MOBILE COMMERCE IN CHINA: POTENTIAL AND PROSPECTIVE

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ABSTRACT

Mobile commerce is an extension of E-commerce. People get access to the Internet to gain information or to conduct commercial transactions via mobile devices. This innovative technology liberates business activities from the desktop and directly places them in the hands of the people. Compared with traditional E-commerce, M-commerce is more convenient and it saves on transaction costs. Thus M-commerce can be said to be a new development of E-commerce. In face of its enormous advantages, M-commerce is touted to be widely used in most activities in the future.

In this project, I-mode, a successful M-commerce model, will be introduced. After summarizing the key successful factors of this mode, we will investigate the prerequisites for developing M-commerce in China. Then we will analyses the results of a nation-wide survey of major cities in China in order to convey first-hand information on the demand of M-commerce in China. The last part of the project will cover some new innovative ideas for launching M-commerce in China.

In short, the results of this survey show that interviewees aged between 25-40 are more likely to accept this new way of doing business. Surprisingly, respondents in

the survey are played down fads, advertising as reasons for engaging in M-commerce.

Most of them use M-commerce because it suits their varied nature of their work

Respondents' answers to the reliability of information channel showed that: they rely

heavily on speech to obtain their information. Finally, from our results, we firmly

believe that M-commerce will be needed in the banking, travel and stock trading

industries in the future.

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INTRODUCTION

Background

With the burst of the Internet bubble sweeping the whole world last year, the tone of optimistic Internet investors have turned low-key, especially in U.S.A. Investors suddenly realized that the present business model of Internet could no longer delivery their promises: a golden mine which enables every gold rusher get rich quickly. Awakened by the plunging stock price, investors have called off or even terminated the investment on Internet start-up. The pessimistic attitude permeated the market and dragged the telecommunication stocks down.

The latest telecommunication technology can shorten the distance of people and enhance the massive exchange of data through high-speed networks. From this, a totally new commerce activity has emerged. People have dubbed this new form of commerce as Mobile commerce (M-commerce). Even with the plunge of telecommunication and Internet stocks, the relevant investment on Mobile commerce is still flourishing. The new business model, in stark contrast to the Internet business model, will be the future mainstream business as proved in Japan.

Definition of Mobile commerce

Mobile commerce can be seen as the second technological revolution in the wake of the E-commerce. M-commerce represents the extension of the Internet beyond the static terminal of the PC or TV to a mobile world. Traditionally, PC has been the major driving force behind the Internet and is expected to remain so. The major factor for this is that the PC has greater computation power and better interfaces for data entry and rendering than any other device. While it is true, it is not convenient for people to bring their PC anywhere due to the bulky nature of a PC. In other words, mobile devices can satisfy the need to access the Internet from anywhere. With the continuous development of the Internet, mobile devices will perform a complementary role to the PC, but not in place of it or any other device in developing pervasive computing paradigms. Therefore, in the future, mobile devices will be the most important means for people to access information and conduct transactions ranging from the exchange of information to the purchase of goods.

This paper will try to shed light on this new business model—Mobile commerce. It will use quantitative analysis to test China market for the M-commerce model, opportunities and prospective. Finally, based on the results, this paper will give suggestions on how to develop the M-commerce business in the future.

CHAPTER II

MOBILE COMMERCE MODELS

WAP(Wireless Application Protocol)

Obviously mobile phones or PDA's alone can not directly access the Internet. They have to use the embedded program, Wireless application Protocol (WAP), to gain access with the Internet. The WAP standard was initiated by Ericsson, Nokia, Motorola and Phone.com (then Unwired Planet) in June 1997. These companies founded the WAP Forum with an aim to administer future specifications. WAP facilitates interactive content delivery to mobile phones and other wireless devices independent of mobile network standard. A WAP-compliant microbrowser can be installed in a mobile device to present pages downloaded from WAP servers via a direct data connection or SMS messages. This model allows a simple microbrowser that only requires limited resources on the end device to access application logic residing on WAP servers within the mobile network. These pages are created using wireless markup language, WML, which can only be browsed by the mobile phone or a computer with WAP.

In the following section, the most successful M-commerce business model in Japan will be introduced in order to get an understanding of the nature of M-commerce.

Japan M-commerce Model

I-mode is the world's first mobile Internet service introduced by NTT DoCoMo in 1999. I-mode lines up content providers and serves as a portal site that users can access directly from I-mode's menu bar. DoCoMo's I-mode cell phone service lets subscribers exchange e-mail or pictures, search phone directories or restaurant guides, and download news, weather, or horoscopes. I-mode systems are always connected to the Internet. Apart from the official content providers, nearly 4,000 sites can be accessed in I-mode by punching in the proper URL. The biggest advantage of I-mode is its constant connection and low cost. I-mode, like DoCoMo's cellular service for voice, is nationwide, covering 98% of Japan.

I-mode is a successful mobile commerce model. The service arrived just as Japanese were beginning to crave easy Internet access. The country's computer-penetration rate was only about 13% of households. While Japan now has some 20 million Internet users, only 3 million to 4 million are believed to be accessing it from home. Most Japanese people don't have room for a desktop in their homes, so they lack Internet access. The handset is the viable alternative to a computer in Japan.

I-mode is a huge success, both in term of attracting new subscriber and boosting the public awareness. At the beginning of 2000, I-mode subscriptions accounted for 11.3% of DoCoMo's 28 million cellular subscriber base and 6.5% of Japan's total cellular subscriber base of 48.47 million. By the end of Aug, the percentage increased to

30.1% and 17.8% respectively. Since the service was introduced in February 1999, subscribers have been signing up at an average rate of 450,000 a month. (chart 1)
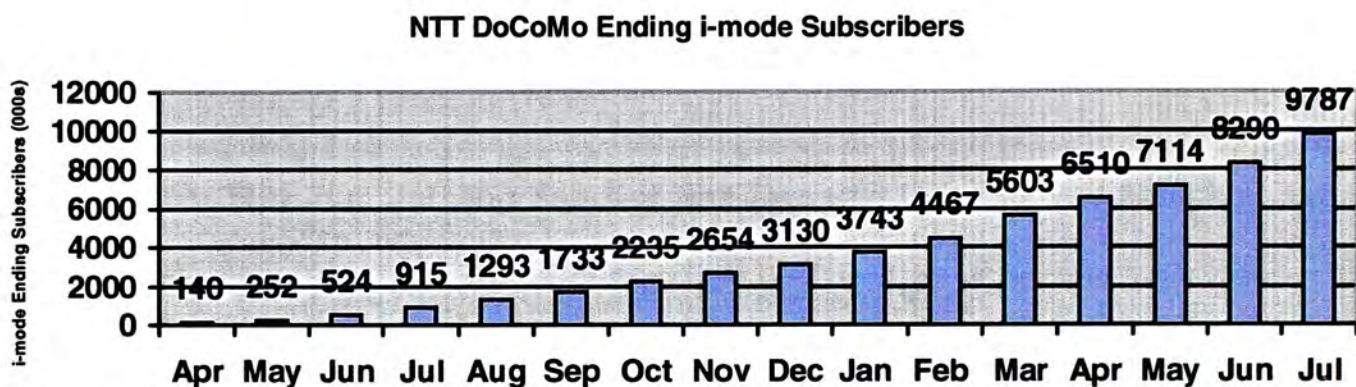
NTT DoCoMo Ending i-mode Subscribers

Chart 1 NTT DoCoMo Ending I –mode subscribers (year 2000)

Source: Company data, NTT DoCoMo

i-mode subscribers as % of Total DoCoMo Subscribers
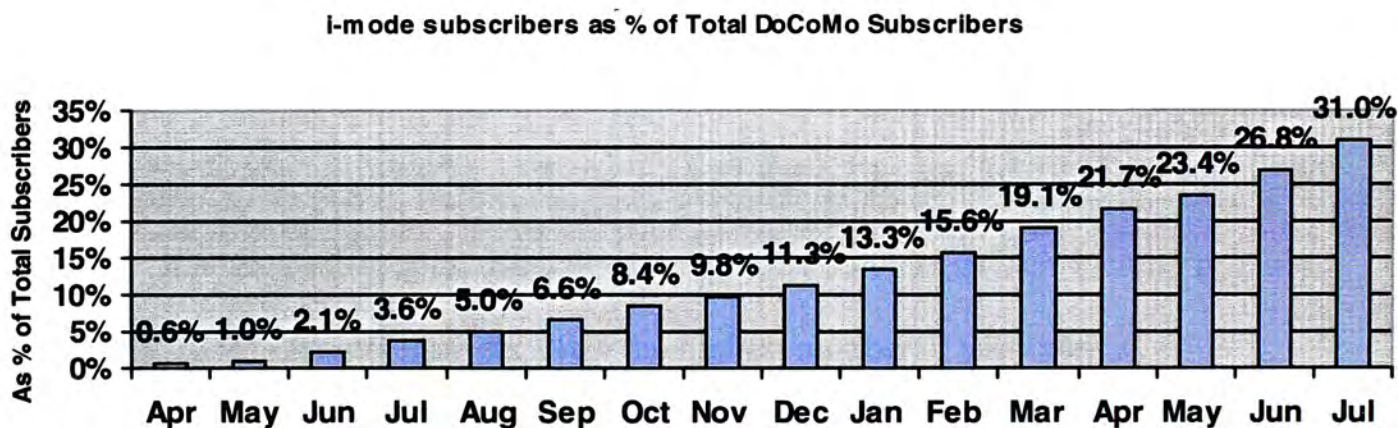
Chart 2 I-mode subscribers as % of total DoCoMo subscribers (year 2000)

Source: Company data, NTT DoCoMo

Currently, subscriber can access 1,020 official content sites. Furthermore, around 21,000 unofficial sites, which claimed roughly 30% of the traffic, can be access through the i-mode. This number is increasing in a rate of 10 to 20 new sites per day.

NTT DoCoMo Ending Information Sites
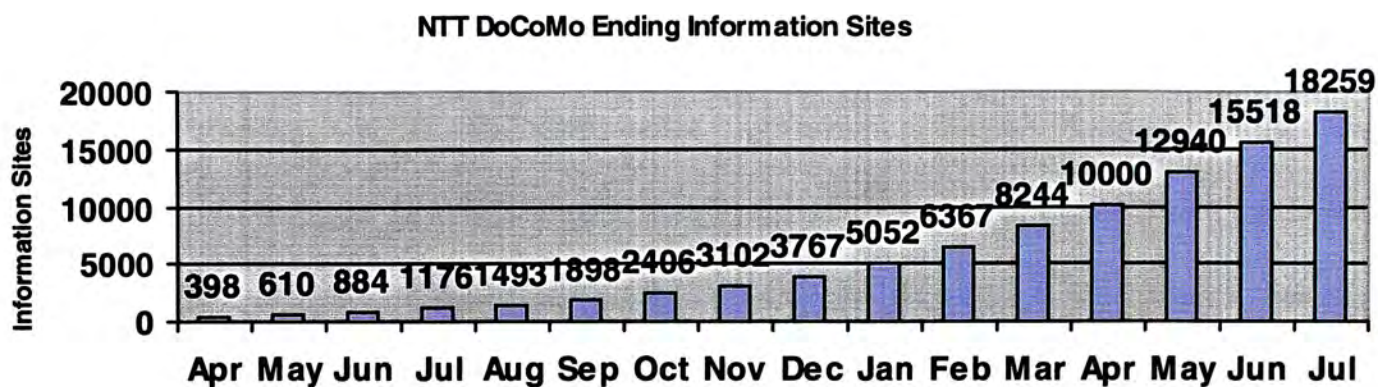
Chart 3 NTT DoCoMo Ending Information Sites

Source: Company data, NTT DoCoMo

The growth in demand for both official and unofficial content has triggered a rapid rise in data traffic over the mobile network. In March, 2000, an average user logged into I-mode services five times a day. That number has increased to 11 times a day and will further increase to 20 times a day by the end of 2000 if the rate of growth is unchanged.

The current usage of I-mode is mainly being driven by services that offer frequently changing attractions. Hence, entertainment services, which include products such as ring tones and screensavers, draw the highest number of subscribers.
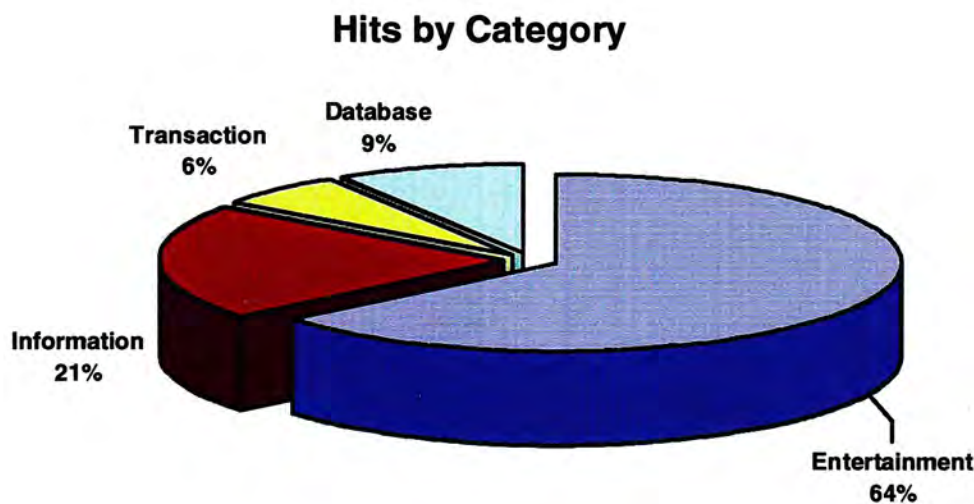
Hits by Category

Chart 4   I-mode Hits by category

Approximately 5 million I-mode users subscribe to ring tone services and download between 3 to 10 tunes per month. Similarly, cartoon download services are very popular. Cultural factors play an important role on this phenomenon. Japanese teenagers are always in need of something 'unbelievably cool'. 'Cool' services for the Japanese market have revolved around services that are 'cute'. These 'cute' services are the biggest generators of both traffic and mobile commerce revenues at the moment. DoCoMo's content management policies have made I-mode particularly successful among a target group of 18 to 28 years old females.

But something more important is happening. This I-mode trend shows that the future of the Internet in Japan and elsewhere is not going to be in the desktop PC. Nokia and others are encouraging people to do things on small devices. So, this is a movement that will take the Internet beyond the desktop. A lot of the actions which now take place on desktops will be transported to mobile phones – Mobile business.

CHAPTER III

MARKET POTENTIAL IN CHINA

Critical Factors In Market Development

The success of mobile commerce services, as proved in Japan, will hinge on the interaction of numbers of players providing a range of competing and complementary services. The players include device manufacturers, network operators, financial service providers, content providers and aggregators, systems integrators and infrastructure providers. All of these will try to position themselves at several key points on the mobile commerce delivery chain. One of the most common misconceptions in mobile commerce is that network operators will naturally control and manage the applications using their networks. In the experience of Japan's I-mode, this is a big misunderstanding as of I-mode owns much of its success to the open platform for all the players. Alternative players are keen and able to adopt this role include some content providers, financial service providers, and third-party application-hosting companies. Battles are being fought at the server level as well as on the handset. Successful mobile commerce applications (including banking and ticketing) will be introduced into several markets on WAP-enabled devices due to the keen competition. In other words, the factors that will have the most effect on market development include:

• The level of mobile penetration and mobile devices in the market

• The level of Internet penetration and Internet purchases via PCs in the market

• The level of consumer acceptance of mobile commerce applications and services

• The number of partnerships between network service providers, financial service providers, other content providers and systems integrators

• The number of user-friendly WAP applications on the market.

By using the above criteria, we will try to explore the potential of China's market in the following section.

Mobile Phone Subscribers In China

Telecommunication is an integral infrastructure for the development of mobile commerce in China. For the past decade, China has witnessed a remarkable growth in cellular telecommunications over the past 10 years. From 3,000 subscribers in 1988 to 44,000 subscribers in 2000[1](chart 4), the explosive growth of subscribers laid a solid foundation for the development of mobile commerce. In short, China's rapid expansion of the cellular phone network is mainly due to its underdeveloped fixed line infrastructure, inadequate service and high telephone prices, which was created by China having a monopoly operator, China Mobile, owned by the former Ministry of Posts and Telecommunications (MPT). However with the further break up of China Mobile Ltd into several small local companies and the head-on competition from China Unicom Ltd, the state-mandated competitor of China Mobile, a price-cutting war will be expected and the lower fee will further allure more subscribers.

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[1] Source: Ministry of information Industry

Behind the amazing figure, the mobile penetration rate is just 1%(Jupiter Research, 2000) of Chinese population. However, the number will jump to 146 million in 2004 and enable China supersedes the U.S.A and Japan to be a single biggest market for the mobile handset. With the international leading handset manufacturer like Motorola, Ericsson, Nokia and Siemens setting up their plants and competing both in price and quality to the gradual improving local mobile phone vender, the mobile phone will become a daily necessary of China populace which in turn foster the development of M-commerce.
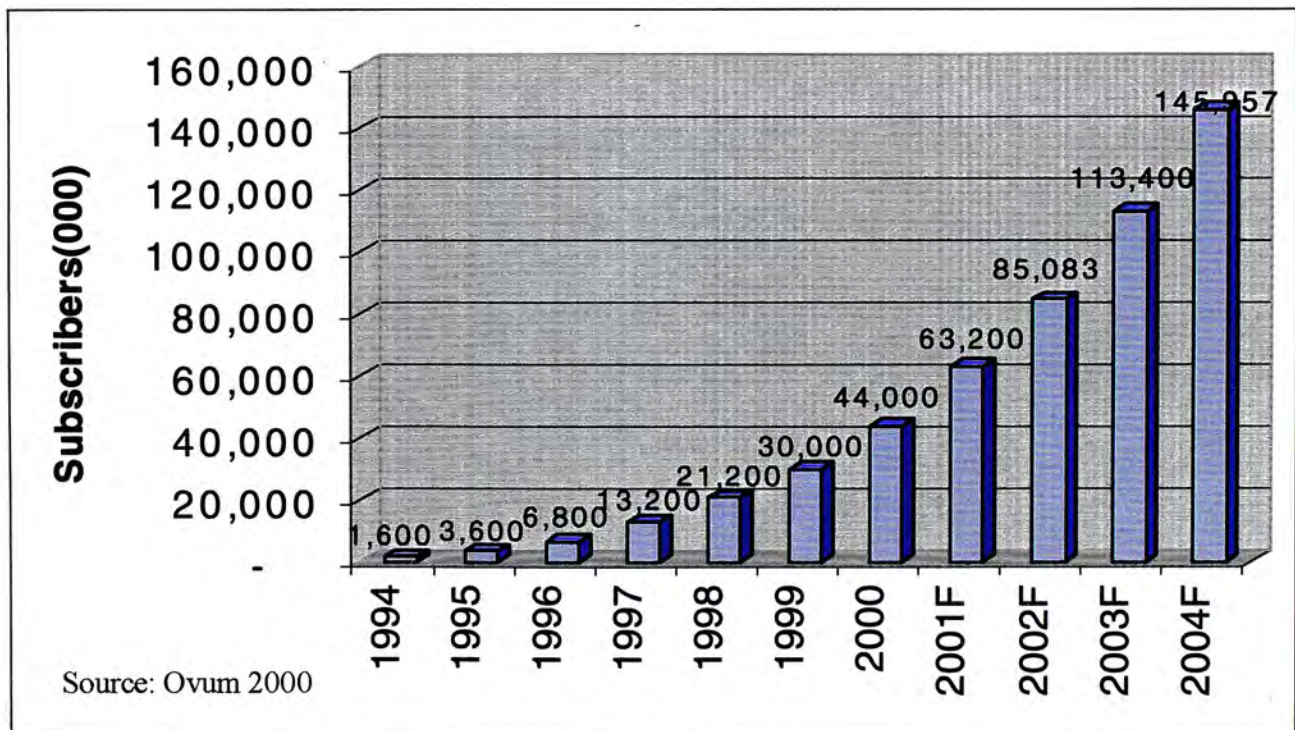
Chart 5   Mobile Phone Subscribers in China

Internet Penetration Rate In China

Another critical success factors for the development of Mobile commerce in China will be the growth of the Internet in China. The Internet revolution in China has begun in earnest. Internet use on the mainland has experienced phenomenal growth since 1996, China's Net population quadrupling to 20 million as of last year (Chart 5). Having started from an extremely low base, the users in China passionately embrace the concept of Internet and jump into broad accordingly. By 2003, users will be 110m, according to the estimate CLSA Global Emerging Market report, making China the largest Internet population in Asia. Such rapid growth is rooted in the convergence of several developments: rising disposable incomes making PCs affordable; falling Internet access costs; and broadband access via the cable network. Also spearheading future demand will be a rise in the number of local content providers, increased government usage and the emergence of e-commerce.

Growth of internet user in China

User(000)	Values
1995	15
1996	120
1997	900
1998	2,100
1999	8,900
2000	20,000
2001F	45,000
2002F	75,000
2003F	110,000
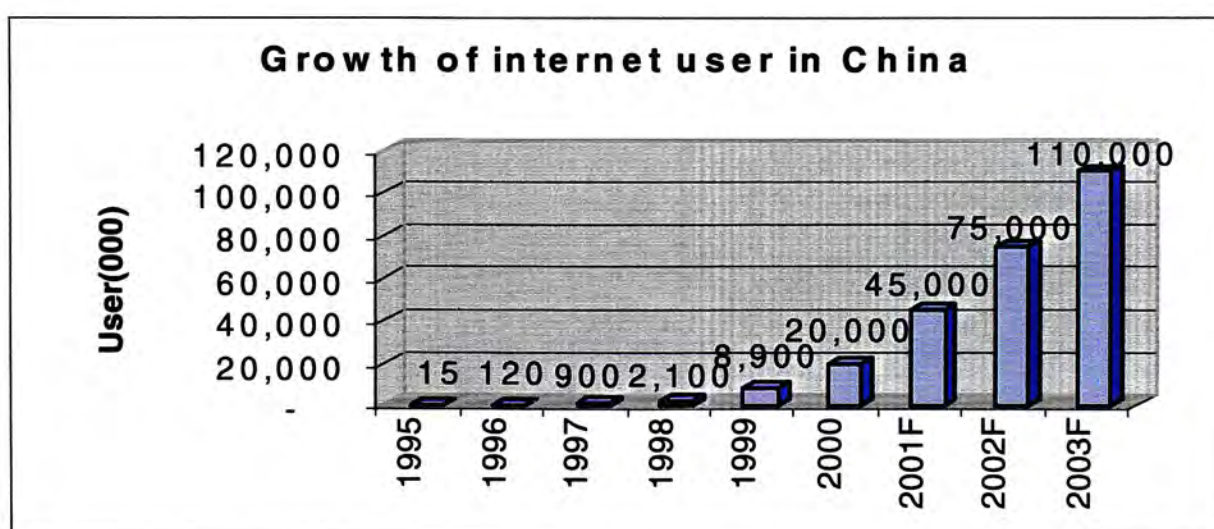
Chart 6. Growth of Internet user in China

With the thriving of the Internet, so does the E-commerce. Internet retailing was almost non-existent in China before late 1998. Now, new retailing websites are being launched every day and China becomes one of the fast developing markets in the world. The E-commerce revenue jumped from US$43 million in 1998 to 55 million in 1999. (Ministry of information industry 2000). When more and more entrepreneurs join in to explore the possibility of online retailing, the more likely that people will get used to the idea of virtual shopping which might prove to benefit the development mobile commerce, which is in nature of e-commerce extension .

Consumer Acceptance of M-commerce Applications and Services

By the end of 2005, there will be almost 500 million users of mobile commerce in the world, generating more than $200 billion in revenues according to the prediction of Datamintor (2000). As shown in Chart 7, Asia-Pacific will have 129 million users and $56 billion in revenues by the end of 2005. Although Western Europe will be the key region for growth in the long term, with one-third of global users, the success of Japan's I-mode spells out that the people in Asia can accept Mobile Commerce easily than the Western.

Among the Asia-Pacific sector, China will arguably have the greatest potential of any country outside Europe and the US. Not only is it the most populous country on the globe, but it also has a fast evolving economy. The Chinese government is well aware that the Internet is a key tool for greater economic expansion. However, the sprawl territory that would need to be wired in order to reach China's enormous population will make it difficult to push Internet penetration up. Compounding the fact is that the

expense of providing PCs in China with low incomes would inhibit the growth of the Internet further. However as in countries like Brazil and India show another way out: the wireless Internet via mobile devices will enable businesses and consumers to use a basic version of the Internet. Same as in China, the mobile devices embedded with the Internet access could be welcomed and as an alternative to acquire information through Internet which can go around the heavy cost of PC.

Total = 500 million users
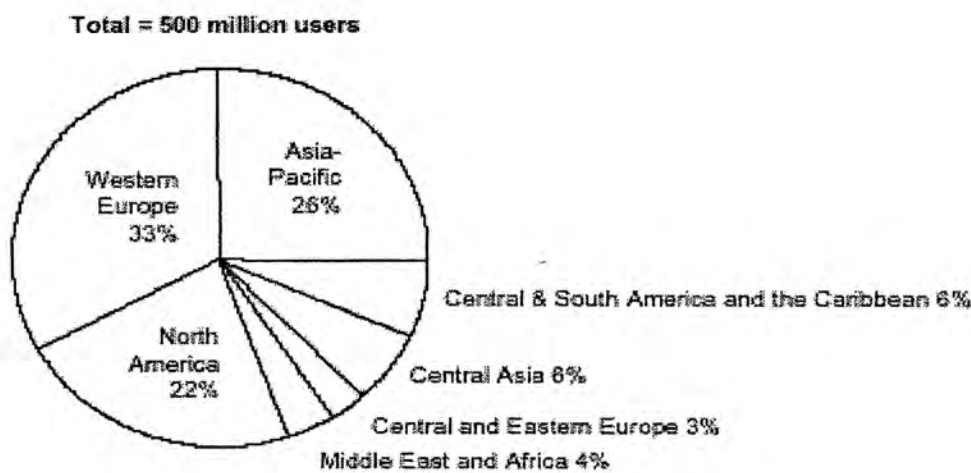
Source: Ovum (MEC/A)

Chart 7 Distribution of mobile commerce users in 2005

Availability of WAP Applications on Market

Being the main driven factor, Mobile commerce applications basically fall into three main categories, as shown in Chart 8:

•Purchase of physical goods, which requires some forms of additional distribution to complete the transaction.

•Purchase or use of services, for example in China, a lot of on-line stock agencies have already launched the service of purchasing stock on the mobile phone.

Through the mobile phone, the subscribers can purchase some specific kinds of stocks.

•Delivery and use of information. The obvious example will be the Wu website which provides the update Olympic tournament information on the mobile phone of its subscribers.

	Goods	Services	Information
Business-to-consumer	Shopping Vending Trading	Gaming & gambling Ticketing	Paid-for information Advertising
Business-to-business	Procurement Trading	E-cash Banking Discounts & loyalty schemes	

Source: Ovum (MECIA)

Chart 8 Types of application software

Though there is no short of example of WAP application in China, due to the initial development stage of M-commerce in China, the WAP application is quite rare in China. However, with the thriving of telecommunication, the WAP application will be mushrooming in all corners of China.

To wrap up this section, the burgeoning telecommunication industry provides a solid bedrock for the development of Mobile-Commerce. Furthermore, though there is absence of Web software applications, the knowledge-voracious Chinese will use mobile

devices as the alternative of expensive PC to do the virtual commerce, which they gradually get used to, on the Internet. In this view, the M-commerce in China is promising.

CHAPTER IV

METHODOLOGY

The research methodology of this project is done as following:

Model Research

We have done a secondary research, mostly scanning the magazines, on the existing M-commerce models including US, Europe and Japan M-commerce models in order to gain the insights for the latest trend of Mobile commerce in the world.

Afterward, we have performed a primary research aim at knowing the attitude or psychology of Chinese towards Mobile Commerce. From that research we can gain first hand information on the potential market of China and hence design an appropriate marketing strategy to develop the China market.

Research Design

Quantitative survey is performed and structured questionnaires are used as the data collection forms. Closed-ended fixed alternative questions are used. Balanced Likert scales are used to avoid possible bias.

Sampling Population and Frame

Customers were sampled from the five big cities in China: Guangzhou, Beijing, Jinan, Shenyang and Qingdao. In total, 219 samples were collected from those cities.

CHAPER V

FINDINGS & ANALYSIS

The survey was conducted between March and April, 2001.The samples were collected from five big cities in China: Guangzhou, Beijing, Jinan, Shenyang and Qingdao. The number of the totally completed sample was 219. Of the 219 samples, 42 % are male customers, 58% are females. Over 40% of them are aged between 25-30. Over half of them have university education or above.40% of them have monthly income about 2001-3000.

Descriptive Analysis

Experiences for Using the Mobile Phone

In the 219 samples, we find that 87.2 % (191 people) are using the mobile phone, while the left 12.8% people don't use it at that time. Of those people who use the mobile phone, 45% of them make calls 5 –10 times a day, while 33% of them make calls less than 5 times a day (chart9). The average usage of the mobile phone is very low in China compared with other Asian areas such as Japan or Hong Kong. One of the reasons is that the charge is higher than that of the wire phone. For example, the wire phone charges

0.20-0.30 RMB per minute while the mobile phone charges 0.50 RMB or higher per minute. Furthermore, the mobile phone companies charge the customers when they receive a call.
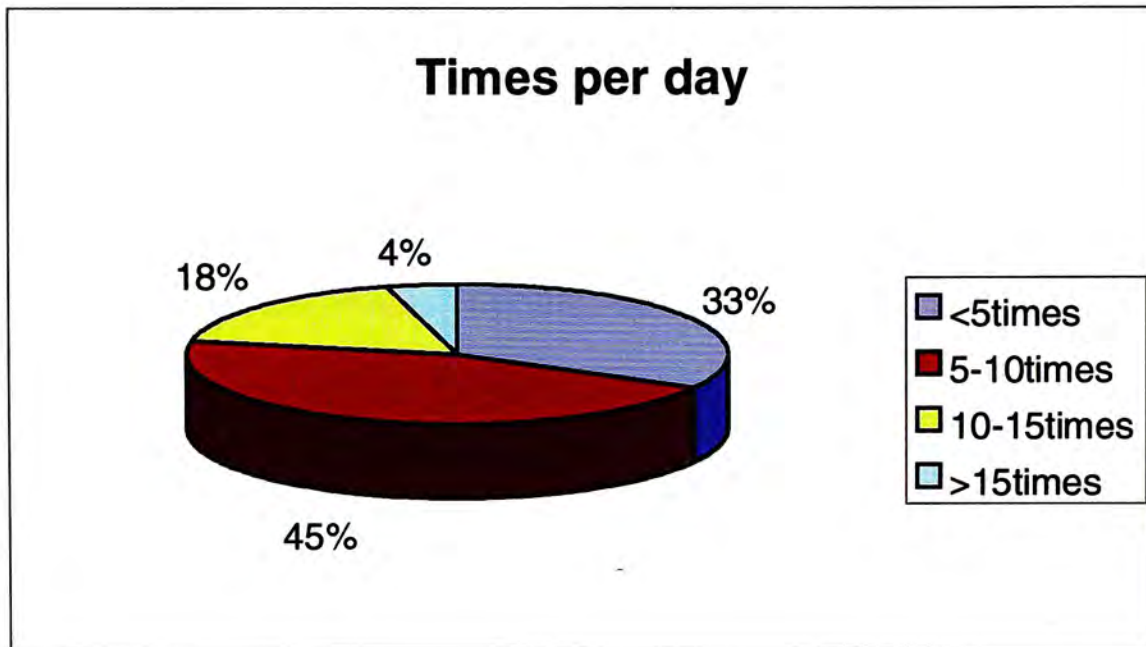
Times per day

Chart 9   times per day by mobile phone user

Major Activities on M-commerce

In the survey, we include the main activities that people will conduct by the mobile phone. We find that personal communication and business affairs communication are ranked higher than any other activities. Customers mainly use their mobile phones for personal or business communication. They seldom use the mobile phone to inquire commodity price or purchase daily necessary. The traditional purchasing pattern still plays an important role in modern China. Customers are used to shopping at the brick and mortar shops rather than shopping online. (chart 10)
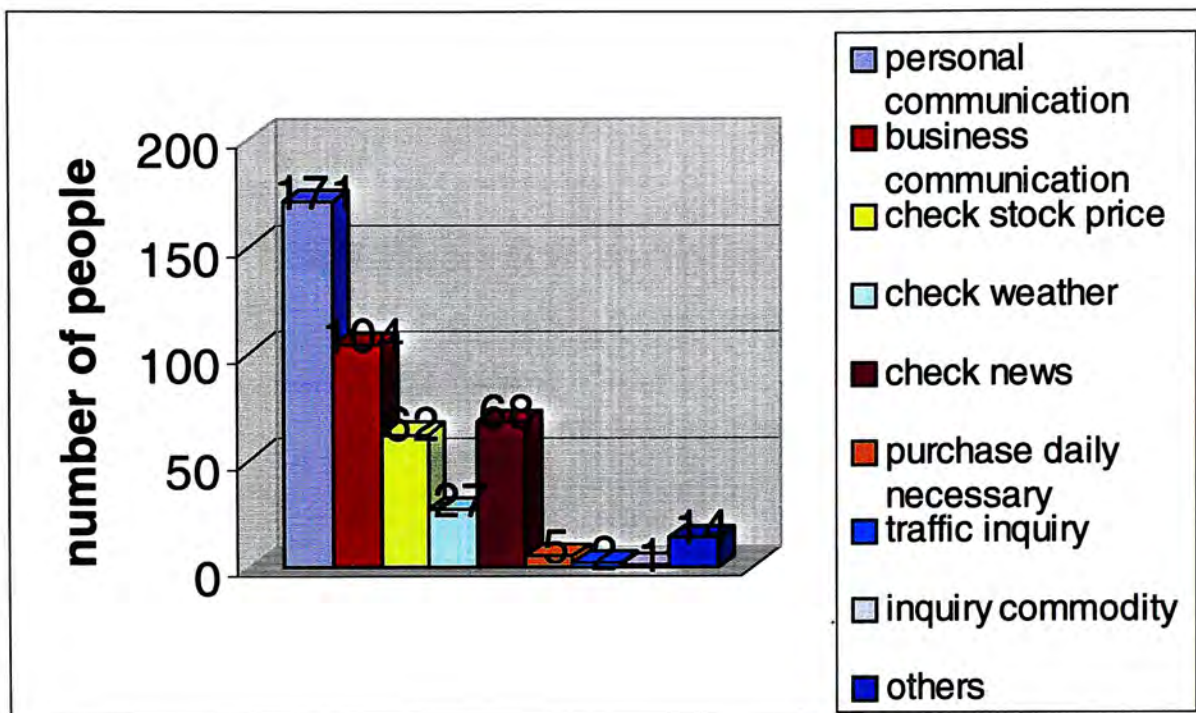
Chart 10 Major activities on mobile phone

Satisfaction for the Mobile Phone Service

In our survey, customers tend to be more satisfied with types of mobile phone and the network covering and clearness (table2). The overall satisfaction for the mobile phone service is only averaged 3.23, which means that customers are neutral towards the mobile service. The standard deviation is very large and it means that there are extreme attitudes towards the satisfaction for the mobile service. We think that the extreme opinion is due to different telecommunication infrastructure development in different cities. In Shanghai, the investment in telecommunication industry is usually higher. People are generally more satisfied with the service than that in Shenyang. The result also showed that the mobile phone price and monthly fee, and the after-sale service ranked lower in this part. Customers are not satisfied with higher monthly fees. Also, in China, the

biggest mobile phone service provider --China Mobile usually doesn't provide a satisfactory aftersale service for the customers.
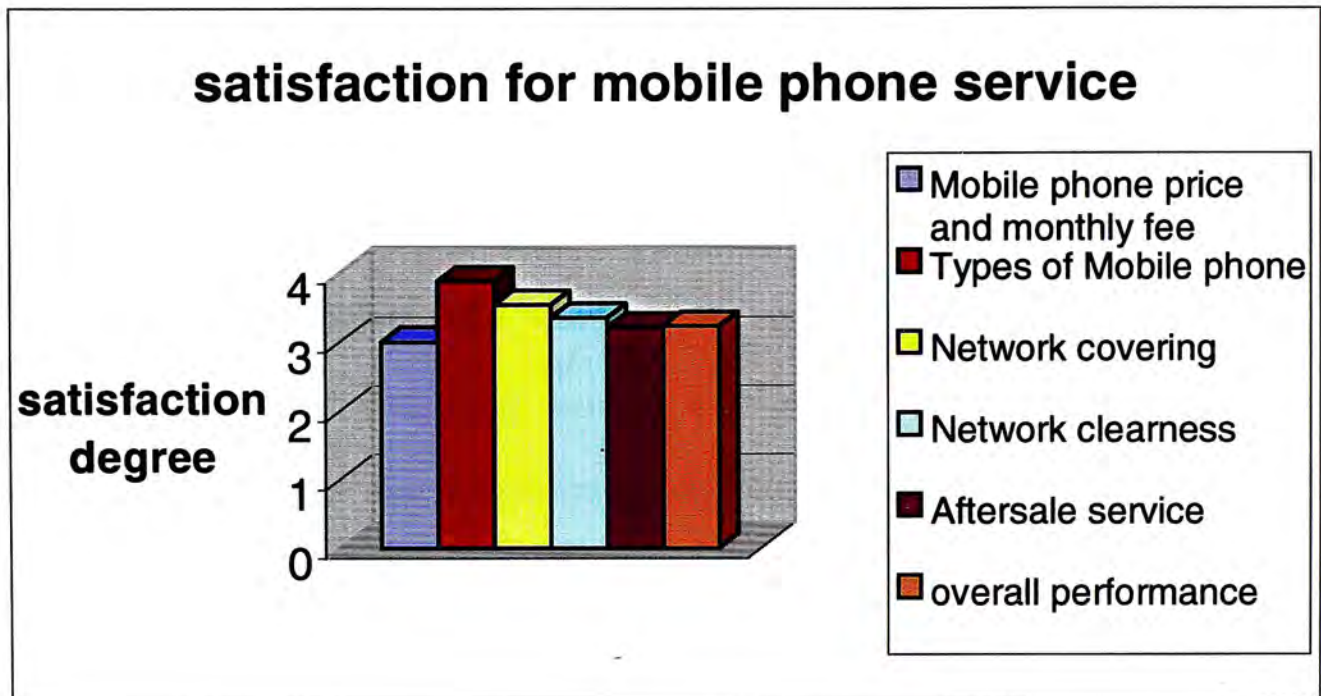
Chart 11 satisfaction for mobile phone service

Attitudes Towards Using Mobile Phone

We included several items to identify the customers' attitudes towards using mobile phone. The results showed that the overall attitude towards using the mobile phone is more positive. It ranks the highest among all the variables (3.99). This positive attitude towards using mobile phone will provide a lot of opportunities for M-commerce. The result also showed that the standard deviation is also very large, which implied that in the samples, customer attitudes fluctuate largely from negative to the positive. We also find that peers influence is important. Under a word of mouth effect people will usually give M-commerce a try if their friends, relatives are also using the M-commerce. Not surprisingly, Customers will also recommend the M-commerce to their peers if they find

out that the service is measure up to their expectations. From the result, we can also see that the customers don't use mobile phone more than the wire phone, which is consistent with the previous findings that the mobile phone usage is very low. (table3)

Reasons for Using M-commerce

The major difference between mobile phone and the wire phone is the convenience. Obviously, the item "convenience" ranked the highest in this part (4.28). The other reason that the customers choose to use the mobile phone is for working. From the result, we can see that customers ranked working requirement higher than the personal requirement. Also customers will choose to use mobile phone because they think it is useful. The interviewees showed mature when they chose to use the mobile phone. Because they didn't think that the fad-follow (1.82) and out of curiosity(1.74) were the mean reasons for them to use mobile phone. The customers also showed very extreme attitudes towards the reasons behind using mobile to conduct business .All the items in this part have a standard deviation larger than 1. (table 4)

Importance of Factors in M-commerce

Payment security is on the top list when people use mobile to conduct business. Product quality, convenience, and protection of the private information are also chosen as other important factors. The average of the items is 3.88, which showed that in average customers are a little bit positive to all factors when conducting M-commerce. (table 5)

Top Desired Services

We included 23 items which will probably be served via Mobile phone. We find that most of customers choose banking service, travel service and stock trading as the most desired things they will do by M-commerce, whereas electronic products, image processing and homepages making are at the bottom of list .One reason is that customers prefer to shop at brick and mortar shops when they want to buy the expensive utilities, such as electronic products. Another explanation is that customers are not familiar with IT technology, they don't know how to process image or make homepages. Most mobile phones don't include those functions. (table 6)

Reliability of Information Channel

Customers showed more reliability to the recommendations by friends or family members. The word of mouth still plays an important role in the information channel. Customers showed neutral towards the Ads on TV, but a skeptical view towards the Ads on newspaper or Internet. In our sample, most of the interviewees have university or above education, they can better evaluate the accuracy of the information on newspaper or Internet. So, they ranked those information channels lower. (table 7)

Correlation and Regression Test

Correlation Among Satisfaction Towards Mobile Phone Service

We want to find if there are relationships between the variables in satisfaction towards the mobile phone service .The result table showed that the correlation is significant between the variables. The P-value is also significant (correlation is

significant at the 0.01 level). From the result, we will know which factors will contribute a lot in the overall satisfaction for the mobile service. For example, the clearness of the network has contributed more to the overall satisfaction of mobile phone service. Also, the other factors such as after-sale service and mobile price and monthly fee are also the important factors affecting the overall satisfaction. (table 8)

Regression Among Satisfaction Towards Mobile Phone Service

We chose the overall satisfaction towards the mobile service as the dependent variable and others as independent variables .The regression result shows that there exists a linear relationship between those variables. The adjusted R square reached 47.8%. In all the variables, the network clearness and after-sale service also showed significant effect to the overall satisfaction. (table 9-11)

Regression Among Attitudes Towards Using Mobile Phone

We want to find if there are relationships in the Attitudes towards using mobile phone .The correlation results are not satisfactory because only a few variables are significant correlated. (table12) The regression results are also not supportive enough because most of the P-value is not significant.(table13-15)

Demographies of Interviewees

In this section, we try to figure out the demographic distribution of the interviewees.

Gender and Tendency for M-commerce

In our project, we want to see whether gender has an important relationship with e tendency for M-commerce. We find that female and male have approximately the same tendency for M-commerce.
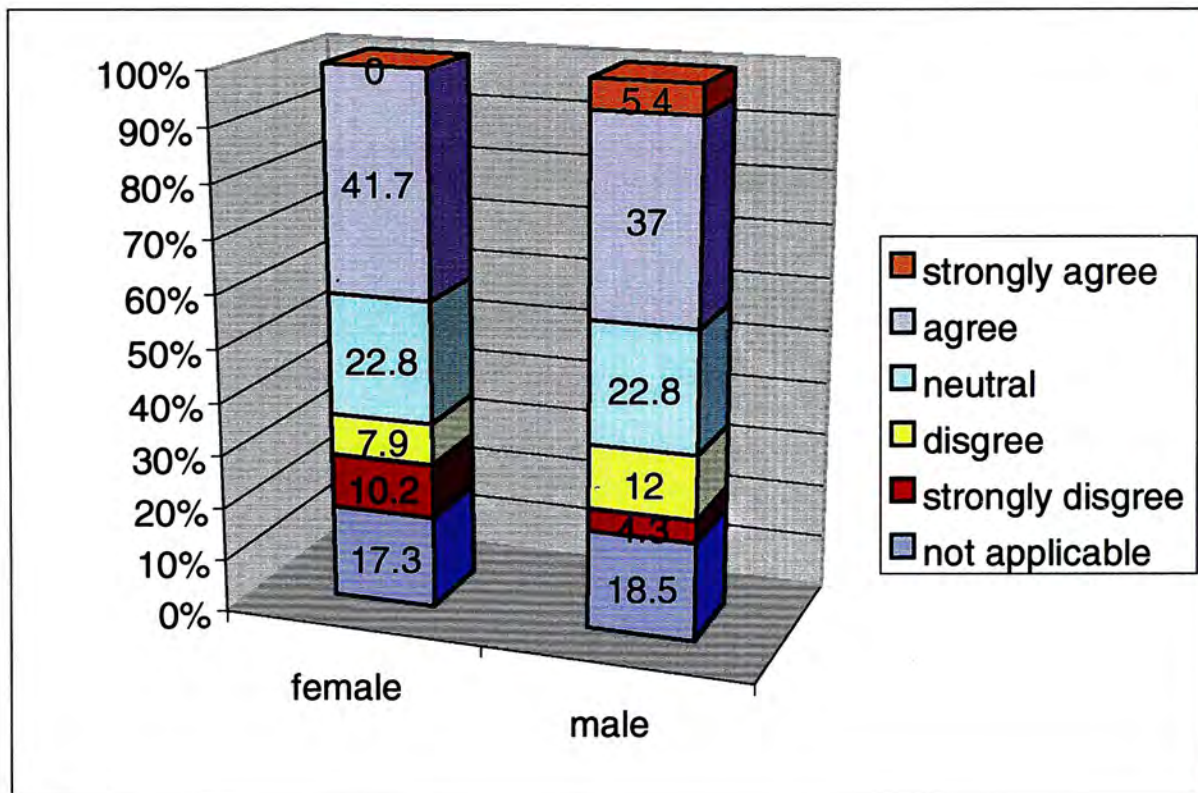
Chart 12 gender and tendency for M-commerce

Age and Tendency for M-commerce

We want to find out that if age has any relationship with tendency for M-commerce. We grouped the interviewees into three groups: 15-25,26-40 and 41 above. The result shows that group age between 26-40 showed more positive to conduct M-commerce. Most of the customers in this group have already had jobs, one of the reasons that they are more likely to conduct M-commerce than other groups is by working

requirement. From the chart, we also find that people whose age above 41 showed negative attitude for M-commerce. They are more reluctant to accept the new idea of M-commerce.
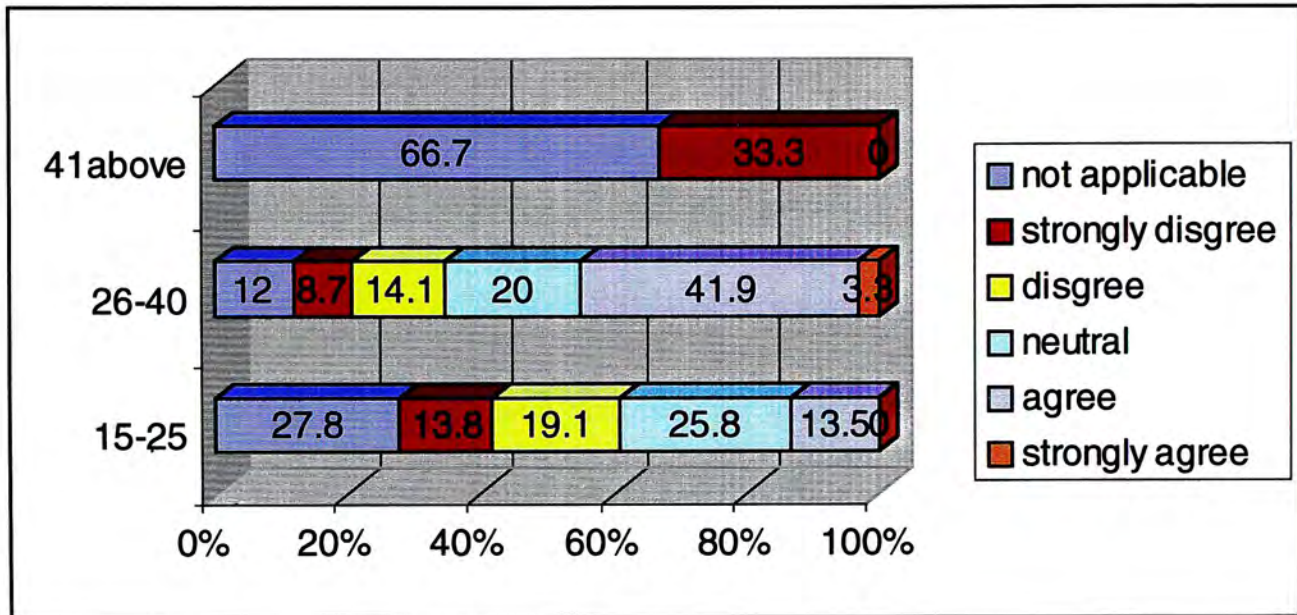
Chart 13   Age and tendency for M-commerce

Education Level and Tendency for M-commerce

We also want to see if education level will have relationship with tendency for M-commerce, here we grouped interviewees into two groups: under university level and above university level .We find that people with higher education showed more positive to tendency for M-commerce.
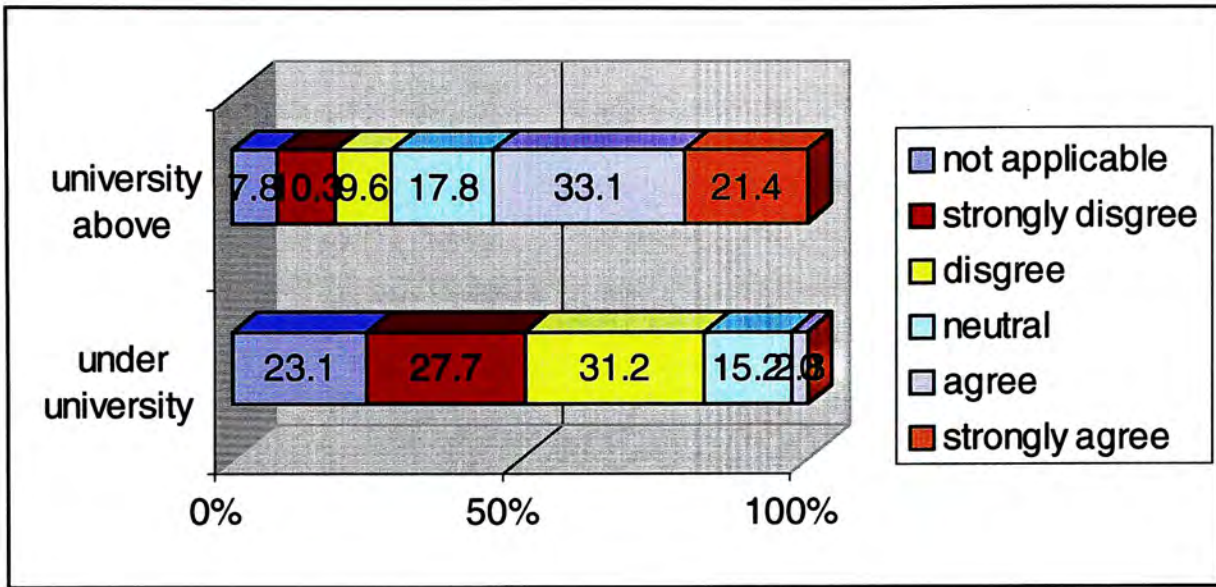
Chart 14 Education level and tendency for M-commerce

Income and Tendency for M-commerce

We want to find if there is relationship between income and tendency for use M-commerce. Three income groups are used for testing: below 1000,1001-3000 and above 3000.The result showed that income between 1001-3000 are more positive to tendency for M-commerce than other two groups.
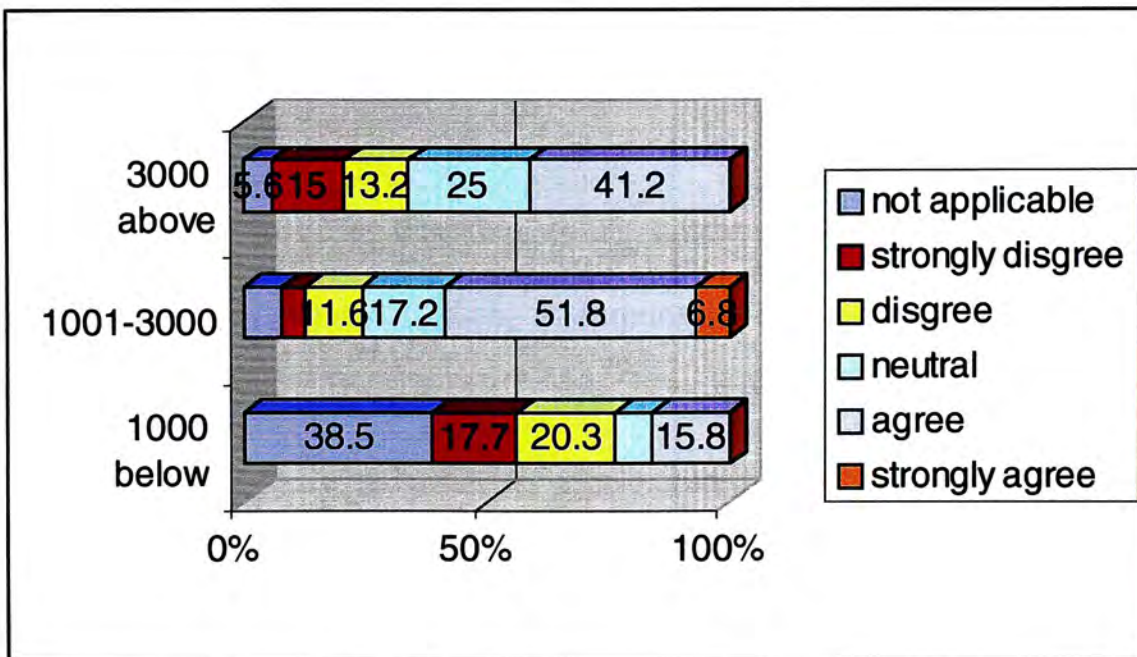
Chart 15 income and tendency for M-commerce

CHAPTER VI

RECOMMENDATIONS

In this part, we will first analyze the external environment of M-commerce by using five-forces model and then introduce the suitable strategies for this emerging business activity.

Five Forces Analysis

Customer

For most of Chinese, M-commerce is a totally new concept. Some of them have no idea of what it looks like or how it can satisfy their needs. In this way, ambiguity about M-commerce will make customers delay adopting it. It will require a high degree of education and information about the new innovation, and need reassurance and reinforcement to ease the lingering doubt. Moreover, customers' needs may change rapidly in an unpredictable fashion, as demonstrated in e-commerce: on one day, they prefer C-to-C commerce, on another day, they fall for B-to-B commerce. The highly uncertainty of market will further be accelerated by customer's anxiety of a lack of a clear standard for M-commerce in a market. Without a clear standard, they fear that their investment in the new product will be totally written off when a new standard emerges.

Apart from the basic characteristics of customers in high-technology environments like M-commerce, the customers can be divided into five groups according to their psychological status.

Technology Enthusiasts

These are people who are fundamentally committed to new technology on the grounds that it is bound to improve our lives. Moreover, they take pleasure in mastering its intricacies, and love to get their hands on the latest and greatest innovation. And thus they are typically the first customers for anything that is truly brand-new. The Techies, though they don't have much money to spend on product, exercise a great influence to the people surrounding them: if they pan a new product, no one else gives that product a second glance.

Visionaries

They are the true revolutionaries in business who want to use the discontinuity of any innovation to make a break with the past and start an entirely new future. Their expectation is that by being first to exploit the new capability they can achieve a competitive advantage over the others. They have an influence on high tech because they are the first people who can and will bring real money to the table. In doing so, they provide seed funding for entrepreneurs.

Together, technology enthusiasts and visionaries make up the early market. Although their personal motives are quite different, they are united by their drive to be the first to use the new technology.

Pragmatists

These people make the bulk of all technology infrastructure purchases. They do not love technology for its own sake, so are different from the techies. Moreover, they believe in evolution not revolution. In other words, they are neutral about technology and look to adopt innovations only after a proven track record of useful productivity improvement, including strong references from people they trust.

Conservatives

These customers are pessimistic about their ability to gain any value from technology investments and undertake them only under compel reasons. They are very price-sensitive, highly skeptical and very demanding. Together, the pragmatists and them represent a lucrative mainstream market.

Laggards

These are the ones who delight in challenging the hype of high-tech marketing. They are not potential customers and the goal of high-tech marketing is to sell around them.

Competition

In the initial product life cycle of M-commerce, the same businesses in an industry will be unlikely to break into fierce competition. Rather, the competition in the initial stage is among alternative break-through products outside industry. That is, customers are seeking to gain a dramatic competitive advantage by trying different kinds of products. For example, instead of waiting in line for purchasing a cinema ticket, customers will try to buy tickets via internet, by phone or mobile devices. Therefore products for M-commerce is directly competing with the new technologies

commercialized by companies outside the industry. Due to the immature technology of M-commerce, the new entrants are likely to obsolete the relevant technologies and strife the M-commerce providers.

Supplier

The supplier for m-commerce will be the telecommunication network provider. Up to now there are only two suppliers in China: China Mobile Ltd and China Unicom. Owning all network in china, they can exercise a monopoly power to M-commerce providers by charging fees on each customer using the service of M-commerce providers. In this way, the bargaining power of network-providers are very high.

Substitute

The substitute of M-commerce will be e-commerce or the traditional brick-and-mortar shop. Given the convenience and cost-saving advantages of M-commerce over these substitutes, the bargaining power of substitute is not strong enough to challenge M-commerce.

Entry Barrier

M-commerce shares some characteristics of e-commerce. That is the low entry barrier. If one business mode proved to be feasible in M-commerce, lots of imitators will set up their wap site and enter into that segment. At that time, brand name and the exclusive agreement of supplier of the first movers will be the only core competitiveness in face of the influx of copycats.

In conclusion, the external environment for M-commerce in the initial stage is both tough and erratic. It will have strong voice suppliers in business, a group of skeptical customers, and the imperfect function of product. To survive and thrive in the tough environment, M-commerce providers in China should adopt some effective strategies.

Strategies for M-commerce

Persuading a market to adopt a new technology is generally comprised of four stages. The first step, market preparation, involves targeting, readying customers and other companies for the change. The second stage in planning the marketing of the product is positioning based on the expected competitive situation. The final stage involves execution. In the following analysis, only the strategies for the early market will be examined.

Market Preparation

Market preparation is intended to make the market ready for the new technology by building awareness and forming relationships. The following are some strategies.

Targeting niche

Based on the technology adoption life cycle, M-commerce providers should focus on the niche market: innovative adopters because they are prepared to buy without seeing the product available elsewhere. They do not insist that the technology should have a

track record. In this early market, there are two groups of buyers: teleological enthusiasts and visionaries. Techies are intrigued by the technology itself, whereas the visionaries try to find its practical benefits. In other words, a visionary is motivated by a potentially significant reward by using the product instead of the newness of the technology. The early market adopters not only have the ability to see the potential when no one else can, they also have the drive and charisma to persuade the rest of organization or peers to use the M-commerce. They anticipate a radical discontinutiy between the old ways and the new realizing that this rarely happens smoothly, and so they will tolerate the glitches of products. Therefore, winning their support is important as they are likely to be leader in their peers, with their approval, most of people will try to imitate them. This strategy confirms with our findings that most of the interviewees have expressed their willingness to use mobile commerce if their friend they trust recommend to them.

According to our survey, this group of early adopters are aged between 26-40, with monthly income between RMB1000 to 3000 and receive higher education (university or above) (chart 13-15)

Alliances

Alliances and licensing arrangement encourage the adoption of technological standards for at least two good reasons. One is the expected boost to sales. Customers are reluctant to adopt when faced with competing and incompatible technologies. The other reason is that companies sometimes seek to establish their own technology as the standard, to preempt rivals and avoid having a competing standard imposed. Moreover, alliance with key players can sometimes solve the unique problems in China. For instance,

how to pay on-line shopping is always a big problem in China. Compounding the problem is the unpopularity of credit card among Chinese. Therefore an alliance with bank or post office will be a definite advantage for the M-commerce providers. This is because in China, money depositing in post office or in bank is prevailing. By alliance with post office or bank, M-commerce providers can directly debit the accounts of customers from designated financial institutions and therefore solve the tricky problem of payment.

Provide Pre-launch Information

The type of information released before launch is a key tactical decision in launching the product. The suitable form will be article in the press, specifying the time product will reach the market, the basis of the technology and other information.

Distribution Channel

To reach the niche market, M-commerce provider should use either system integrator or original equipment manufacturer instead of retail store. The reason is that characteristics of early market adopters are either technology obsessed or want to be the first to leverage the technology. In this way, retail store reaching the general skeptical public will never go well with niche marketing. Original equipment manufacturers(OEM) channel is a two-tier distribution system. The M-commerce providers just supply their software to the OEM and they embed the software into the hand-held devices. In this way, the end users will ultimately use the software when they purchase the hand-held devices. This distribution channel is particularly important when company want to enter into the early market as the general public cast a doubtful eye on the innovative product. In this

way, through the OEM, M-commerce provider can reach the technical enthusiastic or visionary who is hard to identify among the public.

System integrator is a solution provider like the international consultant firm. They are at the forefront of technology and provide specialize technological solution to clients. Strictly speaking, they are not the distributors but the solution providers. Nevertheless, they have an authority for choosing the most suitable service for their clients. Therefore, system integrator is an integral channel for reaching the customers who are obsessed with breakthrough technology or eager to gain a competitive edge over their competitors.

Positioning

Position can be based on tangible (technological) or intangible characteristics (image). In the case of early market of M-commerce, position should be based on technological.

<u>Pricing strategy</u>

In a niche market like techies and visionaries, what they care is the shift from an old paradigm to a break through technology. Therefore they can tolerate defects and unproven benefits provided via mobile devices. To enter the fledging Mobile Commerce, the Chinese businessmen can charge a high price on their services due to the price insensitivity nature of early market. What attract the first adopter is the convenient, sense of prestige come from the new product itself but not the price, as stated in our survey.

(chart 16) However, M-commerce providers should pay attention to the problem of collecting money from users in China. They should form an alliance with bank and other financial institution for solving the problem.

<u>Emphasize technological superiority</u>

Focusing on the technological superiority of a new high-tech product over others is important to enter into the early market. When technology is changing rapidly, it would seem that positioning a product on the basis of the latest technology built into it should satisfy the appetite of those techies.

<u>Emphasize exclusivity</u>

A way to differentiate the product offer is by emphasizing how exclusive it is. For example, by focusing on convenience, purchasing cinema ticket on mobile devices can stand the providers out from other competitors.

<u>Execution</u>

Execution is designed to trigger a positive purchase decision in the final stage of launching M-commerce. For a new technology like M-commerce, execution tends to focus on conveying the benefits to the end-user.

<u>Concentrate on a particular application(product nature)</u>

Serving the needs of a particular segment is all about focusing the company's resources on customizing the product to the needs of that segment. The segment wants a customized solution. Sales in several segments would soon stretch the company's development resources to the breaking point as it tried to customize the product to each

segment's needs. According to our survey, the products or services which appeal to the specific customers should be saving customers a lot of time as convenient are on top of their list (chart 16). Moreover the products and services should present an image of power or authority. Using the products or services can make them standing out of their peers. In our survey, the most hit products will be banking service, travel service and stock trading(chart 17). These services can be a spearhead in cracking the hard nut of early market due to the convenience bring by the banking service, stock trading. Transferring the stock, money any time at any where certainly gives those users a sense of prestige while general public is waiting in line in bank or stock agency for managing their wealth. Apart from this, with the increase of wealth, people are more concern about the opportunity of travelling. Therefore, the travel services such as purchasing the airline ticket and hotel room should be another service which can win the customers from the traditional business.

Top 3 reasons for using Mobile-Commerce

Convenient

Working requirement

Convince that Mobile is useful
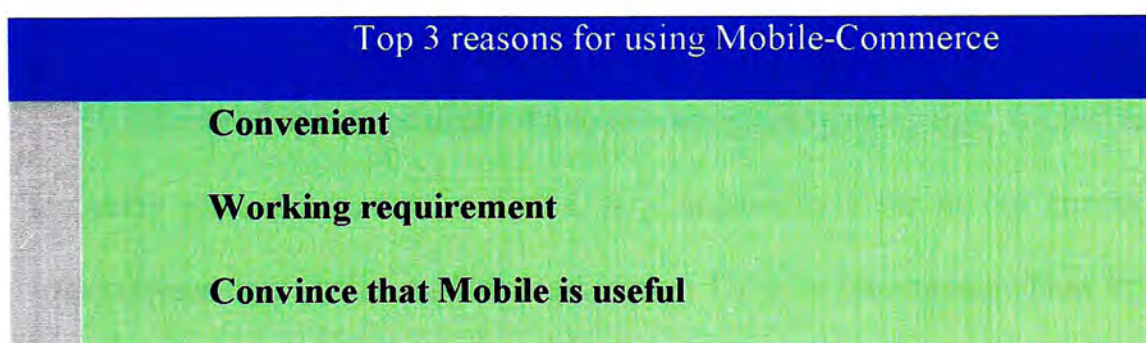
Chart 16 Top 3 reasons for using M-commerce

In the experience of I-mode, what customers in favor are the specific services such as cinema-ticket purchased and cartoon downloaded. They are not used to aimlessly

surfing the internet or reading tons of information due to the small screen and the tedious input on mobile phone. Moreover, the idea of information should be free is deeply-rooted in their mind. This give out a clear message for the M-Commerce businessman in China: don't try to make money from providing information such as portal, or general city guide. To target the niche market, M-commerce entrepreneurs should provide a specific service instead of operating a information distribution center.

Top 5 Desired Applications

Banking Application

Travel Services(booking)

Stock Trading

Internet surfing

E-mail
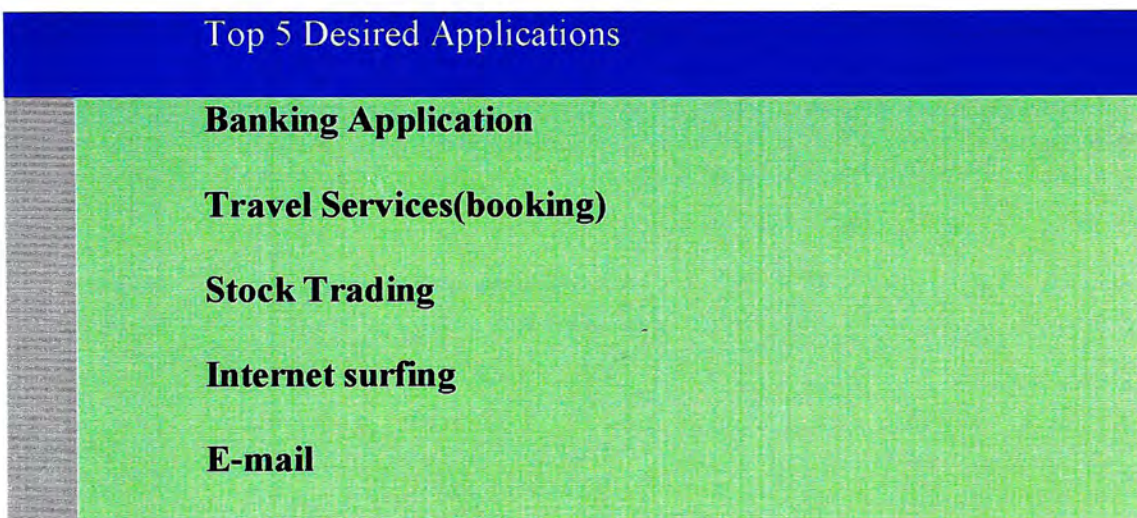
Chart 17   Top 5 Desired Applications

Promotion

Word-of-mouth, instead of massive advertising campaign, is ideal for appealing to the early market adopters in China. It is especially clear in our survey: most of the interviewees don't believe advertisements on TV or in Newspaper. They believe word-of-mouth from the one they trust.(Table 7) Therefore, a large-scale advertisement campaign will be dismissed as a hype by those people. On the other hands, the visionaries love to be the first to take advantage of innovative technology in order to beat their competitors, a well-known product will not raise their interest. Therefore to promote M-commerce, the

best method will be to use a small, high-level sales force to reach the techies at the business press or technological forum. After the approval of techies, the creditability of M-commerce will increase and eventually allure more people to give it a shot.

CHAPTER VII

LIMITATIONS

First of all, due to the innovative nature of M-commerce, not many Chinese customers have enough knowledge about it. Therefore, they might have based their perception on imagination but not on the real product when they answered the survey.

Secondly, the survey was designed with close-ended questions. For some customers (respondents) they may have opinion on some elements or components that were not fully reflected in the list.

Last but not least, the survey was done on a limited number of highly selected cities: Guangzhou, Beijing, Jinan , Shenyang and Qing dao. As a result, the result can only partly reflect the psychology of interviewees who are subject to affection of development stage of local telecommunication infrastructure. To get a whole picture of the mobile commerce industry, there should be an extensive, lasting survey for the whole country.

CHAPTER VIII

CONCLUSION

In the study of mobile commerce in China, cellular phone is highly emphasized in this study due to the popularity it gained and the relevant fast growing prospectus. Nevertheless the territory of Mobile commerce should undoubtedly encompass all the Personal Device Assistants(PDA). In the experience of I-mode in Japan, Personal Device Assistant(PDAs) and cell phones are migrating towards convergence. In other words, a versatile mobile phone will be more powerful and be a driving factor for the popularity of Mobile-commerce.

Apart from this the telecommunication industry will be critical in the development of M-Commerce. In the study, we found out that though the telecommunication infrastructure in China now is underdeveloped when compared to other foreign countries, however, it is developing at a amazing speed which will overtake U.S.A and Japan to be the biggest telecommunication market according to observation by experts. In this way, the sound telecommunication market laid a solid foundation for the development of M-commerce in China.

Another force tipping the balance towards M-commerce will be the attitude towards virtual purchasing experience by Chinese. In this aspect, we found a good sign for that: e-commerce has been experiencing an unprecedented growth in the history of China. With a growth of 500% per year, E-commerce will become an important way of doing business in China ; so does its extension-Mobile commerce.

By the time third generation network(3G) services reach the China markets, there will be more portable wireless devices available to make use of the bandwidth on offer. Devices , not limit to mobile phone, will include connected audio players allowing downloading of audio from websites, dedicated mobile games consoles and TV/video players rendering multimedia content. At that time, the mobile commerce will truly experience a blossom and become a mainstream business in China.

Appendix 1-Tables

Table 1 Main activities by mobile phone

	N	Minimum	Maximum	Mean	Std. Deviation
Personal communication	191	.00	1.00	.8953	.30699
Business affair communication	191	.00	1.00	.5445	.49932
Check news	191	.00	1.00	.3560	.48008
Check stock price	191	.00	1.00	.3246	.46946
Check Weather	191	.00	1.00	.1414	.34931
Others	191	.00	1.00	.0733	.26131
Purchase daily necessary	191	.00	1.00	.0262	.16008
Traffic inquiry	191	.00	1.00	.0105	.10206
Inquiry commodity	191	.00	1.00	.0052	.07236
Valid N (listwise)	191				

Table 2 Satisfaction for the mobile service

	N	Minimum	Maximum	Mean	Std. Deviation
Types of Mobile phone	191	.00	5.00	3.8901	.81010
Network covering	191	.00	5.00	3.5497	.91559
Network clearness	191	.00	5.00	3.3613	.89464
overall performance	191	.00	5.00	3.2356	.70486
Aftersale service	191	.00	5.00	3.2094	.83862
Mobile phone price and monthly fee	191	.00	5.00	3.0052	.94310
Valid N (listwise)	191				

Table 3 Attitudes towards using mobile phone

	N	Minimum	Maximum	Mean	Std. Deviation
My overall attitude toward m-commerce is positive	191	.00	5.00	3.9948	.93751
I will give more thought to a mobile commerce if my friends/relatives use the same service.	191	.00	5.00	3.7696	.97835
I will recommend to friends or relatives	191	.00	5.00	3.6597	1.06840
If the mobile phone can get connected to internet, I will give it a try	191	.00	5.00	3.4869	1.16465
I will give a try to innovations	191	.00	5.00	3.3979	1.08521
It is more security and keep my privacy to use mobile phone than the wire phone	191	.00	5.00	3.2670	1.06470
I am satisfied to the mobile phone service	191	.00	5.00	3.0733	.84285
I like the idea of doing business on mobile phone	191	.00	5.00	3.0471	1.24515
I use Mobile phone more than the wire phone	191	.00	5.00	2.9215	1.10934
Valid N (listwise)	191				

Table 4 Reasons for using M-commerce

	N	Minimum	Maximum	Mean	Std. Deviation
Convienent	219	.00	5.00	4.2831	1.08460
Working requirement	219	.00	5.00	4.0046	1.20205
Believe that mobile is useful	219	.00	5.00	3.8219	1.16928
Personal requirement	219	.00	5.00	3.3699	1.23971
Attracted by advertisements	219	.00	5.00	2.2055	1.22615
fad-following	219	.00	5.00	1.8219	1.04937
Out of curiosity	219	.00	5.00	1.7443	1.13267
Valid N (listwise)	219				

Table 5 Importance of the factors in M-commerce

	N	Minimum	Maximum	Mean	Std. Deviation
Payment security	219	.00	5.00	4.3014	1.19269
Quality of product / service	219	.00	5.00	4.2831	1.18176
convenience	219	.00	5.00	4.2100	1.07161
Protection of personal information	219	.00	5.00	4.0548	1.28031
Variety of product / service choices	219	.00	5.00	3.8630	1.29907
Delivery Speed	219	.00	5.00	3.7306	1.31523
Price	219	.00	5.00	3.5297	1.40209
Order / Delivery status check	219	.00	5.00	3.1096	1.31918
Valid N (listwise)	219				

Table 6 Items chosen for M-commerce

	N	Minimum	Maximum	Mean	Std. Deviation
Banking service	219	.00	1.00	.6849	.46561
Travel Service/Booking	219	.00	1.00	.5753	.49542
Stock trading	219	.00	1.00	.5297	.50026
Surfing internet	219	.00	1.00	.5023	.50114
E-mail	219	.00	1.00	.4703	.50026
Book/Music	219	.00	5.00	.4384	.58230
Playing Game	219	.00	1.00	.4384	.49732
Flower	219	.00	1.00	.4338	.49673
Personal Information	219	.00	1.00	.4064	.49228
Access commercial data	219	.00	1.00	.2329	.42363
Film/Music ticket	219	.00	1.00	.2283	.42071
Save data	219	.00	1.00	.1781	.38346
Mobile meeting	219	.00	1.00	.1507	.35856
Homepage	219	.00	1.00	.1507	.35856
Software/Hardware	219	.00	1.00	.1461	.35403
place related shopping	219	.00	1.00	.1142	.31873
Cloth/shoe	219	.00	1.00	.1050	.30729
Reading	219	.00	1.00	.1005	.30130
time-related shopping	219	.00	1.00	.0822	.27529
Daily necessary	219	.00	1.00	.0685	.25317
games	219	.00	1.00	.0548	.22810
Electronic utility	219	.00	1.00	.0274	.16361
Image processing	219	.00	1.00	.0204	.13361
Valid N (listwise)	219				

Table 7 Reliability for the information channel

	N	Minimum	Maximum	Mean	Std. Deviation
recommendation by friends/family member	219	.00	5.00	4.0046	.95542
TV Ads	219	.00	5.00	3.0411	.92029
NewspaperAds	219	.00	5.00	2.6941	1.03716
Mobile phone message	219	.00	5.00	2.3379	.93602
internet Ads	219	.00	5.00	2.2100	.96816
e-mail Ads	219	.00	5.00	2.1370	.97654
Valid N (listwise)	219				

Table 8 Correlation of satisfaction towards the mobile phone service

		Q12	Q13	Q14	Q15	Q16	Q17
Mobile phone price and monthly fee	Pearson Correlation	1	.504	.045	.303	.411	.457
	Sig. (2-tailed)	.	.000	.533	.000	.000	.000
	N	191	191	191	191	191	191
Types of mobile phone	Pearson Correlation	.504	1	.316	.389	.375	.433
	Sig. (2-tailed)	.000	.	.000	.000	.000	.000
	N	191	191	191	191	191	191
Network covering	Pearson Correlation	.045	.316	1	.412	.288	.443
	Sig. (2-tailed)	.533	.000	.	.000	.000	.000
	N	191	191	191	191	191	191
Network clearness	Pearson Correlation	.303	.389	.412	1	.298	.532
	Sig. (2-tailed)	.000	.000	.000	.	.000	.000
	N	191	191	191	191	191	191

Aftersale Service	Pearson Correlation	.411	.375	.288	.298	1	.486
	Sig. (2-tailed)	.000	.000	.000	.000	.	.000
	N	191	191	191	191	191	191
Overall	Pearson Correlation	.457	.433	.443	.532	.486	1
Performance							
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.
	N	191	191	191	191	191	191

** Correlation is significant at the 0.01 level (2-tailed).

Table 9 Regression of Overall Performance of Mobile phone and Network

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.701	.492	.478	.50919

a Predictors: (Constant), After Sale service, Network covering, Mobile phone price, Network clearness, Type of Mobile phone

Table10 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	46.431	5	9.286	35.816	.000
	Residual	47.966	185	.259		
	Total	94.398	190			

a Predictors: (Constant), AfterSale Service, Network covering, Mobile phone price, Network clearness, Types of Mobile Phone

b Dependent Variable: Overall Performance of Mobile phone and Network

Table 11 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.557	.218		2.555	.011
	Mobile phone price and monthly fee	.190	.049	.255	3.893	.000
	Types of Mobile Phone	3.511E-02	.057	.040	.613	.541
	Network covering	.187	.047	.243	3.990	.000
	Network clearness	.217	.049	.275	4.466	.000
	AfterSale Service	.180	.051	.214	3.519	.001

a Dependent Variable: Overall Performance of Mobile phone and Network

Table 12 Correlation of attitude towards using mobile phone

* please refer to the questionnaire for the question asked.

		Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26
Q18*	Pearson Correlation	1	.498	.160	.265	.087	-.009	.231	.136	.164
	Sig. (2-tailed)	.	.000	.027	.000	.233	.903	.001	.060	.024
	N	191	191	191	191	191	191	191	191	191
Q19	Pearson Correlation	.498	1	.229	.298	.227	-.061	.285	.167	.238
	Sig. (2-tailed)	.000	.	.001	.000	.002	.404	.000	.021	.001
	N	191	191	191	191	191	191	191	191	191
Q20	Pearson Correlation	.160	.229	1	.136	.005	-.188	-.037	.091	.094
	Sig. (2-tailed)	.027	.001	.	.060	.946	.009	.615	.210	.195
	N	191	191	191	191	191	191	191	191	191
Q21	Pearson Correlation	.265	.298	.136	1	.210	.141	.352	.300	.191
	Sig. (2-tailed)	.000	.000	.060	.	.004	.052	.000	.000	.008

N	191	191	191	191	191	191	191	191	191
Q22 Pearson Correlation	.087	.227	.005	.210	1	.425	.468	.214	.354
Sig. (2-tailed)	.233	.002	.946	.004	.	.000	.000	.003	.000
N	191	191	191	191	191	191	191	191	191
Q23 Pearson Correlation	-.009	-.061	-.188	.141	.425	1	.419	.338	.222
Sig. (2-tailed)	.903	.404	.009	.052	.000	.	.000	.000	.002
N	191	191	191	191	191	191	191	191	191
Q24 Pearson Correlation	.231	.285	-.037	.352	.468	.419	1	.469	.524
Sig. (2-tailed)	.001	.000	.615	.000	.000	.000	.	.000	.000
N	191	191	191	191	191	191	191	191	191
Q25 Pearson Correlation	.136	.167	.091	.300	.214	.338	.469	1	.340
Sig. (2-tailed)	.060	.021	.210	.000	.003	.000	.000	.	.000
N	191	191	191	191	191	191	191	191	191
Q26 Pearson Correlation	.164	.238	.094	.191	.354	.222	.524	.340	1
Sig. (2-tailed)	.024	.001	.195	.008	.000	.002	.000	.000	.
N	191	191	191	191	191	191	191	191	191

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 13 Regression of attitude towards using mobile phone

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.544	.296	.265	.80366

a Predictors: (Constant), Q26, Q20, Q18, Q23, Q21, Q22, Q19, Q24

than the significant level.

Table14 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.446	8	6.181	9.570	.000
	Residual	117.549	182	.646		
	Total	166.995	190			

a Predictors: (Constant), Q26, Q20, Q18, Q23, Q21, Q22, Q19, Q24

b Dependent Variable: Q25

Table 15 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.283	.359		3.571	.000
	Q18	-9.901E-03	.062	-.012	-.160	.873
	Q19	2.040E-02	.058	.027	.350	.727
	Q20	9.809E-02	.058	.111	1.688	.093
	Q21	.153	.077	.138	1.991	.048
	Q22	-8.529E-02	.061	-.106	-1.400	.163
	Q23	.199	.065	.230	3.074	.002
	Q24	.296	.082	.308	3.592	.000
	Q26	.108	.065	.123	1.653	.100

a Dependent Variable: Q25

Appendix 2-Questionaire

A Survey on Mobile commerce
Introduction of Mobile commerce

M-commerce is done over mobile phones and other hand-held digital devices like personal digital assistants. It covers buying and selling everything from stocks to flowers, using handphones and PDA.'s . M-commerce promises to turn your cell phone or hand-held organizer into an electronic wallet. Wireless shopping services are a natural extension of electronic commerce. While the Net made distance irrelevant, wireless access to the Web will conquer place.

Part 1. Please indicate your experience on using mobile phone.

1. Do you have a mobile phone?
□ Yes
□ No_____ (skip to section 2-3)

2. How many times do you use the mobile phone a day ?
   - less than 5
   - 5 - ---- 10
   - 10-----15
   - more than 15

3. What activities do you usefully do with the mobile ?
3. personal communication
4. Business Affair Communication
5. check Stock price
6. Check Weather
7. Check news
8. Purchase daily necessary
9. Traffic inquiry
10. Inquiry Commodity
11. Others

Part 2(2-1).Please indicate the extent to which you satisfy with the following statements by circling a number in the given scale. 1- strongly disagree 5- strongly agree 0 –unavailable

12.Mobile phone price and monthly fee
13.Types of Mobile phone
14. Network covering
15. Network clearness
16.aftersale service
17. overall performance

(2-2) Please indicate the extent to which you agree with the following statements by circling a number in the given scale. 1- strongly disagree 5- strongly agree 0 –unavailable

18. I use Mobile phone more than the wire phone

19 I like the idea of doing business on mobile phone

20 It is more security and keep my privacy to use mobile phone than the wire phone.

21 I am satisfied to the mobile phone service.

22 If the mobile phone can get connected to internet, I will give it a try.

23. I will *give a try* to innovations.

24. I will give more thought to a mobile commerce if my *friends/relatives* use the same service.

25 My overall attitude toward m-commerce is positive

26 I will recommend to friends or relatives.

(2-3) What reasons promote you to M-commerce? **1- strongly disagree 5- strongly agree 0 – unavailable**

	1	2	3	4	5	C
27 Attracted by advertisements	1	2	3	4	5	C
28 Believe that mobile is useful	1	2	3	4	5	C
29 Out of curiosity	1	2	3	4	5	C
30 Convenient	1	2	3	4	5	C
31 Me-too-ism or cult/fad-following	1	2	3	4	5	C
32 working requirement	1	2	3	4	5	C
33 personal requirement	1	2	3	4	5	C

(2-4)Factors in doing M-commerce **1- strongly disagree 5- strongly agree 0-unavailable**

34 Price (compared with "real stores")
35 Delivery speed
36 Variety of product / service choices
37 Quality of product / service
38 Payment security
39 Protection of personal information
40 Order / Delivery status check
41convience

Choose the items you will conduct by M-commerce

- 42books/music
- 43film ticket/music ticket
- 44travell service(booking)
- 45software/hardware
- 46electronicutilities
- 47cloth/shoe
- 48flower
- 49playing games
- 50surfing internet
- 51reading
- 52stock trading
- 53image processing
- 54mobile meeting
- 55daily necessary
- 56bankingservice
- 57personal info.
- 58e-mail
- 59home page
- 60accesscommercialdata
- 61place related shopping
- 62time-related shopping
- 63savedata
- 64games

(2-5)indicate the reliability of the information channel

1- strongly disagree 5- strongly agree 0-unavailable

65NewspaperAds

66internet Ads

67e-mail Ads

68TV Ads

69Mobile phone message

70recommendation by friends/family

member

Personal data

71. sex

□ male   □ female

72.Age

□ 15-20   □ 25-30   □ 40-50

□ 21-25   □ 31-40   □ 50 or above

73.education

□ elementary   □ university

□ middleschool   □ postgraduate

74.monthly income

□ 500 or below   □ 2001-3000   □ 4001-5000

□ 501-1000   □ 3001-4000   □ 5000 or above

□ 1001-2000

End

Chinese version

流動電話商務問卷調查

簡介:流動電話商務是指通過流動電話或其它手執電子設備進行的一種商務活動. 通過流動電話或其它手執電子設備可以買賣從股票到鮮花的一切商品‧流動電話商務可以使流動電話或其它手執電子設備成為電子錢包,這種無線商務服務是電子商務的自然延伸.縮短了買賣雙方的距離‧

一‧請列出使用流動電話的經驗
  1.是否使用流動電話?
    ❑ 是   ❑ 否
             （請到 2-3）
  2. 你每天平均用几次流動電話?
    ❑ 小于5次   ❑ 10－15
    ❑ 5－10次   ❑ 大于15

流動電話主要用于(可選多項)
    ❑ 3.私人溝通,交流   ❑ 6.查詢天氣   ❑ 9.查詢交通狀況
    ❑ 4.商業事務交流   ❑ 7.查詢新聞   ❑ 10.查詢 物品
    ❑ 5.查詢股價   ❑ 8.購買日常用品   ❑ 11.其它

二 (2-1)請列出對目前流動電話服務的滿意程度 1—非常不滿意 5-非常滿意 0—不適用
    12.月費,手機及配件價格
    13.手機種類
    14. 網絡覆蓋范圍
    15. 網絡清淅程度
    16.售后服務
    17. 整體表現

(2-2)請列出對以下項目的贊同程度 .1---非常不贊同 5-- 非常贊同 0-- 不適用
    18.我用流動電話的次數多于有線電話
    19 我喜歡用流動電話處理商務
    20 流動電話比有線電話更具安全性,保密性
    21 我對目前流動電話的服務很滿意
    22 如果流動電話能接駁互聯网,我會試用
    23 我會嘗試新奇事物
    24 如果我的朋友,親戚都使用流動電話商務,
我會考慮
    25 總體而言,我對流動電話態度是正面的
    26 你會推薦給親友

(2-3)什麼原因會驅使你使用流動電話做商務 1--不重要 5-- 重要 0--不適用

27 廣告吸引	1	2	3	4	5	C
28 認為流動電話有用	1	2	3	4	5	C
29 好奇	1	2	3	4	5	C

30 方便	1	2	3	4	5	0
31 追隨潮流	1	2	3	4	5	0
32 工作需要	1	2	3	4	5	0
33 個人需要	1	2	3	4	5	0

(2-4)如使用流動電話做商務,列出所考慮因素的程度 1--不重要 5-- 重要
0--不適用
　　　34 價格
　　　35 送貨速度
　　　36 產品/服務多樣化
　　　37 質量
　　　38 付款安全性
　　　39 各人資料保護性
　　　40 查詢送貨情況
　　　41 方便使用

從以下各項中選出你會在流動電話中進行的商務 (可選多項)

- 42 書/雜誌/音樂/視頻
- 43 電影票/音樂票
- 44 旅行服務(酒店,航空預定)
- 45 電腦硬件/系統軟件
- 46 電器用品 (微波爐)
- 47 衣服/鞋
- 48 鮮花
- 49 玩游戲
- 50 上網
- 51 閱讀
- 52 買賣股票
- 53 圖形處理
- 54 流動電話會議
- 55 日常用品
- 56 銀行服務
- 57 接收個性化信息
- 58 收發電子郵件
- 59 建立常用目錄或主頁
- 60 接觸商務數據
- 61 地點相關購物
- 62 時間相關購物
- 63 儲存數據
- 64 游戲/ 軟件

(2-5)列出以下信息渠道的可信程度 1—不太可信 5--- 非常可信 0--不適用
　　　65 報紙/雜誌廣告
　　　66 互聯網廣告
　　　67 電子郵件
　　　68 電視廣告
　　　69 流動電話信息
　　　70 朋友/家人建議

三‧個人資料
71.性別
- 男
- 女

72.年齡
- 15-20
- 21-25
- 25-30
- 31-40
- 40-50
- 50 or above

73.教育程度
- 小學
- 中學
- 大學
- 研究生以上

74.月收入

- ❑ 500 or below
- ❑ 501-1000
- ❑ 1001-2000

- ❑ 2001-3000
- ❑ 3001-4000

- ❑ 4001-5000
- ❑ 5000 or above

此問卷完, 謝謝！

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