phones because users had different experiences in using the devices.

4.4.2 Format

Eleven respondents gave suggestions for improving the user manual format as the following:

1) Print the whole user manual in color and all of the illustration colors must match to the body's color.

2) Add CD-Rom with interactive explanations of new and difficult functions to help readers to follow up.

3) Use bigger font size for both of the headings and text in the body of user manuals.

4) Add more navigation symbols to help readers locate the sections they want to read in a short time.

The findings of the study will be summarized and discussed in the next chapter.