Lifestyles and the Adoption of 3G Services in Hong Kong

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Abstract

With the development in cell phone technology, Hong Kong Government announced to issue licenses for 3G services, which allowed users to experience the Internet on cell phone at broadband speed. But as mobile services were undergoing theirs latest transformation, the consumer's perception and the adoption of innovations of 3G services were still in myth. This study emphasizes on adopter's lifestyles and their relationships with adoption the adoption of 3G services. It uses VALS 2 typology from the SRI International model to examine how people's lifestyle orientations are associated with satisfaction, adoption and likely adoption of 3G services. Roger's diffusion of innovation theory is employed to test people's perception of the attributes of 3G services in relation to their adoption behaviour and the intentions of using 3G services. An online questionnaire survey was conducted with 299 non-adopters and 73 adopters of 3G services in Hong Kong to find out their lifestyles and attitudes toward 3G services. The survey shows that 52% of the adopters would continue to use 3G services and 3% of the non-adopters would be likely to adopt 3G services in the next six months. Furthermore, Innovators, Makers and Strivers were three lifestyles groups that expressed greater desirability to adopt 3G services compared with other lifestyles groups.

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Chapter 1 Introduction

The main purpose of this study is to investigate the factors of low adoption of third generation (3G) services and how to encourage customers to adopt 3G services by focusing on the relationships between people's lifestyle orientations and people's perception of the attributes of 3G services.

Previous and related researches in the 3G services have focused on analyzing the marketing strategies proposed on 3G in different areas and countries. No major research has been done to reveal the factors of adoption of 3G services in Hong Kong. It is worthwhile for us to explore the factors that hinder 3G services' development in Hong Kong.

In the study, deploying demographic segmentation only is not sufficient in describing consumers for market segmentation and strategy development, we need to supplement it by other ways say lifestyles and psychographic segmentation.

The term "lifestyle" is not new, but its application to marketing has been rather recent. As lifestyle can be viewed as a unique pattern of living which influences and is reflected by one's consumption behaviour (William, 1963), the present study seeks to find out how consumers' decision and intention to adopt 3G services are influenced by their lifestyles orientations.

Individuals' perceptions of 3G applications and knowledge of 3G services are essential in predicting their adoption behaviour and intention of adoption. The other part of this study (i) investigates consumers' knowledge about this innovation, (ii) identifies predictors of adoption by analyzing the correlation between potential predictors and likelihood of adoption of the innovation, (iii) exams the effectiveness of personal characteristics and consumers' perception of innovation variables on discriminating potential adopters and non-adopters of 3G services.

1.1 Background of 3G

3G is a technology developed for mobile service providers. Mobile services are provided by service providers that own and/or operate their own wireless networks and sell mobile services to end-users, usually on a monthly subscription basis. Mobile service providers use licensed spectrum to provide wireless telephone coverage over some relatively large contiguous geographic area. From a user's perspective, the key feature of mobile service is that it offers widespread and continuous coverage. That is, a consumer can carry on a telephone conversation while driving along a highway at 100 Km/hour. To support this service, mobile operators maintain a network of interconnected

mobile base stations that hand-off customers as those customers move among adjacent cells. Each mobile base station may support users up to several kilometers away. The mobile base stations are connected to a switching network that also provides interconnection to the Public Switched Telephone Network (PSTN) and other networks.

1.2 Start from Second Generation (2G)

After the development of first generation systems, which are analog, digital second generation systems appear. The use of digital technology has a number of advantages, including increased capacity, greater security against fraud, and more advanced services.

Like first generation systems, various types of 2G technology have been developed. The four variants of 2G technology are Global System for Mobile Communications (GSM), IS-95 Code Division Multiple Access (CDMA), Personal Digital Communication (PDC) and Digital-Advanced Mobile Phone Services (D-AMPS).

Because digital systems use a common data communication channel, this allows advanced features to be added more easily. New features such as short messaging service and web browsing can often be added by simple software

changes to the system or the wireless telephone. When the software of the wireless telephone requires updating, some of the software feature upgrades can be directly transmitted to the wireless telephone without involving the customers.

All 2G systems have improved authentication and privacy. This has dramatically reduced fraudulent use of mobile telephones and reduced the incidents of media exploitation of unauthorized recoding of private conversations. The advanced digital signal processing of digital mobile radios can easily process the authentication and encryption codes necessary to ensure that authorized customers are using the service and other people cannot listen to the conversations.

Though the 2G networks brought about a major change in the way mobile networks were built, they had their limitations, some of which are as follows:

A. Low transfer rates

The 2G networks are primarily designed to offer voice services to service subscribers. Thus, the transfer rate offered by these networks was low. Though the rates vary across technologies, the average data transfer rate is of the order of tens of Kbps.

B. Low efficiency for packet-switched services

With the rising popularity of the Internet, there is a growing demand among customers for access to the Internet not just at home or offices, but also when they are on the move. Wireless Internet access with the 2G networks is not efficiently implemented.

C. Incompatible standards

With a multitude of competing standards in place, a wireless user can roam in only those networks that support the same standard. This allows the user only limited roaming. Though the 2G standards were an improvement over their 1G predecessors, they still lacked the ability to offer complete global roaming, and were semi-global in this respect.

1.3 What is Two and Half G (2.5G)?

2.5G is a term that is commonly used to describe enhancements to second generation cellular and Personal Communication Service (PCS) / Personal Communications network (PCN) technologies that provide significantly improved capabilities but do not quite satisfy third generation wireless requirements. The 2.5G platforms are meant to provide the bridge between the existing 2G systems that have already been deployed and those envisioned for

3G. Several platforms are leading the 2.5G effort; they are High Speed Circuit Switched Data (HSCSD), General Packet Radio Service (GPRS) and Enhanced Data rates for Global Evolution (EDGE). The 2.5G systems use improved digital radio technology to increase their data transmission rates and new packet-based technology to increase the system efficiency for data users.

A. High Speed Circuit Switched Data (HSCSD)

HSCSD was developed to overcome the limited maximum user data transfer rate of 9.6 Kbps in the original GSM system. Higher data transfer speeds are achieved by combining more than one traffic channel for data services. The maximum HSCSD data transfer rate on the GSM system is 64 Kbps.

B. General Packet Radio Service (GPRS)

GPRS provides high-speed packet data service in a GSM network. The GPRS system dynamically assigns time slots on GSM radio channels to allow quick and efficient transfer of small packets of data. GPRS allows point-to-point and point-to-multipoint packet data transmissions. GPRS provides a maximum data transmission capacity of 115 Kbps.

C. Enhanced Data rates for Global Evolution (EDGE)

EDGE system is an evolved version of GSM radio channel that uses new phase modulation and packet transmission to provide advanced high-speed

data services. The EDGE system used a new modulation scheme to increase the data rate of standard GSM by up to threefold. This results in a transmission rate of 384 Kbps.

1.4 What is Third Generation (3G)?

In the early 1990s, the success of 2G digital cellular and dramatic growths in the number of customers led to demand for new features and more efficient services. It became apparent that wireless systems with higher capacity and lower cost were needed to better serve customers, whereas second generation systems could not do the job. To satisfy these needs, a 3G wireless system was invented.

The 3G system is called Universal Mobile Telecommunications System (UMTS). It is intended to provide a global mobility with wide range of services including telephony, paging, messaging, Internet access and broadband data transfer. International Telecommunication Union (ITU) started the process of defining the standard for third generation systems, referred to as International Mobile Telecommunications 2000 (IMT-2000). In Europe, European Telecommunications Standards Institute (ETSI) was responsible for UMTS standardization process. In 1998, Third Generation Partnership Project (3GPP)

was formed to continue the technical specification work. The original requirements for 3G systems defined in IMT-2000 included high speed (broadband) data services, multimedia support (simultaneous voice and data), improved system efficiency (cost reduction), and backward compatibility with 2G systems.

A. High speed data services

The basic structure of the UMTS system provides a high capacity communication service (up to 2 Mbps) for in-building users. As subscribers move into urban areas, they have access to medium capacity services (up to 384 Kbps). Capacity is moderate (up to 144 Kbps) in wide area mobile services. And finally, in large geographic area systems (satellite), the data rates are variable.

B. Multimedia support

Multimedia is a term that is used to describe the delivery of different types of information such as voice, data, and video. Communication systems may deliver media services separately or simultaneously. 2G systems were primarily limited to low-speed single channel (non-simultaneous) communication. 3G systems can provide simultaneous channels with data rates up to 2 Mbps, and each of them can have a different quality of service

(QoS) capability. For example, a 3G handset can be participating in a video conference call while downloading an email file from the Internet. The real-time video clip requires a high-speed data transfer rate that needs to be real-time and can stand with errors, while the email file download can tolerate large delays but no errors are acceptable.

C. Improved system efficiency

3G systems must be more cost effective than 2G systems. All of the advancements in technology and services have little chance of achieving market success if the cost of 3G basic telecommunications services is higher than that of 2G systems. 3G systems use the available radio spectrum more efficiently, and the implementation offers cost savings through the reduction of cell sites and equipment and simplified operational service support.

2G and 3G digital cellular technologies allow capacity increases by allowing more subscribers to share the same radio channel spectrum. The intensified use of radio spectrum is accomplished by allowing more subscribers to share the same radio channel. To simultaneously serve multiple subscribers on the same radio channel, new technologies assign either specific time slots or unique codes to each call. These techniques reduce the amount of radio spectrum needed and allow more subscribers to use wireless services in a

provider's radio coverage area. In this way, 3G UMTS reduces the average system equipment cost per customer.

D. Backward compatibility with 2G systems

The multisystem compatibility of 3G systems allows customers to roam globally (different frequency bands) and be able to hand off to 2G systems (backward compatibility). It is possible for existing 2G service providers to upgrade their systems to 3G technology and to connet 2G and 3G systems together.

1.5 3G Wireless Systems

In 2001, there were three different system specifications for 3G wireless systems: Wideband Code Division Multiple Access (WCDMA), Time Division / Code Division Multiple Access (TD/CDMA), and CDMA2000. Table 1 shows some of the major technology platforms.

A. Wideband Code Division Multiple Access (WCDMA)

By definition, the bandwidth of a WCDMA system is 5 MHz or more, and this is also the nominal bandwidth of all 3G WCDMA proposals. This bandwidth is enough to provide data rates of 144 and 384 Kbps, and even 2 Mbps in good conditions. As bandwidth is a scarce resource, a narrow allocation is always

used, especially when the system must use frequency bands already occupied by existing 2G systems.

B. Time Division / Code Division Multiple Access (TD/CDMA)

Time Division Duplex (TDD) is a process of allowing two-way communications between two devices by timesharing. The TD/CDMA system uses TDD technology to overcome the requirement of paired frequencies that the WCDMA system has. The TD/CDMA system uses the same DS-CDMA channel-coding technology to maintain compatibility with the WCDMA system. It is anticipated that TD/CDMA systems will be used for indoor environments and WCDMA systems will be used for wide area mobile operation.

C. CDMA2000

CDMA2000 is an evolved version of the 2G IS-95 CDMA system. The CDMA2000 system combines multiple IS-95 radio channels with enhanced packet transmission protocols to provide advanced high-speed data service.

Wireless Generation	Systems	General Services	Comments
First (1G)	AMPS, TACS, NMT	Voice	Traditional Analog cellular deployment scheme
Second (2G)	GSM, TDMA, CDMA	Primarily voice with SMS	Digital Modulation Scheme implemented
Transition (2.5G)	CDMA, GPRS, EDGE	Primarily voice with packet data services being introduced	Overlay approach used except in new spectrum Packet Data enhancements to existing 2G operators
Third (3G)	CDMA2000/ WCDMA/ TD/CDMA	Packet Data and Voice services Designed for high-speed multimedia data and voice True 3G platforms expected 2003-2005	Defined by IMT-2000 Europe (UMTS-WCDMA) America (UMTS/CDMA2000) Asia (UMTS/CDMA2000) Overlay approach for existing operators of 2/2.5G networks

Table 1

1.6 3G Services

3G services can be divided into four groups that have different characteristics. These characteristics include maximum delay, tolerance to errors, changing data transmission rates, and two-way interactivity. There may be other criteria that define the quality of service within each in these classes of services. The

ability to offer these services will likely capture more and more of the market over time.

A. Conversational class

Conversational class is characterized by low delay tolerance, low delay variation and low error tolerance. The data rate in one direction will be similar to that in the other direction. Voice, which has highly delay-sensitive, is a typical conversational application, one that does not require very high data rates. Video conferencing is also a conversational application. It has similar delay requirements to voice, but is less error tolerant and generally requires a higher data rate.

B. Interactive class

Interactive class involves two-way communications between the network and the end user. Typical interactive services include product database browsing, gaming and information service management. This means interactive class service needs to have minimal round trip delay. Delay up to a few seconds may be acceptable. It also requires interactive class to have a high reliability in data transmission.

C. Streaming class

Streaming class of information involves the continuous transferring of

information. Streaming class is primarily used in multimedia systems for the delivery of real-time audio and video. Some of the key characteristics for streaming class include variable data rate, high peak data rates, and time relation of media. Some delay of data is acceptable in the streaming class, and some errors may be tolerated.

D. Background class

Background services do not require immediate actions by the customer. Background class is used for email downloads or software updates that may occur during voice conversation. Background class is tolerant to delays of several seconds or even longer, and low data transfer rates may be acceptable.

1.7 3G Services in Hong Kong

Hong Kong has one of the most sophisticated and successful telecommunications markets in the world. The telecommunications sector was estimated to be directly responsible for 3.3 per cent of Hong Kong's GDP in 2004. In December 2005, the number of Internet users in Hong Kong is 2.62 million, which covers 65.6% of the population with computers at home. The number of Hong Kong citizens adopting mobile phone services increased

dramatically year by year. By January 2006, the number of mobile service subscribers was boosted to 8.6 million, representing one of the highest penetrations in the world at about 123.4%.

Following extensive consultations and the passage of the necessary legislation, Hong Kong Government invited applications for licences to provide 3G mobile services in July 2001. The pro-competition licensing method consisted of a pre-qualification exercise followed by spectrum auctioning, which was based on bidding of a royalty percentage subject to a minimum guaranteed payment. In October 2001, the Government awarded four licences to successful bidders in the auction, that is, Hong Kong CSL Limited (CSL), Hutchison Telephone Company Limited (3), SmarTone 3G Limited (SmarTone) and SUNDAY 3G (Hong Kong) Limited (Sunday). In January 2004, the first 3G mobile services were launched in Hong Kong by 3. In June 2005, another three operators started to provide 3G mobile services. In January 2006, the fifth operator, PCCW-HKT Limited, launched its 3G mobile services. According to the Census and Statistics Department in Hong Kong SAR (2005), 695 thousand (subscribers of PCCW excluded), around 10% of all mobile service subscribers in Hong Kong subscribe 3G services.

1.8 How Far does 3G Service Diffuse?

Comparing with the adoption of 3G services in Asia Pacific, such as Japan, 3G services in Hong Kong is still at an infant stage; and technology, market dynamics and publicity are still casting its basic shape.

3G & Wi-Fi Pacific (UMTS world, 2003), an industry newsletter, presents the first ever "3G Global Readiness Index", a survey of 40 countries ranking their readiness for next generation wireless services. Japan and Australia have been ranked as the two most 3G ready nations in the world. The survey measured demonstrated consumer and economic behavior, technology adoption rates and regulatory and cost settings viewed as essential to the long-term success of 3G services. Japan ranked highly on almost all measures but was particularly advantaged in the rankings by the strength of its personal income, technology spending and absence of 3G licensing overheads.

Although some Asian nations are already demonstrating early 3G adoption, Asia generally ranked poorly. After Japan, the next highest Asian nation was Singapore at 16, Hong Kong at 17 and South Korea at 19. Although South Korea is currently the leading nation for early 3G adoption, the survey found that it may ultimately have difficulty sustaining its leading position as a result of relatively modest figures for personal income, cellular penetration and

relatively high 3G license costs (South Korean operators are obliged to build dedicated 3G networks and pay license fees, with current services offered through 2.5G upgrades).

As we move into 2006, the situation changes. Japan and South Korea already have 53% out of 90.5 million mobile subscribers (equivalent to 70.9% of the country's population) (モバイル・コンテンツ・フォーラム 株式会社インプレス; Statistics Bureau Japan 2006) and 40% out of 38.4 million mobile subscribers (equivalent to 79.1% of the country's population) (The Standard) experiencing 3G technology respectively. The growth will continue in Japan and South Korea until 2008 when penetration starts hitting the saturation level between 80% and 90% respectively. It is reported that 3G services in Hong Kong is on the rise but will be saturated in 2010 to 110% penetration (John, 2003), but it is unlikely to happen.

For those consumers that adopt 3G services as a new way of communication, getting information or entertaining, what are the enabling and motivating factors that make the diffusion possible among adopters and what are the limiting and inhibiting factors.

1.9 What Motivates the Adoption of 3G Service?

Getting information of various kinds of resources instantly, and enjoying

face-to-face communication are the selling points of 3G services. Downloads and transfers of ring tones, songs, pictures and videos, as well as interactive games, location-based services such as positioning, and remote home monitoring are among the services that have been seen as major drivers of adoption of 3G services.

In addition, the publicity of 3G services promoted by Hong Kong Government aroused public awareness, and enhanced the adoption rate of 3G services. To expedite the development of 3G applications and content, the Government has provided funding support to the Association to organize the 3G Cyberport project. By leveraging on the infrastructure and unique environment at the Cyberport, the project provided a test bed for local developers to trial run and commercialized innovative 3G applications before their full-scale deployment. To showcase these 3G pilot applications and to encourage further adoption of 3G applications within the Government, the Office of the Government of the Chief Information Officer (OGCIO) and the Centre has organized the “3G on the Move” conference and exhibition in 2005. Besides promoting further awareness of the 3G trends and applications, the event will also provide the industry with good business matching and networking opportunities (Howard, 2005). All of these campaigns are serving as catalyst to speed up the adoption

of 3G services.

1.10 What Hinders the Adoption of 3G Services?

The key factors which hinder the adoption of 3G services are frequent drop-calls, bulky and expensive handsets with short battery life (Computer Times, 2003). Furthermore, the lack of the “killer application” may be the single most important factor that inhabits the penetration of 3G services.

In order to improve the conversation’s quality, increasing the number of base stations by service providers is one of the remedies to redeem confidence. In Hong Kong, Government took the lead in promoting the benefits of using 3G services in business processes to enhance productivity and efficiency (Howard, 2005). The above makes the 3G services more adoptable.

Although 3G has become common in the information era, there are few academic studies that have seriously studied its adoption pattern. This study tries to determine the factors that influence the adoption of 3G services in Hong Kong.

Chapter 2 Literature Review

Values and Lifestyles

2.1 Introduction

Today, most marketers in America use segmentation models based on Demographics, Geo-demographics and so on. However, these models are still inadequate in their description and analysis of a person since they generate only isolated fragments (Robert Gilman, 1996).

This is where values and lifestyles segmentation plays a pivotal role. Since lifestyle characteristics and values provide a rich view of the market and a more lifelike portrait of a consumer, they meet the demands of management practice for increasingly sophisticated and actionable marketing information. The basic premise here is therefore - the more you know and understand about your customers the more effectively you can communicate and market to customers.

Empirical evidence showed that people's culturally learnt values and lifestyles largely determined their media usage and consumption (Donohew, Becker& Connor, 1981: Palemgreen & Rayburn II, 1987; Rokeach & Ball-Rokeach, 1989), and the use of new media technology (Fassett, 1995; Leung, 1998). However, research in adoption of 3G services of Internet users and its

relationship with values and lifestyles has received little attention.

In this study, people's values and lifestyles are measured using a methodology developed by SRI International – Values and Lifestyles psychographic segmentation system to find how they affect the adoption of 3G services in Hong Kong.

2.2 What is VALS?

VALS, an acronym of values and lifestyles, is a way of viewing people on the basis of their attitudes, needs, wants, beliefs, and demographics. The VALS program was created by SRI International in 1978 in an attempt to understand people in the marketplace, economically, politically, sociologically, and humanly. The approach is holistic, drawing on insight and many sources of data to develop a comprehensive framework for characterizing the ways of life of Americans. VALS reflects a real-world pattern that explains the relationship between personality traits and consumer behavior. VALS uses psychology to analyze the dynamics underlying consumer preferences and choices. VALS not only distinguishes differences in motivation, it also captures the psychological and material constraints on consumer behavior.

The original VALS system was built by consumer futurist Arnold Mitchell.

Mitchell created VALS to explain changing U.S. values and lifestyles in the 1970s. VALS was formally inaugurated as an SRI International product in 1978 and was cited by *Advertising Age* as "one of the ten top market research breakthroughs of the 1980s."

In 1989, VALS was redefined to maximize its ability to predict consumer behaviour. Unfortunately, the original VALS (formerly called VALS 1) received complaints from marketers about the ability of VALS typology to predict buying behavior or segment target consumers. A team of experts from SRI International, Stanford University, and the University of California, Berkeley, determined that consumers should be segmented on the basis of enduring personality traits rather than social values that change over time.

2.3 Theoretical Framework

In 1989, SRI International released a new VALS system, VALS 2 a new segmentation system which segments consumers according to their self-orientation and resources. By using psychology to analyze and predict consumer preferences and choices, the VALS 2 system creates an explicit link between personality traits and purchase behavior.

VALS 2 divides American adult consumers into eight segments based on their

responses to the VALS questionnaire. Unlike the questionnaire of VALS 1 which measured shifting values and lifestyles, questionnaire used in the new system reflects unchanging psychological stances by asking people to agree or to disagree with attitude statements such as “I like outrageous people and things” and “ A woman’s life is fulfilled only if she can provide a happy home for her family”.

VALS 2 classifies the American population into eight lifestyle categories and arranges them in two dimensions. The main dimensions of the segmentation framework are primary motivation (the horizontal dimension) and resources (the vertical dimension).

Primary motivation in SRI International’s defines that consumers are inspired by one of three primary motivations: ideals, achievement, and self-expression. Consumers who are primarily motivated by ideals are guided by knowledge and principles. Consumers who are primarily motivated by achievement look for products and services that demonstrate success to their peers. Consumers who are primarily motivated by self-expression desire social or physical activity, variety, and risk. Resources refer to the range of psychological, physical, demographic and socioeconomic means and capacities that consumers have to draw upon, including education, income, self-confidence, health, eagerness

to buy, and energy level. These personality traits in conjunction with key demographics determine an individual's resources.

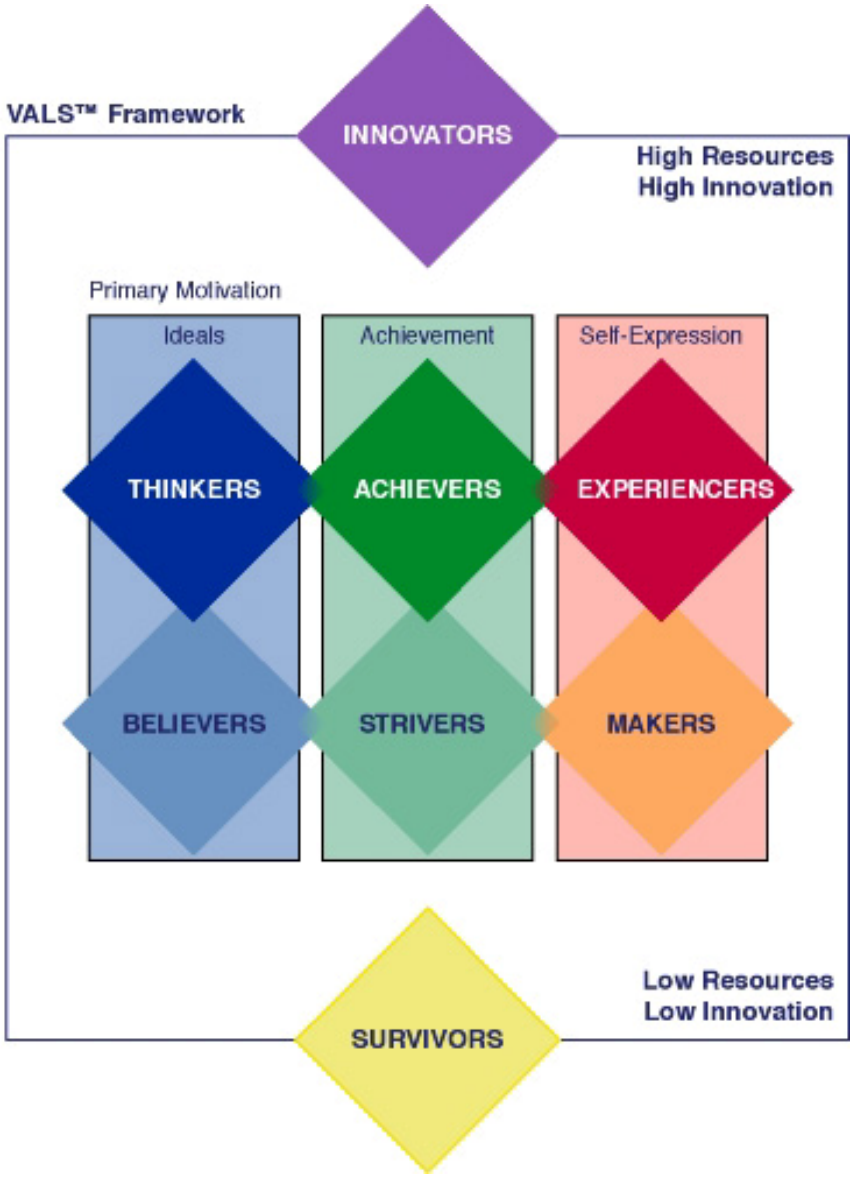

Figure 1

Source: SRI Values and Lifestyles segmentation, 2006

In the VALS typology, as shown in Figure 1, the psychographic groups range from Innovators at the top of the diagram with the most resources to Survivors at the bottom of the diagram with the least resources. In between are Thinkers

and Believers in ideals of primary motivation, Achievers and Strivers in achievement of primary motivation, and Experiencers and Makers in self-expression of primary motivation.

Apart from researching the traditional markets, SRI International used VALS to categorize American users of the Internet by adding Internet-specific questions to the VALS survey. The results of the survey showed that 50 percent of the Internet users were among the psychographic segment of Innovators. Innovators are the most innovative, highly educated group with abundant resources who are usually the early adopters of new technologies. In VALS-speak, Innovators are successful, sophisticated, take-charge people with high self-esteem. They exhibit all three primary motivations in varying degrees. They are change leaders and are the most receptive to new ideas and technologies. Innovators are very active consumers, and their purchases reflect cultivated tastes for upscale, niche products and services.

Experiencers accounted for 18 percent of the Internet users. This group of people is motivated by self-expression. They are young, enthusiastic and impulsive consumers. They seek variety and excitement. Experiencers are avid consumers and spend a comparatively high proportion of their income on fashion, entertainment, and socializing.

Strivers had average representation on the web with 13 percent among Internet users. They are motivated by achievement. Strivers are concerned about the opinions and approval of others. Money defines success for Strivers, who don't have enough of it to meet their desires. Strivers are active consumers because shopping is both a social activity and an opportunity to demonstrate to peers their ability to buy.

Thinkers made up 11 percent of Internet users. This group of people is motivated by ideals. They are mature and satisfied people who value order, knowledge, and responsibility. They tend to be well educated. Although their incomes allow them many choices, Thinkers are conservative, practical consumers.

Achievers made up 6 percent of web users. They are motivated by the desire for achievement. Achievers live conventional lives, are politically conservative, and respect authority and the status quo. With many wants and needs, Achievers are active in the consumer marketplace.

Believers, Makers and Survivors all accounted for the remaining 2 percent of the online users. These people are categorized into having limited resources and little education. They are practical, cautious, conservative and traditional (Fassett, 1995, 10).

The finding of the SRI International's survey of Internet users are useful for the present study as most of the advanced services provided by 3G are more or less related to the Internet. However, the data are taken in 1995, which are a very early look at Internet users. The population has greatly changed and there would be a very different profile now that includes more diverse types of users. It should be noted that VALS was developed in the America and it is supposed to be more applicable to the Americans. In other words, VALS may not be an appropriate and sufficient tool in measuring the values and lifestyles of Hong Kong Chinese. Now, Japan-VALS, a culturally specific psychographic segmentation system, is developed for Japanese consumers. Japan-VALS divides the society into segments based on two key consumer attributes: life orientation and attitudes to social change. It is designed to explain and model social change in Japan including changes in institutions, ideas, consumer markets as well as media, which might be very different from the ones in America. This study assumes that VALS 2 is applicable in Hong Kong.

Diffusion of Innovations

2.4 Introduction

As mentioned before, this study studies how Hong Kong Chinese's attitudes or perceptions toward 3G services affect their adoption decision of 3G services. Therefore, it is essential to study the diffusion studies before the formulation of hypotheses.

2.5 Theoretical Framework

As defined by Everett M. Rogers, diffusion of innovation is the process by which an innovation is communicated through certain channels over time among the members of a social system. The act and rate of adoption are determined by four main elements: (1) adopter's attributes such as innovativeness, the newness of an innovation and innovation-decision process; (2) characteristics of innovations such as relative advantage, compatibility, complexity, trialability, observability and re-invention; (3) interpersonal communication; and (4) social system such as social structure and diffusion, system norms and diffusion, opinion leaders and change agents. Adoption, as Rogers puts it, is "a decision to make full use of an innovation as the best course of action available" (Rogers, 1995).

An innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption. The perceived newness of the idea for the individual determines his or her reaction to it. If the idea seems new to the individual, it is an innovation. An adoption or rejection decision is also influenced by the degree to which people's perceived advantage from the innovation is compatible with their existing values and needs (Rogers, 1995). Innovation can be adopted or rejected by an individual member of a system, or by the entire social system, which can decide to adopt an innovation by a collective or an authority decision. Innovation-decisions occur not only at the individual level. Many innovations, particularly technological innovations, are adopted by organizations. Contingent innovation-decision consists of an optional innovation-decisions.

Optional innovation-decisions refer to the "choices to adopt or reject an innovation that are made by an individual independent of the decisions of the other members of the system. Even in this case, the individual's decision may be influenced by the norms of the system and by interpersonal networks". Individual users of the telecom have the choice of an optional innovation-decision, but choose among the options that are under the certain regulatory bodies, and the provision of products and services on the telecom is

contingent upon certain big corporations.

In the innovation-decision process, people evaluate the advantages and costs resulting from adoption of an innovation. Rogers has provided diffusion scholars with several dimensions of relative advantage including the degree of economic profitability, low initial cost, a decrease in discomfort, social prestige, and a savings in time and effort. The degrees to which these dimensions would have given an impact on adoption of innovations vary.

Another characteristic of innovations, compatibility, determines the adoption of an innovation as well. Compatibility refers to “whether the innovation is perceived as consistent with social-cultural values and beliefs, previously introduced ideas, or potential adopter’s needs for the innovation”.

The third factor that affects the adoption or rejection of an innovation is its perceived complexity. In the diffusion study, it means “the degree to which an innovation is perceived as relatively difficult to understand and use”.

Any innovation would not diffuse as rapidly as it normally is unless the results or benefits of an innovation, as perceived by the potential adopters, are easily observed and communicated to others. Unlike perceived relative advantage, observability refers to short-term or immediate benefits. These perceived observed benefits are more than general ones. As the use and gratifications of

3G services to different individuals vary, perceived observed benefits specific to individuals would differ.

In the past decades, many empirical studies have been carried out, based on theoretical framework of diffusion of innovations, in an attempt to study the adoption of innovations. Recent diffusion studies have focused on adoption of new information and communication technologies such as mobile phones (Leung and Wei, 2000) and telecommuting (Leung, 2004).

Leung (2004) examined Rogers' (2005) four perceptual factors, namely relative advantage, compatibility, complexity and observed benefits, that influenced the adoption of telecommuting at societal, organizational and individual levels. The study examined information workers' preference toward telecommuting and intention to adopt as a function of demographics, perceived attributes toward telecommuting, need for innovativeness, ownership of new media technologies, job satisfaction, quality of life, and mass media use. The study presented that the more positive the employers and employees on the four perceptual factors, perceiving telecommuting as less complex, viewing more advantages, observing more benefits, and considering telecommuting more compatible with existing values, they were more likely to adopt telecommuting.

A review of the literature related to values and lifestyles, and diffusion of innovations reveals possible interrelationships among these variables. However, there were lack of studies on interrelationships between the values and lifestyles and 3G services. Therefore, this study investigates the relationship between Hong Kong Chinese values and lifestyles and their perceived attributes of 3G services. This study involves the following components: (1) lifestyles; (2) perceived attributes of 3G services; (3) demographics; (4) adoption of 3G services; (5) desirability to adopt 3G services, and (6) likelihood to adopt 3G services of respondents. The first three components are independent variables while the last three components are dependent variables.

Chapter 3 Hypotheses

The study examines Hong Kong Chinese's perception of the attributes of 3G services are predictors for 3G service satisfaction, adoption and likely adoption.

The following hypotheses are proposed:

$H_{1.1}$: Lifestyles will be predictive of 3G services satisfaction.

$H_{1.2}$: Lifestyles will be predictive of likely adoption of 3G services.

$H_{2.1}$: People's perception of the attributes of 3G services will be predictive of 3G services satisfaction.

$H_{2.2}$: People's perception of the attributes of 3G services will be predictive of likely adoption of 3G services.

Chapter 4 Methods

4.1 Sampling and Sampling Method

Snowball sampling will be used in this study. Online questionnaires had been distributed in Hong Kong during March 2006. Respondents are those Hong Kong Chinese who are cell phone and Internet users. According to the Census and Statistics Department (2005), there are almost 64.6% of Hong Kong people using Internet, out of 1.6 million households having PC at home, the survey area covered a population of 1.48 million persons.

A pre-test was conducted before the actual execution of the online questionnaire in March 2006. 5 questionnaires were obtained in the pre-test stage. Ambiguities and inconsistencies were found and eliminated from the questionnaire. Order of some questions was reorganized to make the questionnaire in a clear structure.

As the original VALS questionnaire was in English, it was translated into Chinese with minor amendments because some questions are improper in the Hong Kong culture. For example, the question in the VALS survey reads, “ the Federal government should encourage prayers in public school.” This question is culturally specific, it is clear that “federal government” is not suitable for Hong Kong and Hong Kong has a somewhat different interpretation of “public

school" compared with their American counterparts. In addition, Hong Kong does not have a religional or promote any kind of religious activities. Prayers or other religious cults are not a question in the Hong Kong educational system. In order to retain the essence of the original question, the Chinese version of the question addressed the problem of moral education in schools.

A total of 396 questionnaires was obtained, 372 of which are valid, The successful rate is 94%. Of the 372 respondents, 73 were 3G services adopters and 299 were non-adopters.

4.2 Sample Profiles

Adopters of 3G services. The 3G services adoption rate of the sample collected was 20%. The average duration of adoption of 3G services was 9.5 months. The three leading 3G services providers that people adopted were 3 (56%), SmarTone (20%) and PCCW (19%). The three leading 3G services that people adopted were video calls (79,5%), instant news (67.1%) and music/games download (60.3%), while people satisfied with were instant news (3.51), music and TV channels (3.50), and betting (3.44), as "1" means "very unsatisfied" and "5" means "very satisfied". Reasons that people adopted 3G services were time killing (45%), convenience (42%), trendy (31%) and

extemporization (31%). Their intentions of using 3G services within the next six months were unlikely (9.6%), possibly (31.5%) and likely (52.1%). The sample consists of 37.0% males and 63.0% females, all of them are of age below 55. The mean age was 26.0. In terms of Internet usage, the average Internet experience was 7.5 years. The average weekly Internet usage was 5.6 days. In terms of other demographic characteristics, the average years of education was 13.7 years, that equals tertiary education, while the average monthly income was HK$13,600. In this study, we assumed that the year of education started counting from primary one and there were 6-year education in primary school, 7-year education in secondary school and 3-year education in university.

Non-adopters of 3G services. 80% of the respondents did not adopt 3G services. 81% of the non-adopters of 3G services have used mobile applications other than voice service and people adopted those applications for convenience (54%), extemporization (31%), time killing (28%) and leisure (25%). More than 21% of the non-adopters of 3G services had a low evaluation of their knowledge and understanding of 3G services while about 56% of the non-adopters admitted a fair understanding of 3G services. Only 21% of the non-adopted self-reported a high understanding of 3G services.

The result was consistent with the answers of the five questions which were used to test their knowledge of 3G services. Their need of adopting 3G services within six months were unlikely (84%), possibly (11%) and likely (<1%). Besides, their likelihood of adopting 3G services within six months were unlikely (74%), possibly (18%) and likely (3%). The sample consists of 39.8% males and 60.2% females, covering all ranges of ages. Mean age was 27.6. In terms of Internet usage, the average Internet experience was 7.1 years. The average weekly Internet usage was 5.6 days. In terms of other demographic characteristics, the average years of education was 14.5 years, that equals tertiary education, while the average monthly income was HK$14,300.

Chapter 5 Measurements

5.1 Measuring Adoption and Adoption Intention

Adoption of 3G services was measured in terms of the types of 3G services adopted and satisfaction of usage. Respondents were asked to report (1) whether they used 3G services in Hong Kong, and (2) how satisfied they were when they used various applications of 3G services on a five-point Likert scale, as “1” means “very unsatisfied” and “5” means “very satisfied”.

Two statements were used to measure non-3G services users’ adoption intention. The respondents were asked (1) how desirable it was for they to adopt 3G services in the next six months on a three-point scale, where “1” reflects “undesirable” and “3” reflects “very desirable”, and (2) to evaluate their likelihood to adopt 3G services in the next six months on a three-point scale, with “1” means “unlikely” and “3” reflects “likely”.

5.2 Measuring Lifestyles

Adopting the lifestyles psychographic segmentation system developed by SRI International, this study measured motivation which include attitudinal questions such as “ I consider myself an intellectual”, “Just as the Bible says, the world literally was created in six days” and “I like doing things that are new

and different". The resources items concerned respondents' education, income, self-confidence, eagerness to buy, and energy level. A total of 30 items measured on a five-point Likert scale, with "1" representing " mostly disagree" and "5" representing "mostly agree" were presented to the respondents.

A principal components factor analysis with varimax rotation was carried out to find the underlying factors of the responses to the 30 questions on VALS. The Kaiser-Meyer Olkin (KMO) measure of sampling adequacy equals to 0.805, representing a strong multivariate structure available for analysis. It resulted in eight factors with eigenvalues greater than 1.0, explaining 58% of the total variance (see Table 2).

Factor 1, *Experiencers* (eigenvalue = 3.5, variance explained= 11.7%, Cronbach's alpha = .83), consists of seven items. This factor describes respondents themselves as variety and excitement seeking. Factor 1 had the highest aggregated mean score of 3.63.

Factor 2, *Innovators* (eigenvalue = 2.4, variance explained = 8.0%, Cronbach's alpha = .78), consists of three items describing respondents as " take-charge" people with high self-esteem. Factor 2 had the second smallest mean score of 2.76.

Factor 3, *Makers* (eigenvalue = 2.2, variance explained = 7.5%, Cronbach's

alpha = .79), contains three items. It categorizes respondents who have constructive skills and value-sufficiency and who are unimpressed by material possessions other than those with a practical or functional purpose. Factor 3 had the third smallest mean score of 2.81.

Factor 4, *Strivers* (eigenvalue = 2.0, variance explained = 6.7%, Cronbach's alpha = .77), consists of two items. This factor depicts respondents as motivation, self-definition and approval seeking from the world around them. Many of them seek to be stylish. Factor 4 had the lowest mean score of 2.69.

Factor 5, *Thinkers* (eigenvalue = 2.0, variance explained = 6.6%, Cronbach's alpha = .64), consists of four items. It describes respondents as mature people who value knowledge and are guided by firmly held principles. Factor 5 had the fifth highest mean score of 2.86.

Factor 6, *Achievers* (eigenvalue = 1.9, variance explained = 6.5%, Cronbach's alpha = .57), contains four items. It describes respondents who values structure, predictability and stability over risk, intimacy and self-discovery. Factor 6 had the second highest mean score of 3.49 ().

Factor 7, *Survivors* (eigenvalue = 1.7, variance explained = 5.6%, Cronbach's alpha = .54), consists of three items describing respondents as poorly educated, low-skilled, without strong social bonds and aging. They are also

cautious consumers. Factor 7 had the fourth highest mean score of 3.14.

Factor 8, *Believers* (eigenvalue = 1.6, variance explained = 5.5%, Cronbach's alpha = .49), comprised four items. It categorizes respondents who are conservative, conventional people with concrete beliefs and strong attachments to traditional institutions. Factor 8 had the third highest mean score of 3.18.

Table 2: Factor Loadings (principal components, varimax rotation) of 30 Lifestyle Indicators

(N = 221)

	Mean	S.D.	Factor							
			1	2	3	4	5	6	7	8
Experiencers										
I like outrageous people and things.	3.63	1.00	**.69**	.08	.05	.03	.18	.09	-.01	-.04
I often crave excitement.	3.37	1.05	**.68**	.23	.08	.27	.15	-.00	-.02	-.06
I like doing things that are new and different.	3.63	0.87	**.68**	.16	.23	.07	.05	.17	-.03	.11
I like the challenge of doing something I have never done before.	3.74	0.77	**.68**	.17	.08	-.12	-.08	.12	-.13	.18
I like trying new things.	3.65	0.92	**.68**	.18	.13	.13	.09	.05	-.14	-.06
I like a lot of variety in my life.	3.82	0.93	**.66**	.08	.09	.39	.05	.02	-.09	-.01
I like to learn about thing even if they may never be of any use to me.	3.59	0.94	**.45**	-.11	.16	-.17	.05	.15	-.24	.15
Innovators										
I like to lead others.	2.88	1.03	.19	**.80**	.05	.10	.15	.17	-.06	.10
I like being in charge of a group.	2.88	1.02	.21	**.77**	.11	.16	.10	.17	-.07	-.02
I must admit that I like to show off.	2.51	1.03	.13	**.70**	.01	.14	.10	-.06	-.02	-.05
Makers										
I like to make things with my hands.	3.11	1.08	.21	-.07	**.83**	.06	.07	.07	-.04	.08
I like to make things I can use everyday.	2.89	1.06	.15	.07	**.82**	.17	.08	.16	-.04	-.01
I would rather make something than buy it.	2.44	0.93	.10	.16	**.75**	-.12	.12	-.05	.08	.07
Strivers										
I like to dress in the latest fashions.	2.70	1.12	.13	.20	.01	**.80**	-.02	-.00	-.01	.08
I follow the latest trends and fashions.	2.68	1.02	.19	.16	.14	**.74**	-.06	.11	-.15	.02
Thinkers										
I am very interested in how mechanical things, such as engines, work.	2.57	1.19	.14	.11	.15	-.04	**.80**	.01	-.08	.03
I like to look through hardware or automotive stores.	2.14	1.05	.06	.07	.12	.14	**.79**	-.08	.06	-.06
I am often interested in theories.	3.24	1.13	.14	.20	.05	-.28	**.47**	.31	-.01	-.04
I would like to understand more about how the universe works.	3.48	1.14	.16	.14	-.07	-.24	**.43**	.26	-.10	.29
Achievers										
I consider myself an intellectual.	3.58	0.82	.04	.11	.02	-.03	.15	**.77**	-.15	-.01
I like to learn about art, culture, and history.	3.40	1.13	.14	.02	.16	-.01	-.14	**.60**	-.07	.07
I have more ability than most people.	3.28	0.89	.13	.41	.03	.05	.07	**.58**	.04	-.22
I would like to spend a year or more in a foreign country.	3.69	1.11	.40	-.21	-.08	.16	.06	**.45**	.02	.12
Survivors										
I am really interested only in a few things.	3.05	1.09	-.10	-.04	.01	.01	-.02	-.02	**.80**	.04
I must admit that my interests are somewhat narrow and limited.	3.07	1.13	-.13	.00	-.04	-.08	-.06	-.20	**.72**	.06
I like my life to be pretty much the same from week to week.	3.30	1.05	-.23	-.18	.13	-.34	.05	.06	**.42**	-.02
Believers										
Just as the Bible says, the world literally was created in six days.	3.05	1.29	.01	-.04	.03	.01	-.09	-.07	-.13	**.73**
There is too much sex on television today.	2.70	1.01	.07	.17	.23	.05	.00	.01	.08	**.67**
The government should encourage moral education in schools.	3.93	1.00	.05	-.21	-.11	.04	.10	.17	.23	**.47**
A woman's life is fulfilled only if she can provide a happy home for her family.	3.03	1.12	.03	-.02	-.03	.36	.27	-.16	.26	**.40**
Eigenvalue			3.5	2.4	2.2	2.0	2.0	1.9	1.7	1.6
Variance explained			11.7%	8.0%	7.5%	6.7%	6.6%	6.5%	5.6%	5.5%
Cronbach's Alpha			.83	.78	.79	.77	.64	.57	.54	.49

Note: The scale used: 1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly agree.
Kaiser-Meyer Olkin (KMO) Measure of Sampling Adequacy = 0.805; Total variance explained = 58%

5.3 Measuring Perceived Attributes toward 3G services

Rogers (1995) proposed five attributes of an innovation that may help determine the rate of adoption, namely, (1) relative advantage, (2) complexity, (3) compatibility, (4) trialability, and (5) observability. In this study, all the components are relevant to the adoption 3G services. Therefore 9 questions corresponding to the above five perceived attributes of 3G services, were used in the questionnaires. These factors included reasonable prices, quality of services, variety of contents, ease of usage, reliability of the infrastructure and free trial. Respondents were asked to express their views on each statement on a five-point Likert scale, with “1” representing “strongly disagree” and “5” representing “strongly agree”.

Adopters’ attributes toward 3G services. The reliability analysis examined the reliability of the factors of 3G services for adopters (see Table 3).

Non-adopters’ attributes toward 3G services. Similarly, respondents were asked to express their views on 15 statements about the conditions of adoption 3G services on a three-point scale, with “1” representing “desirability of using 3G services is unchanged” and “3” representing “immediate switching to 3G services”. The data of reliability analysis was shown in Table 4.

Table 3: Reliability Analysis of 3G Services Adoption for Adopters (N = 73)

	Mean	S.D.	Cronbach's Alpha
Relative Advantage			
I am satisfied with the speed of data transfer of 3G services.	3.00	1.11	.59
3G services provide a good variety of applications.	3.92	0.71	
Complexity			
3G cell phones are easy to use.	3.60	0.83	N/A
Compatibility			
The battery life of 3G cell phones is acceptable.	2.76	1.15	.58
The size of 3G cell phones is moderate and the accessories are adequate.	3.15	1.02	
There is a variety of 3G cell phones.	3.00	1.01	
Trialability			
It is important to have free trial.	4.10	0.86	N/A
Observability			
As I know, few people adopt 3G services.	3.50	1.09	.71
Few people recommended 3G services to me.	3.69	0.93	

Note: The scale used: 1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly agree.

Table 4: Reliability Analysis of 3G Services Adoption for Non-adopters (N =299)

	Mean	S.D	Cronbach's Alpha
Relative Advantage			
Enhancement of 3G service's quality	1.70	0.52	0.86
Reduction in basic monthly charges and other kinds of application fees	2.01	0.53	
Increase in the speed of data transfer	1.68	0.57	
Providing a better variety of applications	1.71	0.57	
Enriching the contents of applications	1.70	0.58	
Complexity			
Making the operation of 3G handset easy	1.62	0.58	0.77
Lowering computer knowledge required when using 3G cell phones	1.36	0.57	
Compatibility			
Increasing the battery life	1.68	0.59	0.81
Reduction in size and accessories of 3G handsets	1.78	0.57	
Increasing the choice of 3G handsets	1.72	0.60	
Trialability			
Free trials are provided	1.96	0.72	0.58
Free tutorials on 3G usage are provided	1.33	0.55	
Observability			
More people adopt 3G services	1.87	0.61	0.64
Improving the image of 3G services	1.43	0.58	
Introducing celebrities to promote 3G services	1.11	0.35	

Note: The scale used: 1 = Desirability of using 3G services is unchanged; 2 = Desirability of using 3G services is increased without immediate adoption; 3 = Immediate switching to 3G services.

Chapter 6 Findings

Following the factor and reliability analyses to create measures, linear regression procedures were used to find the relationships between those measures and satisfaction on 3G services for adopters, the likelihood and desirability of adoption for non-adopters. Lifestyles, attitudes toward 3G services, knowledge of 3G services, usage of Internet and demographics were the chosen measures.

Predicting 3G services adoption. The multiple results in Table 5 and Table 6 show that the correlation of some predictors and applications of 3G services were statistically significant. For the first group of predictors, the significant predictors are Makers, Strivers, Thinkers and Achievers. This finding suggests that Makers are more satisfied with video call (r = .37, p <.05) but are dislike to watch instant news (r = -.42, p <.05), while Strivers are more satisfied with adult contents (r = .88, p <.01) and would prefer to use 3G services in unclassified uses (r = .64, p <.05). Thinkers are not satisfied with downloads (r = -.47, p <.05) and information on stock (r = -.81, p <.01) while Achievers are satisfied to have stock news (r = .74, p <.05) and betting (r = .79, p <.05) on their 3G cell phones. However, other predictors, namely, Experiencers, Innovators, Survivors and Believers are found to be insignificant predictors of

satisfaction of 3G services.

For the second group of predictors, the significant predictors are relative advantage, complexity and compatibility. This finding indicated that adopters who perceive greater relative advantage are more satisfied with video call (r = .54, p <.001). Obviously, high data transfer rate is a necessary condition for watching instant news (r = .54, p <.01). Also, less complex in using 3G services is important for betting (r = .65, p <.001). Adopters who perceive higher compatibility are more satisfied with adult contents (r = .64, p <.05) and using modem in connecting Internet (r = .48, p <.05).

For the third group of predictors, none of the predictors are significant. This finding reveals that usage of Internet is not an important predictor for predicting satisfaction on 3G services for adopters.

For the fourth group of predictors, only monthly income and gender are significant predictors. This finding shows that adopters with higher income dislike to use video call (r = -.33, p <.05). On the other hand, males are more satisfied with music TV (r = .36, p <.05).

Table 5: Bivariate Correlation for Predicting Satisfaction on 3G services for Adopters (N = 38)

Predictors	Pearson Correlation Coefficient *r*									
	Video Call	Instant News	Downloads	Stock	Music TV	Betting	Email / fax	Adult contents	Modem	Unclassified uses
Lifestyles										
Experiencers	.09	.03	.28	-.14	.12	.02	.01	-.45	.47	.31
Innovators	-.32#	-.18	-.22	-.22	-.06	.06	-.40	.15	-.32	-.24
Makers	**.37***	**-.42***	-.02	-.53	.04	-.48	-.44	-.25	-.46	-.02
Strivers	.07	.23	.34	.29	-.22	.62#	.04	**.88****	.52	.64*
Thinkers	-.23	-.27	**-.47***	**-.81****	.28	-.19	-.34	-.55	-.14	-.07
Achievers	-.02	-.11	-.28	**.74***	-.32	**.79***	-.19	.12	-.53	-.48
Survivors	.22	.24	.08	.32	.28	.17	.07	-.19	.13	-.02
Believers	.31#	.19	.14	.33	.27	-.18	.14	-.27	.03	-.05
Technology Attributes										
Relative Advantage	.26	**.54****	.14	.38	.31	.05	.39	.20	.21	.34
Complexity	.15	.09	.23	.13	-.10	**.65****	-.07	.47	.03	.22
Compatibility	.20	-.17	.14	.02	.26	.16	.11	**.64***	**.48***	.22
Trialability	.04	.00	-.13	-.07	-.06	.44	-.29	-.27	-.27	-.02
Observability	-.12	.11	-.18	.28	-.04	.27	-.12	.42	-.27	-.18
Usage of Internet										
Internet Experience	.11	-.04	.06	-.03	-.11	-.12	.16	-.46	.10	.12
Weekly Internet Usage	-.13	-.02	.15	-.28	-.29#	.15	-.11	.02	.03	.27
Demographics										
Age	-.22#	.07	.11	.19	-.09	.10	.01	-.07	-.23	-.16
Education	-.23#	-.17	-.02	-.35	-.23	-.32	-.21	-.43	-.17	-.14
Monthly income	**-.33***	-.02	.21	-.12	.08	.08	-.04	-.02	-.24	.10
Gender (1 = Male)	-.16	-.10	-.21	-.10	**.36***	.06	.12	-.30	.26	-.06

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, # $p < 0.1$

Table 6: Linear Regression for Predicting 3G services Adoption for Adopters (N = 38)

Predictors	Standardized Coefficient β									
	Video Call	Instant News	Downloads	Stock	Music TV	Betting	Email / fax	Adult	Modem	Others
Lifestyles										
Experiencers	.01	.10	.31	.11	.09	.49#	.05	-.10	.23	.25
Innovators	-.20	-.32	-.23	.00	-.04	.38	-.43#	.10	-.13	-.08
Makers	**.37***	**-.42***	-.14	-.35	.02	-.37	-.44	.17	-.24	.28
Strivers	-.01	.32	.25	.19	-.25	.20	.02	**.88****	.40	**.64***
Thinkers	-.19	-.19	-.47*	**-.81****	.27	.12	-.35	-.22	-.38	.01
Achievers	-.08	-.02	-.27	.27	-.32	**.79***	-.09	.04	-.53#	-.34
Survivors	.32#	.22	.01	-.16	.26	-.45	.51	-.11	.17	.05
Believers	.25	.30	.16	.35#	.29	.19	.11	-.08	-.09	.12
Technology Attributes										
Relative Advantage	.24	**.58*****	.12	.36	.31#	.06	.24	.09	-.06	.19
Complexity	.08	.12	.14	.07	-.10	.52#	-.15	.14	-.22	-.19
Compatibility	.05	-.17	.02	-.30	.19	-.07	-.16	.53#	.22	-.30
Trialability	-.02	-.01	-.20	-.09	.01	.22	-.40#	-.32	-.42#	-.30
Observability	-.14	.23#	-.18	.40	.09	.11	.09	.49#	-.20	-.19
Usage of Internet										
Internet Experience	**.29***	.05	.06	.23	-.00	-.01	.37	-.46	.01	-.12
Weekly Internet Usage	-.04	.06	.15	-.13	**-.35***	.33	-.17	.34	-.02	.23
Demographics										
Age	.02	.20	.14	.34	-.00	.28	.17	-.20	.06	-.11
Education	-.08	-.18	.08	-.35	-.04	-.38	-.03	-.27	-.03	-.31
Monthly income	**-.35***	.04	.22	.04	.22	.42	.04	.01	-.24	.00
Gender (1 = Male)	-.03	-.11	-.22	-.01	**.31***	.13	.16	-.22	.15	-.15

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, # $p < 0.1$

Hypothesis 1.1 proposes that lifestyles will be predictive of 3G services satisfaction. In the regression analysis, Strivers (positive) and Achievers (positive) found to be significant predictors for the satisfaction of applications like adult contents and betting. Makers (inverse) and Thinkers (inverse) were

significant predictors for the satisfaction of instant news, downloads and information on stock. Hence, the findings provide partial support for $H_{1.1}$.

Hypothesis 2.1 predicts that peoples' perceptions of 3G services will be predictive of 3G services satisfaction. Of the five attributes of 3G services, relative advantage is a significant positive predictor for the satisfaction of video call service. This finding provides little support for $H_{2.1}$.

With regard to the usage of Internet, Internet experience (positive) and weekly Internet usage (inverse) are significant predictors for the satisfaction of video call and music TV.

For demographic characteristics, monthly income (inverse) and gender (positive for male) were significant predictors for the satisfaction of video call and music TV.

Predicting 3G services adoption desirability and likelihood. To examine the relative influences of lifestyles, attitudes to 3G services, usage of Internet and demographics in predicting the desirability and likelihood to adopt 3G services, linear regression procedures were executed.

Table 7: Bivariate Correlation for Predicting 3G services Adoption for Non-adopters (N = 132)

	Desirability to adopt		Likelihood to adopt	
Predictors	Pearson Correlation Coefficient *r*	Standardized Coefficient β	Pearson Correlation Coefficient *r*	Standardized Coefficient β
Lifestyles				
Experiencers	.14#	.13#	.15*	.14#
Innovators	.18*	**.17***	.15*	**.15***
Makers	.16*	**.15***	.21**	**.20****
Strivers	.25***	**.25*****	.22**	**.22****
Thinkers	-.11	-.11	-.01	-.02
Achievers	-.05	-.08	-.18	**-.21****
Survivors	.09	.08	-.04	-.05
Believers	.00	-.00	.00	.00
Technology Attributes				
Relative Advantage	.42***	**.24****	.46***	**.46*****
Complexity	.35***	**.16***	.37***	**.17***
Compatibility	.35***	**.15***	.36***	.14#
Trialability	.34***	**.16***	.39***	**.24*****
Observability	.43***	**.45*****	.40***	**.23****
Usage of Internet				
Internet Experience	-.07	.02	-.01	.02
Weekly Internet Usage	-.06	.03	-.01	-.04
Demographics				
Age	-.20***	**-.15***	-.19**	**-.19****
Education	-.23***	**-.22*****	-.18**	**-.14***
Monthly income	-.06	.01	-.07	.05
Gender (1 = Male)	-.02	.00	-.01	.00

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, $^{\#}$ $p < 0.1$

Table 7 shows the regression results in two parts. The first part, desirability, reveals that Innovators (β = .17, p < .05), Makers (β = .15, p < .05), Strivers (β = .22, p < .05), relative advantage (β = .24, p < .01), complexity (β = .16, p < .05), compatibility (β = .15, p < .05), trialability (β = .16, p < .05), observability (β = .45, p < .001), age (β = -.15, p < .05) and education (β = -.22, p < .001) are significant predictors for the desirability to adopt 3G services for non-adopters. This result indicates 3G services that are easy to use and with higher relative advantage, compatibility, trialability and observability are attractive to non-adopters. Individuals who were inclined to adopt 3G services may be more conscious of fashion and styles. Some are successful, active and interested in seeking challenges. Quite a few of them are impressed by the practicalities and functionality of products they purchase. In terms of demographics, individuals who are younger and (less hence educated) have a greater desirability to adopt 3G services.

The likelihood to adopt 3G services for non-adopters was analyzed in the other part. The regression results in Table 7 shows that the significant predictors for the likelihood to adopt 3G services are Innovators (β = .15, p < .05), Makers (β = .20, p < .01), Strivers (β = .22, p < .01), Achievers (β = -.21, p < .01), relative advantage (β = .46, p < .001), complexity (β = .17, p < .05), trialability (β = .24,

$p < .001$), observability ($\beta = .23$, $p < .01$), age ($\beta = -.19$, $p < .01$) and education ($\beta = -.14$, $p < .05$). This result indicates Achievers, who live conventional lives and favour established products, would be unlikely to adopt 3G services. However, the younger the individuals (and hence less educated) the more likely they will adopt 3G services.

Hypothesis 1.2 predicts that lifestyles will be predictive of likely adoption of 3G services. Innovators, Makers and Strivers were significant predictors for the desirability and likelihood to adopt 3G services. These findings provide some support for $H_{1.2}$.

Hypothesis 2.2 proposes that people's perceptions of the attributes of 3G services will be predictive of likely adoption of 3G services. In this regard, relative advantage, complexity, trialability and observability are significant positive predictors for both the desirability and likelihood to adopt 3G services, and compatibility is a significant positive predictor for the desirability to adopt 3G services. These findings provide some support for $H_{2.2}$.

With regard to the demographic variables, age and education are significant inverse predictors for both desirability and likelihood to adopt 3G services. This study also finds that the knowledge of 3G services is related to desirability and likelihood to adopt 3G services. From Table 8, Correlations between

knowledge of 3G and desirability / likelihood to adopt 3G services, it indicates that people who have much knowledge on 3G services, they are desired to adopt 3G services (r = .23, p < .01) and are likely to adopt 3G services (r = .19, p < .01).

Table 8: Correlations between knowledge of 3G services and desirability / likelihood to adopt 3G services (N = 132)

	Pearson Correlation Coefficient *r*	
	Desirability to adopt	Likelihood to adopt
Knowledge of 3G services	.23**	.19**

Note: ** $p < 0.01$

Chapter 7 Discussion

This study is the first attempt to use lifestyles and perceived attributes of 3G services to predict 3G services satisfaction and adoption. The findings of this study indicate that the adoption and likely adoption of 3G services appear to relate to certain lifestyles patterns and attributes toward 3G services.

In the factor analysis, all eight psychographic segments were able to survive. Among the eight lifestyles orientations, only four are significant predictors for the satisfaction, adoption and likely adoption of 3G services.

From the above, it is clear 3G services serve different purposes for people of different lifestyles. For example, individuals who seek motivation, self-definition and approval form the world around them and seek to be stylish are more satisfied with and likely to adopt 3G services. For people who are active, “take-charge” people and seeking challenges, they are also likely to adopt 3G services.

One of the major findings is that people who are mature, satisfied, well-educated and in professional occupations are less satisfied with 3G services. This finding suggests that those people are conservative and practical consumers and their adoptions of 3G services are significantly driven by basic characters such as functionality, value and durability of 3G cell

phones and 3G services. Unreliable infrastructure and frequent drop-calls may hinder them from 3G adoption.

It is interesting to note that three of the attributes of 3G services are significant predictors, they are relative advantage, complexity and compatibility, for adopters' satisfaction of 3G services, while relative advantage, complexity, trialability and observability, are significant predictors for non-adopters' adoption likelihood.

The regression model confirms that certain usage of Internet pattern and demographic characteristics were useful predictors in explaining 3G services adoption.

Internet experience, weekly Internet usage, monthly income and gender were significant predictors for satisfaction of 3G services. Males, 3G adopters with more Internet experience, less weekly internet usage and monthly income are more satisfied with 3G services. On the other hand, age and education are significant predictors for adoption and likely adoption of 3G services. This result is expected because teenagers are more likely to try innovations.

The findings in this study have several implications for 3G services marketers as well as researchers. 3G service adoption and adoption intention vary across lifestyles groups. This suggests that advertising should be focus on

consumers' desires, expectations, preferences, and perception of 3G services. Also, advertising should be focus on promotion on knowledge of 3G as increasing it may boost 3G adoption.

Chapter 8 Conclusions

This study examined the adoption of 3G services in Hong Kong by integrating diffusion and psychographic paradigms. Because research in 3G services adoption in the field of communications is still limited, it is worth exploring the factors that enhances or hinders the adoption of 3G services.

Besides, advertising should focus on several target groups, they are teenagers, strivers and makers, and people seeking to be stylish. Also, more applications such as virtual girl friends and chatroom should be introduced to the target group, strivers.

Limitations of the Study

As a result of limited time, the researcher was able to collect 372 valid questionnaires. The limited sample size, especially the small sample size of 73 3G adopters, is a major weakness of the study that would lead to a generalization problem. Furthermore, the age group and education level had a bias because many participants were between 25-35 and university graduates. Also, the use of the American-oriented VALS 2 typology may not perfectly match the psychographic profiles of Hong Kong consumers.

Appendix The Need of 3G Services and Lifestyles

March 2006

Hello, I am a postgraduate student of the Chinese University of Hong Kong and now doing a research project on 3G services, in order to analyse the need of 3G services in the marketplace.

If you are a cell phone user, please spare 10 minutes to answer this questionnaire. The questionnaire is anonymous. The data collected will be used for research purpose only.

A minimum sample size of 400 is required; please forward this questionnaire to all your friends. Thank you for your help!

Q1 Are you using 3G telecommunication services？

1. Yes → [Jump to Part A]
2. No → [Jump to Part B]

Part A：For 3G services Adopters

1. Usage of 3G Services

Q2 How long have you been using 3G services？

A. Less than half a year　B. One half to one year　C. One to two years　D. More than two years

Q3 Which of the following is your telecom service provider?

A. 3　B. PCCW　C. 1010　D. One2free　E. Smartone　F. Others

Give your answers on a scale from 1 to 5 with “1” meaning “very unsatisfied” and “5” meaning “very satisfied”. Have you ever used the following applications? If yes, are you satisfied?

			Yes				
		No	Very unsatisfied				Very satisfied
Q4	Video call	0	1	2	3	4	5
Q5	Instant news, weather or traffic	0	1	2	3	4	5
Q6	Interactive games, games ringtones and pictures download	0	1	2	3	4	5
Q7	Financial news such as instant stock price, indices or stock analysis	0	1	2	3	4	5
Q8	TV, films or music channel	0	1	2	3	4	5
Q9	Betting on horse racing, Mark six and football	0	1	2	3	4	5
Q10	Email or fax	0	1	2	3	4	5
Q11	Adult contents	0	1	2	3	4	5
Q12	Other uses such as making friends online or reading columns	0	1	2	3	4	5
Q13	Use a 3G cell phone as a modem to connect Internet	0	1	2	3	4	5

Q14 What do you use the above applications for? (You may choose more than one item.)

A. Leisure B. Trendy C. Time killing D. Convenience

E. Extemporization F. Others:_____

2. Attitude toward 3G Service

On a scale from 1 to 5 with “1” meaning “strongly disagree” and “5” meaning “strongly agree”, how would you rate the following statements regarding your attitude toward 3G services?

		Strongly disagree				Strongly agree	DK
Q15	The pricing of 3G services is reasonable.	1	2	3	4	5	0
Q16	Voice service of 3G is better.	1	2	3	4	5	0
Q17	I am satisfied with the data transfer rate of 3G services.	1	2	3	4	5	0
Q18	3G services provide a good variety of applications.	1	2	3	4	5	0
Q19	3G enhances the chance of face-to-face meeting through the phone.	1	2	3	4	5	0
Q20	Positioning 3G is a good function.	1	2	3	4	5	0
Q21	Face-to-face talking on a phone do not cause any inconvenience.	1	2	3	4	5	0
Q22	It is easy to use handsets of 3G.	1	2	3	4	5	0
Q23	It involves much computer knowledge in using 3G services.	1	2	3	4	5	0
Q24	The battery life of 3G cell phones is acceptable.	1	2	3	4	5	0
Q25	The size of 3G cell phones is moderate and the accessories are adequate.	1	2	3	4	5	0
Q26	There is a good variety of 3G cell phones.	1	2	3	4	5	0
Q27	3G services provides a lot of free applications for trial.	1	2	3	4	5	0
Q28	It is important to have free trial.	1	2	3	4	5	0
Q29	As I know, few people adopt 3G services.	1	2	3	4	5	0
Q30	Few people recommend 3G services to me.	1	2	3	4	5	0

3. Intention of Using 3G Services

On a scale from 1 to 3 with “1” meaning “unlikely”, “2” meaning “probably” and “3” meaning “likely”, how would you rate the following statement?

		Unlikely	Probably	Likely	DK
Q31	What is the likelihood for you keep using 3G services in the next 6 months?	1	2	3	0

[Jump to Part C]

Part B：For Non-adopters of 3G Services

1. Habits on Using Mobile Phone Services

Q32 Have you ever used other applications such as SMS, ringtone download, listening to music or playing games other than voice service?

A. Yes B. No [Jump to Q32]

Q33 What do you use the above applications for? (You may choose more than one item.)

A. Leisure B. Trendy C. Time killing D. Convenience

E. Extemporization F. Others:_____

2. Knowledge on 3G Services

On a scale from 1 to 5 with “1” meaning “completely not understand”, “2” meaning “not understand”, “3” meaning “slightly understand”, “4” meaning “understand” and “5” meaning “expert”, how would you rate the following statement?

		CNU	NU	SU	Und	Expert	DN
Q34	How well do you know about 3G services？	1	2	3	4	5	0

Judge whether the following statements are correct. Just answer the statements according to what you know.

Q35	Data transfer rate through a 3G network is higher than that through a 2G network.	Yes	No	DN
Q36	People can see each other through a phone with camera with both 3G and 2G services (computers excluded).	Yes	No	DN
Q37	Only 3G cell phones can receive and send MMS.	Yes	No	DN
Q38	You can only watch TV news on a cell phone with 3G services.	Yes	No	DN
Q39	Any kind of cell phones can use 3G services.	Yes	No	DN

3. The conditions of adopting 3G Services

On a scale from 1 to 3 with “1” meaning “Desirability of using 3G services is unchanged”, “2” meaning “Desirability of using 3G services is increased without immediate adoption” and “3” meaning “Immediate switching to 3G services”, how would you rate the following statement?

		DU	DWA	IS	DN
Q40	Enhancement of 3G service’s quality	1	2	3	0
Q41	Reduction in basic monthly charges and other kinds of application fees	1	2	3	0
Q42	Increase in the speed of data transfer	1	2	3	0
Q43	Providing a better variety of applications	1	2	3	0
Q44	Enriching the contents of applications	1	2	3	0
Q45	Making the operation of 3G handset easy	1	2	3	0
Q46	Lowering computer knowledge required when using 3G cell phones	1	2	3	0
Q47	Increasing the battery life	1	2	3	0
Q48	Reduction in size and accessories of 3G handsets	1	2	3	0
Q49	Increasing the choice of 3G handsets	1	2	3	0
Q50	Free trials are provided	1	2	3	0
Q51	Free tutorials on 3G usage are provided	1	2	3	0
Q52	More people adopt 3G services	1	2	3	0
Q53	Improving the image of 3G services	1	2	3	0
Q54	Introducing celebrities to promote 3G services	1	2	3	0

4. Intention to Adopt 3G Services

On a scale from 1 to 3 with “1” meaning “undesirable”, “2” meaning “somewhat desirable” and “3” meaning “very desirable”, how would you rate the following statement?

		Undesirable	Somewhat desirable	Very desirable	DN
Q55	How desirable is it for you to adopt 3G services in the next six months?	1	2	3	0

On a scale from 1 to 3 with “1” meaning “unlikely”, “2” meaning “probably” and “3” meaning “likely”, how would you rate the following statement?。

		Unlikely	Probably	Likely	DK
Q56	What is the likelihood for you to adopt 3G services in the next six months?	1	2	3	0

[Jump to Part C]

Part：For All Respondents

1. Values and Lifestyles

On a scale from 1 to 5 with “1” meaning “mostly disagree” and “5” meaning “mostly agree”, how would you rate the following statements?。

		SD				SA	DN
Q57	I am often interested in theories.	1	2	3	4	5	0
Q58	I like outrageous people and things.	1	2	3	4	5	0
Q59	I like a lot of variety in my life.	1	2	3	4	5	0
Q60	I like to make things I can use everyday.	1	2	3	4	5	0
Q61	I follow the latest trends and fashions.	1	2	3	4	5	0
Q62	Just as the Bible says, the world literally was created in six days.	1	2	3	4	5	0
Q63	I like being in charge of a group.	1	2	3	4	5	0
Q64	I like to learn about art, culture, and history.	1	2	3	4	5	0
Q65	I often crave excitement.	1	2	3	4	5	0
Q66	I am really interested only in a few things.	1	2	3	4	5	0
Q67	I would rather make something than buy it.	1	2	3	4	5	0
Q68	The government should encourage moral education in schools.	1	2	3	4	5	0
Q69	I have more ability than most people.	1	2	3	4	5	0
Q70	I consider myself an intellectual.	1	2	3	4	5	0
Q71	I must admit that I like to show off.	1	2	3	4	5	0
Q72	I like trying new things.	1	2	3	4	5	0
Q73	I am very interested in how mechanical things, such as engines, work.	1	2	3	4	5	0
Q74	I like to dress in the latest fashions.	1	2	3	4	5	0
Q75	There is too much sex on television today.	1	2	3	4	5	0
Q76	I like to lead others.	1	2	3	4	5	0
Q77	I would like to spend a year or more in a foreign country.	1	2	3	4	5	0
Q78	I must admit that my interests are somewhat narrow and limited.	1	2	3	4	5	0
Q70	A woman’s life is fulfilled only if she can provide a happy home for her family.	1	2	3	4	5	0
Q80	I like the challenge of doing something I have never done before.	1	2	3	4	5	0
Q81	I like to learn about things even if they may never be of any use to me.	1	2	3	4	5	0
Q82	I like to make things with my hands.	1	2	3	4	5	0
Q83	I like doing things that are new and different.	1	2	3	4	5	0
Q84	I like to look through hardware or automotive stores.	1	2	3	4	5	0
Q85	I would like to understand more about how the universe works	1	2	3	4	5	0
Q86	I like my life to be pretty much the same from week to week.	1	2	3	4	5	0

2. Personal Data

Q87 How long have you used the Internet?

A. less than 1 year B. 1—2 years C.2—4 years
D. 4—7 years E. 7—10 years F. more than 10 years

Q88 How many days per week do you use the Internet?

A. 6—7 days B. 4—5 days C. 2—3 days D. 1 day or less

Q89 Your age category is:

A. 13 or below B. 14-19 C. 20-25 D. 26-30
E. 31-35 F. 36-45 G. 46-55 H. 56 or above

Q90 Your highest level of education you have completed is:

A. Primary school or less B. Form 1 to Form 3
C. Form 4 to From 7 D. Technical /Vocational school
E. Diploma / Associate degree F. University or above

Q91 Your monthly income category is:

A. $8,000 or below B. $8,001—$12,000 C. $12,001—$16,000
D. $16,001—$20,000 E. $20,001—$30,000 F. $30,001—$40,000
G. $40,001—$60,000 H. $60,001 or above

Q92 What is your gender?

A. Male B. Female

Thank you very much for your help and time to complete this questionnaire.

3G 電訊服務需求與生活模式

2006 年 3 月

你好，本人是香港中文大學的研究生，目前正進行一個有關 **3G 電訊服務的學術研究**，以進一步了解 3G 在市場上的需求。

只要你是**手提流動電話用戶**，就請你幫忙回答這份問卷，大約花 10 分鐘時間便可完成。這是一份不記名的調查，所得的資料也保證只供學術統計用途。

由於這次調查需要超過 400 份的回應，所以請你幫忙，**轉寄這邀請函和問卷連結給你的所有朋友**，謝謝！

Q1　　你有沒有使用 3G 電訊服務？` `

1. 有 → [跳到甲部]
2. 沒有 → [跳到乙部]

甲部：3G 電訊服務用戶

1. 使用 3G 的情況

Q2 你使用了 3G 多久？

A. 半年以下 B. 半年至一年 C. 一年至兩年 D. 兩年或以上

Q3 你使用哪一間電訊公司？

A. 3 B. PCCW C. 1010 D. One2free E. Smartone F. 其他

你有沒有曾經使用以下的 3G 服務？如有的話，你是否滿意使用它們？請用 1 至 5 表示： “1” 代表 “非常不滿意”， “5” 代表 “非常滿意”。

			如有，是否很滿意使用？				
		沒有	不滿意		無意見		很滿意
Q4	視像通話	0	1	2	3	4	5
Q5	即時新聞、天氣或交通實況	0	1	2	3	4	5
Q6	互動遊戲、下載遊戲、鈴聲或圖片	0	1	2	3	4	5
Q7	財經資訊，如即時股價、指數或股市分析	0	1	2	3	4	5
Q8	電視、電影或音樂頻道	0	1	2	3	4	5
Q9	投注賽馬、六合彩及足球	0	1	2	3	4	5
Q10	電郵或傳真	0	1	2	3	4	5
Q11	成人節目	0	1	2	3	4	5
Q12	其他，如網上交友或專欄文章	0	1	2	3	4	5
Q13	連接電腦作爲無線上網的工具	0	1	2	3	4	5

Q14 你認爲以上服務的吸引之處是？(可選擇多於一項)

A. 調劑生活 B. 潮流 C. 消磨時間 D. 方便

E. 即興 F. 其他:_____

2. 對 3G 的看法

你對於以下的說法有多同意？請用 1 至 5 表示： “1” 代表 “非常不同意”， “5” 代表 “非常同意”。

		非常不同意				非常同意	不知道
Q15	3G 的收費合理	1	2	3	4	5	0
Q16	3G 的通話質素較佳	1	2	3	4	5	0
Q17	3G 的數據傳送速度令我滿意	1	2	3	4	5	0
Q18	3G 可以提供多元化服務	1	2	3	4	5	0
Q19	3G 可以增加人與人在電話見面的機會	1	2	3	4	5	0
Q20	3G 有檢查親人或伴侶的即時位置這個功能是好的	1	2	3	4	5	0
Q21	拿著電話面對面講話沒有不方便	1	2	3	4	5	0
Q22	3G 的手機容易使用	1	2	3	4	5	0
Q23	使用 3G 需要有高度的電腦知識	1	2	3	4	5	0
Q24	3G 的電話耗電量可以接受	1	2	3	4	5	0
Q25	3G 的手機大小適中及配件足夠	1	2	3	4	5	0
Q26	3G 的手機款式多元化	1	2	3	4	5	0
Q27	3G 提供的服務有很多都是可以免費試用的	1	2	3	4	5	0
Q28	3G 服務可以免費試用是很重要的	1	2	3	4	5	0
Q29	我認識的人很少使用 3G	1	2	3	4	5	0
Q30	很少人向我推薦使用 3G	1	2	3	4	5	0

3. 使用 3G 的意欲

你在未來 6 個月，你會繼續使用 3G 的可能性有多高？請用 1 至 3 表示： “1” 代表 “不太可能” ，“2”代表 “有些可能”， “3” 代表 “很有可能”。

		不太可能	有些可能	很有可能	不知道
Q31	你在未來 6 個月，你會繼續使用 3G 的可能性有多高？	1	2	3	0

[跳至丙部]

乙部：非 3G 電訊服務用戶

1. 電話服務的使用習慣

Q32 你有沒有使用流動電話做任何通話以外的用途，例如 SMS、下載電話鈴聲、聽歌、打機等？

A. 有 B. 沒有 [跳至 Q32]

Q33 你認爲以上服務的吸引之處是？(可選擇多於一項)

A. 調劑生活 B. 潮流 C. 消磨時間 D. 方便

E. 即興 F. 其他:_____

2. 對 3G 的認識

你覺得你對 3G 有多認識？請用 1 至 5 表示： “1” 代表 “完全不認識”， “2”代表 “不認識”、“3” 代表“些少認識”、“4”代表 “認識”、“5”代表“專家”。

		完全不認識	不認識	些少認識	認識	專家	不知道
Q34	你覺得你對 3G 有多認識？	1	2	3	4	5	0

以下有關 3G 的敍述是否正確？請依據你自己所知回答 “是”、“否” 或 “不知道”。

Q35	3G 網絡的數據傳送速度較 2G 網絡的快	是	否	不知道
Q36	只要有鏡頭，3G 和 2G 均可在通話時見到對方的面孔 (使用電腦除外)	是	否	不知道
Q37	只有 3G 有收發多媒體訊息的功能	是	否	不知道
Q38	只有使用 3G 才可以在電話看電視新聞	是	否	不知道
Q39	任何手提電話都可以使用 3G 服務	是	否	不知道

3. 轉用 3G 服務的條件

在以下各情況中，你會願意轉用 3G 服務？請用 1 至 3 表示：“1”代表“意願沒有改變”，“2”代表“意願增加，但不會立即轉用”、“3”代表“立即轉用”。

		意願沒有改變	意願增加，但不會立即轉用	立即轉用	不知道
Q40	3G 的通話質素提高	1	2	3	0
Q41	3G 的基本月費減低或各項服務的收費減低 (如數據傳輸)	1	2	3	0
Q42	3G 的數據傳送速度更快	1	2	3	0
Q43	3G 提供更多多元化的服務	1	2	3	0
Q44	3G 提供更豐富的內容	1	2	3	0
Q45	3G 的手機操作更容易	1	2	3	0
Q46	使用 3G 不需要涉及電腦知識	1	2	3	0
Q47	3G 的電話耗電量減低	1	2	3	0
Q48	3G 的手機及配件較小及輕巧	1	2	3	0
Q49	3G 手機款式增加	1	2	3	0
Q50	提供免費的試用	1	2	3	0
Q51	提供免費使用 3G 指導課程	1	2	3	0
Q52	身邊更多人使用 3G 服務	1	2	3	0
Q53	3G 的形象更鮮明	1	2	3	0
Q54	有明星代言人	1	2	3	0

4. 使用 3G 的意欲

你在未來 6 個月，有多需要使用 3G？請用 1 至 3 表示：“1”代表“不太需要”，“2”代表“有些需要”，“3”代表“很有需要”。

		不太需要	有些需要	很有需要	不知道
Q55	你係未來 6 個月，有多需要使用 3G？	1	2	3	0

你在未來 6 個月，使用 3G 的可能性有多高？請用 1 至 3 表示：“1”代表“不太可能”，“2”代表“有些可能”，“3”代表“很有可能”。

		不太可能	有些可能	很有可能	不知道
Q56	你在未來 6 個月，使用 3G 的可能性有多高？	1	2	3	0

[跳至丙部]

丙部：所有受訪者

1. 生活模式

以下是一些有關生活模式的問題，請用 1 至 5 表示意見：“1”代表“非常不同意”，“5”代表“非常同意”。

		非常不同意				非常同意	不知道
Q57	我對理論很有興趣	1	2	3	4	5	0
Q58	我喜歡新奇古怪的人和事	1	2	3	4	5	0
Q59	我喜歡多姿多采的生活	1	2	3	4	5	0
Q60	我喜歡自己製作一些日常用品	1	2	3	4	5	0
Q61	我是一個追上潮流及衣著入時的人	1	2	3	4	5	0
Q62	正如聖經所說，世界是在六日內創造出來的	1	2	3	4	5	0
Q63	我喜歡在一班人裡面作爲一個主導的角色	1	2	3	4	5	0
Q64	我喜歡學習藝術、文化及歷史	1	2	3	4	5	0
Q65	我經常渴望有刺激的事物	1	2	3	4	5	0
Q66	我只是對小部份事物有興趣	1	2	3	4	5	0
Q67	我情願自己製作一件物件，都不情願用錢買	1	2	3	4	5	0
Q68	政府應該鼓勵學校加強道德教育	1	2	3	4	5	0
Q69	我較很多人能幹	1	2	3	4	5	0
Q70	我認爲自己是一個知識份子	1	2	3	4	5	0
Q71	我承認自己是一個喜歡炫耀的人	1	2	3	4	5	0
Q72	我喜歡嘗試新的事物	1	2	3	4	5	0
Q73	我喜歡研究機械，例如引擎運作	1	2	3	4	5	0
Q74	我喜歡穿著最新款的時裝	1	2	3	4	5	0
Q75	現時的電視有太多關於性的節目	1	2	3	4	5	0
Q76	我喜歡帶領其他人	1	2	3	4	5	0
Q77	我願意花一年或更多時間在外國生活	1	2	3	4	5	0
Q78	我承認自己的興趣比較狹窄及局限	1	2	3	4	5	0
Q70	當一個女人能夠帶給她的家人幸福，她的生命才有意義	1	2	3	4	5	0
Q80	我喜歡嘗試一些我以前未曾做過的事	1	2	3	4	5	0
Q81	我喜歡學習不同的事物，即使這些事物可能對我完全沒用	1	2	3	4	5	0
Q82	我喜歡親手製作些物件	1	2	3	4	5	0
Q83	我喜歡做一些新鮮及不同的事情	1	2	3	4	5	0
Q84	我喜歡逛五金舖或售賣汽車零件的店舖	1	2	3	4	5	0
Q85	我想知多些宇宙是怎樣運作的	1	2	3	4	5	0
Q86	我喜歡平淡的生活	1	2	3	4	5	0

2. 個人資料

Q87 請問你用了互聯網多久？

A. 1 年以下 B. 1—2 年 C.2—4 年 D. 4—7 年
E. 7—10 年 F. 10 年以上

Q88 平均每星期上網多少天？

A. 六至七天 B. 四至五天 C. 二至三天 D.一天或以下

Q89 請問你屬於哪一個年齡組別？

A. 13 或以下 B. 14-19 C. 20-25 D. 26-30
E. 31-35 F. 36-45 G. 46-55 H. 56 或以上

Q90 你的教育程度屬於以下哪一項？

A. 小學或以下 B. 中一至中三 C. 中四至中七
D. 職業訓練學校 E. 大專 F. 大學或以上

Q91 你每月的個人收入屬於以下哪一項？

A. $8,000 或以下 B. $8,001—$12,000
C. $12,001—$16,000 D. $16,001—$20,000
E. $20,001—$30,000 F. $30,001—$40,000
G. $40,001—$60,000 H. $60,001 或以上

Q92 你的性別是甚麼？

A. 男 B. 女

多謝你抽出寶貴的時間完成這份問卷。

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