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4G LTE在台灣成功推動的關鍵因素：研究消費者之期望

Critical Success Factors for 4G LTE Launching in Taiwan: A Study on Customers' Expectations

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中華民國一〇一年十二月

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Abstract

Critical Success Factors for 4G LTE Launching in Taiwan: A Study on Customers' Expectations

By Teerasit Songtis

LTE- Long Term Evolution, marketed as 4G LTE, is a new generation of mobile-phone network which enable the mobile operator to provide significantly faster mobile broadband data rates. With the new redesign and simplification of the network architecture, 4G LTE can provide five time faster data rates than the current 3G networks. It will help the mobile operators to cope with ever growing mobile data traffic demands in a cost-effective manner.

In Taiwan, the licenses for 4G LTE will be issued by the end of 2013, opening another business opportunities for the mobile industry. It's expected that all the big mobile operators will acquire for the licenses. Telecom equipment vendor such as Nokia Siemens Networks and Ericsson are preparing for 4G LTE network trial and deployment as well.

In light of the upcoming 4G LTE deployment in Taiwan, this thesis project was conduct to gain a better understanding of the current mobile users in Taiwan. The goal is to identify and understand customers' attitudes, preferences, and satisfactions towards the current mobile carriers as well as customers' expectations of the next generation carrier – 4G LTE. The data input of this thesis are survey data collected by on-line questionnaire from the students at National ChengChi University, and people living in Taiwan. The sample size was 872.

The collected data was analyzed by SPSS, a computerized statistical program. The analysis report includes description of the sample, customers' attitudes, and preferences of the current mobile carriers in general, satisfactions towards their current using carriers, expectations of 4G LTE carriers as well as their preferable carriers. The report also discusses the carrier switching pattern, and the factors influencing the switching behavior.

After analyzing the findings of the study, the thesis report proposes that the mobile operators should deploy 4G LTE network coverage as soon as possible, concentrate on increasing mobile data service speed, maintain voice call service quality, offer a wide variety of handsets at some attractive prices and setting tariff rate competitively.

TABLE OF CONTENTS

1. Executive Summary 1

2. Introduction 4

3. Revolution of Mobile Telecommunication 5

3.1. 2G – Digital Cellular Networks 5

3.2. 3G – Mobile Broadband Data 5

3.3. 4G LTE – Long Term Evolution 6

4. Exploration of the Current Mobile Telecommunication Industry in Taiwan 8

4.1. Key Players in the Mobile Telecommunication Industry in Taiwan 8

4.2. Evolution of the Mobile Telecommunication Industry in Taiwan 8

4.3. Revenue Trend Analysis 10

4.4. Challenges in the Mobile Telecommunication Industry 11

5. Statement of the Problem 12

6. Methodology 12

6.1. Questionnaire 13

7. Survey Data Analysis 17

7.1. Data Collection 17

7.2. Description of the Sample 17

Demographic Information of Survey Respondents 17

Current Mobile Handsets 19

7.3. Mobile Carriers in General 20

Spending on Mobile Phone Bills 20

Importance of Basic Services 22

Importance of Mobile Carrier Features and Willingness to Pay More 22

7.4. Current Using Mobile Carriers 24

Current Mobile Carriers Distribution 24
Years of Subscription 25
Motivations for Choosing the Carriers 26
Spending on Mobile Phone Bills 27
Internet Usages 28
Satisfactions towards the Current Carriers 28
7.5. Future Mobile Carrier – 4G LTE 30
Evaluation of Price Acceptance and Intention to Subscribe 30
Importance of Mobile Carrier Features in 4G LTE 32
Feelings about Subscribing to 4G LTE 33
Favorable Features for People Intend to Subscribe and Not Intend to Subscribe 33
Preferable 4G LTE Carriers 34
7.6. Intension of Subscribing to 4G LTE versus Current Internet Usage 35
Current Internet Usage 35
Spending on Mobile-phone Bills versus Mobile Internet User Group 36
Intention to Subscribe for 4G LTE versus Mobile Internet User Group 37
Willingness to Pay More versus Mobile Internet User Group 38
Prices Acceptance versus Mobile Internet User Group 38
7.7. Carrier Switching Analysis 40
Carrier Switching in 4G LTE 40
Satisfactions towards Current Carriers versus Carrier Switching 41
Reasons for Subscribing to the Current Carriers versus Carrier Switching 42
8. Conclusions 44
8.1. Spending on Mobile Phone Bills: Lower than ARPU in 2011 44

8.2. Motivations for Choosing the Carrier: Cheaper to Call Boyfriend, Girlfriend, Husband, Wife is the Most Appealing Feature 44

8.3. Important Carrier Features: Network Coverage, Monthly Rate Plan, Voice Call Quality, and Internet Speed are the Most Important Features but People are just willing to Pay More for Better Coverage, and Internet Speed 45

8.4. Satisfaction towards the Current Carriers: Chunghua Telecom is the Most Satisfying Carrier 45

8.5. Expectations towards 4G LTE Carriers: High Speed Data Rates, Mobility, and Voice Call Quality are the Most Favorite Features; Chunghua Telecom is Most Preferable Carrier 45

8.6. Subscribing to 4G LTE: Wait and Listen to Other Comments, Wait for Favorite Phones and Promotions, Subscribe after 1 Year 46

8.7. Carrier Switching: Many Subscribers Plan to Switch to Chunghua Telecom in 4G LTE 46

8.8. 4G LTE Price: 888 TWD Monthly Plan is Appealing to Heavy Internet Users Spend More 47

8.9. Factors Influencing Carrier Switching: Bad Network Coverage, Poor Voice Call Quality, and Slow Data Rates Could Influence Subscribers to Switch to Other Networks . 47

8.10. Factors Influencing Customers to Use the Same Carriers: Network Quality and Cheap Rate to Call Family are the Most Important Factors to Retain the Subscribers in the Networks 48

9. Recommendations 49

10. References 50

Appendix A – SPSS Data Analysis Output 51

Appendix B – Questionnaire 114

Table of Figures and Tables

Figure 1: Current Mobile Carrier Market Share in 2011 8
Figure 2: Evolution of Mobile Market in Taiwan 9
Figure 3: Expansion of Mobile Internet Subscribers in Taiwan 9
Figure 4: Mobile Data Service Revenue as Proportion of Total Mobile Revenue 10
Figure 5: Average Revenue per User (ARPU) of Mobile Services 10
Figure 6: Operator Challenges – The Widening Gap between Traffic and Revenue *[7]* 11
Figure 7: Demographic Information of the Survey Respondents 18
Figure 8: Profession Distributions of the Survey Respondents 18
Figure 9: Income Ranges of the Survey Respondents 19
Figure 10: Distribution of the Current Mobile Handsets Types 19
Figure 11: Distribution of the Current Mobile Handsets Brands 20
Figure 12: Total Spending on Monthly Mobile Phone Bills 21
Figure 13: Spending on Mobile Phone Bills 21
Figure 14: Importance of Basic Services 22
Figure 15: Importance of Mobile Carrier Features 23
Figure 16: Willingness to Pay More for Better Mobile Carrier Features 23
Figure 17: Distribution of Current Mobile Carriers of Respondents 24
Figure 18: Year of Subscription to Current Mobile Carrier 25
Figure 19: Average Years of Subscription 26
Figure 20: Motivation for Choosing the Current Carriers 27
Figure 21: Spending on Mobile Phone Bills in Each Carrier 28
Figure 22: Hours of Internet Usages of the Users in Each Carrier 28
Figure 23: Satisfactions towards Carrier Features 29
Figure 24: Intention to Subscribe, Intention to Recommend, Value for Money 31
Figure 25: Time to Subscribe for 4G LTE 32
Figure 26: Importance of Mobile Carrier Features in 4G LTE 32
Figure 27 Feeling about Subscribing to 4G LTE 33
Figure 28: Favorable Features for People Intend to Subscribe 34
Figure 29: Favorable Features for People Who Don't Intend to Subscribe 34
Figure 30: Preferable 4G LTE Carriers 35

Figure 31: Distribution of Heavy and Light Mobile Internet Users 35
Figure 32: Total Spending on Mobile-phone Bill per Month 36
Figure 33: Voice Call Spending on Mobile-phone Bill per Month 37
Figure 34: Mobile Internet Bill per Month 37
Figure 35: Intention to Subscribe for 4G LTE Mean Score of Heavy and Light Mobile Internet Users 37
Figure 36: Willing to Pay More for Better Carrier Features of Heavy and Light Mobile Internet Users 38
Figure 37: Prices Acceptance of Heavy and Light Mobile Internet Users 39
Figure 38: Current Carrier and Preferable 4G LTE Carrier Distributions 40
Figure 39: Satisfaction Levels of Switch and Non-switch Carrier Users 42
Figure 40: Reasons for Subscribing to the Current Carriers of Switch and Non-switch Carrier Users 43
Figure 41: Years of Subscriptions of Switch and Non-switch Carrier Users 43
Table 1: Satisfaction Score / Adjusted Satisfaction Score of Each Carrier 30
Table 2: Current Carrier and Preferable 4G LTE Carrier Distribution 41

1. Executive Summary

LTE – Long Term Evolution, marketed as 4G LTE, is a new generation of mobile-phone network which will enable the mobile operator to provide significantly faster data rates for mobile broadband. With the new redesign and simplification of the network architecture, 4G LTE technology will be able to provide download peak rates of 300 Mbit/s, uplink peak rates of 75 Mbit/s, which is five time faster than the current 3G networks. It will allow the mobile operators to cope with ever growing mobile data traffic demands and provide a faster mobile broadband service in a cost-efficient manner. *[4]*

WiMAX is another 4G technology that allows the wireless operators to provide a superfast mobile broadband service. In Taiwan, the government has been supporting the WiMAX 4G technology aiming to boost the local Taiwanese wireless device producer industry. The WiMAX licenses have been issued to the six operators in 2007. Apparently, the launch of WiMAX 4G was not successful. The operators could attract only about hundred thousand subscribers after 5 years of operation. *[5]*

4G LTE will be the future mobile broadband technology globally as more mobile carriers worldwide have committed to it. The licenses for 4G LTE in Taiwan will be issued by the end of 2013. It's expected that all the big operators will acquire for the licenses. To ensure successfully deployment of 4G LTE, it's important for the mobile operators to understand the customers' wishes and needs.

This thesis project is conducted to gain a better understanding of the current mobile users in Taiwan. The goal is to identify and understand customers' attitudes, preferences, and satisfactions towards the current mobile carriers. Besides, it also studies customers' expectations of the next generation mobile carriers – 4G LTE. The data input of this thesis project was a survey data collected from National ChengChi University students, and people living in Taiwan by on-line questionnaire. The sample size was 872.

Key findings from the analysis are listed below.

- 61% of the respondents spend less than 599 TWD a month on their total mobile phone bills. 58% spend less than 199 TWD a month for mobile internet while about 10% spend more than 800 TWD a month for mobile internet service.

- Voice call is the most important service among all the services provided in mobile network, followed by short message service (SMS), and mobile internet service. Multimedia message service (MMS) and video call are not important mobile services.

- ChungHua Telecom is the most popular carrier in Taiwan. Of all the respondents, 57% use ChungHua Telecom, 28% use Taiwan Mobile, and 13% use FarEasTone. Subscribers tend to stay with ChungHua Telecom than other carriers.

- The most common reason for choosing the mobile carrier is cheaper rate to call their family and close friends. The second most common reason is the network quality reputation.

- The respondents rated network coverage, monthly rate plan, voice call quality, and internet speed as the most important features. However, they are just willing to pay more for the better coverage and the internet speed.

- The most satisfying current mobile carrier is ChungHua Telecom, followed by Taiwan Mobile and FarEasTone. ChungHua Telecom was rated as the best in network coverage and voice call quality satisfactions while it was rated as the lowest satisfactions in customer loyalty program, choice of handsets, and discounted price handsets. FarEasTone was rated as the best discounted price handsets.

- With regard to expectations of 4G LTE; the respondents rated network coverage, rate plan, internet service speed, and voice call quality as the top most important features. 50% of the respondents plan to subscribe for 4G LTE after one year. Regarding the feeling to subscribe for 4G LTE; 42% stated that they will wait and listen to other comments, 29% stated they will wait for promotion, 21% stated they will wait for

favorite mobile phone, and 4% tend to be one of the first to use 4G LTE. ChungHua Telecom is the most preferable carrier for 4G LTE.

- Regarding the price acceptance testing of 4G LTE service, 888 TWD a month package is the most preferable by heavy mobile internet user group, who spend more than 6 hours a week using internet on their mobile devices. Most of them currently pay more than 800 TWD a month on total bill and more than 400 TWD a month for internet service. Apparently, this heavy mobile internet user group is willing to pay more for better service, especially for faster data service.

- Concerning the preferable 4G LTE carrier, 95% of current ChungHua Telecom subscribers prefer to subscribe for the same carriers. Only 65% of current Taiwan Mobile and 52% of current FarEasTone subscribers prefer to subscribe for the same carriers in 4G LTE. 32% of current Taiwan Mobile subscribers and 42% of FarEasTone subscribers plan to switch to ChungHua Telecom when they subscribe for 4G LTE.

- Regarding mobile carrier switching, top reasons for the mobile users discontinuing subscriptions and switching to other carriers are poor network coverage, voice call quality, slow internet speed, unsatisfying customer service and support. The most common motivations for the mobile users to stay with the carriers are cheaper rate to call family and close friends, and network quality reputation.

The analysis result reveals that network coverage, monthly rate plan, and voice call quality are very important to the mobile users in 4G LTE. While 4G LTE allow the operators to provide superfast mobile broadband, the mobile operators should concentrate on not only increasing mobile data service speed but also expanding the network coverage as soon as possible, maintain voice call service quality, offer a wide variety of handsets at some attractive prices, and setting tariff rate competitively.

2. Introduction

Recently, the ways people use mobiles phone have changed tremendously. People used to use mobile phones just to make phone calls to their friends. Now, people spend more time using their phones for surfing the webs, chatting with friends, taking photos, and sharing with friends, connecting with friends through social networks, e.g. Facebook, watching streaming video contents, etc. Smartphones and social networks have been key factors influence these changes. Mobile broadband or data service on mobile devices has become more important than the traditional voice calls. Data traffic in mobile broadband network has increased dramatically. In Taiwan, according to the latest statistics data from the National Communications Commission, the number of mobile internet subscribers has increased to 20.7 million, accounted for 71.3% of mobile phone subscribers in 2011.

To cope with this drastic demand increase in data service of mobile network, LTE – Long Term Evolution network is designed and being introduced. It will help operators to provide high speed data service for mobile phone users in a cost efficiency way. In Taiwan, National Communication Commission has been working on 4G LTE licenses, and planning to have an auction for the licenses by the end of 2013. Taiwan mobile operators, device producers as well as telecom equipment vendors are currently working on preparation and testing for 4G LTE networks.

In light of the upcoming 4G LTE deployment in Taiwan, this thesis project was conducted to gain a better understanding of mobile phone users in Taiwan. The main goal was to identify and understand customers' attitudes, preferences and satisfactions towards current mobile carriers, and their expectations of 4G LTE services. The survey data were collected by on-line questionnaire from National ChengChi University students, and people living in Taiwan.

The report is organized as follow. First, a brief overview of revolution of mobile telecommunication and exploration of the industry in Taiwan are provided. Then, the research methodology is discussed and described. Data collection is discussed, and the sample is described, and analyses are provided. The report concludes with recommendations for mobile operators in Taiwan to ensure successful deployment of their 4G LTE networks.

3. Revolution of Mobile Telecommunication

3.1. 2G – Digital Cellular Networks

In 1990s, the second generation mobile phone system (GSM) was introduced. It provided mobility and allowed people to use mobile phone mainly for voice conversation. The second generation also introduced a new variant of communication called SMS or text messaging, which became popular amongst the young. 2G also introduced the capability to access media content on mobile phones. It became widespread and people began to utilize mobile phone in their daily lives. Demand for data service or internet access on mobile devices was growing. *[1]*

3.2. 3G – Mobile Broadband Data

In 2000s, 3G introduced the use of package switching for data transmission rather than circuit switching, which allowed higher speed for internet access on mobile phones. 3G was introduced to the markets in order to provide a base for even more demanding multimedia. It provided additional capacity for voice calls as the 2G systems started to saturate. With its multiple generations and releases, the mobile telecom operators and vendors started to realize the challenges in the field as new services typically require support from both networks and terminals. On the other hand, the terminals' lifecycle is shorter because users consider them to be everyday consumer objects, and more attractive models constantly appear on the market. There is a positive balance between users, operators and equipment vendors as enhanced services typically require updates to terminals and networks.

The deployment of the packet data service as an add-on for GSM, and then its adaptation from the first phase of UMTS, were the important triggers for the use of Internet services via mobile terminals. The rapidly evolving Internet environment itself had a great impact on mobile communications, resulting in the development of multi-usage equipment for services, combining voice connections, messaging, and multimedia.

With the deployment of the third-generation networks, data rates increased in order to provide a smoother user experience. The new business environment started to strengthen. In contrast

to the initial model of only few voice service providers in controlled markets, there were now increasing numbers of operators, equipment vendors, service providers, measurement equipment producers, and many other entities contributing to mobile communications. The increasing speed of standardization made development seem unlimited.

Along with the increased data rates associated with the Internet, fixed and mobile communications have also evolved steadily. Open standards, competing operators and multi-vendor equipment offerings have ensured that the markets developed favorably from the end user's point of view.

Evolution of 2G and 3G is gradually becoming saturated, as happened with the first-generation networks. It is easier to create a new, more efficient platform to provide the required data rate and capacity than to develop existing ones. Statistics from recent years indicate that there has been a huge growth in multimedia data transfer. The exponential growth in the use of data sets higher performance targets for the networks than ever before. *[1]*

3.3. 4G LTE – Long Term Evolution

LTE – Long Term Evolution, marketed as 4G LTE, is a new standard for wireless communication of high-speed data for mobile phones and data terminal. As its name indicates, LTE has been planned to meet the ever growing demands of mobile communication network customers in the forthcoming years. It has been developed based on the GSM/EDGE and UMTS/HSPA network technology to increase the capacity and speed of mobile phone internet service using a different radio interface together with core network improvements. It allows the service providers to utilize their network resources more efficiently.

The goal of LTE was to increase the capacity and speed of wireless data network using new DSP (digital signal processing) techniques and modulations. A further goal was the redesign and simplification of the network architecture to an IP-based system with significantly reduced transfer latency compared to the 3G architecture. However, the LTE wireless interface is incompatible with 2G and 3G networks, so that it must be operated on a separate wireless spectrum. *[4]*

The LTE specification provides downlink peak rates of 300 Mbit/s, uplink peak rates of 75 Mbit/s, and QoS provision permitting a transfer latency of less than 5ms in the radio access network. With 4G LTE, the end-users will be able to access superfast mobile internet at speed FIVE times faster than the current 3G speeds today. The customers will be able to access the web on the go without waiting, connect with their friends on social network quicker and easier, download high-definition movies in minutes, watch live TV on the move without buffering, play live multiplayer games on the go, download large email attachments quicker than ever, make crystal clear audio quality phone through Voice over LTE (Available in the near future), make high quality video calls on the move, and enjoy superfast service on computers, or other peripheral by connecting through the 4G LTE handset.

4. Exploration of the Current Mobile Telecommunication Industry in Taiwan

Taiwan has one of the most advanced telecom networks in Asia. It was one of the first countries deploying 3G mobile network services and 4G WiMax. This section discusses the current mobile-phone network industry in Taiwan, including key players in the industry, evolution of the mobile telecommunication industry, revenue trend analysis, and challenges confronting the mobile operators.

4.1. Key Players in the Mobile Telecommunication Industry in Taiwan

The mobile network industry is leading by three big mobile operators. CHT is the nation's largest 3G network operator, with market share of 35 percent. Taiwan Mobile ranked second with 29 percent, closely followed by FarEasTone Telecommunication (FET) with 28 percent. Vibo Telecom came in last at 8 percent. *[3]*

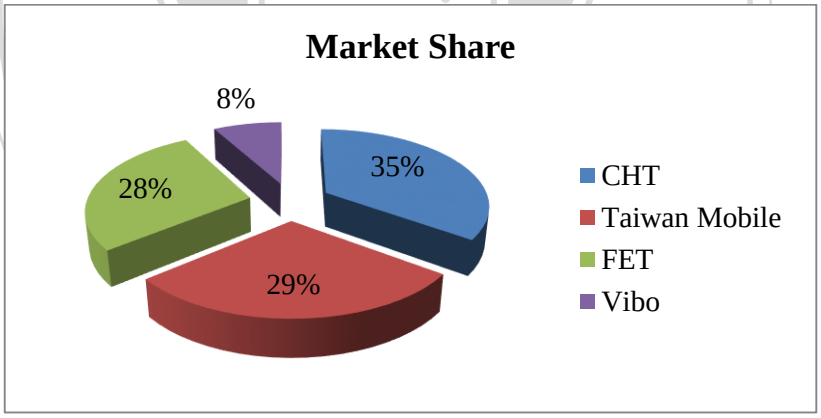
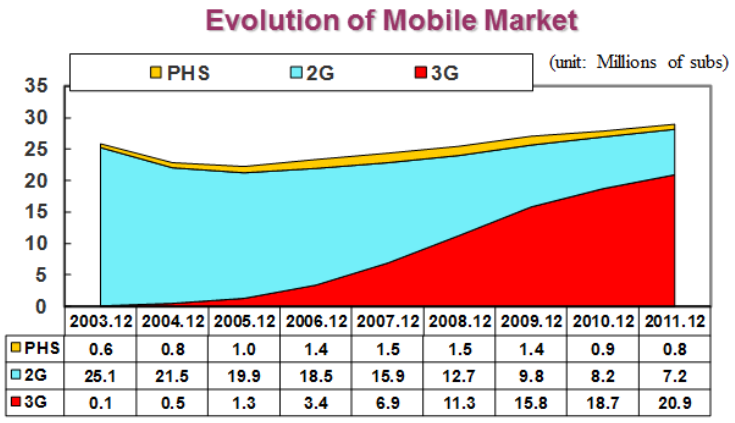


Figure 1: Current Mobile Carrier Market Share in 2011

4.2. Evolution of the Mobile Telecommunication Industry in Taiwan

According to the data from National Communication Commission, the first 3G network was launched in Taiwan in July 2003. At that time the overall mobile-phone services penetration rates have already been over 100%, dominated by 25.1 million of 2G subscribers. There was no much room for growing in the mobile market in Taiwan as it was becoming very saturated. Nevertheless, 3G subscribers are still growing, which is contributed by users who switch from

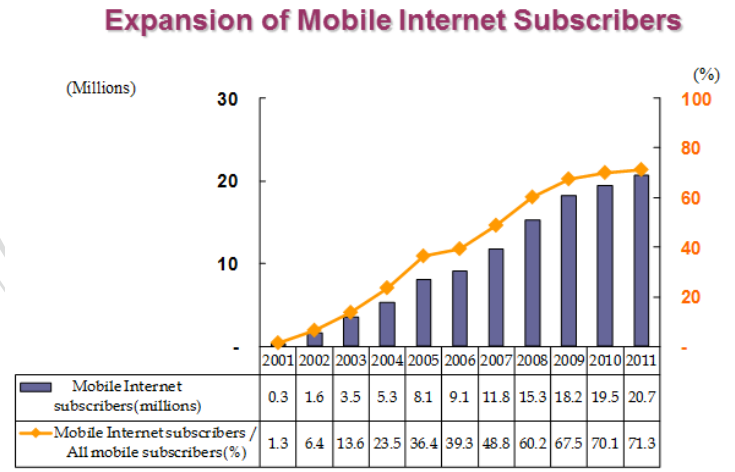
2G mobile networks to 3G mobile networks. In 2011, mobile penetration rates have reached 120%, accounted for 28 million total subscribers, with 20.9 million 3G subscribers. *[2]*



	2003.12	2004.12	2005.12	2006.12	2007.12	2008.12	2009.12	2010.12	2011.12
PHS	0.6	0.8	1.0	1.4	1.5	1.5	1.4	0.9	0.8
2G	25.1	21.5	19.9	18.5	15.9	12.7	9.8	8.2	7.2
3G	0.1	0.5	1.3	3.4	6.9	11.3	15.8	18.7	20.9

Note: The first 3G operator launched its service in July 2003 - four other operators began in 2005 (between July and Dec.)
Source: National Communications Commission

Figure 2: Evolution of Mobile Market in Taiwan



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Mobile Internet subscribers(millions)	0.3	1.6	3.5	5.3	8.1	9.1	11.8	15.3	18.2	19.5	20.7
Mobile Internet subscribers / All mobile subscribers(%)	1.3	6.4	13.6	23.5	36.4	39.3	48.8	60.2	67.5	70.1	71.3

Note: Mobile Internet subscribers include the subscribers of WAP,GPRS, PHS, WBA as well as 3G subscribers that can access data communications
Source: National Communications Commission

Figure 3: Expansion of Mobile Internet Subscribers in Taiwan

Mobile internet subscribers have expanded since 3G was introduced in 2003, with annual growth rate about 3-5% until 2008. The growth rate became slower after 2009 as the market became almost mature. In 2011, about 71.3% of total mobile-phone users or 20.7 million users have already subscribed for mobile internet services. *[2]*

4.3. Revenue Trend Analysis

As for revenue point of view, the service revenue from mobile data service has been growing continuously. In 2011, the mobile data service revenue is 13.87% of total mobile revenue. It's inevitable that mobile data service is becoming very important for mobile operators. While the revenue from the mobile data service is growing, average revenue per user – ARPU of the mobile services have been declining. In 2011, APRU of 3G subscribers declined to 786 NTD per month, while 2G subscribers declined to 531 NTD per month.

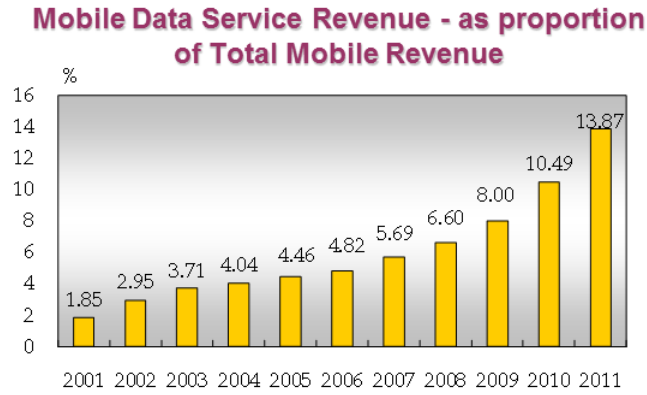


Figure 4: Mobile Data Service Revenue as Proportion of Total Mobile Revenue

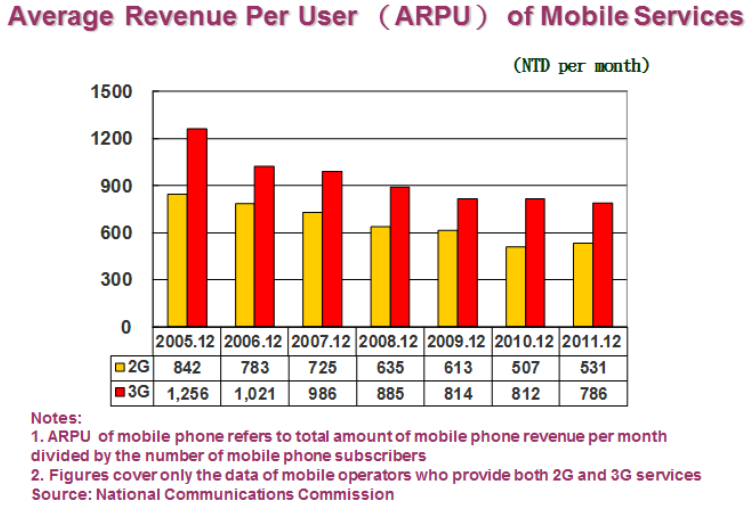


Figure 5: Average Revenue per User (ARPU) of Mobile Services

4.4. Challenges in the Mobile Telecommunication Industry

The dramatically increase in the mobile data service demands has brought numerous challenges to the mobile operators. First, the market is highly competitive. In order to attract new subscribers, the operators have been offering cheaper rate plan packages such as a flat rate for unlimited data usages. There has been also a drastic change in the mobile users' behavior. People spend more time using the mobile internet services than before. An increase in the mobile internet traffic has triggered congestions in the networks. The internet services have become more latency and slower. The mobile operators have to allocate abundant investment on expanding the network capacity to bridge the gap, adding higher costs in network operations. ARPU – Average Revenue per User has been retracting while investment and operation cost has been increasing.

To cope with this drastic change, LTE – Long Term Evolution network is designed meet the ever growing demands of the mobile communication network customers. It will help operator to offer higher speed data services for mobile phone users in a cost efficiency way.

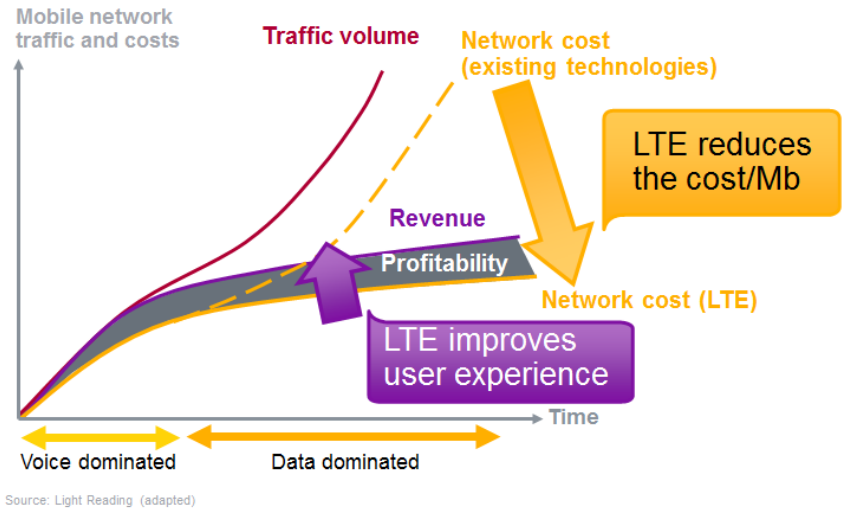


Figure 6: Operator Challenges – The Widening Gap between Traffic and Revenue *[7]*

In Taiwan, National Communication Commission has been working on 4G LTE license, and planning to have an auction by the end of 2013. Taiwan mobile operators as well as telecom vendors are currently working on preparation and testing for 4G LTE networks.

5. Statement of the Problem

The main goal of this thesis project is to gain a better understanding of mobile users in Taiwan, to identify the customers' preferences, their satisfactions toward the current carriers, and their willingness to pay more for better services. The project also analyzes the customers' expectation of their future carriers – 4G LTE, their purchase intension, and their preferable carriers. Apart from that, the project also analyzes mobile users' carrier switching patterns, and attempts to identify important factors that make the mobile users decide to stay with their current carriers or switch to other carriers. In addition, the project also discusses users' behavior, attitudes and expectations of 4G LTE by comparing between heavy mobile internet user group and light mobile internet user group. It is crucial for mobile operators to monitor the preference and behavior of their customers especially because the market is becoming saturated so that they can effectively respond and identify new opportunities in the marketplace, 4G LTE.

6. Methodology

The approach of the thesis project included two phases. In the first phase, the author studied the current mobile phone carrier industry in Taiwan, and conducted a focus group by discussing with few Taiwanese friends about their attitudes towards their current carriers, as well as their knowledge on 4G LTE. After that, the questionnaire survey was developed based on the collected data.

In order to study satisfactions of mobile users and other related issues, 11 important features of mobile carriers were defined. The mobile carriers features used in this thesis project are listed below:

- Network coverage
- Voice call quality
- Data/Internet service quality and speed
- Video call quality

- Reliability of SMS & MMS
- Helpful customer service and support
- Value-added services (e.g. Voicemail service, Selective ring back tone service, etc.)
- Customer loyalty program (e.g. 1hr free parking in department store, Birthday gift, Personal assistant hotline for VIP customers, etc.)
- Choices of available handsets
- Discounted price handsets with contract
- Rate plan / Monthly subscription fee

To perform service price testing of 4G LTE, the survey participants were randomly separated to two groups to answer different survey questionnaire form. The questions in the two forms are identical. Only the price shown in the product descriptions are different. Details can be found in the following section.

The survey questionnaire was comprised of three parts. Full questionnaire can be found in Appendix B.

6.1. Questionnaire

- **Part 1 (Form A)** The questions in this part of the questionnaire asked about the carrier that participants are currently using, and their attitudes towards the current carriers.
    - Currently using mobile network carrier
    - Yeas of using this carrier
    - Reasons for selecting this carrier
    - Spending on current mobile phone bill on each services, including voice call, video call, SMS, and MMS

- Importance of each basic services, including voice call, video call and SMS
- Importance of the 11 defined mobile carrier features
- Satisfaction with the current carrier on the 11 defined mobile carrier features
- Willingness to pay more on the 11 defined mobile carrier features
- Hours of using mobile internet in typical week
- Activities on internet-enable mobile phone

- **Part 2 (Form B and Form C)** In this part, the participants were randomly separated into two cells – Cell I and Cell II. They are asked to answer to the two separated questionnaire forms – Form B and Form C. The questions in both forms were identical. At the beginning of both forms, the participants were given the product descriptions of 4G LTE network and its main features as well as the monthly subscription plan. The difference of these two forms was the monthly subscription plan shown on the product descriptions. This was done for price acceptance testing purpose. The following are the product descriptions of 4G LTE shown in the questionnaire forms.

4G LTE is the next generation of telecom technology, which can deliver significantly faster, more consistent mobile broadband speeds. It can offer superfast mobile internet at speeds typically FIVE times faster than 3G speeds today.

- *With superfast 4G LTE mobile, customers will be able to:*
- *Access the web on the go without waiting*
- *Connect with your friends on social network quicker and easier*
- *Download high-definition movies in minutes*
- *Watch live TV on the move without buffering*
- *Play live multiplayer games on the go*
- *Download large email attachments quicker than ever*

- *Make crystal clear audio quality phone through Voice over LTE (Available in the near future)*
- *Make high quality video calls on the move*
- *Enjoy superfast service on your computer, or your other peripheral by connecting through the 4G LTE handset.*

Form B (For Cell I participants)

Monthly Fee: 888 NT (Low price package)

Data / Internet service: Free for 800 MByte ; If you use over 800 Mbyte, we will charge 0.00061 NT/Byte; Upper limited charge is 2,000 NT

Voice Call: Free 100 minutes; If you call over 100 minutes, we will charge 3.5 NT/minutes

Text message: Free 100 SMS

Form C (For Cell II participants)

Monthly Fee: 1,888NT (High price package)

Data / Internet service: Free for 2,000 MByte ; If you use over 2,000 MByte, we will charge 0.00041 NT/Byte; Upper limited charge is 2,200 NT)

Voice Call : Unlimited for intra-network ; Free 100 minutes for inter-network; if you call over 100 minutes, we will charge 3.5 NT / minutes for inter-network calls.

Text message: Free 500 SMS

After providing the product descriptions of 4G LTE, the participants were asked to answer the questions about their purchase intension and expectations of their future mobile carriers.

- Intension to subscribe 4G LTE
- Most favorite and un-favorite feature of 4G LTE

- Value for money of 4G LTE
- Reason for subscribing to 4G LTE
- Intension to recommend the 4G LTE service to others
- Preferable carrier or top of mind carrier of 4G LTE
- Preferable substitute if 4G LTE is not available
- When to subscribe
- Importance of the 11 defined mobile carrier features

- **Part 3 (Form D)** In this part, the participants were asked to provide demographic information such as nationality, hometown, gender, age, profession, income range, current mobile phone, and other gadgets.

7. Survey Data Analysis

This section includes a discussion of the data collection, the sample, data analysis and results.

7.1. Data Collection

Based on the survey questionnaire discussed in the previous section, the questionnaire forms were created on-line by using google document in both Chinese and English languages. The questionnaires were distributed via e-mail to National ChengChi University students by using the university's mailing list system, IMBA students and alumni, Nokia Siemens Network colleagues, and the author's Facebook friends who live in Taiwan.

Of all the survey sent out, 872 were completed online on google document website. The survey data was downloaded and entered into SPSS 14.0, a computerized statistical analysis program, for further analysis.

7.2. Description of the Sample

The survey data were collected from NCCU students, IMBA students and alumni, Nokia Siemens Network colleagues, and the author's friends on Facebook. The chapter discusses demographic information on survey respondents.

Demographic Information of Survey Respondents

The following charts illustrate demographic information of the survey respondents. Split by gender, as indicated in Figure 7, the sample was 64% female and 36% male. Most of the respondents are Taiwanese; age group is between 19 – 22 years old; live in Taipei City and Taipei County area. Most of them are college students therefore their income range is mostly less than 15,000 TWD a month.

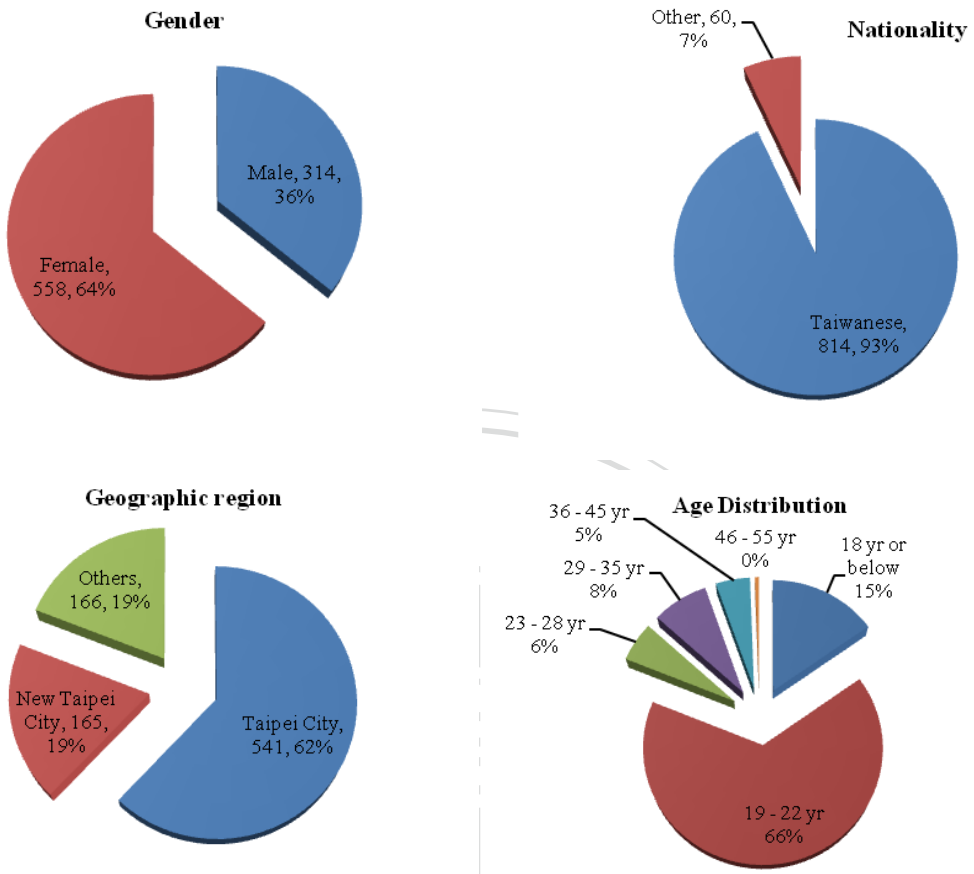


Figure 7: Demographic Information of the Survey Respondents

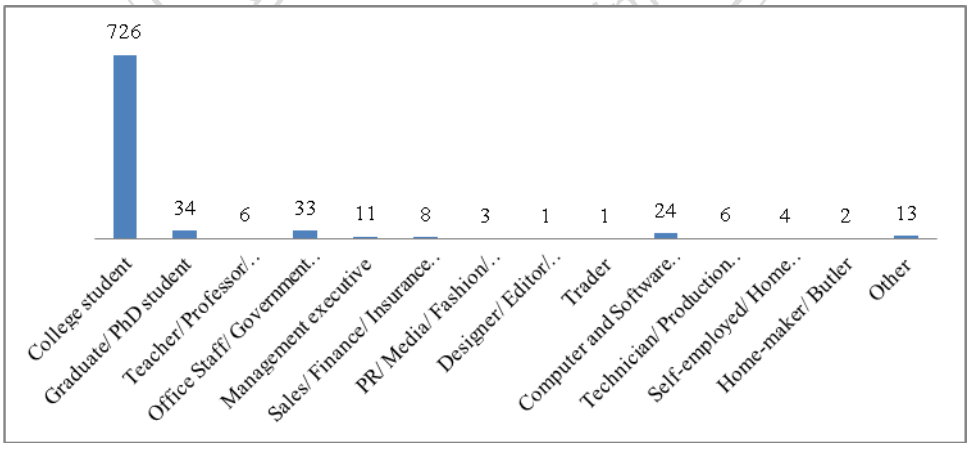


Figure 8: Profession Distributions of the Survey Respondents

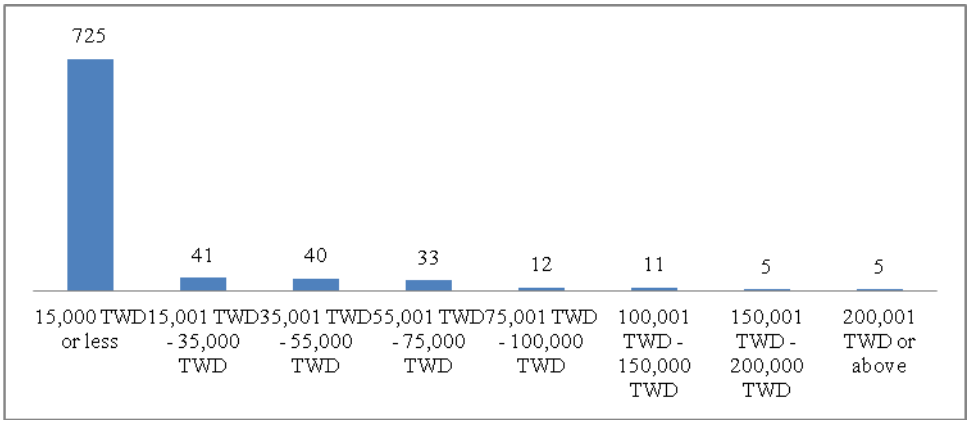


Figure 9: Income Ranges of the Survey Respondents

Current Mobile Handsets

The following charts illustrate current mobile handset type of the survey respondents. As can be seen from Figure 10, 74% of total respondents use smartphone. The rest 26% use other phone types or feature phones. The most popular brand among the respondents is Sony, following by HTC, Samsung, iPhone and Nokia. Just few people use Black Berry.

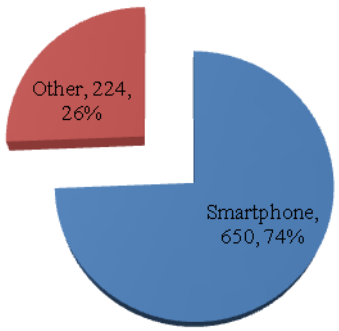


Figure 10: Distribution of the Current Mobile Handsets Types

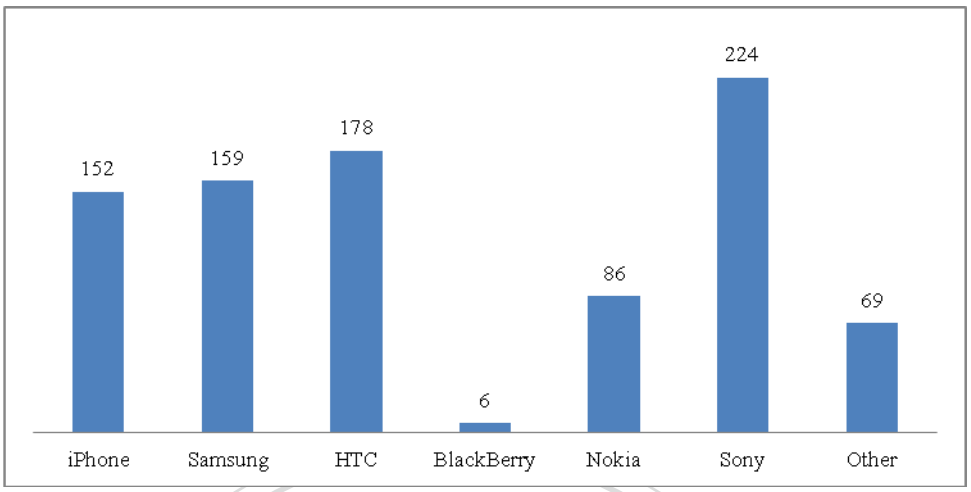


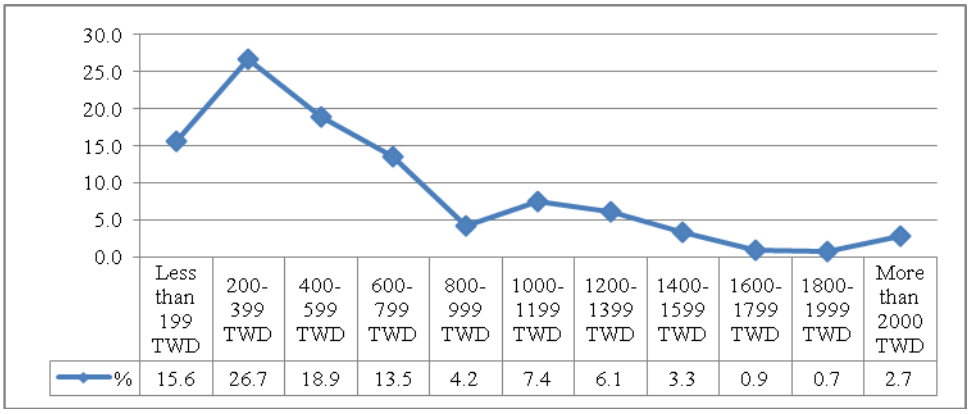
Figure 11: Distribution of the Current Mobile Handsets Brands

7.3. Mobile Carriers in General

This part of the analysis discusses attitudes and behavior of mobile users in general, not specific to any mobile carrier. It includes analysis on spending on mobile phone bills, importance of the 11 defined mobile carrier features, willingness to pay more for better services of the defined mobile carrier features.

Spending on Mobile Phone Bills

Figure 12 illustrates the distribution of total spending on mobile phone bills of the survey respondents. As can be seen from the chart, 61% of the survey respondents spend less than 599 TWD a month while 39% spend more than 600 TWD a month. It means more than half of the respondents spend less than 599 TWD a month. Comparing to ARPU of average revenue per user from National Communication Commission, the ARPU from 3G subscribers are 786 TWD in 2011. This probably indicates that people tend to spend less on the total mobile phone bill in 2012, or due to the fact that the survey samples in this project are mostly students, who maybe spend less than average.



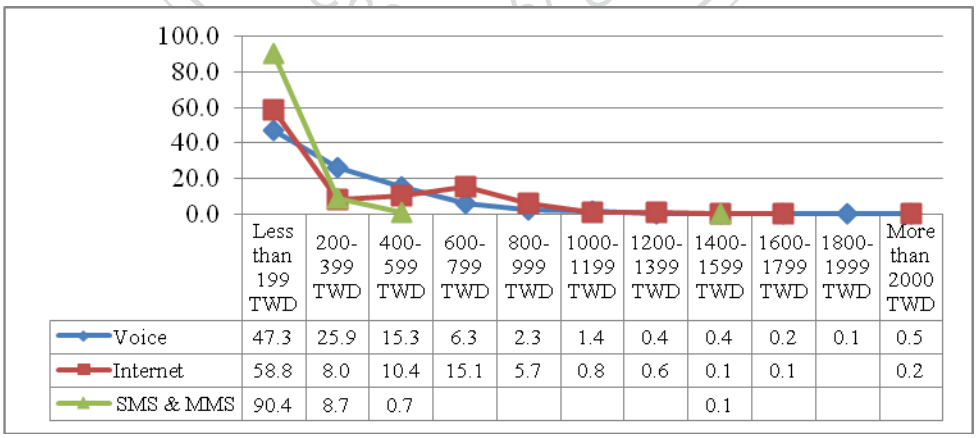
	Less than 199 TWD	200-399 TWD	400-599 TWD	600-799 TWD	800-999 TWD	1000-1199 TWD	1200-1399 TWD	1400-1599 TWD	1600-1799 TWD	1800-1999 TWD	More than 2000 TWD
%	15.6	26.7	18.9	13.5	4.2	7.4	6.1	3.3	0.9	0.7	2.7

Figure 12: Total Spending on Monthly Mobile Phone Bills

Figure 13 shows the distribution of spending on each basic service. Most people spend on voice call less than 399 TWD a month.

For spending on internet service, there are different groups of mobile internet subscribers. Majority of respondents, about 58% spend less than 199TWD a month, which is considered as lite internet users. Another group, about 33% spends between 200 and 799 TWD a month. The rest spends more than 800 TWD a month on internet services, which can be considered as heavy internet users.

With regard to SMS spending, most people spend less than 199 TWD a month for it, which indicates that SMS might be cheaper or it's already part of their voice monthly packages.



	Less than 199 TWD	200-399 TWD	400-599 TWD	600-799 TWD	800-999 TWD	1000-1199 TWD	1200-1399 TWD	1400-1599 TWD	1600-1799 TWD	1800-1999 TWD	More than 2000 TWD
Voice	47.3	25.9	15.3	6.3	2.3	1.4	0.4	0.4	0.2	0.1	0.5
Internet	58.8	8.0	10.4	15.1	5.7	0.8	0.6	0.1	0.1		0.2
SMS & MMS	90.4	8.7	0.7					0.1			

Figure 13: Spending on Mobile Phone Bills

Importance of Basic Services

Figure 14 illustrates important levels of mobile network basic services, including voice calls, video calls, short message service (SMS), multimedia message service (MMS) and internet service. According to the survey, voice call is rated for the most important service among all the basic services. It's also in line with previous analysis that mobile subscribers tend to spend more on the voice call service than other services. The second important basic service is SMS, and following by internet services on the mobile device. MMS and video calls seem to be unimportant service to the mobile users in general.

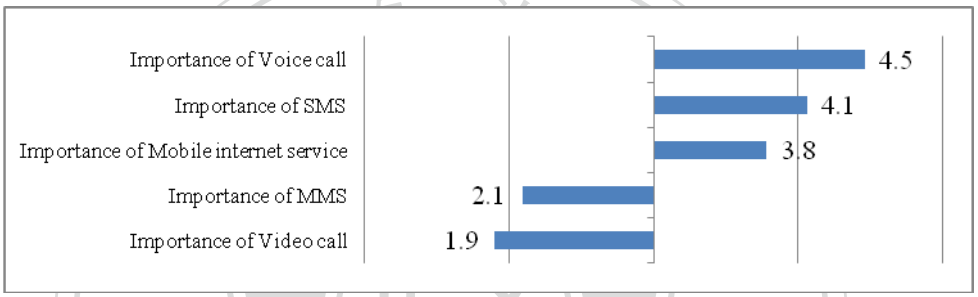


Figure 14: Importance of Basic Services

Importance of Mobile Carrier Features and Willingness to Pay More

Importance of the 11 defined mobile carrier features are illustrated in Figure 15. From the survey, people rates network coverage as the most important mobile carrier feature, following by monthly rate plan, voice call quality, and mobile internet quality and speed. Discounted price handsets, choices of handsets, reliability of SMS and MMS, and customer service support are also quite important features of the mobile carriers. Customer loyalty program, quality of video calls, and value-added services seem to be unimportant features of the mobile phone carriers.

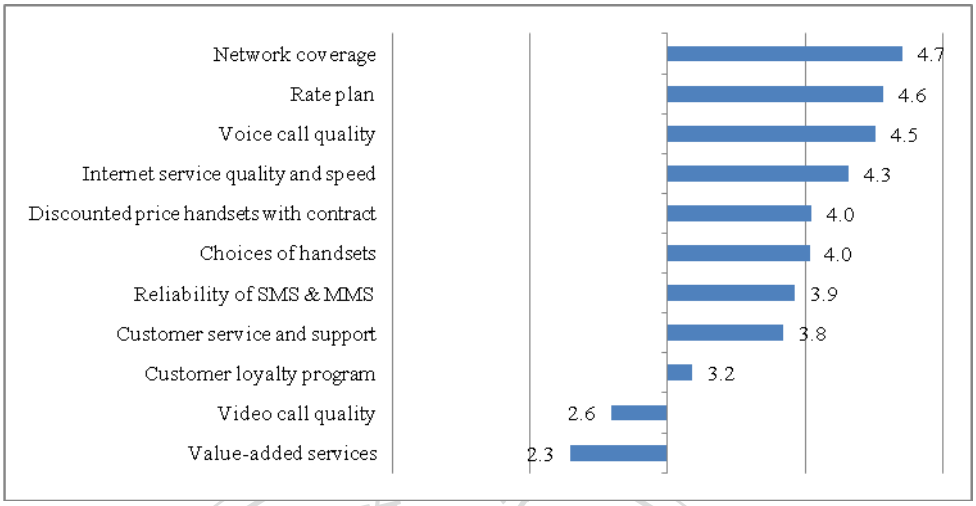


Figure 15: Importance of Mobile Carrier Features

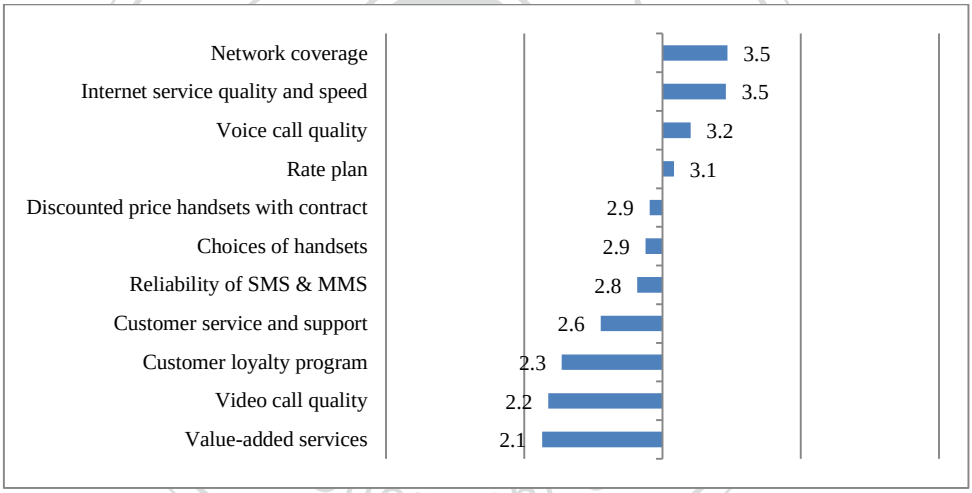


Figure 16: Willingness to Pay More for Better Mobile Carrier Features

Figure 16 illustrates willingness to pay more from the collected survey data. It can be seen that mobile users might consider paying more for better network coverage and internet service quality and speed. For the other carrier features, it seems that people don't want to pay more, especially for customer loyalty program, video call quality, and value-added services.

To sum up, it should be highlighted in this analysis that network coverage, suitable rate plans, voice call quality and internet speed are very important features of the mobile carriers. Customers are willing to pay more for better services, especially for better coverage and faster mobile internet speed.

7.4. Current Using Mobile Carriers

This part of the data analysis discusses more details about attitudes and behaviors of customers comparing across three big mobile carriers in Taiwan. It includes distribution of mobile users in each carrier, years of subscription, reasons for choosing the carriers, spending on the current subscriptions, and satisfactions towards the current carriers.

Current Mobile Carriers Distribution

Distribution of mobile users in each carrier from the survey data are illustrated in Figure 16. As indicated in the chart, the most common mobile carrier is ChungHua Telecom, accounted for 57%. Taiwan Mobile is 28% and FET is 13%. Very few respondents subscribed for other carriers.

The data indicates that the mobile industry in Taiwan is dominated by big three operators including ChungHua Telecom, Taiwan Mobile and FET. The amount of people using ChungHua Telecom is even more than the market share data of National Communication Commission. It seems that ChungHua Telecom is very popular among the samples; probably it's more popular to the NCCU students than other carriers.

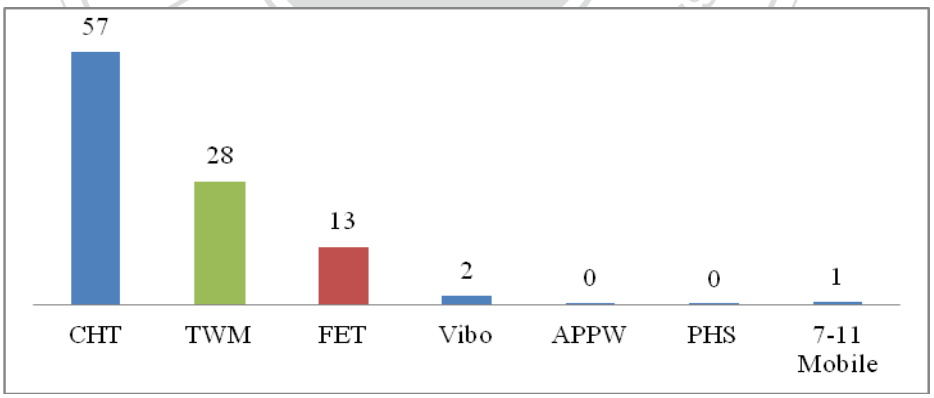
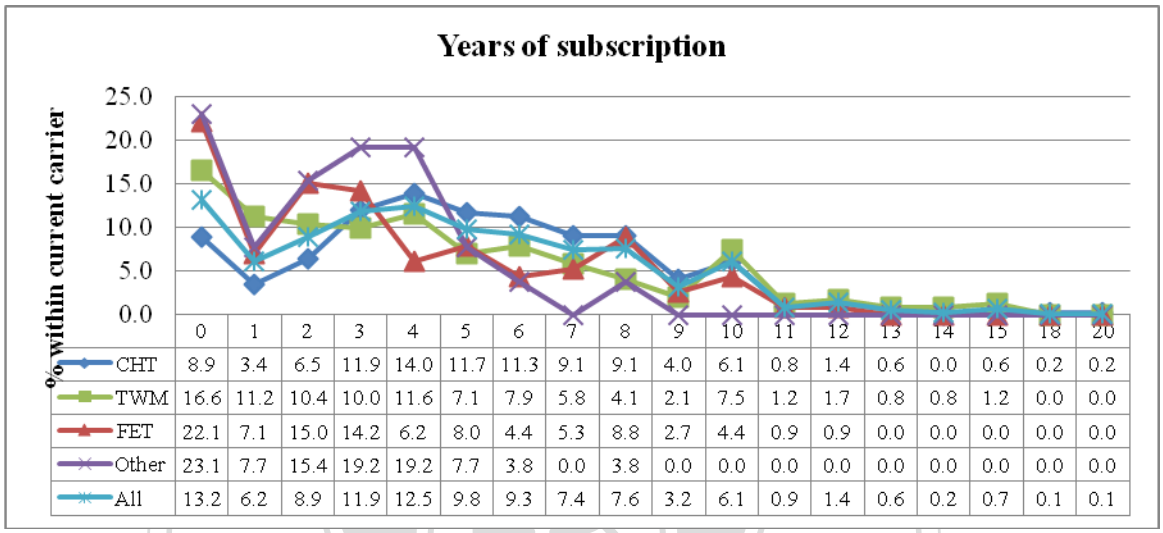


Figure 17: Distribution of Current Mobile Carriers of Respondents

Years of Subscription

Figure 18 illustrates the distributions of years of subscription of survey respondents. In the chart, Y-axis represents percentage of respondents within the carriers. X-axis represents years of subscription.



	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	18	20
CHT	8.9	3.4	6.5	11.9	14.0	11.7	11.3	9.1	9.1	4.0	6.1	0.8	1.4	0.6	0.0	0.6	0.2	0.2
TWM	16.6	11.2	10.4	10.0	11.6	7.1	7.9	5.8	4.1	2.1	7.5	1.2	1.7	0.8	0.8	1.2	0.0	0.0
FET	22.1	7.1	15.0	14.2	6.2	8.0	4.4	5.3	8.8	2.7	4.4	0.9	0.9	0.0	0.0	0.0	0.0	0.0
Other	23.1	7.7	15.4	19.2	19.2	7.7	3.8	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
All	13.2	6.2	8.9	11.9	12.5	9.8	9.3	7.4	7.6	3.2	6.1	0.9	1.4	0.6	0.2	0.7	0.1	0.1

Figure 18: Year of Subscription to Current Mobile Carrier

It's noticeable that distributions of subscribers who have been using the carrier less than one year (0 year) are much more in Taiwan Mobile (17%), FET (22%) and other networks (23%) than ChungHua Telecom (8.9%). There are two ways to interpret this finding. Firstly, customers tend to stay with ChungHua Telecom longer than other carriers. The other way is that Taiwan Mobile and FET have just gained more new subscribers due to the fact that the recent marketing strategy of Taiwan Mobile and FET might be more attractive than ChungHua Telecom.

However, it seems that the subscribers tend to use ChungHua Telecom longer than the other carriers as can be seen from the chart that the blue line (CHT) is always above all other lines from 4 years or more.

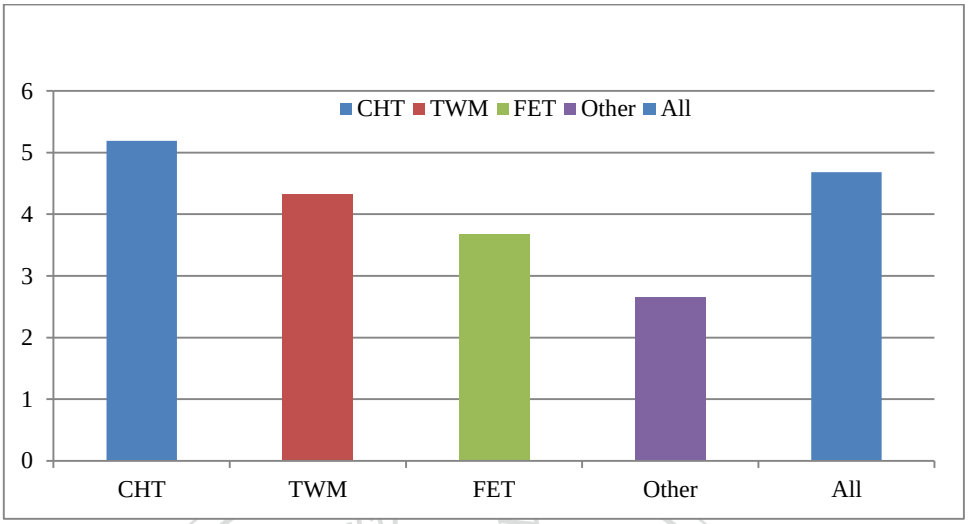


Figure 19: Average Years of Subscription

Figure 19 shows the average years of subscription for each carrier. It's confirmed that the average years of subscription for ChungHua Telecom is longer than Taiwan Mobile, FET and other carriers.

Motivations for Choosing the Carriers

Figure 20 illustrates percent distributions of motivations for choosing the carriers. It's obvious that the most common reason for choosing the carrier is lower cost on making calls to their boyfriend, girlfriend, husband or wife. It indicates that lower rate for intra-network call is one of the most important factors for people on subscribing to the mobile carriers.

For Taiwan Mobile, the second most common reason is that the carrier offered the most suitable rate plan, which also means that customers tend to be quite concerned on usage cost and rate plans of Taiwan Mobile is probably quite appearing to the customers. For FET, the second most common reason for choosing FET as a carrier is cheaper handset prices with packages, which indicates FET probably offer lower cost handsets and more appearing than other carriers.

In contrast to Taiwan Mobile and FET, the second most common reason for choosing ChungHua Telecom as a carrier is recommended by friend for best network quality, which indicates that ChungHua Telecom has quite well reputation on the network quality.

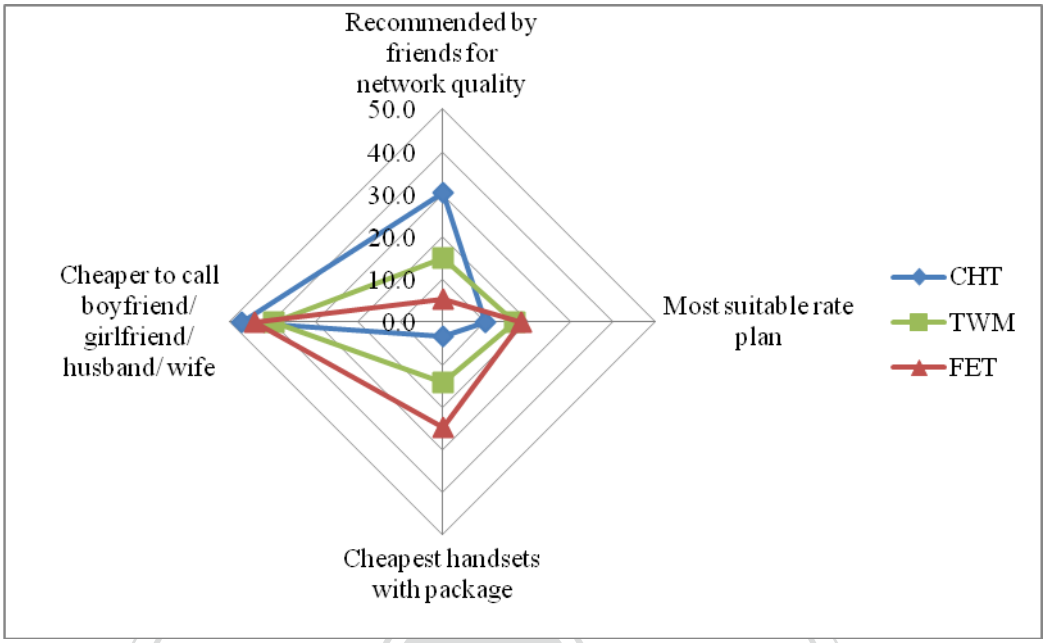
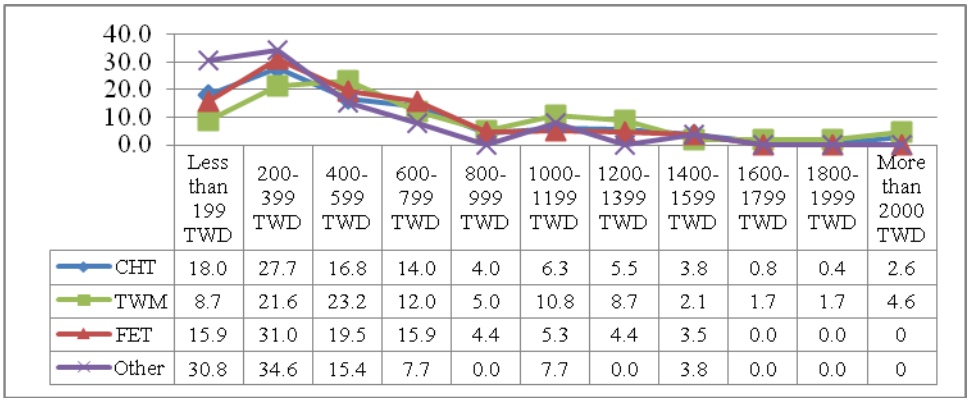


Figure 20: Motivation for Choosing the Current Carriers

It's interesting to highlight here that while network coverage is rated as the most important feature, mobile phone users still tend to choose their carriers based on the monthly rate plans and mobile phone prices rather than network quality.

Spending on Mobile Phone Bills

Figure 21 illustrates the distribution of total spending on mobile phone bill of each mobile carrier subscribers. Among the survey respondents, most people spend around 200 to 799 TWD a month. It's noticeable that there are more percent of ChungHua Telecom's and FET's subscribers spending less on total monthly phone bill. It seems subscribers in Taiwan Mobile network spend more on total monthly phone bill than other networks.



	Less than 199 TWD	200-399 TWD	400-599 TWD	600-799 TWD	800-999 TWD	1000-1199 TWD	1200-1399 TWD	1400-1599 TWD	1600-1799 TWD	1800-1999 TWD	More than 2000 TWD
CHT	18.0	27.7	16.8	14.0	4.0	6.3	5.5	3.8	0.8	0.4	2.6
TWM	8.7	21.6	23.2	12.0	5.0	10.8	8.7	2.1	1.7	1.7	4.6
FET	15.9	31.0	19.5	15.9	4.4	5.3	4.4	3.5	0.0	0.0	0
Other	30.8	34.6	15.4	7.7	0.0	7.7	0.0	3.8	0.0	0.0	0

Figure 21: Spending on Mobile Phone Bills in Each Carrier

Internet Usages

Distribution of hours of using the internet on mobile phones illustrates in Figure 22. In this analysis, the mobile internet users were categorized into two parts. It seems from the chart that more than 60% of people from all the carriers use internet on their mobile phone less than 6 hours in a typical week. It's also noticeable that percent of people who use internet on mobile phone more than 6 hours in Taiwan Mobile Network are more than other carriers. Light and heavy mobile internet user group will be discussed more details in Chapter 7.7.

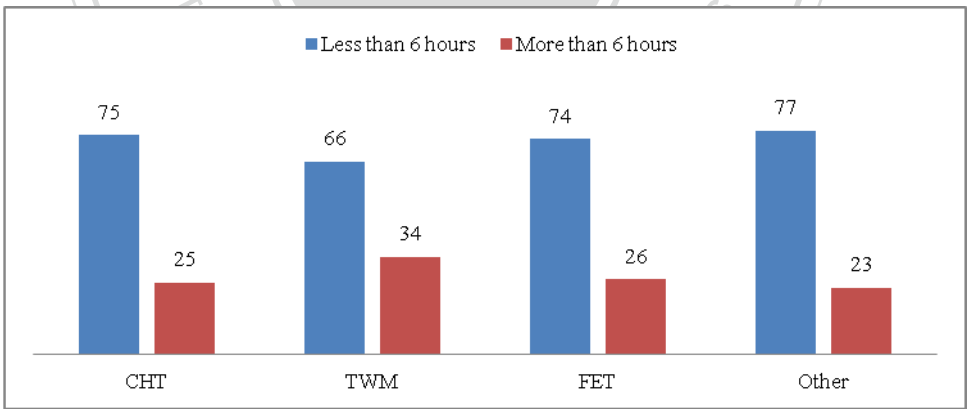


Figure 22: Hours of Internet Usages of the Users in Each Carrier

Satisfactions towards the Current Carriers

Figure 23 illustrates means of customers' satisfactions scores categorized by mobile carrier features and operators. In general, customers seem to be quite satisfied with their carriers with

satisfaction score over 3 in several aspects, except for video call quality and customer loyalty program, which were also rated as unimportant features.

By comparing the satisfaction mean scores between the carriers, it's quite obvious that mobile users in ChungHua Telecom network seem to be quite satisfied with the carrier, especially in terms of network coverage and voice call quality. With regard to network coverage, ChungHau Telecom was rated with significantly higher satisfaction scores than the other carriers. However, customer loyalty program was rated with lower satisfaction scores than other carriers.

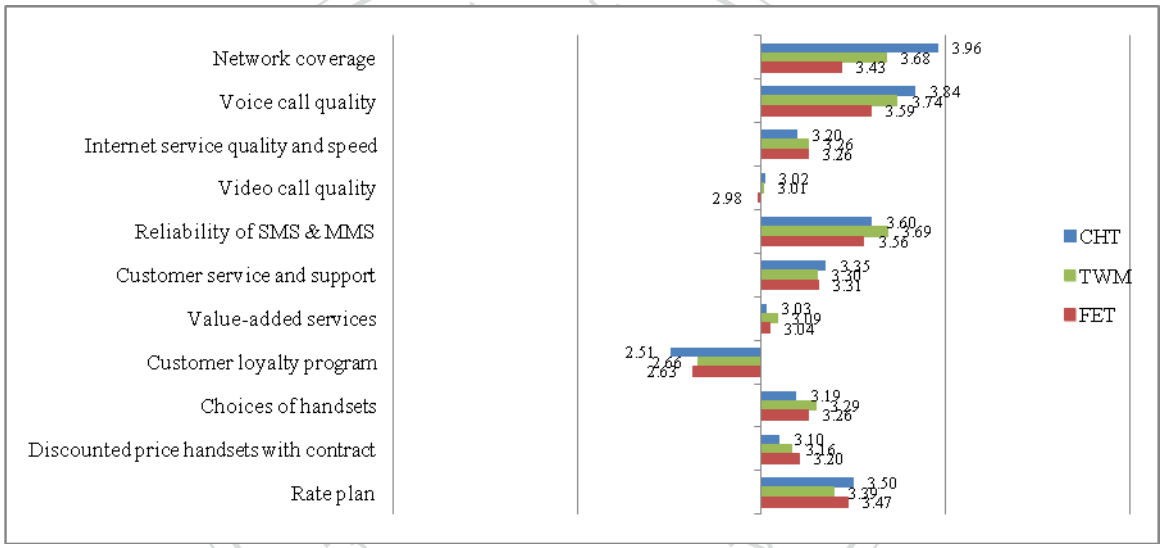


Figure 23: Satisfactions towards Carrier Features

To evaluate customers' satisfactions towards their current carriers precisely, it's necessary to take important levels of the carriers' features into consideration. Adjusted satisfactions scores of each carrier features were estimated by multiplying the important rates (important level score divided by 5) with satisfaction scores, as shown in Table 1. It's confirmed that ChungHua Telecom was rated as the most satisfying carriers, following by Taiwan Mobile and Far EasTone.

Table 1: Satisfaction Score / Adjusted Satisfaction Score of Each Carrier

Carrier Features	Satisfactions Score			Important Rates	Adjusted Satisfactions Score		
	CHT	TWM	FET		CHT	TWM	FET
Network coverage	3.96	3.68	3.43	4.71 / 5	3.73	3.46	3.23
Voice call quality	3.84	3.74	3.59	4.51 / 5	3.46	3.37	3.24
Internet service quality and speed	3.20	3.26	3.26	4.32 / 5	2.76	2.81	2.81
Video call quality	3.02	3.01	2.98	2.59 / 5	1.56	1.56	1.54
Reliability of SMS & MMS	3.60	3.69	3.56	3.93 / 5	2.83	2.90	2.79
Customer service and support	3.35	3.30	3.31	3.84 / 5	2.57	2.53	2.54
Value-added services	3.03	3.09	3.04	2.29 / 5	1.39	1.41	1.39
Customer loyalty program	2.51	2.66	2.63	3.18 / 5	1.59	1.69	1.67
Choices of handsets	3.19	3.29	3.26	4.03 / 5	2.57	2.66	2.63
Discounted price handsets with contract	3.10	3.16	3.20	4.04 / 5	2.51	2.56	2.59
Rate plan	3.50	3.39	3.47	4.57 / 5	3.20	3.10	3.17
				Adjusted Satisfaction Score	**2.56**	**2.55**	**2.51**

7.5. Future Mobile Carrier – 4G LTE

This part of the analysis discusses customers' attitudes and expectations towards 4G LTE, including evaluation of price acceptance, intention to subscribe, time to subscribe, importance carrier features, feelings for subscribing, and preferable carrier.

Evaluation of Price Acceptance and Intention to Subscribe

To evaluate intention to subscribe and price acceptance of 4G LTE of mobile users, the survey participants were randomly divided into two cells by the on-line questionnaire system and asked to answer to the two different questionnaire forms. The questions in the two forms are identical. The difference is only the monthly plans shown in the product descriptions, as described previously in Chapter 6 – Methodology.

For Cell I participants, the lower price monthly plan shown in the questionnaire From B is pricing at 888 TWD a month with 800MB data service, 100 minutes free calls, and 100 free SMS.

For Cell II participants, the higher price monthly plan in the questionnaire From C is pricing at 1,888 TWD a month with 2000MB data service, unlimited intra-network calls, Free 100 minutes inter-network calls, and 500 free SMS.

Figure 24 illustrates intention to subscribe, intention to recommend and value for money comparing between low price package and high price package. Low price package seems much more appealing to the customers. Participants in Cell I (Low price package) intend to subscribe for 4G LTE service more than participants in Cell II (High price package). Also, participants in Cell I (Low price package) tend to recommend the service to their others than participants in Cell II (High price package). With regard to value for money, the lower price package has much better perceived value for money than the higher price package.

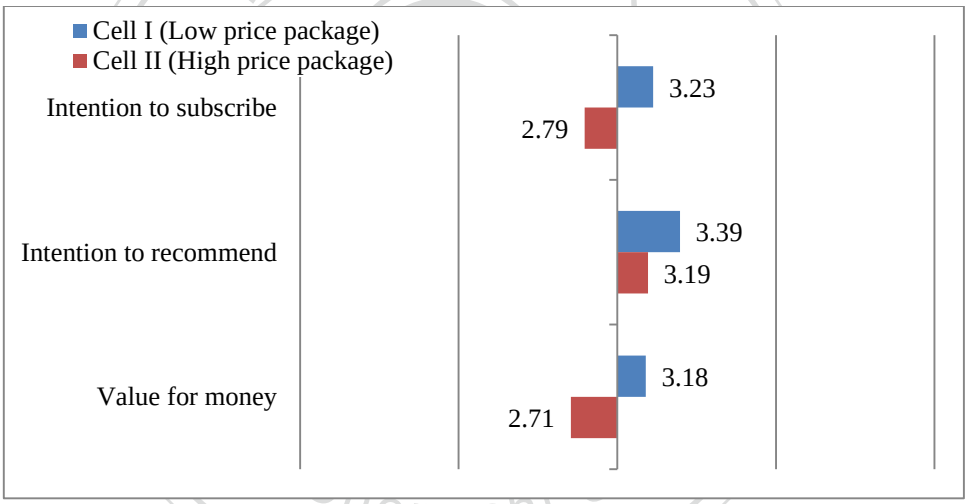


Figure 24: Intention to Subscribe, Intention to Recommend, Value for Money

Figure 25 illustrates time to subscribe for 4G LTE, comparing between Cell I (Low price package) participants and Cell II (High price package) participants. The result shows that Cell I participants who saw the lower price package tend to subscribe earlier than Cell II participants who saw the higher price package. This is also in line with the previous analysis that mobile phone users are price sensitive. The lower price package is more appealing than the higher price package to the users in general.

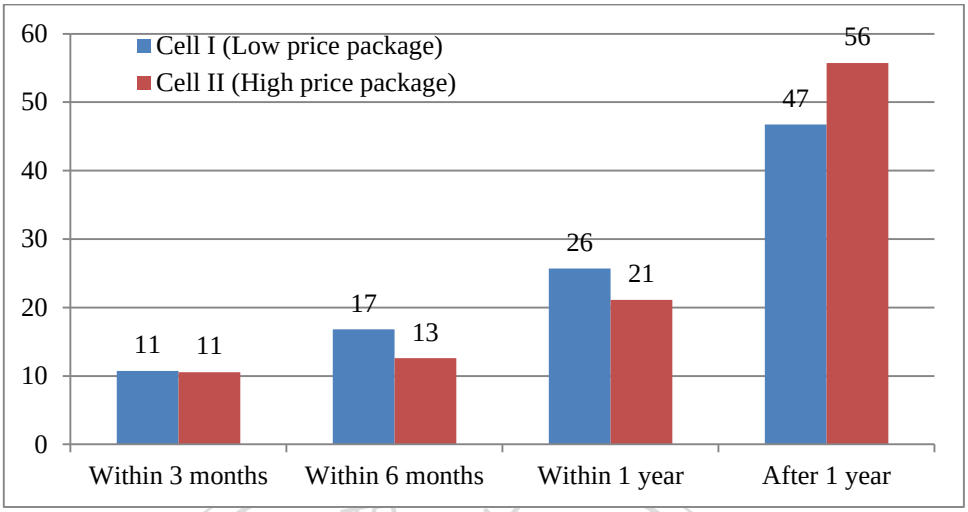


Figure 25: Time to Subscribe for 4G LTE

Importance of Mobile Carrier Features in 4G LTE

Important levels of the mobile carrier features in 4G LTE is illustrated in Figure 26. Similarly to the features of the current carriers, network coverage again is the most important feature to the mobile users for all carrier features. Rate plan, internet service speed, and voice call quality are also quite important features. Customer loyalty program, video call quality and value-added services are unimportant features.

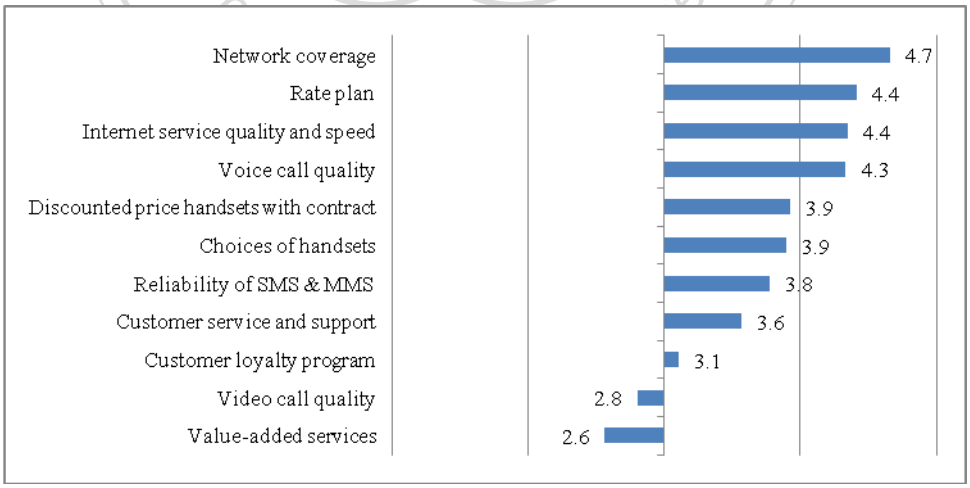


Figure 26: Importance of Mobile Carrier Features in 4G LTE

Feelings about Subscribing to 4G LTE

This section of the analysis discusses the customers' feeling for subscribing to 4G LTE. Distribution of the respondents' feelings about 4G LTE is shown in Figure 27. From the chart, the most common one is waiting and listening to other comments before subscribing, following by waiting for promotion, and waiting for favorite mobile phone. There are few people said they want to be the one of the first to use 4G LTE.

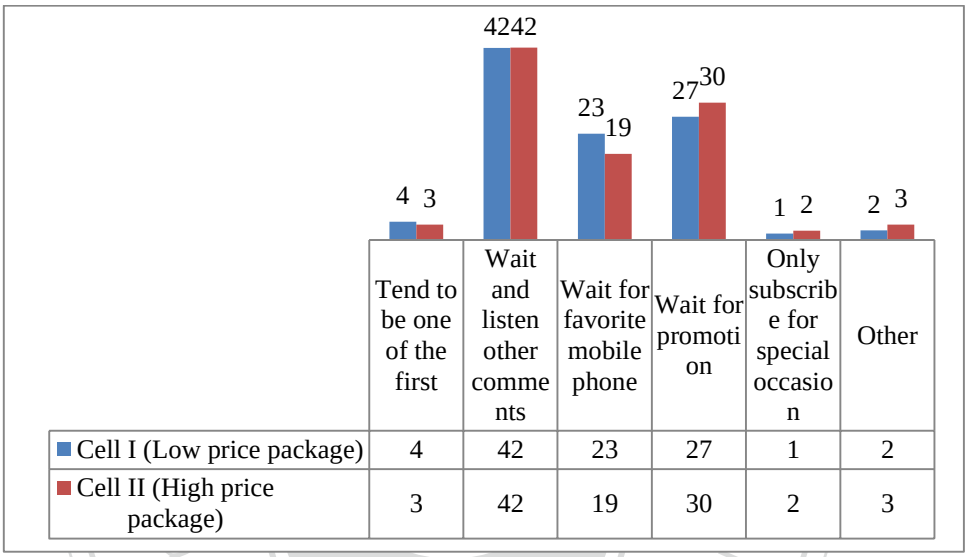


Figure 27 Feeling about Subscribing to 4G LTE

Favorable Features for People Intend to Subscribe and Not Intend to Subscribe

This part of the analysis discusses the customers' preferences towards 4G LTE carriers. It's divided into two groups. The first group is from people who intend to subscribe for 4G LTE point of view. As shown in Figure 28, faster internet speed is the most favorite features, following by mobility and convenience, and high quality voice call. Participants in Cell I who saw lower price package are more likely to like monthly rate plan than participants in Cell II who saw higher price package of 4G LTE.

The second group is from people who don't plan to subscribe for 4G LTE, Figure 29. People in this group still like faster internet speed very much. However, the most undesirable feature is monthly rate plan, especially to the Cell II participants who learnt about high price package.

This indicates that the operators might need to offer lower price package to attract this group of people.

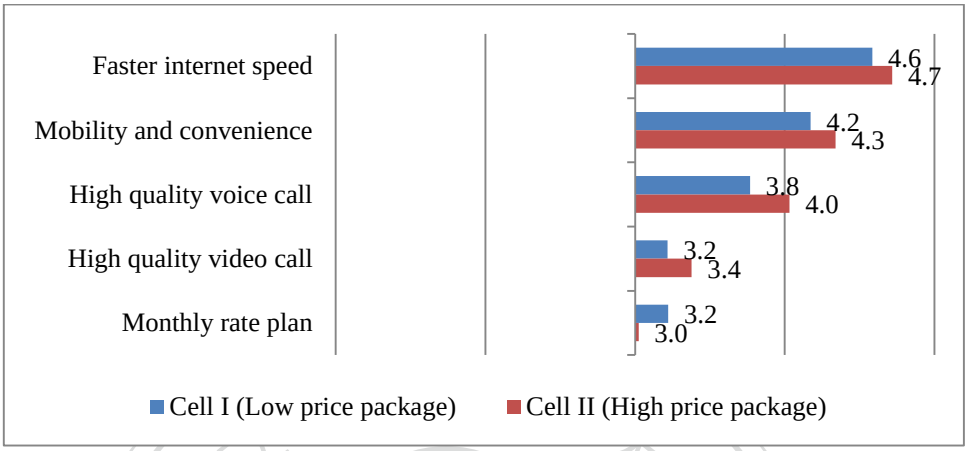


Figure 28: Favorable Features for People Intend to Subscribe

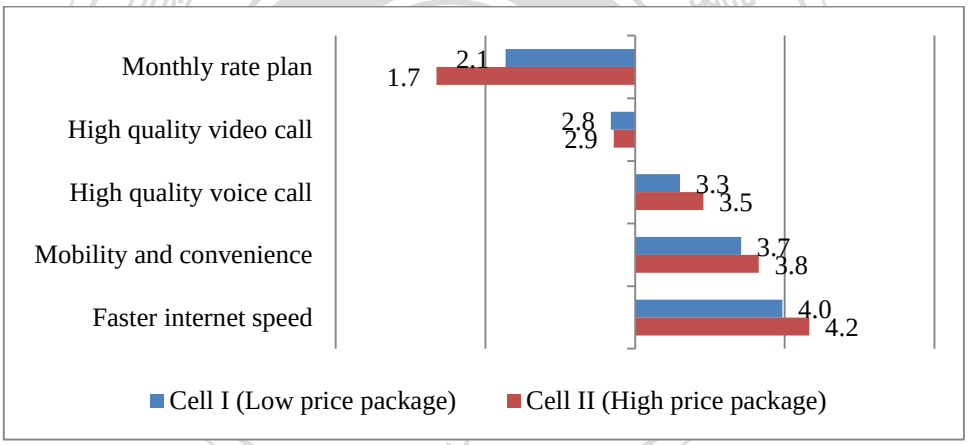


Figure 29: Favorable Features for People Who Don't Intend to Subscribe

Preferable 4G LTE Carriers

This section discusses preferable 4G LTE carriers in Taiwan. As shown in Figure 30, the most preferable carrier of 4G LTE is ChungHua Telecom, following by Taiwan Mobile and Far EasTone. ChungHua Telecom seems to be top of mind brand for mobile carriers among the people in Taiwan.

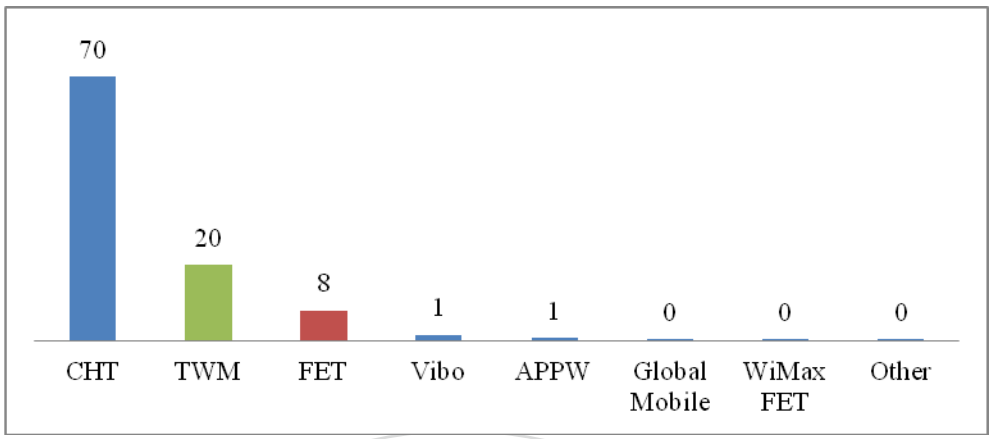


Figure 30: Preferable 4G LTE Carriers

7.6. Intension of Subscribing to 4G LTE versus Current Internet Usage

This part of the analysis discusses the intention of subscribe for 4G LTE. In this study, mobile users are categorized into two groups based on hours of internet usage in a typical week from. Light internet users are the respondents who spend time less than 6 hours a week using internet on their mobile phone. Heavy internet users are the one who use internet more than 6 hours a week on mobile phones.

Current Internet Usage

Figure 31 illustrates users categorized by hour of internet usage. As showed in the chart, 73% of respondents are light internet users and 27% of respondents are heavy internet users.

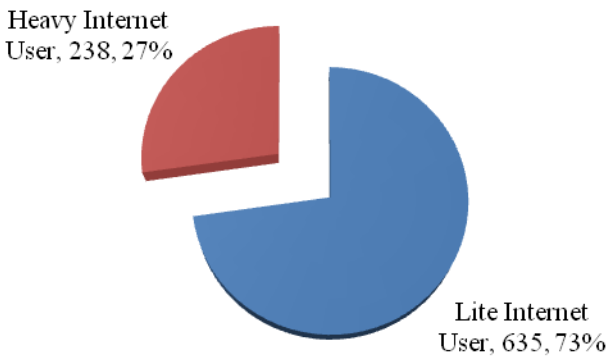


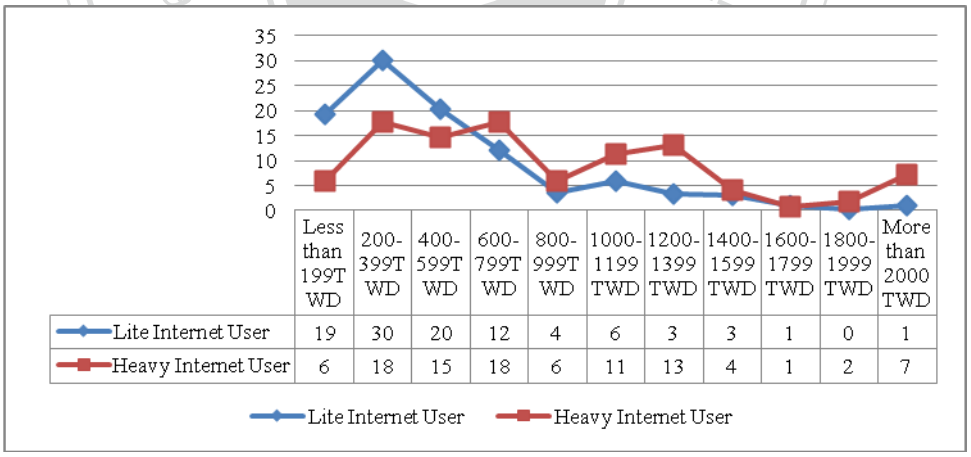
Figure 31: Distribution of Heavy and Light Mobile Internet Users

Spending on Mobile-phone Bills versus Mobile Internet User Group

The following charts illustrate distributions of spending mobile-phone bills comparing across mobile internet user groups. For total spending on bills, the heavy mobile internet users seem to spend more than the light mobile internet users. 44% of the heavy mobile internet users spend more than 800 TWD a month while only 18% of the light mobile internet users spend more than 800 TWD a month.

With regard to voice call bills, the heavy mobile internet users also seem to spend more than the light mobile internet users. 68% of the heavy mobile internet users spend more than 200 TWD a month for voice calls while 47% of the light mobile internet users spend more than 200 TWD a month.

As for mobile internet bills, obviously the heavy mobile internet users spend more than the light mobile internet users. 71% of the light mobile internet users spend less than 199 TWD a month on the internet service. 62% of the heavy mobile internet users spend more than 400 TWD a month on the internet service.



	Less than 199TWD	200-399TWD	400-599TWD	600-799TWD	800-999TWD	1000-1199 TWD	1200-1399 TWD	1400-1599 TWD	1600-1799 TWD	1800-1999 TWD	More than 2000 TWD
Lite Internet User	19	30	20	12	4	6	3	3	1	0	1
Heavy Internet User	6	18	15	18	6	11	13	4	1	2	7

Figure 32: Total Spending on Mobile-phone Bill per Month

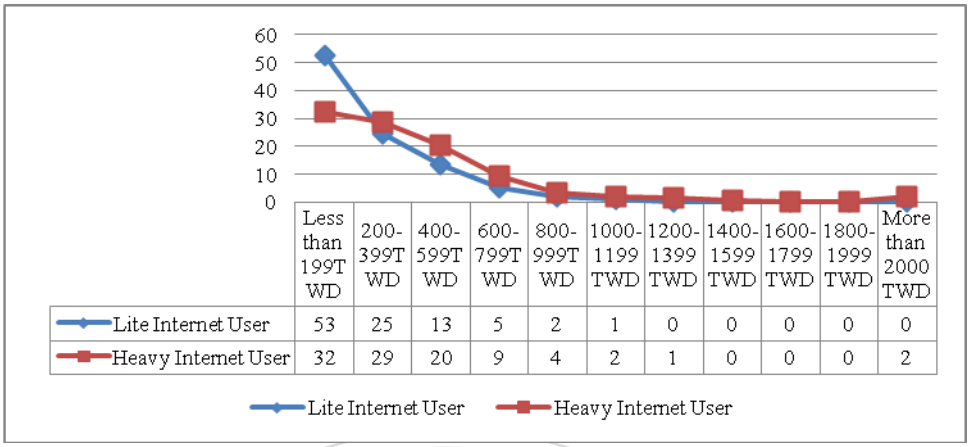


Figure 33: Voice Call Spending on Mobile-phone Bill per Month

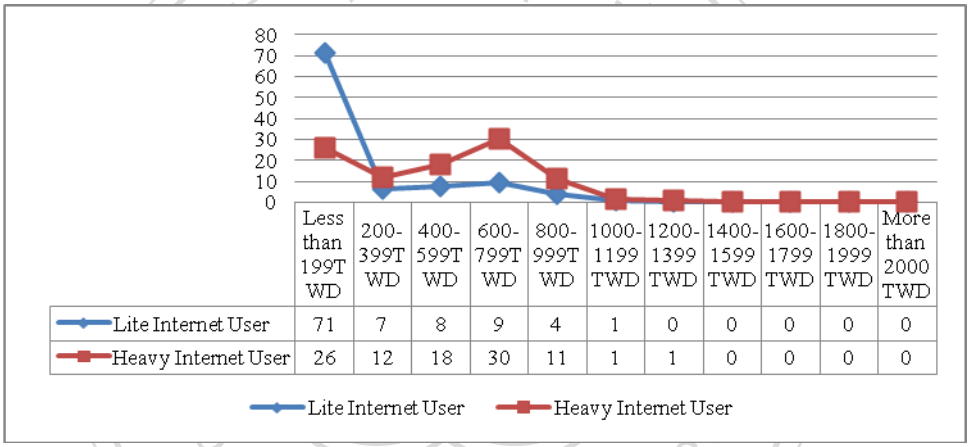


Figure 34: Mobile Internet Bill per Month

Intention to Subscribe for 4G LTE versus Mobile Internet User Group

Figure 35 illustrates intention to subscribe for 4G LTE service for different mobile internet user groups. It's obvious that the heavy mobile internet user group has significantly higher intention score to subscribe than the light mobile internet user group.

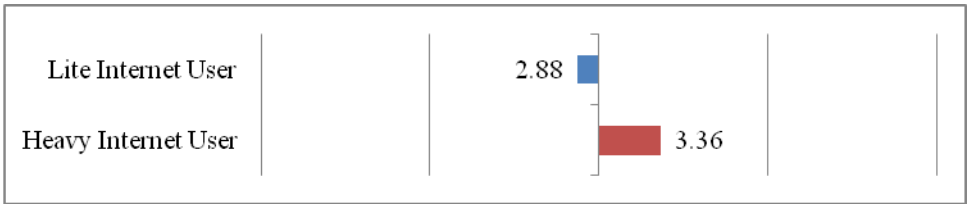


Figure 35: Intention to Subscribe for 4G LTE Mean Score of Heavy and Light Mobile Internet Users

Willingness to Pay More versus Mobile Internet User Group

Figure 36 shows comparisons willingness to pay more for each feature between light mobile internet user group and heavy mobile internet user group. It's obvious that heavy mobile internet users are willing to pay more for some particular features. Internet service quality and speed seems to be very important to this user group so that they definitely pay more for better service quality. Besides, they tend to be more willing to pay for better network coverage voice call quality, and rate plan than the light mobile internet user group.

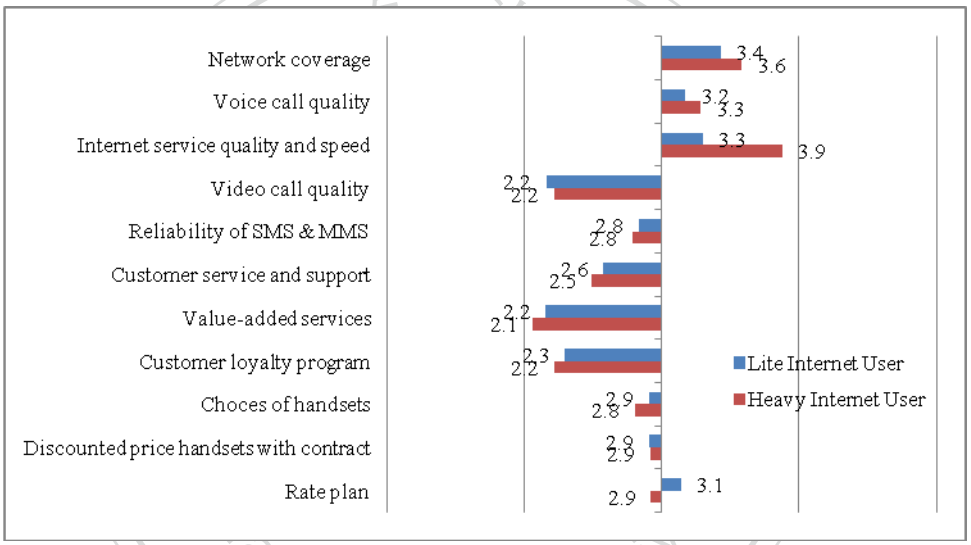


Figure 36: Willing to Pay More for Better Carrier Features of Heavy and Light Mobile Internet Users

Prices Acceptance versus Mobile Internet User Group

Figure 37 discusses prices acceptance across mobile internet user groups. As explained earlier in Chapter 7.5, the survey participants are randomly separated into two groups answering to the two different questionnaire forms. Cell I participants saw lower price package of 4G LTE pricing at 888 NT a month. Cell II participants saw higher price package pricing at 1,888 NT a month.

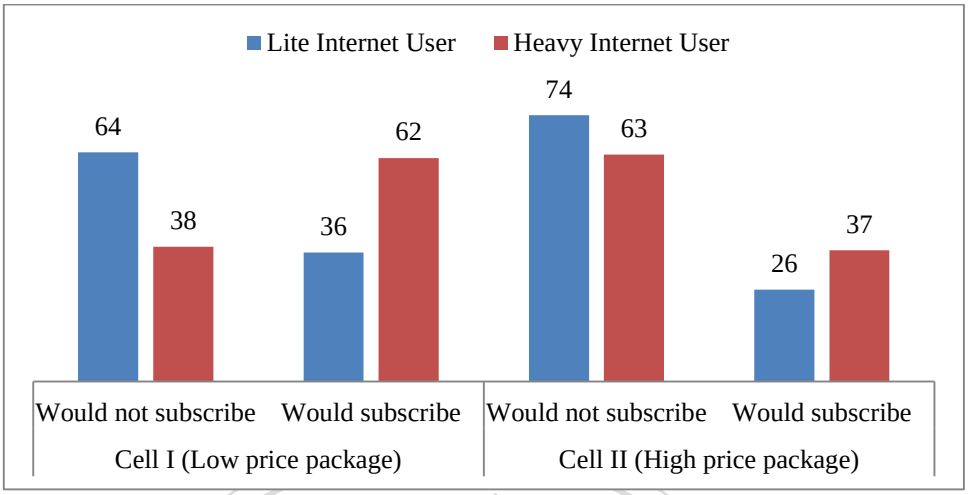


Figure 37: Prices Acceptance of Heavy and Light Mobile Internet Users

As shown on the left side of the chart for Cell I participants, 64% of the heavy mobile internet users would subscribe for 4G LTE but only 36% of the light mobile internet users answered that they would subscribe for 4G LTE.

On the other hand for Cell II participants in the right side of the chart, only 37% of the heavy mobile internet users and 26% of the light mobile internet users answered that they would subscribe for 4G LTE.

This means that while the heavy mobile internet users are really interested to subscribe for 4G LTE service, price is still an important factor. Too high price might lead to less people subscribe for. As discussed earlier, 44% of the heavy mobile internet users spend more than 800 TWD a month. The low price package shown for Cell I participants is 888 TWD a month which a bit higher than their current monthly bills. Many people in this heavy mobile internet user group are willing to pay a bit more but not to that high price of the high price package, 1888 TWD a month. The lower price package is still much more appealing to the heavy mobile internet users. Most probably 1,888 TWD a month package is too expensive for Taiwan mobile market.

7.7. Carrier Switching Analysis

According to the survey data, it's noticeable that there are more respondents choosing ChungHua Telecom as their preferable 4G LTE carrier and fewer respondents choosing Taiwan Mobile and Far EasTone. This part of the analysis discusses carrier switching patterns and factors influencing the carrier switching behavior by comparing the current carriers with the preferable 4G LTE carriers.

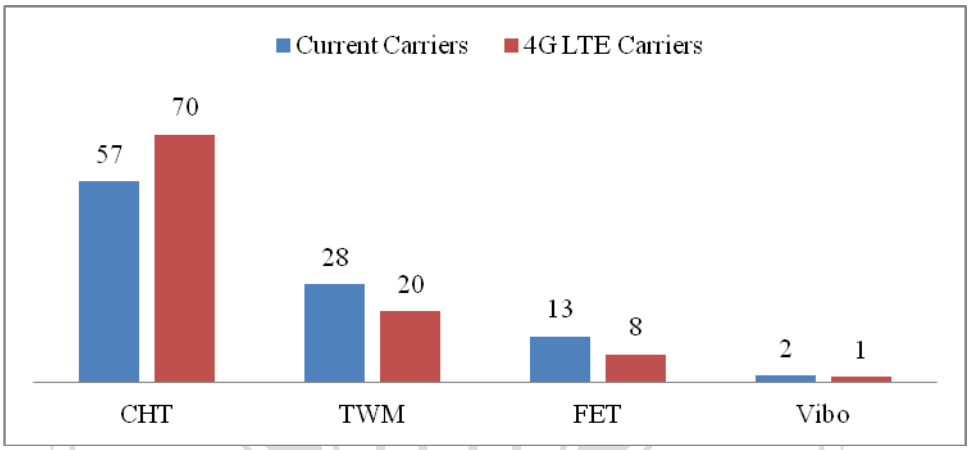


Figure 38: Current Carrier and Preferable 4G LTE Carrier Distributions

Carrier Switching in 4G LTE

Table 2 illustrates amounts of the respondents in each current mobile phone carriers comparing with their preferable 4G LTE carriers in percentage. As can be seen from the table, most of the current ChungHua Telecom subscribers accounted for 95% prefer to subscribe for 4G LTE from the same carrier. On the other hand, fewer percent of other carriers' subscribers prefer to subscribe for the same carrier; 65% of Tawian Mobile, 52% of Far EasTone, and 47% of Vibo current subscribers.

It's obvious that most of the people who plan to change to other carriers in 4G LTE tend to subscriber for ChungHua Telecom rather than other carriers. As can be seen from the table, 32% of Taiwan Mobile, 42% of Far EasTone, and 41% of Vibo current subscribers plan to switch to ChungHua Telecom in 4G LTE. This indicates that ChungHua Telecom probably has better image than other carriers in terms of innovations and network quality.

Table 2: Current Carrier and Preferable 4G LTE Carrier Distribution

		Preferable 4G LTE carrier (%)			
		CHT	**TWM**	**FET**	**Vibo**
Current mobile-phone carrier (%)	**CHT**	95	2	1	1
	TWM	32	65	2	0
	FET	42	5	52	0
	Vibo	41	0	6	47

Satisfactions towards Current Carriers versus Carrier Switching

To find out major causes users discontinuing the service and switching to the other carriers, satisfactions towards the current carriers were analyzed. This section discusses satisfactions towards the current mobile carriers, comparing between mobile users who plan to switch to other carriers and the one who plan to use the same carriers in 4G LTE. Figure 39 shows a comparison of satisfactions level towards mobile carrier features. It's obvious that the satisfactions levels of those who want to switch to other carriers are significantly lower than the ones who plan to subscribe for the same carriers, especially towards network coverage, voice call quality, data service speed, and customer service and support.

It's proved that these features are crucially important for mobile carriers. The poor network quality, voice call quality, slow internet speed, unsatisfying customer service and support can influence mobile users discontinue their subscription and subscribe for other carriers instead.

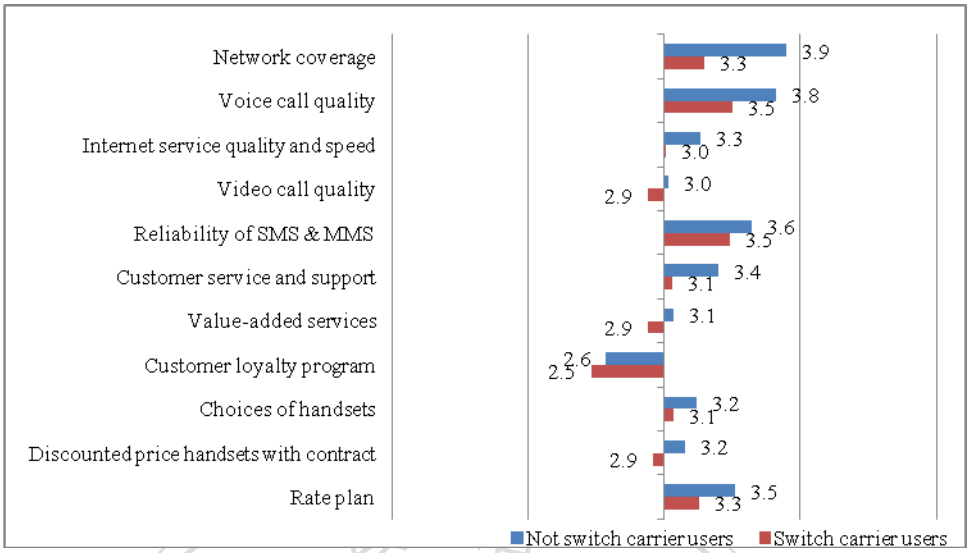


Figure 39: Satisfaction Levels of Switch and Non-switch Carrier Users

Reasons for Subscribing to the Current Carriers versus Carrier Switching

To understand the reasons for subscribers staying with the same carriers or switch to other carriers, attitudes of respondents when subscribing to the current carriers were analyzed. Figure 40 illustrates a comparison between carrier-switching users and non-switching users in 4G LTE. As can be seen in the chart, the most common reasons for choosing the carriers of those who plan to use the same carriers are cheaper to call boyfriend, girlfriend, husband, and wife and recommended by friends for best network quality. On the other hand, the most common reasons of those who plan to switch to other carriers are cheaper rate plan, and cheaper prices of handsets. For those who plan to subscribe for other carriers in 4G LTE, network quality reputation doesn't seem to be an important influence when subscribing to their current carrier.

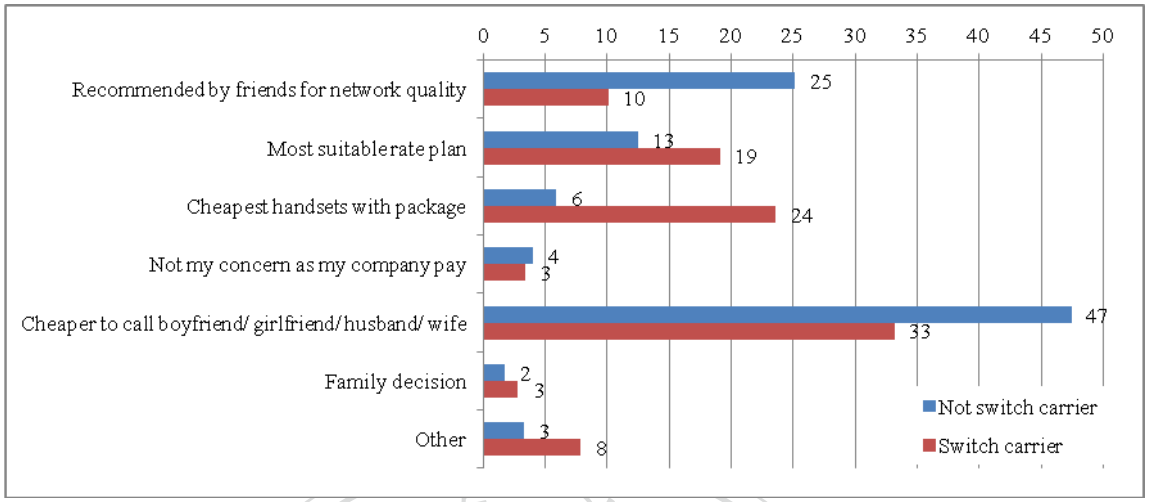


Figure 40: Reasons for Subscribing to the Current Carriers of Switch and Non-switch Carrier Users

Figure 41 illustrates years of subscription of the current carriers comparing between carrier-switching users and non-switching users. It's obvious that non-switching users tend to use the current carriers longer than those who plan to switch to other carriers.

These findings indicate that cheaper monthly rate plan and cheaper handset prices could be very appealing to the customers. It may help to attract more subscribers to the carriers. However, subscribers may not stay with the carriers. Network quality reputation is more important to retain subscribers in mobile carriers.

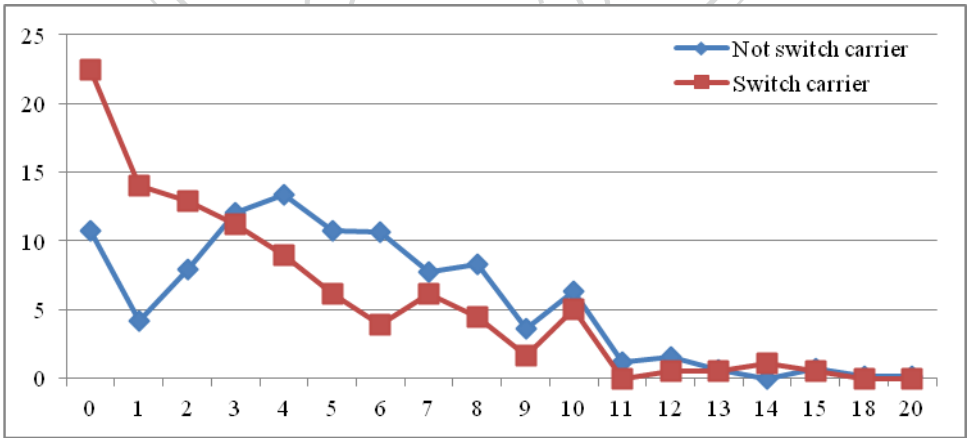


Figure 41: Years of Subscriptions of Switch and Non-switch Carrier Users

8. Conclusions

As the project has analyzed the survey data comparing users' behaviors, attitudes, and expectation across different mobile user groups, several clear patterns emerged. The following sections summarize some of the finding of the analysis.

8.1. Spending on Mobile Phone Bills: Lower than ARPU in 2011

According to National Communication Commission statistics, ARPU or average revenue per user from 3G subscribers of Taiwanese mobile operators is 786 TWD a month, and from 2G subscribers is 531 TWD a month in 2011 (Figure 5). ARPU reflects the current total spending of the mobile users. From the recent survey data in November 2012, more than half of the respondents spend less than 599 TWD a month in total mobile phone bills, which is lower than the ARPU in 2011. This means that the ARPU in 2012 is becoming less and this decreasing trend in ARPU still continues.

8.2. Motivations for Choosing the Carrier: Cheaper to Call Boyfriend, Girlfriend, Husband, Wife is the Most Appealing Feature

According to the survey, the most common reason for choosing the mobile carrier is cheaper price to call their boyfriend, girlfriend, husband or wife. It indicates that the cheaper intra-network call is very appealing. It can be used to attract and retain the customers in the carriers. However, it seems to be quite similar in all the carriers.

The second common reasons are varies among the carriers. Far EasTone is the cheapest handsets with package. ChungHua Telecom is recommended by friends for network quality. Taiwan Mobile is the most suitable rate plan. This means that while mobile carrier features are very similar and might be hard for the operators to differentiate themselves, each operator could have its own way to differentiate itself from others. ChungHua Telecom has differentiated itself from others by maintaining the best quality network reputation. Far EasTone has provided cheapest handsets. And Taiwan mobile is actually not so different from others.

8.3. Important Carrier Features: Network Coverage, Monthly Rate Plan, Voice Call Quality, and Internet Speed are the Most Important Features but People are just willing to Pay More for Better Coverage, and Internet Speed

As indicated in the analysis, the most important carrier feature is network coverage, followed by monthly rate plan, voice call quality, and internet service speed. Comparing the important levels with willingness to pay more for better quality, it seems that the customers are willing to pay more for some certain features, including network quality, and internet service. They are not willing to pay more for other features.

8.4. Satisfaction towards the Current Carriers: Chunghua Telecom is the Most Satisfying Carrier

According to the analysis, each carrier has different level of satisfaction score in different carrier features. ChungHua Telecom gains significantly much higher score in network coverage, and voice call quality. However, the carrier has quite lower satisfying score in customer loyalty program, choice of handsets, and discounted price handsets. Taiwan Mobile has satisfying score lower than ChungHua Telecom but higher than FarEasTone in network coverage and voice call quality. FarEasTone on the other hand gains considerably higher satisfactions in cheap mobile handsets with contract.

Because not all the carrier features are equally important, the important levels are taken in to the consideration when evaluating the satisfactions. Adjusted satisfaction score have been used in the analysis. As concluded in the analysis, ChungHua Telecom is the most satisfying carrier, followed by Taiwan Mobile and FarEasTone.

8.5. Expectations towards 4G LTE Carriers: High Speed Data Rates, Mobility, and Voice Call Quality are the Most Favorite Features; Chunghua Telecom is Most Preferable Carrier

According to the analysis result, the most favorite features of 4G LTE are high speed data rates, mobility and voice call quality. Similarly to the current carriers, the most important

carrier features network coverage, rate plan, internet service speed, and voice call quality. This indicates that while superfast internet speed is the main feature of 4G LTE, other features are still very important. Once the network is deployed, it's required the operators to expand their coverage as soon as possible, offer attractive rate plan, and maintain internet service quality and voice quality as top priority.

As for preferable carrier, it's quite obvious from the analysis that ChungHua Telecom is the most preferable carriers. It's top of mind brand for mobile carrier in Taiwan. This is probably due to the fact that the carrier has most renowned network quality in 2G network and 3G network so that many mobile users prefer to subscribe for 4G LTE from ChungHua Telecom.

8.6. Subscribing to 4G LTE: Wait and Listen to Other Comments, Wait for Favorite Phones and Promotions, Subscribe after 1 Year

With regard to time to subscribe, 11% of the respondents would subscribe within 3 months and 4% stated that they want to be the first who use 4G LTE. This data could be used to estimate early adopter users for 4G LTE.

On the other hand, half of the respondents answered that they would subscriber after 1 year. Many said about subscribing to 4G LTE that they will wait and listen to other comments, wait for their favorite phone, and wait for the promotion. Discounted price handsets and choices of 4G LTE enabled handsets are also rated as important features. It's suggested that the mobile operators should offer variety of 4G LTE enabled handsets with attractive monthly packages in order to convince customers to subscribe for 4G LTE network.

8.7. Carrier Switching: Many Subscribers Plan to Switch to Chunghua Telecom in 4G LTE

As indicated in the report, the analysis found some interesting carrier switching pattern between current subscriptions and prefer 4G LTE carrier of the respondents. It's found that most of the ChungHua Telecom customers still prefer to subscribe for 4G LTE service from ChungHua Telecom. However, many current users in Taiwan Mobile network and FarEasTone prefer to switch to ChungHua Telecom when they subscribe for 4G LTE service.

It's confirmed that ChungHua Telecom has very good reputation in the mobile network quality so that it becomes the most preferable carrier in Taiwan.

8.8. 4G LTE Price: 888 TWD Monthly Plan is Appealing to Heavy Internet Users Spend More

The analysis divided the internet users into two groups. Heavy mobile internet users spend more than 6 hours a week while light mobile internet users spend less than 6 hours a week using the internet on mobile devices. According to the analysis, 44% of the heavy mobile internet users spend more than 800 TWD a month on the total mobile phone bills. 62% of them spend more than 400 TWD a month on the internet service. Heavy mobile internet users have more intension to subscribe for 4G LTE services. As for willingness to pay more, it's quite obvious that the users in this group are willing to pay more for better internet service, better network coverage and voice call quality comparing to the users in the light mobile internet user group. With regard to the 4G LTE price, 62% of heavy mobile internet users in Cell I answered would subscribe for the service. This is confirmed that the monthly package of 888 TWD is quite acceptable for the heavy mobile internet user group. However, 1888 TWD package might be too expensive even for the heavy mobile internet users.

8.9. Factors Influencing Carrier Switching: Bad Network Coverage, Poor Voice Call Quality, and Slow Data Rates Could Influence Subscribers to Switch to Other Networks

Additionally, the analysis compared the satisfactions of current carriers among those who plan to switch to the other carrier and those who plan to use the same carrier in 4G LTE. It's found that those who plan to switch to the other carriers are not very satisfied with their current carriers, especially towards network coverage, voice call quality, and internet service, which were rated as very important features. This leads to the conclusion that the important factors influence the mobile users switch from one carrier to the other carriers are bad network coverage, poor voice call quality, and slow internet service.

8.10. Factors Influencing Customers to Use the Same Carriers: Network Quality and Cheap Rate to Call Family are the Most Important Factors to Retain the Subscribers in the Networks

Comparing the motivations when choosing the current carriers between the switching-carrier and non-switching-carrier user group, it's again found very interesting pattern. The top common reason for those who plan to use the same carriers is lower phone rate to call their boyfriend, girlfriend, husband, wife, followed by recommended by friends for network quality. On the other hand, cheapest handsets with contracts and suitable rate plan are the most common reasons among the switching-carrier user group.

This leads to the conclusion that the cheap rate plan and low cost handsets with contract can attract more subscribers to the carriers. However, cheaper rate plan to call boyfriend, girlfriend, husband and wife as well as network quality are the most important factors to retain the subscribers in the networks.

9. Recommendations

Launching 4G LTE service is another challenge for the mobile operators in Taiwan. While 4G LTE is focusing on providing a superfast mobile internet service experience, there are also other important features and attributes needed to take into the consideration. As discussed in this thesis project, network coverage and voice call quality are very important features in 4G LTE. The thesis proposes that the mobile operators should deploy 4G LTE network coverage as soon as possible, concentrate on increasing mobile data service speed, and maintain voice call service quality. Although 4G LTE technology has no circuit voice capability, it's necessary for the operator to allow the voice calls. The voice call on 4G LTE network could be enable by the feature so-called CS fallback.

Apart from the network capability, pricing is another important issue to evaluate. Some mobile users are willing to pay more for better services while some are not. As discussed in this thesis project, 888 TWD a month could be one of the package offering to the market. Higher price package can also offer targeting to heavy internet user group. Due to the fact that this survey sample are limited to NCCU students and the authors' colleagues and friends, further analysis on broader audience is needed to find out demographic information of target customers.

As described in the report, many respondents answered subscribing to 4G LTE that they will wait for promotion and favorite mobile phone. Therefore, mobile handset is very important factor on successful launching 4G LTE. Cutting-edge 4G LTE mobile phones at some attractive prices with contracts could be used to attract more people subscribe for the 4G LTE network.

To retain the subscribers in the carriers, network quality and cheaper rate to call boyfriend, girlfriend, husband, and wife are quite important influencing factors. It's suggested for the mobile operators to maintain the best network quality to avoid subscriber canceling the subscription and changing to other carriers. Cheaper rate of intra-network phone calls or cheaper rate to calls their close friends could also help to retain the subscribers using the carriers.

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Appendix A – SPSS Data Analysis Output

Appendix A – Index

10.1. Demographic 52

10.2. Current Mobile Carrier 55

10.3. Years of Subscription 56

10.4. Reasons for Selecting the Carriers 58

10.5. Spending on the Current Mobile Phone Bill 60

10.6. Hours of Using Mobile Internet in Typical Week 65

10.7. Importance of Basic Services 67

10.8. Importance of Carrier Features 67

10.9. Willingness to Pay More on Carrier Features 68

10.10. Satisfaction with the Current Carrier 68

10.11. Intention to Subscriber , Intention to Recommend, Value for Money 71

10.12. When to Subscribe 72

10.13. 4G LTE Preferable Carriers 73

10.14. Substitute to 4G LTE Carriers 74

10.15. Preferable 4G LTE Carriers and Substitutes 76

10.16. Importance of 4G LTE Carrier Features 77

10.17. Liking Score of 4G LTE in Different Rate Plans 80

10.18. Liking Score of 4G LTE Comparing Between People Who Intend to Subscribe and Who Don't Intend to Subscribe 81

10.19. Carrier Switching in 4G LTE 84

10.20. Carrier Switching and Importance of Basic Services 85

10.21. Carrier Switching and Importance of Carier Features 86

10.22. Carrier Switching and Willingness to Pay More 89

10.23. Carrier Switching and Satisfactions towards Carrier Features 91
10.24. Carrier Switching and Year of Current Subscription 101
10.25. Carrier Switching and Reasons for Subscribing 103
10.26. Current Internet Usage 104
10.27. Spending on Mobile Phone Bills versus Current Internet User Group 105
10.28. Intention to Subscribe to 4G LTE versus Internet User Group 109
10.29. Willingness to Pay More versus Internet User Group 109
10.30. Subscribing Intention to 4G LTE versus 4G LTE Rate Plans and Internet User Group 112

10.1. Demographic

Frequencies

Hometown

N	Valid	872
	Missing	2

Hometown

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	KeeLung	15	1.7	1.7	1.7
	Taipei City	541	61.9	62.0	63.8
	New Taipei City	165	18.9	18.9	82.7
	TaoYuan County	34	3.9	3.9	86.6
	HsinChu County	19	2.2	2.2	88.8
	MiaoLi County	3	.3	.3	89.1
	TaiChung City	32	3.7	3.7	92.8
	ChangHua Couty	15	1.7	1.7	94.5
	NanTou County	6	.7	.7	95.2
	YunLin County	3	.3	.3	95.5
	ChaiYi City	1	.1	.1	95.6
	TaiNan City	17	1.9	1.9	97.6
	KaoHsiung City	15	1.7	1.7	99.3
	PingTung County	3	.3	.3	99.7
	ILan County	2	.2	.2	99.9
	KinMen County	1	.1	.1	100.0

	Total	872	99.8	100.0	
Missing	99	2	.2		
Total		874	100.0		

Statistics

Nationality

N	Valid	874
	Missing	0

Nationality

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Taiwanese	814	93.1	93.1	93.1
	Other	60	6.9	6.9	100.0
	Total	874	100.0	100.0	

Statistics

Gender

N	Valid	872
	Missing	2

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	314	35.9	36.0	36.0
	Female	558	63.8	64.0	100.0
	Total	872	99.8	100.0	
Missing	99	2	.2		
Total		874	100.0		

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 or below	133	15.2	15.3	15.3
	19 - 22	574	65.7	65.8	81.1
	23 - 28	49	5.6	5.6	86.7
	29 - 35	69	7.9	7.9	94.6
	36 - 45	42	4.8	4.8	99.4
	46 - 55	5	.6	.6	100.0
	Total	872	99.8	100.0	
Missing	99	2	.2		

Total	874	100.0		

Profession

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	College student	726	83.1	83.1	83.1
	Graduate/ PhD student	34	3.9	3.9	87.0
	Teacher/ Professor/ Academia	6	.7	.7	87.6
	Office Staff/ Government employee/ White collar worker	33	3.8	3.8	91.4
	Management executive	11	1.3	1.3	92.7
	Sales/ Finance/ Insurance professional	8	.9	.9	93.6
	PR/ Media/ Fashion/ Journalism professional	3	.3	.3	93.9
	Designer/ Editor/ Director/ Publisher	1	.1	.1	94.1
	Trader	1	.1	.1	94.2
	Computer and Software engineer/ Web developer	24	2.7	2.7	96.9
	Technician/ Production Worker	6	.7	.7	97.6
	Self-employed/ Home business	4	.5	.5	98.1
	Home-maker/ Butler	2	.2	.2	98.3
	Other	13	1.5	1.5	99.8
	99	2	.2	.2	100.0
	Total	874	100.0	100.0	

Income range

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15,000 TWD or less	725	83.0	83.1	83.1
	15,001 TWD - 35,000 TWD	41	4.7	4.7	87.8
	35,001 TWD - 55,000 TWD	40	4.6	4.6	92.4
	55,001 TWD - 75,000 TWD	33	3.8	3.8	96.2
	75,001 TWD - 100,000 TWD	12	1.4	1.4	97.6
	100,001 TWD - 150,000 TWD	11	1.3	1.3	98.9
	150,001 TWD - 200,000 TWD	5	.6	.6	99.4

	200,001 TWD or above	5	.6	.6	100.0
	Total	872	99.8	100.0	
Missing	99	2	.2		
Total		874	100.0		

Statistics

		Mobile phone brand	Smartphone
N	Valid	874	874
	Missing	0	0

Frequency Table

Mobile phone brand

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	iPhone	152	17.4	17.4	17.4
	Samsung	159	18.2	18.2	35.6
	HTC	178	20.4	20.4	55.9
	BlackBerry	6	.7	.7	56.6
	Nokia	86	9.8	9.8	66.5
	Sony	224	25.6	25.6	92.1
	Other	69	7.9	7.9	100.0
	Total	874	100.0	100.0	

Smartphone

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Smartphone	650	74.4	74.4	74.4
	Other	224	25.6	25.6	100.0
	Total	874	100.0	100.0	

10.2. Current Mobile Carrier

Crosstabs

Statistics

Current Carrier

N	Valid	874
	Missing	0

Current Carrier

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	CHT	494	56.5	56.5	56.5
	TWM	241	27.6	27.6	84.1
	FET	113	12.9	12.9	97.0
	Vibo	17	1.9	1.9	99.0
	APPW	3	.3	.3	99.3
	PHS	1	.1	.1	99.4
	7-11 Mobile	5	.6	.6	100.0
	Total	874	100.0	100.0	

10.3. Years of Subscription

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Years of subscription * Current Carrier	874	100.0%	0	.0%	874	100.0%

Years of subscription * Current Carrier Crosstabulation

			Current Carrier				Total
			CHT	TWM	FET	Other	
Years of subscription	0	Count	44	40	25	6	115
		Expected Count	65.0	31.7	14.9	3.4	115.0
		% within Current Carrier	8.9%	16.6%	22.1%	23.1%	13.2%
	1	Count	17	27	8	2	54
		Expected Count	30.5	14.9	7.0	1.6	54.0
		% within Current Carrier	3.4%	11.2%	7.1%	7.7%	6.2%
	2	Count	32	25	17	4	78
		Expected Count	44.1	21.5	10.1	2.3	78.0
		% within Current Carrier	6.5%	10.4%	15.0%	15.4%	8.9%
	3	Count	59	24	16	5	104
		Expected Count	58.8	28.7	13.4	3.1	104.0
		% within Current Carrier	11.9%	10.0%	14.2%	19.2%	11.9%
	4	Count	69	28	7	5	109
		Expected Count	61.6	30.1	14.1	3.2	109.0
		% within Current Carrier	14.0%	11.6%	6.2%	19.2%	12.5%
	5	Count	58	17	9	2	86
		Expected Count	48.6	23.7	11.1	2.6	86.0

		% within Current Carrier	11.7%	7.1%	8.0%	7.7%	9.8%
	6	Count	56	19	5	1	81
		Expected Count	45.8	22.3	10.5	2.4	81.0
		% within Current Carrier	11.3%	7.9%	4.4%	3.8%	9.3%
	7	Count	45	14	6	0	65
		Expected Count	36.7	17.9	8.4	1.9	65.0
		% within Current Carrier	9.1%	5.8%	5.3%	.0%	7.4%
	8	Count	45	10	10	1	66
		Expected Count	37.3	18.2	8.5	2.0	66.0
		% within Current Carrier	9.1%	4.1%	8.8%	3.8%	7.6%
	9	Count	20	5	3	0	28
		Expected Count	15.8	7.7	3.6	.8	28.0
		% within Current Carrier	4.0%	2.1%	2.7%	.0%	3.2%
	10	Count	30	18	5	0	53
		Expected Count	30.0	14.6	6.9	1.6	53.0
		% within Current Carrier	6.1%	7.5%	4.4%	.0%	6.1%
	11	Count	4	3	1	0	8
		Expected Count	4.5	2.2	1.0	.2	8.0
		% within Current Carrier	.8%	1.2%	.9%	.0%	.9%
	12	Count	7	4	1	0	12
		Expected Count	6.8	3.3	1.6	.4	12.0
		% within Current Carrier	1.4%	1.7%	.9%	.0%	1.4%
	13	Count	3	2	0	0	5
		Expected Count	2.8	1.4	.6	.1	5.0
		% within Current Carrier	.6%	.8%	.0%	.0%	.6%
	14	Count	0	2	0	0	2
		Expected Count	1.1	.6	.3	.1	2.0
		% within Current Carrier	.0%	.8%	.0%	.0%	.2%
	15	Count	3	3	0	0	6
		Expected Count	3.4	1.7	.8	.2	6.0
		% within Current Carrier	.6%	1.2%	.0%	.0%	.7%
	18	Count	1	0	0	0	1
		Expected Count	.6	.3	.1	.0	1.0
		% within Current Carrier	.2%	.0%	.0%	.0%	.1%
	20	Count	1	0	0	0	1
		Expected Count	.6	.3	.1	.0	1.0
		% within Current Carrier	.2%	.0%	.0%	.0%	.1%
Total		Count	494	241	113	26	874
		Expected Count	494.0	241.0	113.0	26.0	874.0
		% within Current Carrier	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	90.863(a)	51	.001
Likelihood Ratio	97.830	51	.000

Linear-by-Linear Association	25.874	1	.000
N of Valid Cases	874		

a 39 cells (54.2%) have expected count less than 5. The minimum expected count is .03.

Oneway

Descriptives

Years of subscription

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
CHT	494	5.19	3.194	.144	4.91	5.47	0	20
TWM	241	4.33	3.686	.237	3.86	4.80	0	15
FET	113	3.67	3.211	.302	3.07	4.27	0	12
Other	26	2.65	2.097	.411	1.81	3.50	0	8
Total	874	4.68	3.374	.114	4.46	4.91	0	20

ANOVA

Years of subscription

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	380.970	3	126.990	11.561	.000
Within Groups	9556.604	870	10.985		
Total	9937.574	873			

10.4. Reasons for Selecting the Carriers

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Statement best describes when subscribed * Current Carrier	874	100.0%	0	.0%	874	100.0%

Statement best describes when subscribed * Current Carrier Crosstabulation

			Current Carrier				Total
			CHT	TWM	FET	Other	
Statement best describes when subscribed	Recommended by friends for network quality	Count	150	36	6	1	193
		Expected Count	109.1	53.2	25.0	5.7	193.0
		% within Current Carrier	30.4%	14.9%	5.3%	3.8%	22.1%
	Most suitable rate plan	Count	50	41	21	9	121
		Expected Count	68.4	33.4	15.6	3.6	121.0
		% within Current Carrier	10.1%	17.0%	18.6%	34.6%	13.8%
	Cheapest handsets with package	Count	17	34	28	4	83
		Expected Count	46.9	22.9	10.7	2.5	83.0
		% within Current Carrier	3.4%	14.1%	24.8%	15.4%	9.5%
	Not my concern as my company pay	Count	15	18	1	0	34
		Expected Count	19.2	9.4	4.4	1.0	34.0
		% within Current Carrier	3.0%	7.5%	.9%	.0%	3.9%
	Cheaper to call boyfriend/girlfriend/husband/wife	Count	233	96	50	10	389
		Expected Count	219.9	107.3	50.3	11.6	389.0
		% within Current Carrier	47.2%	39.8%	44.2%	38.5%	44.5%
	Family decision	Count	9	7	1	0	17
		Expected Count	9.6	4.7	2.2	.5	17.0
		% within Current Carrier	1.8%	2.9%	.9%	.0%	1.9%
	Other	Count	20	9	6	2	37
		Expected Count	20.9	10.2	4.8	1.1	37.0
		% within Current Carrier	4.0%	3.7%	5.3%	7.7%	4.2%
Total		Count	494	241	113	26	874
		Expected Count	494.0	241.0	113.0	26.0	874.0
		% within Current Carrier	100.0%	100.0%	100.0%	100.0%	100.0 %

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	127.305(a)	18	.000
Likelihood Ratio	130.444	18	.000
Linear-by-Linear Association	1.536	1	.215
N of Valid Cases	874		

a 9 cells (32.1%) have expected count less than 5. The minimum expected count is .51.

10.5. Spending on the Current Mobile Phone Bill

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Total spending on mobile-phone bill per month * Current Carrier	874	100.0%	0	.0%	874	100.0%
Voice call spending on mobile-phone bill per month * Current Carrier	839	96.0%	35	4.0%	874	100.0%
Internet spending on mobile-phone bill per month * Current Carrier	835	95.5%	39	4.5%	874	100.0%
SMS&MMS spending on mobile-phone bill per month * Current Carrier	846	96.8%	28	3.2%	874	100.0%

Total spending on mobile-phone bill per month * Current Carrier

Crosstab

			Current Carrier				Total
			CHT	TWM	FET	Other	
Total spending on mobile-phone bill per month	Less than 199TWD	Count	89	21	18	8	136
		Expected Count	76.9	37.5	17.6	4.0	136.0
		% within Current Carrier	18.0%	8.7%	15.9%	30.8%	15.6%
	200-399TWD	Count	137	52	35	9	233
		Expected Count	131.7	64.2	30.1	6.9	233.0
		% within Current Carrier	27.7%	21.6%	31.0%	34.6%	26.7%
	400-599TWD	Count	83	56	22	4	165
		Expected Count	93.3	45.5	21.3	4.9	165.0
		% within Current Carrier	16.8%	23.2%	19.5%	15.4%	18.9%
	600-799TWD	Count	69	29	18	2	118
		Expected Count	66.7	32.5	15.3	3.5	118.0
		% within Current Carrier	14.0%	12.0%	15.9%	7.7%	13.5%
	800-999TWD	Count	20	12	5	0	37
		Expected Count	20.9	10.2	4.8	1.1	37.0
		% within Current Carrier	4.0%	5.0%	4.4%	.0%	4.2%
	1000-1199TWD	Count	31	26	6	2	65
		Expected Count	36.7	17.9	8.4	1.9	65.0

		% within Current Carrier	6.3%	10.8%	5.3%	7.7%	7.4%
	1200-1399TWD	Count	27	21	5	0	53
		Expected Count	30.0	14.6	6.9	1.6	53.0
		% within Current Carrier	5.5%	8.7%	4.4%	.0%	6.1%
	1400-1599TWD	Count	19	5	4	1	29
		Expected Count	16.4	8.0	3.7	.9	29.0
		% within Current Carrier	3.8%	2.1%	3.5%	3.8%	3.3%
	1600-1799TWD	Count	4	4	0	0	8
		Expected Count	4.5	2.2	1.0	.2	8.0
		% within Current Carrier	.8%	1.7%	.0%	.0%	.9%
	1800-1999TWD	Count	2	4	0	0	6
		Expected Count	3.4	1.7	.8	.2	6.0
		% within Current Carrier	.4%	1.7%	.0%	.0%	.7%
	More than 2000TWD	Count	13	11	0	0	24
		Expected Count	13.6	6.6	3.1	.7	24.0
		% within Current Carrier	2.6%	4.6%	.0%	.0%	2.7%
Total		Count	494	241	113	26	874
		Expected Count	494.0	241.0	113.0	26.0	874.0
		% within Current Carrier	100.0 %	100.0 %	100.0 %	100.0 %	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	50.167(a)	30	.012
Likelihood Ratio	57.297	30	.002
Linear-by-Linear Association	3.158	1	.076
N of Valid Cases	874		

a 19 cells (43.2%) have expected count less than 5. The minimum expected count is .18.

Voice call spending on mobile-phone bill per month * Current Carrier

Crosstab

			Current Carrier				Total
			CHT	TWM	FET	Other	
Voice call spending on mobile-phone bill per month	Less than 199TWD	Count	228	103	51	15	397
		Expected Count	226.7	107.9	51.1	11.4	397.0
		% within Current Carrier	47.6%	45.2%	47.2%	62.5%	47.3%
	200-399TWD	Count	126	52	35	4	217

		Expected Count	123.9	59.0	27.9	6.2	217.0
		% within Current Carrier	26.3%	22.8%	32.4%	16.7%	25.9%
	400-599TWD	Count	78	30	16	4	128
		Expected Count	73.1	34.8	16.5	3.7	128.0
		% within Current Carrier	16.3%	13.2%	14.8%	16.7%	15.3%
	600-799TWD	Count	24	23	6	0	53
		Expected Count	30.3	14.4	6.8	1.5	53.0
		% within Current Carrier	5.0%	10.1%	5.6%	.0%	6.3%
	800-999TWD	Count	11	8	0	0	19
		Expected Count	10.8	5.2	2.4	.5	19.0
		% within Current Carrier	2.3%	3.5%	.0%	.0%	2.3%
	1000-1199TWD	Count	7	5	0	0	12
		Expected Count	6.9	3.3	1.5	.3	12.0
		% within Current Carrier	1.5%	2.2%	.0%	.0%	1.4%
	1200-1399TWD	Count	1	2	0	0	3
		Expected Count	1.7	.8	.4	.1	3.0
		% within Current Carrier	.2%	.9%	.0%	.0%	.4%
	1400-1599TWD	Count	0	2	0	1	3
		Expected Count	1.7	.8	.4	.1	3.0
		% within Current Carrier	.0%	.9%	.0%	4.2%	.4%
	1600-1799TWD	Count	1	1	0	0	2
		Expected Count	1.1	.5	.3	.1	2.0
		% within Current Carrier	.2%	.4%	.0%	.0%	.2%
	1800-1999TWD	Count	0	1	0	0	1
		Expected Count	.6	.3	.1	.0	1.0
		% within Current Carrier	.0%	.4%	.0%	.0%	.1%
	More than 2000TWD	Count	3	1	0	0	4
		Expected Count	2.3	1.1	.5	.1	4.0
		% within Current Carrier	.6%	.4%	.0%	.0%	.5%
Total		Count	479	228	108	24	839
		Expected Count	479.0	228.0	108.0	24.0	839.0
		% within Current Carrier	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	41.582(a)	30	.078
Likelihood Ratio	42.599	30	.064
Linear-by-Linear Association	.638	1	.425

N of Valid Cases	839			

a 27 cells (61.4%) have expected count less than 5. The minimum expected count is .03.

Internet spending on mobile-phone bill per month * Current Carrier

Crosstab

			Current Carrier				Total
			CHT	TWM	FET	Other	
Internet spending on mobile-phone bill per month	Less than 199TWD	Count	290	108	71	22	491
		Expected Count	277.0	135.8	62.9	15.3	491.0
		% within Current Carrier	61.6%	46.8%	66.4%	84.6%	58.8%
	200-399TWD	Count	39	20	7	1	67
		Expected Count	37.8	18.5	8.6	2.1	67.0
		% within Current Carrier	8.3%	8.7%	6.5%	3.8%	8.0%
	400-599TWD	Count	50	25	11	1	87
		Expected Count	49.1	24.1	11.1	2.7	87.0
		% within Current Carrier	10.6%	10.8%	10.3%	3.8%	10.4%
	600-799TWD	Count	53	59	12	2	126
		Expected Count	71.1	34.9	16.1	3.9	126.0
		% within Current Carrier	11.3%	25.5%	11.2%	7.7%	15.1%
	800-999TWD	Count	35	11	2	0	48
		Expected Count	27.1	13.3	6.2	1.5	48.0
		% within Current Carrier	7.4%	4.8%	1.9%	.0%	5.7%
	1000-1199TWD	Count	3	1	3	0	7
		Expected Count	3.9	1.9	.9	.2	7.0
		% within Current Carrier	.6%	.4%	2.8%	.0%	.8%
	1200-1399TWD	Count	1	3	1	0	5
		Expected Count	2.8	1.4	.6	.2	5.0
		% within Current Carrier	.2%	1.3%	.9%	.0%	.6%
	1400-1599TWD	Count	0	1	0	0	1
		Expected Count	.6	.3	.1	.0	1.0
		% within Current Carrier	.0%	.4%	.0%	.0%	.1%
	1600-1799TWD	Count	0	1	0	0	1
		Expected Count	.6	.3	.1	.0	1.0
		% within Current Carrier	.0%	.4%	.0%	.0%	.1%
	More than 2000TWD	Count	0	2	0	0	2
		Expected Count	1.1	.6	.3	.1	2.0
		% within Current Carrier	.0%	.9%	.0%	.0%	.2%

Total	Count	471	231	107	26	835
	Expected Count	471.0	231.0	107.0	26.0	835.0
	% within Current Carrier	100.0%	100.0%	100.0%	100.0%	100.0 %

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	62.489(a)	27	.000
Likelihood Ratio	61.505	27	.000
Linear-by-Linear Association	2.473	1	.116
N of Valid Cases	835		

a 24 cells (60.0%) have expected count less than 5. The minimum expected count is .03.

SMS&MMS spending on mobile-phone bill per month * Current Carrier

Crosstab

			Current Carrier				Total
			CHT	TWM	FET	Other	
SMS&MMS spending on mobile-phone bill per month	Less than 199TWD	Count	425	210	105	25	765
		Expected Count	434.9	206.2	100.4	23.5	765.0
		% within Current Carrier	88.4%	92.1%	94.6%	96.2%	90.4%
	200-399TWD	Count	51	16	6	1	74
		Expected Count	42.1	19.9	9.7	2.3	74.0
		% within Current Carrier	10.6%	7.0%	5.4%	3.8%	8.7%
	400-599TWD	Count	4	2	0	0	6
		Expected Count	3.4	1.6	.8	.2	6.0
		% within Current Carrier	.8%	.9%	.0%	.0%	.7%
	1400-1599TWD	Count	1	0	0	0	1
		Expected Count	.6	.3	.1	.0	1.0
		% within Current Carrier	.2%	.0%	.0%	.0%	.1%
Total		Count	481	228	111	26	846
		Expected Count	481.0	228.0	111.0	26.0	846.0
		% within Current Carrier	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.334(a)	9	.602
Likelihood Ratio	9.013	9	.436
Linear-by-Linear Association	3.541	1	.060
N of Valid Cases	846		

a 9 cells (56.3%) have expected count less than 5. The minimum expected count is .03.

10.6. Hours of Using Mobile Internet in Typical Week

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Mobile internet usage (hours in a week) * Current Carrier	873	99.9%	1	.1%	874	100.0%

Mobile internet usage (hours in a week) * Current Carrier Crosstabulation

			Current Carrier				Total
			CHT	TWM	FET	Other	
Mobile internet usage (hours in a week)	Less than 3 hours	Count	289	120	67	14	490
		Expected Count	277.3	135.3	62.9	14.6	490.0
		% within Current Carrier	58.5%	49.8%	59.8%	53.8%	56.1%
	Between 3-9 hours	Count	133	63	25	8	229
		Expected Count	129.6	63.2	29.4	6.8	229.0
		% within Current Carrier	26.9%	26.1%	22.3%	30.8%	26.2%
	More than 9 hours	Count	72	58	20	4	154
		Expected Count	87.1	42.5	19.8	4.6	154.0
		% within Current Carrier	14.6%	24.1%	17.9%	15.4%	17.6%
Total		Count	494	241	112	26	873
		Expected Count	494.0	241.0	112.0	26.0	873.0
		% within Current Carrier	100.0 %	100.0 %	100.0 %	100.0 %	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.815(a)	6	.066
Likelihood Ratio	11.483	6	.075
Linear-by-Linear Association	.490	1	.484
N of Valid Cases	873		

a 1 cells (8.3%) have expected count less than 5. The minimum expected count is 4.59.

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Internet Usage * Current Carrier	873	99.9%	1	.1%	874	100.0%

Internet Usage * Current Carrier Crosstabulation

			Current Carrier				Total
			CHT	TWM	FET	Other	
Internet Usage	Lite Internet User (<6 hr)	Count	372	160	83	20	635
		% within Current Carrier	75.3%	66.4%	74.1%	76.9%	72.7%
	Heavy Internet User (> 6 hr)	Count	122	81	29	6	238
		% within Current Carrier	24.7%	33.6%	25.9%	23.1%	27.3%
Total		Count	494	241	112	26	873
		% within Current Carrier	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.873(a)	3	.076
Likelihood Ratio	6.709	3	.082
Linear-by-Linear Association	.034	1	.853
N of Valid Cases	873		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.09.

10.7. Importance of Basic Services

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Importance of Voice call	873	1	5	4.46	.965	.932
Importance of Mobile internet service	873	1	5	3.78	1.295	1.677
Importance of Video call	873	1	5	1.90	1.042	1.085
Importance of SMS	873	1	5	4.06	.944	.892
Importance of MMS	873	1	5	2.09	1.139	1.297
Valid N (listwise)	873					

10.8. Importance of Carrier Features

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Importance of Network coverage	874	1	5	4.71	.593	.352
Importance of Voice call quality	874	1	5	4.51	.818	.669
Importance of Internet service quality and speed	874	1	5	4.32	1.049	1.100
Importance of Video call quality	874	1	5	2.59	1.310	1.716
Importance of Reliability of SMS & MMS	874	1	5	3.93	1.095	1.199
Importance of Customer service and support	874	1	5	3.84	1.041	1.085
Importance of Value-added services	874	1	5	2.29	1.100	1.210
Importance of Customer loyalty program	874	1	5	3.18	1.228	1.507
Importance of Choices of handsets	874	1	5	4.03	.983	.966
Importance of Discounted price handsets with contract	874	1	5	4.04	1.028	1.058
Importance of Rate plan	874	1	5	4.57	.690	.476
Valid N (listwise)	874					

10.9. Willingness to Pay More on Carrier Features

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Willingness to pay more for Network coverage	874	1	5	3.47	1.208	1.459
Willingness to pay more for Voice call quality	874	1	5	3.20	1.198	1.436
Willingness to pay more for Internet service quality and speed	874	1	5	3.46	1.278	1.632
Willingness to pay more for Video call quality	874	1	5	2.17	1.125	1.266
Willingness to pay more for Reliability of SMS & MMS	874	1	5	2.82	1.175	1.382
Willingness to pay more for Customer service and support	874	1	5	2.55	1.113	1.239
Willingness to pay more for Value-added services	874	1	5	2.13	1.042	1.086
Willingness to pay more for Customer loyalty program	874	1	5	2.27	1.099	1.209
Willingness to pay more for Choces of handsets	874	1	5	2.88	1.212	1.468
Willingness to pay more for Discounted price handsets with contract	874	1	5	2.91	1.230	1.514
Willingness to pay more for Rate plan	874	1	5	3.08	1.286	1.654
Valid N (listwise)	874					

10.10. Satisfaction with the Current Carrier

Oneway

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Satisfaction with Network coverage	CHT	494	3.96	.776	.035	3.89	4.03	1	5
	TWM	241	3.68	.813	.052	3.57	3.78	1	5
	FET	113	3.43	.972	.091	3.25	3.61	1	5

	Other	26	2.58	1.206	.236	2.09	3.06	1	5
	Total	874	3.77	.875	.030	3.71	3.83	1	5
Satisfaction with Voice call quality	CHT	494	3.84	.795	.036	3.77	3.91	1	5
	TWM	241	3.74	.715	.046	3.65	3.83	1	5
	FET	113	3.59	.841	.079	3.44	3.75	1	5
	Other	26	3.04	1.076	.211	2.60	3.47	1	5
	Total	874	3.75	.802	.027	3.70	3.81	1	5
Satisfaction with Internet service quality and speed	CHT	494	3.20	.937	.042	3.12	3.28	1	5
	TWM	241	3.26	.827	.053	3.15	3.36	1	5
	FET	113	3.26	.874	.082	3.09	3.42	1	5
	Other	26	2.85	.881	.173	2.49	3.20	1	5
	Total	874	3.21	.899	.030	3.15	3.27	1	5
Satisfaction with Video call quality	CHT	494	3.02	.715	.032	2.96	3.08	1	5
	TWM	241	3.01	.642	.041	2.93	3.09	1	5
	FET	113	2.98	.744	.070	2.84	3.12	1	5
	Other	26	2.54	.706	.138	2.25	2.82	1	3
	Total	874	3.00	.703	.024	2.95	3.05	1	5
Satisfaction with Reliability of SMS & MMS	CHT	494	3.60	.824	.037	3.53	3.67	1	5
	TWM	241	3.69	.790	.051	3.59	3.79	1	5
	FET	113	3.56	.812	.076	3.41	3.71	1	5
	Other	26	3.27	.667	.131	3.00	3.54	2	5
	Total	874	3.61	.811	.027	3.55	3.66	1	5
Satisfaction with Customer service and support	CHT	494	3.35	.888	.040	3.27	3.43	1	5
	TWM	241	3.30	.887	.057	3.19	3.42	1	5
	FET	113	3.31	.992	.093	3.12	3.49	1	5
	Other	26	3.15	1.047	.205	2.73	3.58	1	5
	Total	874	3.33	.906	.031	3.27	3.39	1	5
Satisfaction with Value-added services	CHT	494	3.03	.810	.036	2.96	3.10	1	5
	TWM	241	3.09	.825	.053	2.98	3.19	1	5
	FET	113	3.04	.839	.079	2.89	3.20	1	5
	Other	26	2.31	.970	.190	1.92	2.70	1	4
	Total	874	3.03	.831	.028	2.97	3.08	1	5
Satisfaction with Customer loyalty program	CHT	494	2.51	.946	.043	2.42	2.59	1	5
	TWM	241	2.66	.909	.059	2.54	2.77	1	5
	FET	113	2.63	.975	.092	2.45	2.81	1	5
	Other	26	2.00	.894	.175	1.64	2.36	1	4
	Total	874	2.55	.944	.032	2.49	2.61	1	5
Satisfaction with Choices of	CHT	494	3.19	.946	.043	3.10	3.27	1	5

handsets									
	TWM	241	3.29	.890	.057	3.18	3.41	1	5
	FET	113	3.26	.962	.090	3.08	3.44	1	5
	Other	26	2.31	.928	.182	1.93	2.68	1	4
	Total	874	3.20	.945	.032	3.14	3.26	1	5
Satisfaction with Discounted price handsets with contract	CHT	494	3.10	.972	.044	3.01	3.19	1	5
	TWM	241	3.16	.901	.058	3.05	3.28	1	5
	FET	113	3.20	1.028	.097	3.01	3.40	1	5
	Other	26	2.19	.849	.167	1.85	2.54	1	3
	Total	874	3.10	.970	.033	3.04	3.17	1	5
Satisfaction with Rate plan	CHT	494	3.50	.927	.042	3.42	3.58	1	5
	TWM	241	3.39	.969	.062	3.27	3.52	1	5
	FET	113	3.47	.887	.083	3.30	3.63	1	5
	Other	26	3.50	1.208	.237	3.01	3.99	1	5
	Total	874	3.47	.943	.032	3.40	3.53	1	5

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Satisfaction with Network coverage	Between Groups	69.646	3	23.215	33.772	.000
	Within Groups	598.044	870	.687		
	Total	667.690	873			
Satisfaction with Voice call quality	Between Groups	19.625	3	6.542	10.491	.000
	Within Groups	542.486	870	.624		
	Total	562.111	873			
Satisfaction with Internet service quality and speed	Between Groups	4.290	3	1.430	1.773	.151
	Within Groups	701.551	870	.806		
	Total	705.841	873			
Satisfaction with Video call quality	Between Groups	5.812	3	1.937	3.964	.008
	Within Groups	425.186	870	.489		
	Total	430.999	873			
Satisfaction with Reliability of SMS & MMS	Between Groups	4.883	3	1.628	2.487	.059
	Within Groups	569.291	870	.654		
	Total	574.174	873			
Satisfaction with Customer service and support	Between Groups	1.218	3	.406	.494	.686
	Within Groups	714.847	870	.822		
	Total	716.065	873			

Satisfaction with Value-added services	Between Groups	14.356	3	4.785	7.067	.000
	Within Groups	589.091	870	.677		
	Total	603.446	873			
Satisfaction with Customer loyalty program	Between Groups	12.113	3	4.038	4.584	.003
	Within Groups	766.272	870	.881		
	Total	778.384	873			
Satisfaction with Choices of handsets	Between Groups	23.289	3	7.763	8.926	.000
	Within Groups	756.671	870	.870		
	Total	779.960	873			
Satisfaction with Discounted price handsets with contract	Between Groups	23.547	3	7.849	8.566	.000
	Within Groups	797.186	870	.916		
	Total	820.732	873			
Satisfaction with Rate plan	Between Groups	1.844	3	.615	.691	.557
	Within Groups	773.693	870	.889		
	Total	775.538	873			

10.11. Intention to Subscriber , Intention to Recommend, Value for Money

Oneway

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Intention to subscribe	Low price package (888TWD)	428	3.2266	1.04132	.05033	3.1277	3.3256	1.00	5.00
	High price package (1888TWD)	445	2.7933	1.18643	.05624	2.6827	2.9038	1.00	5.00
	Total	873	3.0057	1.13785	.03851	2.9301	3.0813	1.00	5.00
Intention to recommend	Low price package (888TWD)	428	3.3949	.76558	.03701	3.3221	3.4676	1.00	5.00
	High price package (1888TWD)	445	3.1933	.82388	.03906	3.1165	3.2700	1.00	5.00
	Total	873	3.2921	.80174	.02713	3.2388	3.3454	1.00	5.00
Value for money	Low price package (888TWD)	428	3.1799	.89383	.04321	3.0950	3.2648	1.00	5.00

	High price package (1888TWD)	445	2.7079	.95155	.04511	2.6192	2.7965	1.00	5.00
	Total	873	2.9393	.95289	.03225	2.8760	3.0026	1.00	5.00

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Intention to subscribe	Between Groups	40.975	1	40.975	32.803	.000
	Within Groups	1087.996	871	1.249		
	Total	1128.971	872			
Intention to recommend	Between Groups	8.867	1	8.867	14.000	.000
	Within Groups	551.648	871	.633		
	Total	560.515	872			
Value for money	Between Groups	48.613	1	48.613	56.974	.000
	Within Groups	743.170	871	.853		
	Total	791.782	872			

10.12. When to Subscribe

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
When to subscribe * 4G LTE Package	873	99.9%	1	.1%	874	100.0%

When to subscribe * 4G LTE Package Crosstabulation

			4G LTE Package		
			Low price package (888TWD)	High price package (1888TWD)	Total
When to subscribe	Within 3 months	Count	46	47	93
		Expected Count	45.6	47.4	93.0
		% within 4G LTE Package	10.7%	10.6%	10.7%
	Within 6 months	Count	72	56	128
		Expected Count	62.8	65.2	128.0
		% within 4G LTE Package	16.8%	12.6%	14.7%
	Within 1 year	Count	110	94	204
		Expected Count	100.0	104.0	204.0
		% within 4G LTE Package	25.7%	21.1%	23.4%
	After 1 year	Count	200	248	448

	Expected Count	219.6	228.4	448.0
	% within 4G LTE Package	46.7%	55.7%	51.3%
Total	Count	428	445	873
	Expected Count	428.0	445.0	873.0
	% within 4G LTE Package	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.081(a)	3	.044
Likelihood Ratio	8.094	3	.044
Linear-by-Linear Association	3.800	1	.051
N of Valid Cases	873		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 45.59.

10.13.4G LTE Preferable Carriers

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
4G LTE preferable carrier * 4G LTE Package	874	100.0%	0	.0%	874	100.0%

4G LTE preferable carrier * 4G LTE Package Crosstabulation

			4G LTE Package		
			Low price package (888TWD)	High price package (1888TWD)	Total
4G LTE preferable carrier	CHT	Count	297	311	608
		Expected Count	298.4	309.6	608.0
		% within 4G LTE Package	69.2%	69.9%	69.6%
	TWM	Count	93	81	174
		Expected Count	85.4	88.6	174.0
		% within 4G LTE Package	21.7%	18.2%	19.9%
	FET	Count	28	41	69
		Expected Count	33.9	35.1	69.0
		% within 4G LTE Package	6.5%	9.2%	7.9%
	Vibo	Count	6	7	13
		Expected Count	6.4	6.6	13.0

		% within 4G LTE Package	1.4%	1.6%	1.5%
	APPW	Count	3	2	5
		Expected Count	2.5	2.5	5.0
		% within 4G LTE Package	.7%	.4%	.6%
	Global Mobile	Count	1	1	2
		Expected Count	1.0	1.0	2.0
		% within 4G LTE Package	.2%	.2%	.2%
	WiMax FET	Count	0	2	2
		Expected Count	1.0	1.0	2.0
		% within 4G LTE Package	.0%	.4%	.2%
	Other	Count	1	0	1
		Expected Count	.5	.5	1.0
		% within 4G LTE Package	.2%	.0%	.1%
Total		Count	429	445	874
		Expected Count	429.0	445.0	874.0
		% within 4G LTE Package	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.585(a)	7	.473
Likelihood Ratio	7.759	7	.354
Linear-by-Linear Association	.599	1	.439
N of Valid Cases	874		

a 8 cells (50.0%) have expected count less than 5. The minimum expected count is .49.

10.14. Substitute to 4G LTE Carriers

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Substitute to 4G LTE * 4G LTE Package	874	100.0%	0	.0%	874	100.0%

Substitute to 4G LTE * 4G LTE Package Crosstabulation

	4G LTE Package		
	Low price package (888TWD)	High price package (1888TWD)	Total

Substitute to 4G LTE	CHT	Count	256	275	531
		Expected Count	260.6	270.4	531.0
		% within 4G LTE Package	59.7%	61.8%	60.8%
	TWM	Count	107	94	201
		Expected Count	98.7	102.3	201.0
		% within 4G LTE Package	24.9%	21.1%	23.0%
	FET	Count	37	45	82
		Expected Count	40.2	41.8	82.0
		% within 4G LTE Package	8.6%	10.1%	9.4%
	Vibo	Count	9	8	17
		Expected Count	8.3	8.7	17.0
		% within 4G LTE Package	2.1%	1.8%	1.9%
	APPW	Count	6	5	11
		Expected Count	5.4	5.6	11.0
		% within 4G LTE Package	1.4%	1.1%	1.3%
	Global Mobile	Count	0	1	1
		Expected Count	.5	.5	1.0
		% within 4G LTE Package	.0%	.2%	.1%
	VMAX Telecom	Count	0	1	1
		Expected Count	.5	.5	1.0
		% within 4G LTE Package	.0%	.2%	.1%
	WiMax FET	Count	0	3	3
		Expected Count	1.5	1.5	3.0
		% within 4G LTE Package	.0%	.7%	.3%
	First International Telecom	Count	1	0	1
		Expected Count	.5	.5	1.0
		% within 4G LTE Package	.2%	.0%	.1%
	ADSL - HiNET	Count	10	12	22
		Expected Count	10.8	11.2	22.0
		% within 4G LTE Package	2.3%	2.7%	2.5%
	Kbro Cable TV	Count	0	1	1
		Expected Count	.5	.5	1.0
		% within 4G LTE Package	.0%	.2%	.1%
	Other	Count	3	0	3
		Expected Count	1.5	1.5	3.0
		% within 4G LTE Package	.7%	.0%	.3%
Total		Count	429	445	874
		Expected Count	429.0	445.0	874.0
		% within 4G LTE Package	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.344(a)	11	.338
Likelihood Ratio	16.205	11	.134
Linear-by-Linear	2.131	1	.144

Association				
N of Valid Cases	874			

a 12 cells (50.0%) have expected count less than 5. The minimum expected count is .49.

10.15. Preferable 4G LTE Carriers and Substitutes

Frequencies

Statistics

		4G LTE preferable carrier	Substitute to 4G LTE
N	Valid	874	874
	Missing	0	0

Frequency Table

4G LTE preferable carrier

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	CHT	608	69.6	69.6	69.6
	TWM	174	19.9	19.9	89.5
	FET	69	7.9	7.9	97.4
	Vibo	13	1.5	1.5	98.9
	APPW	5	.6	.6	99.4
	Global Mobile	2	.2	.2	99.7
	WiMax FET	2	.2	.2	99.9
	Other	1	.1	.1	100.0
	Total	874	100.0	100.0	

Substitute to 4G LTE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	CHT	531	60.8	60.8	60.8
	TWM	201	23.0	23.0	83.8
	FET	82	9.4	9.4	93.1
	Vibo	17	1.9	1.9	95.1
	APPW	11	1.3	1.3	96.3
	Global Mobile	1	.1	.1	96.5
	VMAX Telecom	1	.1	.1	96.6
	WiMax FET	3	.3	.3	96.9
	First International Telecom	1	.1	.1	97.0

ADSL - HiNET	22	2.5	2.5	99.5
Kbro Cable TV	1	.1	.1	99.7
Other	3	.3	.3	100.0
Total	874	100.0	100.0	

10.16. Importance of 4G LTE Carrier Features

Oneway

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Importance of Network coverage	Low price package (888TWD)	428	4.65	.621	.030	4.60	4.71	1	5
	High price package (1888TWD)	445	4.67	.610	.029	4.61	4.72	2	5
	Total	873	4.66	.615	.021	4.62	4.70	1	5
Importance of Voice call quality	Low price package (888TWD)	428	4.30	.833	.040	4.22	4.38	1	5
	High price package (1888TWD)	445	4.37	.900	.043	4.28	4.45	1	5
	Total	873	4.33	.868	.029	4.28	4.39	1	5
Importance of Internet service quality and speed	Low price package (888TWD)	428	4.34	.930	.045	4.25	4.42	1	5
	High price package (1888TWD)	445	4.36	.953	.045	4.28	4.45	1	5
	Total	873	4.35	.941	.032	4.29	4.41	1	5
Importance of Video call quality	Low price package (888TWD)	428	2.83	1.194	.058	2.71	2.94	1	5
	High price package (1888TWD)	445	2.78	1.263	.060	2.66	2.90	1	5
	Total	873	2.80	1.229	.042	2.72	2.89	1	5
Importance of Reliability of SMS & MMS	Low price package (888TWD)	428	3.70	1.056	.051	3.60	3.80	1	5
	High price package (1888TWD)	445	3.85	1.033	.049	3.76	3.95	1	5
	Total	873	3.78	1.047	.035	3.71	3.85	1	5
Importance of Customer service and support	Low price package (888TWD)	428	3.51	1.059	.051	3.41	3.61	1	5

	High price package (1888TWD)	445	3.63	1.076	.051	3.53	3.73	1	5
	Total	873	3.57	1.069	.036	3.50	3.64	1	5
Importance of Value-added services	Low price package (888TWD)	428	2.55	1.071	.052	2.45	2.65	1	5
	High price package (1888TWD)	445	2.57	1.146	.054	2.46	2.68	1	5
	Total	873	2.56	1.109	.038	2.49	2.63	1	5
Importance of Customer loyalty program	Low price package (888TWD)	428	3.08	1.184	.057	2.97	3.19	1	5
	High price package (1888TWD)	445	3.12	1.116	.053	3.02	3.23	1	5
	Total	873	3.10	1.149	.039	3.03	3.18	1	5
Importance of Choices of handsets	Low price package (888TWD)	428	3.83	.976	.047	3.74	3.92	1	5
	High price package (1888TWD)	445	3.96	.948	.045	3.87	4.04	1	5
	Total	873	3.89	.963	.033	3.83	3.96	1	5
Importance of Discounted price handsets with contract	Low price package (888TWD)	428	3.87	1.027	.050	3.77	3.97	1	5
	High price package (1888TWD)	445	3.97	.967	.046	3.88	4.06	1	5
	Total	873	3.92	.997	.034	3.85	3.99	1	5
Importance of Rate plan	Low price package (888TWD)	428	4.37	.807	.039	4.29	4.45	1	5
	High price package (1888TWD)	445	4.45	.763	.036	4.38	4.52	1	5
	Total	873	4.41	.785	.027	4.36	4.46	1	5

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Importance of Network coverage	Between Groups	.026	1	.026	.069	.793
	Within Groups	329.933	871	.379		
	Total	329.959	872			
Importance of Voice call quality	Between Groups	.919	1	.919	1.221	.270
	Within Groups	655.414	871	.752		
	Total	656.332	872			
Importance of Internet service quality and speed	Between Groups	.166	1	.166	.187	.665
	Within Groups	772.576	871	.887		

	Total	772.742	872			
Importance of Video call quality	Between Groups	.443	1	.443	.293	.588
	Within Groups	1317.062	871	1.512		
	Total	1317.505	872			
Importance of Reliability of SMS & MMS	Between Groups	5.113	1	5.113	4.686	.031
	Within Groups	950.330	871	1.091		
	Total	955.443	872			
Importance of Customer service and support	Between Groups	3.139	1	3.139	2.753	.097
	Within Groups	993.055	871	1.140		
	Total	996.195	872			
Importance of Value-added services	Between Groups	.082	1	.082	.067	.796
	Within Groups	1072.889	871	1.232		
	Total	1072.971	872			
Importance of Customer loyalty program	Between Groups	.342	1	.342	.258	.611
	Within Groups	1151.585	871	1.322		
	Total	1151.927	872			
Importance of Choices of handsets	Between Groups	3.443	1	3.443	3.722	.054
	Within Groups	805.650	871	.925		
	Total	809.093	872			
Importance of Discounted price handsets with contract	Between Groups	2.055	1	2.055	2.068	.151
	Within Groups	865.492	871	.994		
	Total	867.546	872			
Importance of Rate plan	Between Groups	1.403	1	1.403	2.279	.131
	Within Groups	536.143	871	.616		
	Total	537.546	872			

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Importance of Network coverage	873	1	5	4.66	.615
Importance of Voice call quality	873	1	5	4.33	.868
Importance of Internet service quality and speed	873	1	5	4.35	.941
Importance of Video call quality	873	1	5	2.80	1.229

Importance of Reliability of SMS & MMS	873	1	5	3.78	1.047
Importance of Customer service and support	873	1	5	3.57	1.069
Importance of Value-added services	873	1	5	2.56	1.109
Importance of Customer loyalty program	873	1	5	3.10	1.149
Importance of Choices of handsets	873	1	5	3.89	.963
Importance of Discounted price handsets with contract	873	1	5	3.92	.997
Importance of Rate plan	873	1	5	4.41	.785
Valid N (listwise)	873				

10.17.Liking Score of 4G LTE in Different Rate Plans

Oneway

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Liking score - Mobility and convenient	Low price package (888TWD)	428	3.91	.862	.042	3.83	3.99	1	5
	High price package (1888TWD)	445	3.97	.893	.042	3.89	4.06	1	5
	Total	873	3.94	.878	.030	3.88	4.00	1	5
Liking score - Faster internet speed	Low price package (888TWD)	428	4.24	.939	.045	4.15	4.33	1	5
	High price package (1888TWD)	445	4.32	.889	.042	4.24	4.40	1	5
	Total	873	4.28	.914	.031	4.22	4.34	1	5
Liking score - High quality video call	Low price package (888TWD)	428	3.00	1.052	.051	2.90	3.10	1	5
	High price package (1888TWD)	445	3.01	1.112	.053	2.90	3.11	1	5
	Total	873	3.00	1.083	.037	2.93	3.08	1	5
Liking score - High quality voice call	Low price package (888TWD)	428	3.50	1.002	.048	3.41	3.60	1	5
	High price package	445	3.62	1.021	.048	3.53	3.72	1	5

	(1888TWD)								
	Total	873	3.56	1.013	.034	3.50	3.63	1	5
Liking score - Monthly rate plan	Low price package (888TWD)	428	2.61	1.234	.060	2.49	2.72	1	5
	High price package (1888TWD)	445	2.06	1.222	.058	1.94	2.17	1	5
	Total	873	2.33	1.257	.043	2.24	2.41	1	5

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Liking score - Mobility and convenient	Between Groups	.898	1	.898	1.165	.281
	Within Groups	671.123	871	.771		
	Total	672.021	872			
Liking score - Faster internet speed	Between Groups	1.340	1	1.340	1.603	.206
	Within Groups	727.776	871	.836		
	Total	729.116	872			
Liking score - High quality video call	Between Groups	.004	1	.004	.004	.952
	Within Groups	1021.977	871	1.173		
	Total	1021.982	872			
Liking score - High quality voice call	Between Groups	3.032	1	3.032	2.961	.086
	Within Groups	891.816	871	1.024		
	Total	894.848	872			
Liking score - Monthly rate plan	Between Groups	65.209	1	65.209	43.266	.000
	Within Groups	1312.750	871	1.507		
	Total	1377.959	872			

10.18.Liking Score of 4G LTE Comparing Between People Who Intend to Subscribe and Who Don't Intend to Subscribe

Oneway

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Liking score - Mobility and	Would not subscribe	243	3.71	.844	.054	3.60	3.81	1	5

convenient									
	Would subscribe	185	4.17	.816	.060	4.05	4.29	1	5
	Total	428	3.91	.862	.042	3.83	3.99	1	5
Liking score - Faster internet speed	Would not subscribe	243	3.98	.979	.063	3.86	4.11	1	5
	Would subscribe	185	4.58	.762	.056	4.47	4.69	1	5
	Total	428	4.24	.939	.045	4.15	4.33	1	5
Liking score - High quality video call	Would not subscribe	243	2.84	.955	.061	2.72	2.96	1	5
	Would subscribe	185	3.22	1.136	.084	3.05	3.38	1	5
	Total	428	3.00	1.052	.051	2.90	3.10	1	5
Liking score - High quality voice call	Would not subscribe	243	3.30	.964	.062	3.18	3.42	1	5
	Would subscribe	185	3.77	.992	.073	3.62	3.91	1	5
	Total	428	3.50	1.002	.048	3.41	3.60	1	5
Liking score - Monthly rate plan	Would not subscribe	243	2.14	1.042	.067	2.00	2.27	1	5
	Would subscribe	185	3.22	1.198	.088	3.05	3.40	1	5
	Total	428	2.61	1.234	.060	2.49	2.72	1	5

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Liking score - Mobility and convenient	Between Groups	22.726	1	22.726	32.849	.000
	Within Groups	294.720	426	.692		
	Total	317.446	427			
Liking score - Faster internet speed	Between Groups	37.843	1	37.843	47.572	.000
	Within Groups	338.886	426	.796		
	Total	376.729	427			
Liking score - High quality video call	Between Groups	14.906	1	14.906	13.861	.000
	Within Groups	458.092	426	1.075		
	Total	472.998	427			
Liking score - High quality voice call	Between Groups	22.922	1	22.922	24.047	.000
	Within Groups	406.075	426	.953		
	Total	428.998	427			
Liking score - Monthly rate plan	Between Groups	123.837	1	123.837	100.211	.000
	Within Groups	526.432	426	1.236		
	Total	650.269	427			

Oneway

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Liking score - Mobility and convenient	Would not subscribe	318	3.83	.887	.050	3.73	3.92	1	5
	Would subscribe	127	4.34	.799	.071	4.20	4.48	2	5
	Total	445	3.97	.893	.042	3.89	4.06	1	5
Liking score - Faster internet speed	Would not subscribe	318	4.16	.942	.053	4.06	4.27	1	5
	Would subscribe	127	4.72	.576	.051	4.62	4.82	3	5
	Total	445	4.32	.889	.042	4.24	4.40	1	5
Liking score - High quality video call	Would not subscribe	318	2.86	1.058	.059	2.74	2.98	1	5
	Would subscribe	127	3.38	1.161	.103	3.17	3.58	1	5
	Total	445	3.01	1.112	.053	2.90	3.11	1	5
Liking score - High quality voice call	Would not subscribe	318	3.46	1.009	.057	3.34	3.57	1	5
	Would subscribe	127	4.03	.934	.083	3.87	4.20	2	5
	Total	445	3.62	1.021	.048	3.53	3.72	1	5
Liking score - Monthly rate plan	Would not subscribe	318	1.67	.923	.052	1.57	1.77	1	5
	Would subscribe	127	3.02	1.342	.119	2.79	3.26	1	5
	Total	445	2.06	1.222	.058	1.94	2.17	1	5

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Liking score - Mobility and convenient	Between Groups	23.748	1	23.748	31.887	.000
	Within Groups	329.928	443	.745		
	Total	353.676	444			
Liking score - Faster internet speed	Between Groups	27.755	1	27.755	38.032	.000
	Within Groups	323.292	443	.730		
	Total	351.047	444			
Liking score - High quality video call	Between Groups	24.489	1	24.489	20.684	.000
	Within Groups	524.490	443	1.184		

	Total	548.980	444			
Liking score - High quality voice call	Between Groups	30.060	1	30.060	30.772	.000
	Within Groups	432.758	443	.977		
	Total	462.818	444			
Liking score - Monthly rate plan	Between Groups	165.564	1	165.564	147.600	.000
	Within Groups	496.917	443	1.122		
	Total	662.481	444			

10.19. Carrier Switching in 4G LTE

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Current mobile-phone carrier * 4G LTE preferable carrier	874	100.0%	0	.0%	874	100.0%

Current mobile-phone carrier * 4G LTE preferable carrier Crosstabulation

			4G LTE preferable carrier								Total
			CHT	TWM	FET	Vibo	APPW	Global Mobile	WiMax FET	Other	
Current mobile-phone carrier	CHT	Count	471	10	3	5	2	1	1	1	494
		% within Current mobile-phone carrier	95.3%	2.0%	.6%	1.0%	.4%	.2%	.2%	.2%	100.0%
	TWM	Count	76	157	5	0	2	1	0	0	241
		% within Current mobile-phone carrier	31.5%	65.1%	2.1%	.0%	.8%	.4%	.0%	.0%	100.0%
	FET	Count	48	6	59	0	0	0	0	0	113
		% within Current mobile-phone carrier	42.5%	5.3%	52.2%	.0%	.0%	.0%	.0%	.0%	100.0%
	Vibo	Count	7	0	1	8	0	0	1	0	17
		% within Current mobile-phone carrier	41.2%	.0%	5.9%	47.1%	.0%	.0%	5.9%	.0%	100.0%
	APPW	Count	1	0	1	0	1	0	0	0	3
		% within Current mobile-phone carrier	33.3%	.0%	33.3%	.0%	33.3%	.0%	.0%	.0%	100.0%

	PHS	Count	1	0	0	0	0	0	0	0	1
		% within Current mobile-phone carrier	100.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
	7-11 Mobile	Count	4	1	0	0	0	0	0	0	5
		% within Current mobile-phone carrier	80.0%	20.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
Total		Count	608	174	69	13	5	2	2	1	874
		% within Current mobile-phone carrier	69.6%	19.9%	7.9%	1.5%	.6%	.2%	.2%	.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1110.184(a)	42	.000
Likelihood Ratio	697.480	42	.000
Linear-by-Linear Association	6.723	1	.010
N of Valid Cases	874		

a 45 cells (80.4%) have expected count less than 5. The minimum expected count is .00.

10.20. Carrier Switching and Importance of Basic Services

Oneway

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Importance of Voice call	Not switch carrier	695	4.44	.991	.038	4.36	4.51	1	5
	Switch carrier	178	4.53	.858	.064	4.41	4.66	1	5
	Total	873	4.46	.965	.033	4.39	4.52	1	5
Importance of Mobile internet service	Not switch carrier	695	3.78	1.312	.050	3.68	3.88	1	5
	Switch carrier	178	3.80	1.232	.092	3.62	3.98	1	5
	Total	873	3.78	1.295	.044	3.70	3.87	1	5
Importance of Video call	Not switch carrier	695	1.92	1.045	.040	1.84	1.99	1	5
	Switch carrier	178	1.85	1.031	.077	1.70	2.01	1	5
	Total	873	1.90	1.042	.035	1.83	1.97	1	5

Importance of SMS	Not switch carrier	695	4.06	.925	.035	4.00	4.13	1	5
	Switch carrier	178	4.04	1.019	.076	3.89	4.20	1	5
	Total	873	4.06	.944	.032	4.00	4.12	1	5
Importance of MMS	Not switch carrier	695	2.10	1.134	.043	2.02	2.19	1	5
	Switch carrier	178	2.06	1.158	.087	1.88	2.23	1	5
	Total	873	2.09	1.139	.039	2.02	2.17	1	5

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Importance of Voice call	Between Groups	1.314	1	1.314	1.411	.235
	Within Groups	811.325	871	.931		
	Total	812.639	872			
Importance of Mobile internet service	Between Groups	.053	1	.053	.032	.859
	Within Groups	1462.595	871	1.679		
	Total	1462.648	872			
Importance of Video call	Between Groups	.556	1	.556	.512	.475
	Within Groups	945.362	871	1.085		
	Total	945.918	872			
Importance of SMS	Between Groups	.056	1	.056	.062	.803
	Within Groups	777.727	871	.893		
	Total	777.782	872			
Importance of MMS	Between Groups	.281	1	.281	.217	.642
	Within Groups	1130.388	871	1.298		
	Total	1130.669	872			

10.21. Carrier Switching and Importance of Carier Features

Oneway

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Importance of Network coverage	Not switch carrier	696	4.73	.583	.022	4.68	4.77	1	5
	Switch carrier	178	4.63	.626	.047	4.54	4.73	2	5
	Total	874	4.71	.593	.020	4.67	4.75	1	5
Importance of Voice call quality	Not switch carrier	696	4.51	.827	.031	4.45	4.58	1	5
	Switch carrier	178	4.51	.783	.059	4.40	4.63	1	5

	Total	874	4.51	.818	.028	4.46	4.57	1	5
Importance of Internet service quality and speed	Not switch carrier	696	4.32	1.048	.040	4.25	4.40	1	5
	Switch carrier	178	4.30	1.057	.079	4.15	4.46	1	5
	Total	874	4.32	1.049	.035	4.25	4.39	1	5
Importance of Video call quality	Not switch carrier	696	2.60	1.307	.050	2.50	2.70	1	5
	Switch carrier	178	2.53	1.324	.099	2.34	2.73	1	5
	Total	874	2.59	1.310	.044	2.50	2.67	1	5
Importance of Reliability of SMS & MMS	Not switch carrier	696	3.93	1.077	.041	3.85	4.01	1	5
	Switch carrier	178	3.91	1.166	.087	3.74	4.08	1	5
	Total	874	3.93	1.095	.037	3.86	4.00	1	5
Importance of Customer service and support	Not switch carrier	696	3.87	1.003	.038	3.79	3.94	1	5
	Switch carrier	178	3.71	1.175	.088	3.54	3.89	1	5
	Total	874	3.84	1.041	.035	3.77	3.91	1	5
Importance of Value-added services	Not switch carrier	696	2.32	1.110	.042	2.24	2.41	1	5
	Switch carrier	178	2.16	1.053	.079	2.01	2.32	1	5
	Total	874	2.29	1.100	.037	2.22	2.36	1	5
Importance of Customer loyalty program	Not switch carrier	696	3.21	1.223	.046	3.12	3.31	1	5
	Switch carrier	178	3.03	1.239	.093	2.85	3.22	1	5
	Total	874	3.18	1.228	.042	3.10	3.26	1	5
Importance of Choices of handsets	Not switch carrier	696	4.03	1.000	.038	3.96	4.11	1	5
	Switch carrier	178	4.02	.914	.069	3.89	4.16	1	5
	Total	874	4.03	.983	.033	3.97	4.10	1	5
Importance of Discounted price handsets with contract	Not switch carrier	696	4.03	1.029	.039	3.96	4.11	1	5
	Switch carrier	178	4.10	1.029	.077	3.94	4.25	1	5
	Total	874	4.04	1.028	.035	3.98	4.11	1	5
Importance of Rate plan	Not switch carrier	696	4.58	.676	.026	4.53	4.63	1	5
	Switch carrier	178	4.54	.745	.056	4.43	4.65	1	5
	Total	874	4.57	.690	.023	4.53	4.62	1	5

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Importance of Network coverage	Between Groups	1.167	1	1.167	3.328	.068

	Within Groups	305.849	872	.351		
	Total	307.016	873			
Importance of Voice call quality	Between Groups	.001	1	.001	.002	.964
	Within Groups	584.334	872	.670		
	Total	584.335	873			
Importance of Internet service quality and speed	Between Groups	.065	1	.065	.059	.809
	Within Groups	960.233	872	1.101		
	Total	960.297	873			
Importance of Video call quality	Between Groups	.634	1	.634	.369	.544
	Within Groups	1497.258	872	1.717		
	Total	1497.891	873			
Importance of Reliability of SMS & MMS	Between Groups	.071	1	.071	.059	.808
	Within Groups	1046.388	872	1.200		
	Total	1046.459	873			
Importance of Customer service and support	Between Groups	3.439	1	3.439	3.179	.075
	Within Groups	943.490	872	1.082		
	Total	946.929	873			
Importance of Value-added services	Between Groups	3.645	1	3.645	3.020	.083
	Within Groups	1052.538	872	1.207		
	Total	1056.183	873			
Importance of Customer loyalty program	Between Groups	4.612	1	4.612	3.068	.080
	Within Groups	1310.900	872	1.503		
	Total	1315.511	873			
Importance of Choices of handsets	Between Groups	.020	1	.020	.021	.884
	Within Groups	843.083	872	.967		
	Total	843.103	873			
Importance of Discounted price handsets with contract	Between Groups	.579	1	.579	.547	.460
	Within Groups	922.681	872	1.058		
	Total	923.260	873			
Importance of Rate plan	Between Groups	.240	1	.240	.503	.478
	Within Groups	415.719	872	.477		
	Total	415.959	873			

10.22. Carrier Switching and Willingness to Pay More

Oneway

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Willingness to pay more for Network coverage	Not switch carrier	696	3.47	1.199	.045	3.38	3.56	1	5
	Switch carrier	178	3.47	1.245	.093	3.29	3.66	1	5
	Total	874	3.47	1.208	.041	3.39	3.55	1	5
Willingness to pay more for Voice call quality	Not switch carrier	696	3.20	1.191	.045	3.12	3.29	1	5
	Switch carrier	178	3.20	1.232	.092	3.02	3.38	1	5
	Total	874	3.20	1.198	.041	3.12	3.28	1	5
Willingness to pay more for Internet service quality and speed	Not switch carrier	696	3.47	1.260	.048	3.38	3.57	1	5
	Switch carrier	178	3.40	1.346	.101	3.20	3.60	1	5
	Total	874	3.46	1.278	.043	3.37	3.54	1	5
Willingness to pay more for Video call quality	Not switch carrier	696	2.20	1.111	.042	2.12	2.29	1	5
	Switch carrier	178	2.06	1.175	.088	1.89	2.24	1	5
	Total	874	2.17	1.125	.038	2.10	2.25	1	5
Willingness to pay more for Reliability of SMS & MMS	Not switch carrier	696	2.87	1.157	.044	2.78	2.95	1	5
	Switch carrier	178	2.63	1.229	.092	2.45	2.81	1	5
	Total	874	2.82	1.175	.040	2.74	2.90	1	5
Willingness to pay more for Customer service and support	Not switch carrier	696	2.59	1.116	.042	2.51	2.68	1	5
	Switch carrier	178	2.39	1.090	.082	2.23	2.55	1	5
	Total	874	2.55	1.113	.038	2.48	2.63	1	5
Willingness to pay more for Value-added services	Not switch carrier	696	2.17	1.041	.039	2.09	2.25	1	5
	Switch carrier	178	1.97	1.036	.078	1.81	2.12	1	5
	Total	874	2.13	1.042	.035	2.06	2.20	1	5
Willingness to pay more for Customer loyalty program	Not switch carrier	696	2.33	1.090	.041	2.25	2.42	1	5
	Switch carrier	178	2.03	1.107	.083	1.86	2.19	1	5

	Total	874	2.27	1.099	.037	2.20	2.35	1	5
Willingness to pay more for Choices of handsets	Not switch carrier	696	2.91	1.184	.045	2.82	2.99	1	5
	Switch carrier	178	2.77	1.314	.098	2.58	2.96	1	5
	Total	874	2.88	1.212	.041	2.80	2.96	1	5
Willingness to pay more for Discounted price handsets with contract	Not switch carrier	696	2.91	1.219	.046	2.82	3.00	1	5
	Switch carrier	178	2.88	1.277	.096	2.69	3.07	1	5
	Total	874	2.91	1.230	.042	2.83	2.99	1	5
Willingness to pay more for Rate plan	Not switch carrier	696	3.09	1.277	.048	3.00	3.19	1	5
	Switch carrier	178	3.03	1.323	.099	2.84	3.23	1	5
	Total	874	3.08	1.286	.044	3.00	3.17	1	5

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Willingness to pay more for Network coverage	Between Groups	.001	1	.001	.000	.984
	Within Groups	1273.726	872	1.461		
	Total	1273.727	873			
Willingness to pay more for Voice call quality	Between Groups	.000	1	.000	.000	.986
	Within Groups	1253.748	872	1.438		
	Total	1253.748	873			
Willingness to pay more for Internet service quality and speed	Between Groups	.773	1	.773	.473	.492
	Within Groups	1424.161	872	1.633		
	Total	1424.934	873			
Willingness to pay more for Video call quality	Between Groups	2.810	1	2.810	2.222	.136
	Within Groups	1102.756	872	1.265		
	Total	1105.565	873			
Willingness to pay more for Reliability of SMS & MMS	Between Groups	7.973	1	7.973	5.803	.016
	Within Groups	1198.101	872	1.374		
	Total	1206.074	873			
Willingness to pay more for Customer service and support	Between Groups	5.677	1	5.677	4.599	.032
	Within Groups	1076.402	872	1.234		

	Total	1082.079	873			
Willingness to pay more for Value-added services	Between Groups	5.939	1	5.939	5.495	.019
	Within Groups	942.451	872	1.081		
	Total	948.390	873			
Willingness to pay more for Customer loyalty program	Between Groups	13.332	1	13.332	11.158	.001
	Within Groups	1041.858	872	1.195		
	Total	1055.190	873			
Willingness to pay more for Choices of handsets	Between Groups	2.603	1	2.603	1.774	.183
	Within Groups	1279.298	872	1.467		
	Total	1281.900	873			
Willingness to pay more for Discounted price handsets with contract	Between Groups	.143	1	.143	.094	.759
	Within Groups	1321.350	872	1.515		
	Total	1321.493	873			
Willingness to pay more for Rate plan	Between Groups	.530	1	.530	.320	.572
	Within Groups	1443.539	872	1.655		
	Total	1444.069	873			

10.23. Carrier Switching and Satisfactions towards Carrier Features

Crosstabs

Satisfaction with Network coverage * Switch carrier

Crosstab

			Switch carrier		
			Not switch carrier	Switch carrier	Total
Satisfaction with Network coverage	Very Dissatisfied	Count	5	12	17
		% within Switch carrier	.7%	6.7%	1.9%
	Dissatisfied	Count	26	20	46
		% within Switch carrier	3.7%	11.2%	5.3%
	Neutral	Count	154	62	216
		% within Switch carrier	22.1%	34.8%	24.7%
	Satisfied	Count	363	72	435
		% within Switch carrier	52.2%	40.4%	49.8%
	Very Satisfied	Count	148	12	160
		% within Switch carrier	21.3%	6.7%	18.3%
Total		Count	696	178	874
		% within Switch carrier	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	71.080(a)	4	.000
Likelihood Ratio	65.329	4	.000
Linear-by-Linear Association	67.385	1	.000
N of Valid Cases	874		

a 1 cells (10.0%) have expected count less than 5. The minimum expected count is 3.46.

Satisfaction with Voice call quality * Switch carrier

Crosstab

			Switch carrier		
			Not switch carrier	Switch carrier	Total
Satisfaction with Voice call quality	Very Dissatisfied	Count	3	5	8
		% within Switch carrier	.4%	2.8%	.9%
	Dissatisfied	Count	35	7	42
		% within Switch carrier	5.0%	3.9%	4.8%
	Neutral	Count	169	72	241
		% within Switch carrier	24.3%	40.4%	27.6%
	Satisfied	Count	367	82	449
		% within Switch carrier	52.7%	46.1%	51.4%
	Very Satisfied	Count	122	12	134
		% within Switch carrier	17.5%	6.7%	15.3%
Total		Count	696	178	874
		% within Switch carrier	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	34.532(a)	4	.000
Likelihood Ratio	33.473	4	.000
Linear-by-Linear Association	22.397	1	.000
N of Valid Cases	874		

a 1 cells (10.0%) have expected count less than 5. The minimum expected count is 1.63.

Satisfaction with Internet service quality and speed * Switch carrier

Crosstab

			Switch carrier		
			Not switch carrier	Switch carrier	Total
Satisfaction with Internet service quality and speed	Very Dissatisfied	Count	22	11	33
		% within Switch carrier	3.2%	6.2%	3.8%
	Dissatisfied	Count	92	28	120
		% within Switch carrier	13.2%	15.7%	13.7%
	Neutral	Count	320	91	411
		% within Switch carrier	46.0%	51.1%	47.0%
	Satisfied	Count	204	45	249
		% within Switch carrier	29.3%	25.3%	28.5%
	Very Satisfied	Count	58	3	61
		% within Switch carrier	8.3%	1.7%	7.0%
Total		Count	696	178	874
		% within Switch carrier	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.655(a)	4	.005
Likelihood Ratio	17.303	4	.002
Linear-by-Linear Association	11.738	1	.001
N of Valid Cases	874		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.72.

Satisfaction with Video call quality * Switch carrier

Crosstab

			Switch carrier		
			Not switch carrier	Switch carrier	Total
Satisfaction with Video call quality	Very Dissatisfied	Count	22	11	33
		% within Switch carrier	3.2%	6.2%	3.8%
	Dissatisfied	Count	77	21	98
		% within Switch carrier	11.1%	11.8%	11.2%
	Neutral	Count	473	126	599
		% within Switch carrier	68.0%	70.8%	68.5%
	Satisfied	Count	106	19	125
		% within Switch carrier	15.2%	10.7%	14.3%
	Very Satisfied	Count	18	1	19

	% within Switch carrier	2.6%	.6%	2.2%
Total	Count	696	178	874
	% within Switch carrier	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.384(a)	4	.078
Likelihood Ratio	9.003	4	.061
Linear-by-Linear Association	6.789	1	.009
N of Valid Cases	874		

a 1 cells (10.0%) have expected count less than 5. The minimum expected count is 3.87.

Satisfaction with Reliability of SMS & MMS * Switch carrier

Crosstab

			Switch carrier		
			Not switch carrier	Switch carrier	Total
Satisfaction with Reliability of SMS & MMS	Very Dissatisfied	Count	10	1	11
		% within Switch carrier	1.4%	.6%	1.3%
	Dissatisfied	Count	28	14	42
		% within Switch carrier	4.0%	7.9%	4.8%
	Neutral	Count	256	77	333
		% within Switch carrier	36.8%	43.3%	38.1%
	Satisfied	Count	310	70	380
		% within Switch carrier	44.5%	39.3%	43.5%
	Very Satisfied	Count	92	16	108
		% within Switch carrier	13.2%	9.0%	12.4%
Total		Count	696	178	874
		% within Switch carrier	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.716(a)	4	.045
Likelihood Ratio	9.513	4	.049
Linear-by-Linear Association	5.357	1	.021
N of Valid Cases	874		

a 1 cells (10.0%) have expected count less than 5. The minimum expected count is 2.24.

Satisfaction with Customer service and support * Switch carrier

Crosstab

			Switch carrier		
			Not switch carrier	Switch carrier	Total
Satisfaction with Customer service and support	Very Dissatisfied	Count	21	5	26
		% within Switch carrier	3.0%	2.8%	3.0%
	Dissatisfied	Count	62	33	95
		% within Switch carrier	8.9%	18.5%	10.9%
	Neutral	Count	317	93	410
		% within Switch carrier	45.5%	52.2%	46.9%
	Satisfied	Count	213	41	254
		% within Switch carrier	30.6%	23.0%	29.1%
	Very Satisfied	Count	83	6	89
		% within Switch carrier	11.9%	3.4%	10.2%
Total		Count	696	178	874
		% within Switch carrier	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	26.456(a)	4	.000
Likelihood Ratio	27.811	4	.000
Linear-by-Linear Association	19.852	1	.000
N of Valid Cases	874		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.30.

Satisfaction with Value-added services * Switch carrier

Crosstab

			Switch carrier		
			Not switch carrier	Switch carrier	Total
Satisfaction with Value-added services	Very Dissatisfied	Count	32	11	43
		% within Switch carrier	4.6%	6.2%	4.9%
	Dissatisfied	Count	92	33	125
		% within Switch carrier	13.2%	18.5%	14.3%
	Neutral	Count	404	106	510
		% within Switch carrier	58.0%	59.6%	58.4%
	Satisfied	Count	136	23	159
		% within Switch carrier	19.5%	12.9%	18.2%
	Very Satisfied	Count	32	5	37

	% within Switch carrier	4.6%	2.8%	4.2%
Total	Count	696	178	874
	% within Switch carrier	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.067(a)	4	.089
Likelihood Ratio	8.251	4	.083
Linear-by-Linear Association	7.157	1	.007
N of Valid Cases	874		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.54.

Satisfaction with Customer loyalty program * Switch carrier

Crosstab

			Switch carrier		
			Not switch carrier	Switch carrier	Total
Satisfaction with Customer loyalty program	Very Dissatisfied	Count	104	23	127
		% within Switch carrier	14.9%	12.9%	14.5%
	Dissatisfied	Count	196	72	268
		% within Switch carrier	28.2%	40.4%	30.7%
	Neutral	Count	311	66	377
		% within Switch carrier	44.7%	37.1%	43.1%
	Satisfied	Count	64	12	76
		% within Switch carrier	9.2%	6.7%	8.7%
	Very Satisfied	Count	21	5	26
		% within Switch carrier	3.0%	2.8%	3.0%
Total		Count	696	178	874
		% within Switch carrier	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.282(a)	4	.036
Likelihood Ratio	9.957	4	.041
Linear-by-Linear Association	1.965	1	.161
N of Valid Cases	874		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.30.

Satisfaction with Choices of handsets * Switch carrier

Crosstab

			Switch carrier		
			Not switch carrier	Switch carrier	Total
Satisfaction with Choices of handsets	Very Dissatisfied	Count	26	12	38
		% within Switch carrier	3.7%	6.7%	4.3%
	Dissatisfied	Count	101	35	136
		% within Switch carrier	14.5%	19.7%	15.6%
	Neutral	Count	311	72	383
		% within Switch carrier	44.7%	40.4%	43.8%
	Satisfied	Count	200	47	247
		% within Switch carrier	28.7%	26.4%	28.3%
	Very Satisfied	Count	58	12	70
		% within Switch carrier	8.3%	6.7%	8.0%
Total		Count	696	178	874
		% within Switch carrier	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.664(a)	4	.155
Likelihood Ratio	6.251	4	.181
Linear-by-Linear Association	4.413	1	.036
N of Valid Cases	874		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.74.

Satisfaction with Discounted price handsets with contract * Switch carrier

Crosstab

			Switch carrier		
			Not switch carrier	Switch carrier	Total
Satisfaction with Discounted price handsets with contract	Very Dissatisfied	Count	40	16	56
		% within Switch carrier	5.7%	9.0%	6.4%
	Dissatisfied	Count	108	37	145
		% within Switch carrier	15.5%	20.8%	16.6%
	Neutral	Count	303	80	383
		% within Switch carrier	43.5%	44.9%	43.8%
	Satisfied	Count	197	36	233
		% within Switch carrier	28.3%	20.2%	26.7%
	Very Satisfied	Count	48	9	57

	% within Switch carrier	6.9%	5.1%	6.5%
Total	Count	696	178	874
	% within Switch carrier	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.969(a)	4	.062
Likelihood Ratio	8.933	4	.063
Linear-by-Linear Association	8.336	1	.004
N of Valid Cases	874		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.41.

Satisfaction with Rate plan * Switch carrier

Crosstab

			Switch carrier		
			Not switch carrier	Switch carrier	Total
Satisfaction with Rate plan	Very Dissatisfied	Count	17	6	23
		% within Switch carrier	2.4%	3.4%	2.6%
	Dissatisfied	Count	63	32	95
		% within Switch carrier	9.1%	18.0%	10.9%
	Neutral	Count	256	66	322
		% within Switch carrier	36.8%	37.1%	36.8%
	Satisfied	Count	261	58	319
		% within Switch carrier	37.5%	32.6%	36.5%
	Very Satisfied	Count	99	16	115
		% within Switch carrier	14.2%	9.0%	13.2%
Total		Count	696	178	874
		% within Switch carrier	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.748(a)	4	.005
Likelihood Ratio	13.781	4	.008
Linear-by-Linear Association	10.927	1	.001
N of Valid Cases	874		

a 1 cells (10.0%) have expected count less than 5. The minimum expected count is 4.68.

Oneway

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Satisfaction with Network coverage	Not switch carrier	696	3.90	.799	.030	3.84	3.95	1	5
	Switch carrier	178	3.29	.988	.074	3.15	3.44	1	5
	Total	874	3.77	.875	.030	3.71	3.83	1	5
Satisfaction with Voice call quality	Not switch carrier	696	3.82	.791	.030	3.76	3.88	1	5
	Switch carrier	178	3.50	.797	.060	3.38	3.62	1	5
	Total	874	3.75	.802	.027	3.70	3.81	1	5
Satisfaction with Internet service quality and speed	Not switch carrier	696	3.26	.904	.034	3.20	3.33	1	5
	Switch carrier	178	3.01	.854	.064	2.88	3.13	1	5
	Total	874	3.21	.899	.030	3.15	3.27	1	5
Satisfaction with Video call quality	Not switch carrier	696	3.03	.702	.027	2.98	3.08	1	5
	Switch carrier	178	2.88	.694	.052	2.77	2.98	1	5
	Total	874	3.00	.703	.024	2.95	3.05	1	5
Satisfaction with Reliability of SMS & MMS	Not switch carrier	696	3.64	.814	.031	3.58	3.70	1	5
	Switch carrier	178	3.48	.790	.059	3.37	3.60	1	5
	Total	874	3.61	.811	.027	3.55	3.66	1	5
Satisfaction with Customer service and support	Not switch carrier	696	3.40	.915	.035	3.33	3.46	1	5
	Switch carrier	178	3.06	.815	.061	2.94	3.18	1	5
	Total	874	3.33	.906	.031	3.27	3.39	1	5
Satisfaction with Value-added services	Not switch carrier	696	3.06	.832	.032	3.00	3.13	1	5
	Switch carrier	178	2.88	.814	.061	2.76	3.00	1	5
	Total	874	3.03	.831	.028	2.97	3.08	1	5
Satisfaction with Customer loyalty program	Not switch carrier	696	2.57	.954	.036	2.50	2.64	1	5
	Switch carrier	178	2.46	.903	.068	2.33	2.59	1	5
	Total	874	2.55	.944	.032	2.49	2.61	1	5
Satisfaction with Choices of handsets	Not switch carrier	696	3.23	.928	.035	3.17	3.30	1	5
	Switch carrier	178	3.07	1.001	.075	2.92	3.22	1	5
	Total	874	3.20	.945	.032	3.14	3.26	1	5
Satisfaction with Discounted price handsets with contract	Not switch carrier	696	3.15	.960	.036	3.08	3.22	1	5
	Switch carrier	178	2.92	.985	.074	2.77	3.06	1	5

	Total	874	3.10	.970	.033	3.04	3.17	1	5
Satisfaction with Rate plan	Not switch carrier	696	3.52	.929	.035	3.45	3.59	1	5
	Switch carrier	178	3.26	.969	.073	3.12	3.40	1	5
	Total	874	3.47	.943	.032	3.40	3.53	1	5

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Satisfaction with Network coverage	Between Groups	51.538	1	51.538	72.938	.000
	Within Groups	616.152	872	.707		
	Total	667.690	873			
Satisfaction with Voice call quality	Between Groups	14.421	1	14.421	22.961	.000
	Within Groups	547.690	872	.628		
	Total	562.111	873			
Satisfaction with Internet service quality and speed	Between Groups	9.490	1	9.490	11.884	.001
	Within Groups	696.351	872	.799		
	Total	705.841	873			
Satisfaction with Video call quality	Between Groups	3.352	1	3.352	6.834	.009
	Within Groups	427.647	872	.490		
	Total	430.999	873			
Satisfaction with Reliability of SMS & MMS	Between Groups	3.523	1	3.523	5.384	.021
	Within Groups	570.651	872	.654		
	Total	574.174	873			
Satisfaction with Customer service and support	Between Groups	16.284	1	16.284	20.291	.000
	Within Groups	699.782	872	.803		
	Total	716.065	873			
Satisfaction with Value-added services	Between Groups	4.947	1	4.947	7.208	.007
	Within Groups	598.499	872	.686		
	Total	603.446	873			
Satisfaction with Customer loyalty program	Between Groups	1.752	1	1.752	1.967	.161
	Within Groups	776.633	872	.891		
	Total	778.384	873			
Satisfaction with Choices of handsets	Between Groups	3.943	1	3.943	4.430	.036
	Within Groups	776.017	872	.890		
	Total	779.960	873			
Satisfaction with	Between	7.837	1	7.837	8.407	.004

Discounted price handsets with contract	Groups					
	Within Groups	812.895	872	.932		
	Total	820.732	873			
Satisfaction with Rate plan	Between Groups	9.707	1	9.707	11.053	.001
	Within Groups	765.831	872	.878		
	Total	775.538	873			

10.24. Carrier Switching and Year of Current Subscription

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Years of subscription * Switch carrier	874	100.0%	0	.0%	874	100.0%

Years of subscription * Switch carrier Crosstabulation

			Switch carrier		
			Not switch carrier	Switch carrier	Total
Years of subscription	0	Count	75	40	115
		Expected Count	91.6	23.4	115.0
		% within Switch carrier	10.8%	22.5%	13.2%
	1	Count	29	25	54
		Expected Count	43.0	11.0	54.0
		% within Switch carrier	4.2%	14.0%	6.2%
	2	Count	55	23	78
		Expected Count	62.1	15.9	78.0
		% within Switch carrier	7.9%	12.9%	8.9%
	3	Count	84	20	104
		Expected Count	82.8	21.2	104.0
		% within Switch carrier	12.1%	11.2%	11.9%
	4	Count	93	16	109
		Expected Count	86.8	22.2	109.0
		% within Switch carrier	13.4%	9.0%	12.5%
	5	Count	75	11	86
		Expected Count	68.5	17.5	86.0
		% within Switch carrier	10.8%	6.2%	9.8%
	6	Count	74	7	81
		Expected Count	64.5	16.5	81.0
		% within Switch carrier	10.6%	3.9%	9.3%

	7	Count	54	11	65
		Expected Count	51.8	13.2	65.0
		% within Switch carrier	7.8%	6.2%	7.4%
	8	Count	58	8	66
		Expected Count	52.6	13.4	66.0
		% within Switch carrier	8.3%	4.5%	7.6%
	9	Count	25	3	28
		Expected Count	22.3	5.7	28.0
		% within Switch carrier	3.6%	1.7%	3.2%
	10	Count	44	9	53
		Expected Count	42.2	10.8	53.0
		% within Switch carrier	6.3%	5.1%	6.1%
	11	Count	8	0	8
		Expected Count	6.4	1.6	8.0
		% within Switch carrier	1.1%	.0%	.9%
	12	Count	11	1	12
		Expected Count	9.6	2.4	12.0
		% within Switch carrier	1.6%	.6%	1.4%
	13	Count	4	1	5
		Expected Count	4.0	1.0	5.0
		% within Switch carrier	.6%	.6%	.6%
	14	Count	0	2	2
		Expected Count	1.6	.4	2.0
		% within Switch carrier	.0%	1.1%	.2%
	15	Count	5	1	6
		Expected Count	4.8	1.2	6.0
		% within Switch carrier	.7%	.6%	.7%
	18	Count	1	0	1
		Expected Count	.8	.2	1.0
		% within Switch carrier	.1%	.0%	.1%
	20	Count	1	0	1
		Expected Count	.8	.2	1.0
		% within Switch carrier	.1%	.0%	.1%
Total		Count	696	178	874
		Expected Count	696.0	178.0	874.0
		% within Switch carrier	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	70.014(a)	17	.000
Likelihood Ratio	67.037	17	.000
Linear-by-Linear Association	28.750	1	.000
N of Valid Cases	874		

a 12 cells (33.3%) have expected count less than 5. The minimum expected count is .20.

Oneway

Descriptives

Years of subscription

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Not switch carrier	696	4.99	3.296	.125	4.75	5.24	0	20
Switch carrier	178	3.47	3.410	.256	2.97	3.98	0	15
Total	874	4.68	3.374	.114	4.46	4.91	0	20

ANOVA

Years of subscription

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	327.267	1	327.267	29.695	.000
Within Groups	9610.308	872	11.021		
Total	9937.574	873			

10.25. Carrier Switching and Reasons for Subscribing

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Statement best describes when subscribed * Switch carrier	874	100.0%	0	.0%	874	100.0%

Statement best describes when subscribed * Switch carrier Crosstabulation

			Switch carrier		Total
			Not switch carrier	Switch carrier	
Statement best describes when subscribed	Recommended by friends for network quality	Count	175	18	193
		Expected Count	153.7	39.3	193.0
		% within Switch carrier	25.1%	10.1%	22.1%
	Most suitable rate	Count	87	34	121

	plan				
		Expected Count	96.4	24.6	121.0
		% within Switch carrier	12.5%	19.1%	13.8%
	Cheapest handsets with package	Count	41	42	83
		Expected Count	66.1	16.9	83.0
		% within Switch carrier	5.9%	23.6%	9.5%
	Not my concern as my company pay	Count	28	6	34
		Expected Count	27.1	6.9	34.0
		% within Switch carrier	4.0%	3.4%	3.9%
	Cheaper to call boyfriend/girlfriend/husband/wife	Count	330	59	389
		Expected Count	309.8	79.2	389.0
		% within Switch carrier	47.4%	33.1%	44.5%
	Family decision	Count	12	5	17
		Expected Count	13.5	3.5	17.0
		% within Switch carrier	1.7%	2.8%	1.9%
	Other	Count	23	14	37
		Expected Count	29.5	7.5	37.0
		% within Switch carrier	3.3%	7.9%	4.2%
Total		Count	696	178	874
		Expected Count	696.0	178.0	874.0
		% within Switch carrier	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	80.212(a)	6	.000
Likelihood Ratio	72.581	6	.000
Linear-by-Linear Association	2.138	1	.144
N of Valid Cases	874		

a 1 cells (7.1%) have expected count less than 5. The minimum expected count is 3.46.

10.26. Current Internet Usage

Frequencies

Statistics

Internet Usage

N	Valid	873
	Missing	1

Internet Usage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Lite Internet User	635	72.7	72.7	72.7
	Heavy Internet User	238	27.2	27.3	100.0
	Total	873	99.9	100.0	
Missing	System	1	.1		
Total		874	100.0		

10.27. Spending on Mobile Phone Bills versus Current Internet User Group

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Total spending on mobile-phone bill per month * Internet Usage	873	99.9%	1	.1%	874	100.0%
Voice call spending on mobile-phone bill per month * Internet Usage	839	96.0%	35	4.0%	874	100.0%
Internet spending on mobile-phone bill per month * Internet Usage	835	95.5%	39	4.5%	874	100.0%
SMS&MMS spending on mobile-phone bill per month * Internet Usage	846	96.8%	28	3.2%	874	100.0%

Crosstab

			Internet Usage		Total
			Lite Internet User	Heavy Internet User	
Total spending on mobile-phone bill per month	Less than 199TWD	Count	122	14	136
		% within Internet Usage	19.2%	5.9%	15.6%
	200-399TWD	Count	191	42	233
		% within Internet Usage	30.1%	17.6%	26.7%
	400-599TWD	Count	129	35	164
		% within Internet Usage	20.3%	14.7%	18.8%

	600-799TWD	Count	76	42	118
		% within Internet Usage	12.0%	17.6%	13.5%
	800-999TWD	Count	23	14	37
		% within Internet Usage	3.6%	5.9%	4.2%
	1000-1199TWD	Count	38	27	65
		% within Internet Usage	6.0%	11.3%	7.4%
	1200-1399TWD	Count	22	31	53
		% within Internet Usage	3.5%	13.0%	6.1%
	1400-1599TWD	Count	19	10	29
		% within Internet Usage	3.0%	4.2%	3.3%
	1600-1799TWD	Count	6	2	8
		% within Internet Usage	.9%	.8%	.9%
	1800-1999TWD	Count	2	4	6
		% within Internet Usage	.3%	1.7%	.7%
	More than 2000TWD	Count	7	17	24
		% within Internet Usage	1.1%	7.1%	2.7%
Total		Count	635	238	873
		% within Internet Usage	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	100.089(a)	10	.000
Likelihood Ratio	96.949	10	.000
Linear-by-Linear Association	83.984	1	.000
N of Valid Cases	873		

a 3 cells (13.6%) have expected count less than 5. The minimum expected count is 1.64.

Crosstab

			Internet Usage		Total
			Lite Internet User	Heavy Internet User	
Voice call spending on mobile-phone bill per month	Less than 199TWD	Count	324	73	397
		% within Internet Usage	52.8%	32.4%	47.3%
	200-399TWD	Count	152	65	217
		% within Internet Usage	24.8%	28.9%	25.9%
	400-599TWD	Count	82	46	128
		% within Internet Usage	13.4%	20.4%	15.3%
	600-799TWD	Count	32	21	53
		% within Internet Usage	5.2%	9.3%	6.3%
	800-999TWD	Count	11	8	19
		% within Internet Usage	1.8%	3.6%	2.3%

	1000-1199TWD	Count	8	4	12
		% within Internet Usage	1.3%	1.8%	1.4%
	1200-1399TWD	Count	0	3	3
		% within Internet Usage	.0%	1.3%	.4%
	1400-1599TWD	Count	2	1	3
		% within Internet Usage	.3%	.4%	.4%
	1600-1799TWD	Count	2	0	2
		% within Internet Usage	.3%	.0%	.2%
	1800-1999TWD	Count	1	0	1
		% within Internet Usage	.2%	.0%	.1%
	More than 2000TWD	Count	0	4	4
		% within Internet Usage	.0%	1.8%	.5%
Total		Count	614	225	839
		% within Internet Usage	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	48.103(a)	10	.000
Likelihood Ratio	48.473	10	.000
Linear-by-Linear Association	30.633	1	.000
N of Valid Cases	839		

a 11 cells (50.0%) have expected count less than 5. The minimum expected count is .27.

Crosstab

			Internet Usage		Total
			Lite Internet User	Heavy Internet User	
Internet spending on mobile-phone bill per month	Less than 199TWD	Count	432	59	491
		% within Internet Usage	71.2%	25.9%	58.8%
	200-399TWD	Count	40	27	67
		% within Internet Usage	6.6%	11.8%	8.0%
	400-599TWD	Count	46	41	87
		% within Internet Usage	7.6%	18.0%	10.4%
	600-799TWD	Count	57	69	126
		% within Internet Usage	9.4%	30.3%	15.1%
	800-999TWD	Count	23	25	48
		% within Internet Usage	3.8%	11.0%	5.7%
	1000-1199TWD	Count	4	3	7
		% within Internet Usage	.7%	1.3%	.8%
	1200-1399TWD	Count	3	2	5
		% within Internet Usage	.5%	.9%	.6%
	1400-1599TWD	Count	1	0	1

		% within Internet Usage	.2%	.0%	.1%
	1600-1799TWD	Count	0	1	1
		% within Internet Usage	.0%	.4%	.1%
	More than 2000TWD	Count	1	1	2
		% within Internet Usage	.2%	.4%	.2%
Total		Count	607	228	835
		% within Internet Usage	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	148.255(a)	9	.000
Likelihood Ratio	148.722	9	.000
Linear-by-Linear Association	113.848	1	.000
N of Valid Cases	835		

a 9 cells (45.0%) have expected count less than 5. The minimum expected count is .27.

Crosstab

			Internet Usage		Total
			Lite Internet User	Heavy Internet User	
SMS&MMS spending on mobile-phone bill per month	Less than 199TWD	Count	560	205	765
		% within Internet Usage	90.5%	90.3%	90.4%
	200-399TWD	Count	55	19	74
		% within Internet Usage	8.9%	8.4%	8.7%
	400-599TWD	Count	4	2	6
		% within Internet Usage	.6%	.9%	.7%
	1400-1599TWD	Count	0	1	1
		% within Internet Usage	.0%	.4%	.1%
Total		Count	619	227	846
		% within Internet Usage	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.907(a)	3	.406
Likelihood Ratio	2.806	3	.423
Linear-by-Linear Association	.947	1	.330
N of Valid Cases	846		

a 4 cells (50.0%) have expected count less than 5. The minimum expected count is .27.

10.28. Intention to Subscribe to 4G LTE versus Internet User Group

Oneway

Descriptives

Intention to subscribe

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Lite Internet User	635	2.8756	1.10859	.04399	2.7892	2.9620	1.00	5.00
Heavy Internet User	237	3.3586	1.14336	.07427	3.2123	3.5050	1.00	5.00
Total	872	3.0069	1.13799	.03854	2.9312	3.0825	1.00	5.00

ANOVA

Intention to subscribe

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	40.272	1	40.272	32.212	.000
Within Groups	1087.686	870	1.250		
Total	1127.959	871			

10.29. Willingness to Pay More versus Internet User Group

Oneway

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Willingness to pay more for Network coverage	Lite Internet User	635	3.43	1.208	.048	3.33	3.52	1	5
	Heavy Internet User	238	3.58	1.204	.078	3.43	3.74	1	5
	Total	873	3.47	1.208	.041	3.39	3.55	1	5
Willingness to pay more for Voice call quality	Lite Internet User	635	3.17	1.200	.048	3.08	3.27	1	5
	Heavy Internet User	238	3.29	1.195	.077	3.13	3.44	1	5
	Total	873	3.20	1.199	.041	3.12	3.28	1	5
Willingness to pay more for Internet service quality and speed	Lite Internet User	635	3.30	1.278	.051	3.20	3.40	1	5
	Heavy Internet User	238	3.88	1.183	.077	3.73	4.03	1	5

	Total	873	3.46	1.278	.043	3.37	3.54	1	5
Willingness to pay more for Video call quality	Lite Internet User	635	2.16	1.090	.043	2.08	2.25	1	5
	Heavy Internet User	238	2.21	1.215	.079	2.06	2.37	1	5
	Total	873	2.18	1.125	.038	2.10	2.25	1	5
Willingness to pay more for Reliability of SMS & MMS	Lite Internet User	635	2.83	1.165	.046	2.74	2.92	1	5
	Heavy Internet User	238	2.79	1.205	.078	2.63	2.94	1	5
	Total	873	2.82	1.176	.040	2.74	2.90	1	5
Willingness to pay more for Customer service and support	Lite Internet User	635	2.58	1.101	.044	2.49	2.66	1	5
	Heavy Internet User	238	2.49	1.146	.074	2.35	2.64	1	5
	Total	873	2.55	1.114	.038	2.48	2.63	1	5
Willingness to pay more for Value-added services	Lite Internet User	635	2.16	1.041	.041	2.07	2.24	1	5
	Heavy Internet User	238	2.06	1.043	.068	1.93	2.20	1	5
	Total	873	2.13	1.042	.035	2.06	2.20	1	5
Willingness to pay more for Customer loyalty program	Lite Internet User	635	2.29	1.072	.043	2.21	2.38	1	5
	Heavy Internet User	238	2.21	1.173	.076	2.06	2.36	1	5
	Total	873	2.27	1.100	.037	2.20	2.35	1	5
Willingness to pay more for Choces of handsets	Lite Internet User	635	2.91	1.186	.047	2.81	3.00	1	5
	Heavy Internet User	238	2.81	1.278	.083	2.64	2.97	1	5
	Total	873	2.88	1.212	.041	2.80	2.96	1	5
Willingness to pay more for Discounted price handsets with contract	Lite Internet User	635	2.90	1.188	.047	2.81	3.00	1	5
	Heavy Internet User	238	2.92	1.341	.087	2.74	3.09	1	5
	Total	873	2.91	1.231	.042	2.83	2.99	1	5
Willingness to pay more for Rate plan	Lite Internet User	635	3.14	1.259	.050	3.05	3.24	1	5
	Heavy Internet User	238	2.92	1.346	.087	2.75	3.09	1	5
	Total	873	3.08	1.286	.044	3.00	3.17	1	5

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Willingness to pay more for Network coverage	Between Groups	4.196	1	4.196	2.879	.090
	Within Groups	1269.309	871	1.457		
	Total	1273.505	872			
Willingness to pay more for Voice call quality	Between Groups	2.190	1	2.190	1.524	.217
	Within Groups	1251.516	871	1.437		
	Total	1253.707	872			
Willingness to pay more for Internet service quality and speed	Between Groups	57.708	1	57.708	36.769	.000
	Within Groups	1367.016	871	1.569		
	Total	1424.724	872			
Willingness to pay more for Video call quality	Between Groups	.498	1	.498	.393	.531
	Within Groups	1103.687	871	1.267		
	Total	1104.186	872			
Willingness to pay more for Reliability of SMS & MMS	Between Groups	.363	1	.363	.262	.609
	Within Groups	1205.042	871	1.384		
	Total	1205.404	872			
Willingness to pay more for Customer service and support	Between Groups	1.244	1	1.244	1.003	.317
	Within Groups	1080.529	871	1.241		
	Total	1081.773	872			
Willingness to pay more for Value-added services	Between Groups	1.493	1	1.493	1.376	.241
	Within Groups	945.620	871	1.086		
	Total	947.113	872			
Willingness to pay more for Customer loyalty program	Between Groups	1.114	1	1.114	.920	.338
	Within Groups	1054.002	871	1.210		
	Total	1055.116	872			
Willingness to pay more for Choces of handsets	Between Groups	1.689	1	1.689	1.150	.284
	Within Groups	1279.440	871	1.469		
	Total	1281.129	872			
Willingness to pay more for Discounted price handsets with contract	Between Groups	.025	1	.025	.017	.898
	Within Groups	1321.459	871	1.517		
	Total	1321.485	872			
Willingness to pay more for Rate plan	Between Groups	8.742	1	8.742	5.309	.021
	Within Groups	1434.154	871	1.647		
	Total	1442.896	872			

10.30. Subscribing Intention to 4G LTE versus 4G LTE Rate Plans and Internet User Group

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Would subscribe * Internet Usage * 4G LTE Package	872	99.8%	2	.2%	874	100.0%

Would subscribe * Internet Usage * 4G LTE Package Crosstabulation

4G LTE Package				Internet Usage		Total
				Lite Internet User	Heavy Internet User	
Low price package (888TWD)	Would subscribe	Would not subscribe	Count	199	44	243
			Expected Count	176.6	66.4	243.0
			% within Internet Usage	64.0%	37.6%	56.8%
		Would subscribe	Count	112	73	185
			Expected Count	134.4	50.6	185.0
			% within Internet Usage	36.0%	62.4%	43.2%
	Total		Count	311	117	428
			Expected Count	311.0	117.0	428.0
			% within Internet Usage	100.0%	100.0%	100.0%
High price package (1888TWD)	Would subscribe	Would not subscribe	Count	241	76	317
			Expected Count	231.3	85.7	317.0
			% within Internet Usage	74.4%	63.3%	71.4%
		Would subscribe	Count	83	44	127
			Expected Count	92.7	34.3	127.0
			% within Internet Usage	25.6%	36.7%	28.6%
	Total		Count	324	120	444
			Expected Count	324.0	120.0	444.0
			% within Internet Usage	100.0%	100.0%	100.0%

Chi-Square Tests

4G LTE Package		Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Low price package (888TWD)	Pearson Chi-Square	24.109(b)	1	.000		
	Continuity Correction(a)	23.046	1	.000		
	Likelihood Ratio	24.045	1	.000		
	Fisher's Exact Test				.000	.000
	Linear-by-Linear Association	24.052	1	.000		
	N of Valid Cases	428				
High price package (1888TWD)	Pearson Chi-Square	5.235(c)	1	.022		
	Continuity Correction(a)	4.708	1	.030		
	Likelihood Ratio	5.085	1	.024		
	Fisher's Exact Test				.025	.016
	Linear-by-Linear Association	5.223	1	.022		
	N of Valid Cases	444				

a Computed only for a 2x2 table
b 0 cells (.0%) have expected count less than 5. The minimum expected count is 50.57.
c 0 cells (.0%) have expected count less than 5. The minimum expected count is 34.32.

Appendix B – Questionnaire

Taiwan Next Generation Mobile-phone Network – 4G LTE Survey

English: http://goo.gl/zXizw

您好：

我是宋天瑞，目前就讀台灣政治大學國際管理經營學程（IMBA），我正在進行一份論文問卷調查，並且想要請問您幾個關於電信公司滿意度的問題，以及您對於台灣下一代行動網路的期望，也就是 4G LTE。

填寫此問卷約需五到十分鐘，您可完全的放心填寫此問卷，您提供的意見將會嚴格保密，並僅限於學術使用。所有關於此問卷的意見會被統計，而您個人的意見也會完全匿名。

請根據您現在的使用情形，或根據您的了解，來回答下面問題。

http://goo.gl/ooOTY
http://goo.gl/tz6Dh

每一位參加並完成完整問卷的人，將可參加價值 100 元的 7-11 禮卷抽獎。

不管您是自己填完問卷，又或者轉寄此問卷給您於台灣的家人朋友， 我都很感謝您，謝謝您撥冗完成問卷!

感謝您撥冗填寫這份問卷。摸彩得獎結果將會在我的 Facebook 公布，並且會以電子郵件聯絡得獎人。http://goo.gl/IV4z1 ; https://www.facebook.com/teerasits

國立政治大學 國際管理工商碩士生 宋天瑞

中文: http://goo.gl/tz6Dh

Dear Sir/Madam,

My name is Teerasit Songtis (宋天瑞 / Trong), an IMBA student from National ChengChi University, Taiwan. I'm conducting a survey for my Thesis project and would like to ask you a few questions about your satisfaction on the current mobile phone carrier and expectation toward the next generation, so called 4G LTE in Taiwan.

Filling the survey takes about 5 to 10 minutes. Please rest assured all information you provide will be kept in the strictest confidence and used for academia purpose only. All responses to this survey will be aggregated and your specific replies will not be singled out for identification.

Please kindly answer the following questions based on your current usage and your understanding.

http://goo.gl/zXizw

Each participant with a completed survey will be entitled to win lucky draw 7-11 gift voucher coupons worth 100NT.

It's highly appreciated if you could yourself filling the survey and forward to your friends and family in Taiwan. Thank you very much.

Thank you very much for participate the survey。 The lucky draw winner will be contacted by e-mail and announced in my Facebook。

http://goo.gl/IV4z1 ; https://www.facebook.com/teerasits

Best Regards,
Teerasit Songtis
NCCU IMBA Student

關於您現在手機的電信公司(Your current cell-phone carrier)

在這部分是想問一些使用上的經驗,關於您對於過去或現在的電信公司.

For this part of the survey, we would like to ask you some questions regarding your experience using the current cell-phone carrier.

A1) 您現在是使用的哪家電信公司呢? (如果您有兩個以上的門號於不同的電信公司,請選一個您最常使用門號的電信公司)

Which cell-phone carrier do you use? (If you have more than one, please select the one you mostly use)

a) 中華電信 ChungHua Telecom
b) 台灣大哥大 Taiwan Mobile
c) 遠傳電信 Far East Tone
d) 威寶 Vibo
e) 亞太電信 APPW
f) PHS
g) 其他 Other___

A2)您門號在這家電信公司使用幾年了? _____年

How long have you been using this carrier?___years

A3) 您是如何選擇門號要在哪家電信公司的呢?請選擇一項最貼近您的選項~

Which of following statement best describes how you feel when you decided to subscribe your current cell-phone carrier?

a) 我聽朋友或家人說這家電信公司有最好的服務品質.I heard from my friends / family that this carrier has best service quality
b) 此電信公司的月租費最適合我. I subscribed this carrier because it offered the monthly plan that best suits me

c) 因為這家公司有最便宜的購買手機搭配方案

I bought the mobile phone from this carrier because it had the cheapest mobile phone with package.

d) 對我沒差,因為公司會幫我付電信費帳單.It was not my concern as my employer pay for the bill

e) 因為我的另一半或家人在這家電信公司,所以如果我也在這家電信公司打給他們會比較便宜.My girlfriend/boyfriend/wife/husband/etc. had been using this carrier so it would be cheaper to call them if I use the same carrier

f) 其他,請說明____ Other, please specify____

A4)在過去的三個月,您的電話費大約每個月多少錢呢?

In the past 3 months, approximately how much do you pay on your cell phone bill per month in total?

1) 手機電話費一個月大約多少錢呢? approximately how much do you pay in total?___
2) 一般語音電話&視訊電話費每個月大約多少錢?_____ Voice call &Video Call___
3) 手機 3G 上網的網路費每個月大約多少錢? _____ Data/ Internet service___
4) 簡訊 &多媒體簡訊費每個月大約多少錢?_____ SMS&MMS
5) 預付卡 (Prepaid)還是 一般月租費 (Post Paid)

   不記得

   199 元以下

   200~399 元

   400~599 元

   600~799 元

   800~999 元

   1000~1199 元

   1200~1399 元

   1400~1599 元

1600~1799 元

1800~1999 元

2000 元以上

A5) 請用 1 到 5 分選出下列這些基本的服務對您的重要程度,1 表示一點都不重要,5 表示非常重要.

Please rate the following basic services in terms of importance to you [5 scale]

Not important at all…… Extremely Important

1) 一般語音電話 Voice call
2) 手機 3G 上網 Data/ Internet service
3) 視訊電話 Video call
4) 簡訊 SMS
5) 多媒體簡訊 MMS

A6) 請用 1 到 5 分選出下列服務對您的重要程度,1 表示一點都不重要,5 表示非常重要.

Please rate the following attributes in terms of importance to you [5 scale]

Not important at all…… Extremely Important

1) 電信公司收訊涵蓋範圍 Network coverage
2) 語音電話的品質 Voice call quality
3) 資料/網路 品質和速度 Data/ Internet service quality and speed
4) 視訊電話的品質 Video call quality
5) 可靠的傳送簡訊或多媒體簡訊 Reliability of SMS & MMS
6) 有助益的客服服務 Helpful customer service and support
7) 加值服務(如語音信箱,來電鈴聲…等.)Value-added services (e.g. Voicemail service, Selective ring back tone, etc.)
8) 針對忠誠度高的客戶方案(如百貨公司停車一小時免費, 生日禮物, 針對 VIP 客戶的個人及時語音秘書服務) Customer loyalty program (e.g. 1hr Free Parking in Department Store, Birthday Gift, Personal assistant hotline for VIP customer, etc.)

9) 有適當的手機可供選擇 Choices of available handsets

10) 綁約享有買手機空機的折扣 Discounted price handsets with contract

11) 適合您的月租費 費率 Rate plan / Monthly subscription fee

12) 其他,請詳述___ Other, please specify____

A7) 針對您現有的電信公司來說,您對下列服務是滿意度如何,請用 1~5 分表示.(1 表非常不滿意;5 表非常滿意)

Are you satisfied with the following services of your current cell-phone carrier? [5 scale]

Very Dissatisfied..... Very Satisfied

1) 電信公司收訊涵蓋範圍 Network coverage
2) 語音電話的品質 Voice call quality
3) 資料/網路 品質和速度 Data/ Internet service quality and speed
4) 視訊電話的品質 Video call quality
5) 可靠的傳送簡訊或多媒體簡訊 Reliability of SMS & MMS
6) 有助益的客服服務 Helpful customer service and support
7) 加值服務(如語音信箱,來電鈴聲…等.) Value-added services (e.g. Voicemail service, Selective ring back tone, etc.)
8) 針對忠誠度高的客戶方案(如百貨公司停車一小時免費, 生日禮物, 針對 VIP 客戶的個人及時語音秘書服務) Customer loyalty program (e.g. 1hr Free Parking in Department Store, Birthday Gift, Personal assistant hotline for VIP customer, etc.)
9) 有適當的手機可供選擇 Choices of available handsets
10) 綁約享有買手機空機的折扣 Discounted price handsets with contract
11) 適合您的月租費 費率 Rate plan / Monthly subscription fee
12) 其他,請詳述___ Other, please specify____

A8) 您是否願意多付一點月租費來得到下列比較好的服務,依照您的願意程度 1~5 分來選出來.1 表示非常不願意,5 表示非常願意.

Are you willing to pay a bit more for the better service of... [5 scale]

Definitely Not Pay More..... Definitely Willing to Pay More

1) 電信公司收訊涵蓋範圍 Network coverage
2) 語音電話的品質 Voice call quality
3) 資料/網路 品質和速度 Data/ Internet service quality and speed
4) 視訊電話的品質 Video call quality
5) 可靠的傳送簡訊或多媒體簡訊 Reliability of SMS & MMS
6) 有助益的客服服務 Helpful customer service and support
7) 加值服務(如語音信箱,來電鈴聲…等.) Value-added services (e.g. Voicemail service, Selective ring back tone, etc.)
8) 針對忠誠度高的客戶方案(如百貨公司停車一小時免費, 生日禮物, 針對 VIP 客戶的個人及時語音秘書服務) Customer loyalty program (e.g. 1hr Free Parking in Department Store, Birthday Gift, Personal assistant hotline for VIP customer, etc.)
9) 有適當的手機可供選擇 Choices of available handsets
10) 綁約享有買手機空機的折扣 Discounted price handsets with contract
11) 適合您的月租費 費率 Rate plan / Monthly subscription fee
12) 其他,請詳述___ Other, please specify____

A9) 正常一個禮拜來說,您平均花多少時間來使用您手機上的應用程式(app)或瀏覽網路呢?

How many hours in a typical week do you actively spend using your phone to access any app or to surf the Internet?

a) 一個小時或少於一個小時 1 hour or less
b) 1~3 小時
c) 3~6 小時
d) 6~9 小時
e) 9~12 小時
f) 12~18 小時
g) 超過 18 小時

A10) 您上週有使用手機上網於下列的哪些活動呢? (可複選)

Last week while using your internet-enable mobile phone, please indicate the following type of activities you took part in. (Select all apply)

a) 下載手機應用程式(app) Downloaded a mobile application
b) 讀線上的新聞 Read online news
c) 用手機查看地圖,或使用定位的功能 Accessed maps and location-based services
d) 查看電子郵件 Accessed email
e) 使用社交網站 Accessed social media sites (e.g. Facebook, LinkedIn, etc.)
f) 使用即時訊息軟體,如 WhatsApp, Line... Used instant messaging (e.g. WhatsApp, Line, etc.)
g) 網路銀行 Internet banking
h) 使用網路電話,如用手機 Skype..軟體通話. Made a telephone call VOIP (e.g. Skype)
i) 線上博奕遊戲 Online gambling
j) 線上一般遊戲 Online gaming
k) 線上購物 Made a purchase online
l) 下載或線上聽音樂 Downloaded, streamed or listened to music
m) 下載或線上觀看短片 Downloaded, streamed or watched a video clip
n) 下載或線上看電視/電影 Downloaded, streamed or watched a TV show or movie
o) 觀看線上即時轉播的運動比賽,或比賽結果.Monitored a live sport or sports result
p) 線上查看顧客對某項商品使用的意見 Read a consumer review online
q) 線上尋找或研究某樣東西 Search or research for something
r) 其他,請說明____ Others, please specify___

您未來的電信商 Your future cell-phone carrier

這個部分的問卷是針對您對未來電信公司的期望.請根據您的了解來回答下列的問題,並暫時不去想您現在使用的是哪款手機.

4G LTE 的服務很快就會在台灣推展開來.

4G LTE 是下個世代的電信技術的演進,當然能提供更快的網路服務,4G LTE 的手機網路速度也是現行 3G 網路速度的五倍快.

This part of the survey is to gather your anticipation toward your future cell-phone carrier. Please answer the following questions according your understanding regardless your current handsets / devices.

4G LTE mobile broadband service will be available in Taiwan nationwide soon.

4G LTE is the next generation of telecom technology, which can deliver significantly faster, more consistent mobile broadband speeds. It can offer supper fast mobile internet at speeds typically FIVE times faster than 3G speeds today.

With superfast 4G LTE mobile, customers will be able to:

- Access the web on the go without waiting
- Connect with your friends on social network quicker and easier
- Download high-definition movies in minutes
- Watch live TV on the move without buffering
- Play live multiplayer games on the go
- Download large email attachments quicker than ever
- Make crystal clear audio quality phone through Voice over LTE (Available in the near future)
- Make high quality video calls on the move
- Enjoy super-fast service on your computer, or your other peripheral by connecting through the 4G LTE handset.

Rate Plan B

Monthly Fee: 888 NT

Data / Internet service: Free for 800 MByte ; If you use over 800 Mbyte, we will charge 0.00061 NT/Byte; Upper limited charge is 2,000 NT

Voice Call: Free 100 minutes; If you call over 100 minutes, we will charge 3.5 NT/minutes

Text message: Free 100 SMS

Rate Plan C

Monthly Fee: 1,888NT

Data / Internet service: Free for 2,000 MByte ; If you use over 2,000 MByte, we will charge 0.00041 NT/Byte; Upper limited charge is 2,200 NT)

Voice Call : Unlimited for intra-network ; Free 100 minutes for inter-network; if you call over 100 minutes, we will charge 3.5 NT / minutes for inter-network calls.

Text message: Free 500 SMS

這個部分的問卷是針對您對未來電信公司的期望。請根據您的了解來回答下列的問題，並請暫時忽略您現在使用的是哪款手機。

4G LTE 的服務很快就會在台灣推展開來。

4G LTE 是下個世代的電信技術的演進，當然能提供更快的網路服務，4G LTE 的手機網路速度也是現行 3G 網路速度的五倍快。

有了超級快的 4G LTE 手機，您就可享有下列的服務 :

- 免等待立即連上網路
- 透過社交網站聯絡您的朋友將更快且更方便
- 下載高解析精細畫質的電影只需幾分鐘
- 在您透過交通工具快速移動時，觀看線上即時轉播的節目不需等待。
- 立即可與多位好友連線玩線上遊戲。
- 下載電子郵件的附件將比以往更快。

- 在不久的將來透過 LTE 就可以有更清晰的電話語音品質。
- 在移動中仍能有高品質的視訊電話
- 您的電腦或其他裝置透過 4G LTE 的手機將可享有更快的網路服務。

月租費率方案 B

月租費: 888 NT

網路/數據服務: 每個月享有 800MB 免費，超過 800MB 部分，每 byte 收取 0.00061 元; 最多只收取到 2000 元整。

語音電話: 每個月享有 100 分鐘免費; 超過 100 分鐘部分, 每分鐘收取 3.5 NT

簡訊: 每個月享有 100 則免費 SMS

月租費率方案 C

月租費: 1,888NT

網路/數據服務: 每個月享有 2,000 MByte 免費； 超過 2,000 MByte 部分, 每 byte 收取 0.00041 元; 最多只收取到 2,200 NT

語音電話: 網內通話免費 ; 網外通話每個月享有 100 分鐘免費, 超過 100 分鐘部分, 每分鐘收取 3.5 NT(網外通話)

簡訊: 每個月享有 500 則免費 SMS

B1) 您選擇 4G LTE 的意願度為何?請選擇下列最貼近您意願度的描述.

Which of the following statement best describes how you feel about subscribing for the 4G LTE service?

完全願意 1 Definitely would subscribe 1

很可能會吧 2 Probably would subscribe 2

不一定 3 Might or might not subscribe 3

可能不會吧 4 Probably would not subscribe 4

一定不會 5 Definitely would not subscribe 5

B2) 根據您剛讀過對上述 4G LTE 的描述,請用 1~5 分選出您最喜歡 4G LTE 的原因, 1 表示最不喜歡，5 表示最喜歡??

Based on the description you just read, what do you think you would like most? Please rate the following items.

Don't like at all…..Very much like

a) 移動方便性 Mobility and convenient
b) 更快的網路/數據 服務 Faster internet / data speed
c) 高品質的視訊電話 Make high quality video calls capability
d) 高品質的語音電話(語音部份透過 LTE 傳送) Make high quality voice calls capability (Voice over LTE)
e) 月租費 Monthly rate plan

B3) 根據您剛讀過對上述 4G LTE 描述的月租費率,你覺得每個月花這些錢取得的服務划算嗎?

Considering the price of the 4G LTE service as you just read, which statement best describes how you feel about the value for money of this service?

a) 非常划算 Very Good Value
b) 還算不錯 Fairly Good Value
c) 勉強可以 Average Value
d) 有點差 Somewhat Poor Value
e) 非常差 Very Poor Value

B4) 假設現在 4G LTE 已經到處可使用,下面哪個選項最貼近您的感覺? Assuming the 4G LTE service is available now, which of following statement best describes you feeling?

a) 我想要成為第一個使用的人. I tend to be one of the first to use the service
b) 我想等別人先使用,再聽聽別人的意見再說.I wait until others have used and listen to their comments
c) 如果有我喜歡的 4G LTE 手機我才使用 4G LTE. I subscribe only when there is a 4G LTE mobile phone I like available

d) 有促銷我才用. I subscribe only when there is a promotion

e) 有特別的慶祝才開始使用.I subscribe only for a special celebration

f) 其他,請說明___ Other, please specify____

B5) 假設現在 4G LTE 已經到處可使用,您會有多想要推薦讓他人知道呢?

Assuming the 4G LTE service is available now, how likely would you be to recommend it to others?

a) 絕對值得推薦 Definitely Would Recommend

b) 還算值得推薦 Probably Would Recommend

c) 不一定會去推薦 Might or Might Not Recommend

d) 大概不會去推薦別人 Probably Would Not Recommend

e) 絕對不會去推薦別人 Definitely Would Not Recommend

B6) 假設 4G LTE 相關的月租費率已公布讓您選擇,您會選擇下面哪一家電信公司?

Assuming the 4G LTE services offering similar rate plans are available from the following carriers, which one would you subscribe for?

a) 中華電信 ChungHua Telecom

b) 台灣大哥大 Taiwan Mobile

c) 遠傳電信 Far EasTone

d) 威寶電信 Vibo

e) 亞太電信 APPW

f) PHS

g) 全球一動 Global Mobile Corp

h) 威麥斯電信 VMAX Telecom Co

i) 遠傳大寬頻 WiMAX Far EasTone Telecommunication Co

j) 大眾電信 First International Telecom Corp

k) 大同電信 Tatung Info Comm Co

l) 威達電信 Vee TIME Corp

B7)假設 4G LTE 無法提供服務於您的地區,您會選擇下列哪些服務取代呢?

Assuming the 4G LTE service is not available in your area, which service would you subscribe instead?

a) 中華電信 3G – ChungHua Telecom
b) 台灣大哥大 3G – Taiwan Mobile
c) 遠傳電信 3G – Far EasTone
d) 威寶電信 3G – Vibo
e) 亞太電信 3G – APPW
f) 全球一動 WiMax – Global Mobile Corp.
g) 威麥斯電信 WiMax – VMAX Telecom Co
h) 遠傳大寬頻 WiMax – Far EasTone Telecom
i) 大眾電信 WiMax – First International Telecom Corp
j) 大同電信 WiMax – Tatung InfoComm Co
k) 威達電信 WiMax – Vee Time Corp.
l) 中華電信 ADSL – HiNet
m) 凱擘數位電視第四台 – Kbro Cable TV
n) 其他_____

B8) 假設現在 4G LTE 已經到處可使用,您打算多久開始使用此服務?

Assuming the 4G LTE service is available now, when do you plan to subscribe the service?

a) 三個月內 Within 3 Months
b) 六個月內 Within 6 Months
c) 一年內 Within 1 Year
d) 一年後 After 1 Year

B9)如果您選擇將來的電信公司,請用 1 到 10 分選出下列服務對您的重要程度,1 表示一點都不重要,5 表示非常重要.

Please rate the following attributes in terms of importance to you for your future cell-phone carrier – 4G LTE[5 scale]

Not important at all…… Extremely Important

1) 電信公司收訊涵蓋範圍 Network coverage
2) 語音電話的品質 Voice call quality
3) 資料/網路 品質和速度 Data/ Internet service quality and speed
4) 視訊電話的品質 Video call quality
5) 可靠的傳送簡訊或多媒體簡訊 Reliability of SMS & MMS
6) 有助益的客服服務 Helpful customer service and support
7) 加值服務(如語音信箱,來電鈴聲…等.)Value-added services (e.g. Voicemail service, Selective ring back tone, etc.)
8) 針對忠誠度高的客戶方案(如百貨公司停車一小時免費, 生日禮物, 針對 VIP 客戶的個人及時語音秘書服務) Customer loyalty program (e.g. 1hr Free Parking in Department Store, Birthday Gift, Personal assistant hotline for VIP customer, etc.)
9) 有適當的手機可供選擇 Choices of available handsets
10) 綁約享有買手機空機的折扣 Discounted price handsets with contract
11) 適合您的月租費 費率 Rate plan / Monthly subscription fee
12) 其他,請詳述___ Other, please specify____

B9.12)如果您還有其他重要意見關於將來的電信公司, 請詳述____

B9.12) If you have any other thing you think it's important for your future mobile-phone network, please specify____

Demographic

Now, I would like to ask few questions about you.

D1)您居住於哪個城市呢?

Which city do you live?

a) 基隆市 KeeLung City
b) 台北市 Taipei City
c) 新北市 New Taipei City
d) 桃園 TaoYuan County
e) 新竹 HsinChu County
f) 苗栗 MiaoLi County
g) 台中 TaiChung City
h) 彰化 ChangHua County
i) 南投 NanTou County
j) 雲林 YunLin County
k) 嘉義 ChiaYi City
l) 台南 TaiNan City
m) 高雄 KaoHsiung City
n) 屏東 PingTung County
o) 台東 TaiTung County
p) 花蓮 HuaLien County
q) 宜蘭 ILan County
r) 澎湖 PengHu County
s) 金門 KinMen County
t) 連江縣 LienChiang County

D2) 您的國籍為何?

What's your nationality?

a) 台灣 Taiwanese
b) 其他_____ Other __

D3) 您的性別?Please indicate your gender

a) 男性 Male
b) 女性 Female

D4) 您大約的年齡 Please indicate your age:

a) 18 歲以下 18 and below
b) 19-22
c) 23-28
d) 29-35
e) 36-45
f) 46-55
g) 56-65
h) 66 歲以上 66 and above

D5)請問您的職業屬性？ Please indicate your profession:

a) 大學生 College student
b) 碩士生/博士生 Graduate/ PhD student
c) 老師/教授/學術界 Teacher/ Professor/ Academia
d) 公司職員/政府單位員工/白領階級 Office Staff/ Government employee/ White collar worker
e) 管理階層人員 Management executive
f) 業務/財務人員/保險人員 Sales/ Finance/ Insurance professional
g) 零售業 Retailer
h) 藝術家/創意工作者 Artist/ Creative professional

i) 多媒體業/時尚產業/新聞工作者/公關人員 PR/ Media/ Fashion/ Journalism professional
j) 設計師/編輯/導演/出版業 Designer/ Editor/ Director/ Publisher
k) 司機/導遊/快遞 Driver/ Tour guide/ Courier
l) 醫藥人員/律師 Medical and Pharmaceutical professional/ Lawyer
m) 商人 Trader
n) 電腦軟體或硬體 工程師/網站開發設計人員 Computer and Software engineer/ Web developer
o) 技師/生產線工作者 Technician/ Production Worker
p) SOHO 族 Self-employed/ Home business
q) 家庭主婦/家庭主夫 Home-maker/ Butler
r) 退休人員 Retiree
s) 其他 (請說明) Others (please specify)

D6)請問您每個月收入大約多少? Please indicate your monthly income range.

a) 15,000 TWD 以下
b) 15,001 TWD ~ 35,000 TWD
c) 35,001 TWD ~ 55,000 TWD
d) 55,001 TWD ~ 75,000 TWD
e) 75,001 TWD ~ 100,000 TWD
f) 100,001 TWD ~ 150,000 TWD
g) 150,001 TWD ~200,000 TWD
h) 200,000 TWD 以上

D7) 您使用哪個牌子的手機呢? (如果您有超過一支手機,請選一支您最常用的那支手機) Which mobile phone do you use? If you have more than one, please specify the one you mostly use.

-牌子 Brand?

a) iPhone

b) 三星 Samsung

c) 宏達電 HTC

d) 黑莓機 Black Berry

e) 諾基亞 Nokia

f) 索尼 Sony

g) 其他,請註明___Other, please specify____

-款式 Model?____ (e.g. iPhone 4S, Galaxy Note)

-手機是否屬於智慧型手機?_____ Smartphone? ___

D8) 您通常用什麼裝置上網呢?(可選擇你有使用的所有裝置)

What are the gadgets that you usually use to connect to the Internet? (Please select all items you use)

a) 智慧型手機 Smartphone

b) 平板電腦(e.g. iPad, EeePad, 變形平板) Tablet (e.g. iPad, EeePad, Transformer)

c) 桌上型電腦 Desktop computer

d) 筆記型電腦 Laptop (including Ultrabook, Netbook)

e) 可攜式多媒體裝置 Portable multimedia players (e.g. iPod, MP3 or MP4 players, PSP, Nintendo DS)

f) 數位相機包含無線網路功能 Digital Camera with WiFi capability

g) 電視(包含智慧型電視上網)TV (including smart TV)

h) 遊戲機(PS3, Xbox, Wii)Game consoles (PS3, Xbox, Wii)

i) 其他 _____ Other___

D9)因為摸彩結果需要聯絡您,如果您可以留下您的 e-mail 再好也不過了,謝謝! I would appreciate if you could leave your contact email address so that I may contact you regarding the lucky draw. (Optional)___

D10) 有任何意見可提供給我做參考的嗎? Please provide any comments you might have (Optional)

Thank you very much for participate the survey. The lucky draw winner will be contacted by e-mail and announced in my Facebook.