A COMPREHENSIVE STRATEGIC ANALYSIS OF THE MOBILE VALUE ADDED SERVICE BUSINESS OF CHINA

by

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ABSTRACT

The Chinese mobile value added service industry is a fast growing industry, where Government rules and regulations have lagged behind the industry and its business development. It is a golden opportunity for business ventures, yet we are expecting the majority of value added service providers to be phased out in the next five years due to the competitiveness of business and the trend of industry consolidations.

This thesis reviews this niche industry in detail. The author explores the multiple business approaches of becoming a successful mobile value added service provider (SP). The purpose of this paper is to analyze the dynamics taking place in the Chinese mobile value added service industry today and provide the reader with a strategic understanding thereof. The analysis leads to conclusions about the general attractiveness of the industry, segmented or as a whole. The paper makes some recommendations to existing players and offers a general framework for prospective entrants.

DEDICATION

I dedicate this project to my beloved wife Jiwen. She passed away August last year and will not be able to see my completion of the EMBA program. Without her encouragement, support and unconditional love, I wouldn't be who I am today. I deeply miss her.

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GLOSSARY

ISP	Internet Service Provider: Provides Internet access service to private users and business users, either by high speed (DSL/Cable), dial-up or wireless access. AOL, for example, is an ISP.
ICP	Internet Content Provider: Provides content service rather than access service to customers. Yahoo and eBay are examples of ICPs.
SP	Service provider: In this project, SP refers to a company that offers value added service to mobile phone customers.
3G	3rd generation mobile phone service: Based on CDMA technology and has enhanced mobile Internet – data functions, enables customer media-rich applications.
2G	2nd generation mobile phone service: Based on TDMA technology and refers to GSM (Global System of Mobile communication). It is the first generation digital mobile phone service, and offers high density, good quality, and low-cost public mobile communications.
2.5G	GSM system with added data function. It is just a transition product.
LBS	Local based service: An application that value added service could offer.
AGPS	Mobile phone with global positioning service (GPS) feature: "A" stands for "assistant" and indicates that mobile phones can get secondary position information from the mobile network itself by referencing neighbouring locations of radio base stations.
WAP	Wireless Internet Application Protocol: Designed to provide mobile phone users with access to Internet on the go.
BREW	Binary Runtime Environment for Wireless: An application development platform created by Qualcomm for mobile phones. It is air-interface independent, i.e. it can support GSM/GPRS, UMTS, and CDMA. The BREW solution provides the necessary tools and value-added services to developers, device manufacturers and wireless operators for application development and distribution, device configuration, and billing and payment.
Scalability	Flexibility of a designed system, and its ability to scale, to support larger or smaller volumes of data and more or less users. The ability to increase or decrease size or capability in cost-effective increments with minimal impact on the unit cost of business and the procurement of additional services.

Six Sigma	Six Sigma at many organizations simply means a measure of quality that strives for near perfection. Six Sigma is a disciplined, data-driven approach and methodology for eliminating defects (driving towards six standard deviations between the mean and the nearest specification limit) in any process – from manufacturing to transactional and from product to service.

1 INTRODUCTION

This introduction chapter outlines the purpose and scope of the project, provides an overview of a small mobile value added service provider, Tiros, and identifies its current business strategies, management concerns, and decision-making criteria.

1.1 Purpose and scope

The purpose of this paper is to provide a strategic consultation for a small mobile value added service provider, Tiros, which is based in Beijing China. This company offers cell phone customers value added services (rather than the voice services), such as mobile instant message, ring tone download, local information, location based service (shopping, driving and more), and other services currently being developed.

Tiros is a small-sized company in the start-up phase. Currently it has just over 30 employees, though it is still expanding. The majority of the employees are working as in-house R&D engineers and customer services representatives. Tiros offers several kinds of value added services to mobile phone users on 2G (GSM) and 2.5G (GPRS) mobile infrastructures, owned by China Unicom. These include mobile instant message (SMS) (about 40 percent of Tiros' business revenue), music and ring tone download (30 percent of business revenue), multi media SMS (MMS) and interactive Voice recorded service (IVR service) (together 30 percent of business revenue). Tiros currently has a steady revenue stream from these services.

The up-coming 3rd Generation mobile phone system offers tremendous opportunities for value added service providers. Tiros, seeing a promising future, has been investing in a new project – online mobile phone navigation – which is a substitute product for the commercial

global positioning system (GPS) that is often used in automobiles. Online mobile phone navigation enables mobile phone users to locate themselves and map the destination they want, while providing a voiced-navigation service to guide them to their desired destination. This service is to be launched on the China Unicom wireless infrastructure across China.

Tiros is about to make some serious managerial decisions to determine the future of the company. Like all other start-up companies in combination with golden opportunities, Tiros also faces many challenges, such as limited management capability, lack of sound strategies to compete in this emerging industry, competition for intelligence, and shortage of capital to finance the exponential growth of the business.

This paper aims to use the MBA knowledge and methodology to study the industry that Tiros serves, identify opportunities and challenges, recommend solutions, and outline a road map for company development. The majority of the analytical study will focus on this specific sub-industry of the Chinese telecommunication sector. Being a private company in a competitive business environment, the owner of Tiros could only provide information and data to the best of his knowledge and to the degree that he was allowed to disclose information to the public.

1.2 Company overview

Tiros is a private company, which was started by two innovative engineers in 2001, and bought by Mr. Qian in 2003. One of the founder engineers is still working in the company, and the other left the company and started up a different type of business (a no compete clause was written in the purchase contract). Currently this company has invested capital of 5 million RMB. Tiros is located in Beijing's centre business district (CBD). It has 32 employees; comprised of 16 in-house application-development (or R&D) engineers, 10 customer service representatives, and the rest are business developers and general managers.

Tiros is a small-sized company, currently running a profitable business with an existing service product portfolio (namely SMS, MMS, and a download service, among others). Detail of these services will be discussed in Chapter 2. However, because Tiros has been investing aggressively in the next generation of mobile value added service products, it currently has a low-level positive cash flow.

Given the present competitive environment, it is a survival of the fittest industry. Companies must choose to grow or to die. Currently Tiros is working very hard to align its limited resources and trying to catch up with the momentum that the 3G infrastructure launch has to offer.

1.3 Management decision criteria

Mr. Qian, the owner of Tiros has asked for advice on the best competitive strategy, an effective way of retaining talent, the right amount of capital to handle the growth, and the cheapest way to get capital over time. To start a new project or implement a set of strategies proposed, he has following criteria.

1.3.1 Grow the Company in a Well-controlled Way

Mr. Qian would like to grow the company in a well-controlled way, in other words, during the business expansion, he would like to maintain the ownership and power of making business decisions himself, and he does not want to introduce excess capital unnecessarily, so as not to dilute the return on investment.

Mr. Qian believes that his company must catch the momentum that China 3G has offered. The problem he sees is that Tiros's capital is currently strained and he is looking for capital investment to support anticipated business growth in coming years. He needs to have a clear

picture of how much capital is needed and then to decide which source of capital to use for financing the upcoming business growth.

The dilemma Mr. Qian has now is that, because of the ongoing investment, his company has a low level return on investment (ROI). The ROI is less than 3 percent, while the bank loan interest is 7 percent APR. It is hard to justify the higher interest pay out if he uses a traditional banking loan, and banks are reluctant to loan him a required amount of money because of the high debt to equity ratio his business will have. (Mr. Qian would like to borrow 10 million RMB, which is twice the invested capital).

Conversely, many with venture capital have "smelled the money", and approached Mr. Qian, but have requested a high percentage of ownership of the company, which does not meet Mr. Qian's decision criteria. He wants control of the company for the next period, to implement his business dream that he fervently believes will be successful in a fast growing mobile value added service industry. Additionally, Mr. Qian believes that if his company survives the next 12 months, the business will be self sufficient and have enough cash flow to grow. "If company is going to make good chunk of money tomorrow, why should I sell it cheaply today? I would do what ever it takes to overcome difficulties and stand for this darkest night", said Mr. Qian.

1.3.2 Improve the Overall ROI to More Than the 15 percent Level

Mr. Qian is looking for ways to introduce a suitable amount of capital (to be discussed in chapters 3 and 4) in order to initiate the key project without disturbing the existing "controlled" operation, and to improve the overall ROI to more than the 15 percent level, so as to create an inviting business environment for leveraged financing in the future. This is another decision criterion.

1.4 Company's current strategy

Mr. Qian sees himself as an investor. Other than this business, he has a real estate investment (20 percent ROI year by year) and restaurant business (40 percent ROI year by year). When Mr. Qian bought Tiros, his intension was to grow the company and to have it IPOed in three to five years. However, at that point, there was no clear strategy defined at the business level.

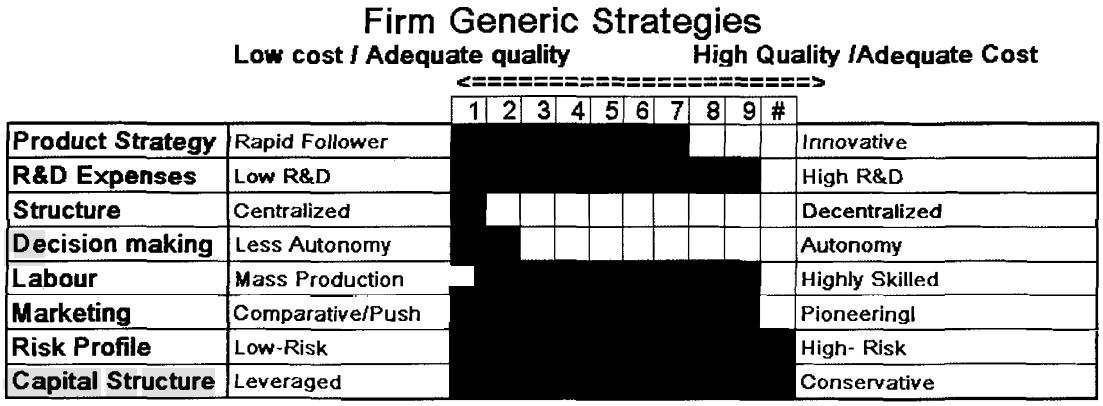
Mr. Qian has faith in his business instincts; that the China 3G infrastructure launch will bring tremendous business opportunities to this industry. His current strategy is to do things right and not to be left behind.

Mr. Qian was asked if his company was a cost company or a differentiation company. "We are definitely not a cost company because we have been investing aggressively in a new project and we don't have the cost advantage. We are not as much of a differentiation company as we'd like to be, because we don't yet know how different is different enough to differentiate ourselves in the business", said Mr. Qian.

Below shows an assessment of Tiros's current strategic fit.

1.4.1 Strategic Fit Mapping

Figure 1-1 Client company current strategic fit mapping[1]



From **above figure.** we can see that, just like many other startups, this company does not have a cost advantage. It is understandable that a company this size and age may not have the maturity to achieve sound operational efficiency. What we can see is that the company tends towards differentiation. In a North American company, centralization and low autonomy would signal a problem, but in a Chinese company, centralized structures and low-autonomy decision-making practices are the norm due to the influence of Confucian leader-subordinate relationships present in Asian business and company culture.

1.4.2 Product strategy: Innovations & Differentiation

Tiros offers multiple service products to its customers. Some products, such as mobile instant message (SMS), ring tone download, music download, and multimedia short message (MMS) are popular service products that many other SPs also offer to the same group of customers. These products are simple and of low value to both customers and SPs. For these products, Tiros uses a strategy of "go with the flow", However, the advantage is that these services do bring revenue to company to fund / support current business operations.

[1]Adapted from Bukszar (2006) Business Strategy (BUS 607) class note

Tiros's vision is to launch "killer applications" and offer superior, valuable service to customers. It has been investing in its new project for the past two years (i.e. the core system R&D for mobile navigation services).

Tiros's mobile navigation service application has just passed the integration test with China Unicom's CDMA EV-DO2 platform. This application is Tiros's intellectual property. It has leading features, offers ease of use of the mobile navigation service, and has remarkable advantages over competitors' solutions.

An important factor in this industry is that the life cycle of products is very short. A company's technical advantage today may become its burden tomorrow; and the so-called "advantage" might become a weakness once its competitors imitate it. Fully aware this situation, Mr. Qian's company is trying very hard to be innovative, in order to maintain leadership in the area of leading. Tiros is a close follower in many areas, but is leading the competition in one area, navigation.

1.4.3 R&D Expense: High R&D Investment

The majority of Tiros's expenses are R&D, which accounts for 60 percent of the company's revenue. In addition, the majority of the company's assets are its intangible assets "It is the only way to survive in the competition: Given the size of the company and the limited resources we have, we have to spend money selectively and prioritize the development of service product solutions" said Mr. Qian.

[2] CDMA2000 1xEV-DO (1x Evolution-Data Optimized, originally 1x Evolution-Data Only), also referred to as 1xEV-DO, EV-DO, EVDO, or just DO, is an evolution of CDMA2000 1x with High Data Rate (HDR) capability added and where the forward link is time-division multiplexed. This 3G air interface standard is denoted as IS-856

Tiros has primarily invested in mobile-navigation and location-based services. Such service products have unique business value to customers and will be very attractive to the majority of automobile owners, as well as to active travelers.

Tiros's service-product-development capability and R&D pipeline are good. It hopes to differentiate itself from competitors and break away from a future price war.

1.4.4 Structure: Centralized

A centralized structure does not seem to fit Tiros's intention of being differentiated and innovative. Centralized structure, in the eyes of Western management, is associated with cost reduction and limits a firm's ability to be innovative and differentiated; while Eastern management believes that centralized structure suits Eastern culture and reflects Confucian values. In Eastern countries, employees are not trained to make sound business decisions, but to do their own jobs well, and they expect a top-down hierarchical management approach. For example, even the most innovative Chinese hi-tech company, Huawei, has a centralized structure.

Tiros also has a centralized structure, with three operations, or business units, as follows:

1. Business development and marketing

The primary job of business development (BD) and marketing is to liaise with Tiros's major customer, the infrastructure owners, China mobile and China Unicom, in order to analyze business requirements, create service products, and price services.

2. Research development

Research and development's function is to follow up the latest technology for creating competitive service solutions, and to roll up new solutions into existing solution packages (or solution upgrades). In addition, research and development provides new technical solutions to

accommodate ever-changing business requirements (which normally come from customers and are validated by BD and marketing management), performs integration, and tests compliance with mobile infrastructures.

3. Customer service and call center

The customer service and call center is an interface (beside the Web and WAP) for receiving customer enquiries and delivering required services to customers. It is one of the differentiative and competitive advantages Tiros has. In China, a high percentage of mobile phone users do not know how to input Chinese characters in a mobile phone, and different handsets have different methods of input, which makes using a mobile phone service even more complicated. The Tiros call center resolves this issue by making services easier for customers to use. Service representatives in the call center can send short messages or page mobile customers on a caller's behalf. They can even trigger mobile navigation automatically on callers' handsets to direct callers to their desired destinations.

The market disadvantage, that customers do not know how to input Chinese characters on mobile phone keypads, has became this company's competitive advantage since setting up the call center.

Over and above these three business units, Tiros has only two dedicated management personnel.

1.4.5 Decision making: Less Autonomy on the Business Side

Being a private and small technology and service company, the decision-making process has been simple and easy: business decisions are made at business level, which means that Mr. Qian and his general manager make the decisions.

Technology decisions, in general, are made at department level but are reported to management. Management endorses and encourages innovative ideas from employees, especially those from the R&D and product-development business units.

1.4.6 Labour: Highly Skilled

The key of a high tech business is having highly skilled personnel. All employees at Tiros are well educated and highly skilled; even the receptionists have bachelor degrees of business administration. The downside is that highly skilled employees are very costly, which is burden for a small company under financial stress.

In general, in China, it is easy to hire good engineers at a reasonable cost. However, this specific industry has been developing so fast that the supply and training of highly skilled workers and engineers has lagged behind the development of the industry. The reality is that, if a company lost one skilled engineer today, it would have to spend more money to train junior engineers or take a long time to find a replacement in the market.

In the west, lack of decision making autonomy results in high turnover in highly skilled labour. But in China, salary is the key factor that determines the turnover rate, Tiros has a reasonable salary level, it maintains good personal relationship with its key employees, and its employee turnover rate is about the industry average.

1.4.7 Marketing Push & Pull

Tiros offers both traditional and new value added mobile services, and has different marketing practices for different service products. The traditional services it offers do not require much marketing. Tiros leverages the brand and business that the infrastructure owner has offered and it goes with the flow. For new products, i.e. the mobile-navigation service and location-based services, Tiros must perform costly pioneer market pulling. In the new technology introduction

period, the average cost of getting one pioneer customer is three to six months of service revenue. In other words, if the company charges a customer 10 RMB a month, it would have cost the company 30 to 60 RMB to get this customer to sign up for this service because the service was not previously known to the public.

Given the fact of capital strains, Tiros has not done much mass marketing for its service product. It is a real issue that would affect company sales revenue in the long run.

1.4.8 Risk Profile: High-risk Business

This business is high risk; the survival rate of companies is low, especially for a company without a clear sound strategy or a unique business value in the industry value chain.

China's new business survival rate, in the best province, ZheJiang, is about 40 percent. Chinese hi-tech business[3] has less than a 30 percent in three years survival rate.

In general, the risks are associated with a company's resource risk (capital, people and supply), market risk (market maturity), management risk (management's ability to make good business decisions) and competition risk (new entrants very often are not in a good position to compete with existing players).

Mr. Qian, as a private investor, has to decide if he wants to take this risk by himself or to share risks and growth opportunities with other business partners.

1.4.9 Capital Structure: No Leverage

Tiros is a private company with 100 percent equity finance, and currently no debt. Due to the expansion needs, Mr. Qian is looking for the right finance to fund business growth.

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[3] http://tech.sina.com.cn/it/2006-06-30/11351015746.shtml, "new economy weekly" 2006-JUNE-30, "less than one third of high tech company to survival"

1.5 Key Notes

After reviewing Tiros's current strategic fit analysis, Mr. Qian agreed that the existing problems of the company are the following:

- **Strategic proposition**

  Given the fact that the company has limited resources available, it is not likely to be successful if competing on all fronts. Where to compete, with what product and service, and how to compete are the key questions to be answered in this project.

- **Finance**

  The company needs to be financed adequately and timely in order to initiate the project that will generate enough cash flow in next 12 months, to sustain the company's future growth.

- **Market development**

  Market development is another weak area that the company is aware of; it is time to look forward with market planning (as part of strategic development). Given the fact that a new technology and application are to be introduced to the market, and that customers will take some time to absorb the products and services of this new technology, the market is about to create the demand for company-offered service by itself over time.

- **Company development**

  The company needs to be organized in an optimized way, so that it aligns with company business goals, such as growth, innovation, and differentiation.

Because I offered a consultancy to Tiros, I need to meet Mr. Qian's and his management team's decision criteria, which are:

- Any suggested changes should have a control method and mechanism to ensure that the changes will be made in a well-controlled way.

- Capital will be introduced, in a conservative manner, so as not to dilute the future ROI. Loss of control of the company (i.e. less than 50 percent ownership) is not acceptable.

In Chapter 2, the author will conduct an external study, (industrial competitiveness study and rivalry study), identify key success factors, and suggest strategic alternatives. In Chapter 3, the author will examine the company's internal assets and available competence, and identify gaps in resources and abilities for implementing the suggested strategic alternatives. Gaps in financial resources will also be identified in Chapter 3, based on a business projection.

In Chapter 4, the author concludes the strategic choice that best fits Tiros and satisfies the management's decision criteria, summarizes the recommendations made in previous chapters, and explains how these recommendations will help Tiros to achieve its business objectives. In addition, the author will restate how to strategically align Tiros's resources and processes, and improve its competencies in order to accommodate the growing business needs and confront the competition. The author also suggests the optimum financial solution to bridge the capital gaps, which is one of the project's objectives. The project is concluded in Chapter 4.

2 EXTERNAL STUDY

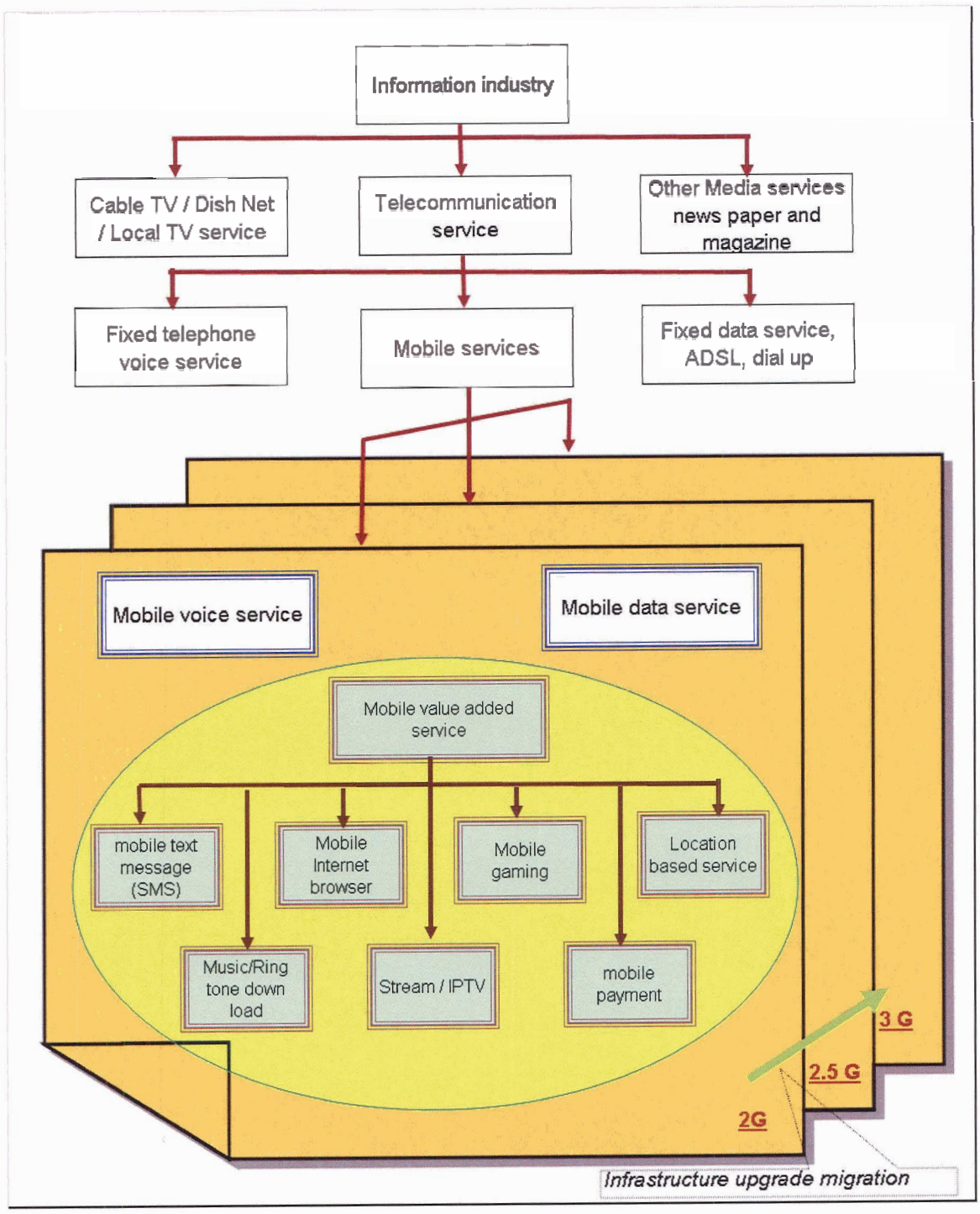
This chapter uses MBA methodology to conduct a comprehensive external study of the company. This study takes the following path: industry introduction, business growth trends, and Porter's 5-force study to identify key success factors of the business. Following this is an analysis of Tiros's versus its competitors' positioning, based on the identified key success factors, in order to reveal threats to and opportunities for the company in the competitive environment. Lastly company strategic alternatives are suggested, which will be evaluated later in terms of the company's internal capabilities.

2.1 Industry structure

We see the information service industry as an umbrella industry, consisting of telecom services and other media services such as TV and the newspaper. The telecom industry comprises fixed service (telephone and data) and mobile service. Mobile value added service is a subset of the mobile service alongside mobile voice and mobile data service.

Table 2 1 below shows mobile value added service as a subset of the mobile telecommunication service industry.

Table 2-1 Mobile Value added service structure



2.2 Customer Study and Trend of Growth

Currently China has 404.1 million mobile phone subscribers, and the scale of value added service (revenue of 2005) is 43.45 billion RMB, which is approximately 30 percent growth over last year.[4]

Per customer spending on mobile value added services is currently about 108 RMB annually (43.45 billion / 404.1 million), or 9 RMB per month.

The Chinese Minister of Information Industry (MII) is expected to release 3G licenses within the next 12 months to new operators.

Given the size of the industry, Tiros's footprint is tiny. Tiros currently has 5 million RMB in sales revenue from customers of 2G[5] and 2.5G mobile infrastructures, and it does not intend to continue investing in servicing an old infrastructure, i.e. 2G & 2.5G, but rather in maintaining the status quo. Believing that 3G offers superior technology enables more value added service applications and brings tremendous business opportunities. In turn, the client's company cares more about the opportunities that the next generation mobile phone system has to offer, i.e. 3G mobile system based on CDMA and TD-SCDMA technology.

2.2.1 Forecast number of 3G Users and Overall Revenue Projection

According to the forecast of "Research and Markets" (based on a large sample size research and secondary analysis), and considering the influence of the existing network coverage, the predicted number of 3G users will reach 22.67 million in 2006. By 2008, this number is expected to reach 106.08 million due to the completion of 3G network's expansion for national

[4] 3G services in China to reach 19.5 billion RMB in 2008 (January 15, 2006) by Research and Markets http://www.3gnewsroom.com/3g_news/jan_06/news_6594.shtml

[5] 2nd generation mobile phone service, based on TDMA technology, refers to GSM (Global System of Mobile communication) it is the first generation digital mobile phone service, offers high density, good quality and low cost public mobile communications

coverage[6]. The forecasted 108 million 3G users are anticipated to be early adopters. The majority of them, who are currently users of the 2G and 2.5G infrastructure, will migrate to the 3G infrastructure to enjoy the media richness and variety of services that 3G offers. On the other hand, current 2G and 2.5G infrastructure business will try every possible means to maintain these high-end customers. This will very likely end in a price war, which will eventually entice more consumers to become mobile phone users.

The potential 3G users have a large capacity for consumption with a monthly telecommunication budget greater than 100 RMB. In 2008 3G overall service revenue (combining mobile voice, mobile data and value added service) would be at least 100 million x 100 x 12 = 120 billion RMB.

Most of the potential users enjoy an affluent lifestyle that emphasizes family and social activities. They actively pursue new experiences and work hard to create the life they want.

3G users will be demographically structured as follows: Young people between 20 and 28 years old will account for 55.5 percent, more than half of the total potential users. Users with college qualifications and below will account for 78.4 percent and university graduates 21.6 percent. The average academic qualification will be far higher than the nationwide average. Students, private owners, and commercial services personnel represent the potential users group.

As the Chinese GDP grows steadily at about 9% year by year, the mobile phone will become a commodity. The high growth of the GDP will create a middle class with a higher disposable income, which will become another potential users group. The Chinese government one-child police will create a special "little emperors" economy, formed by families spending

[6] Forecasts of the number of potential 3G users in large and medium Chinese cities (September 28, 2005), by Research and Markets, http://www.3gnewsroom.com/3g_news/sep_05/news_6268.shtml

irrationally on their children. Businesses that target these "little emperors" mostly have good returns. Therefore, this is also a consumer group worth studying.

3G Value-Added Services that the potential users are willing to use are mostly for entertainment, and potential users' predicted average price of 3G mobile phones is only a little higher than current average price of 2G mobile phones. The number of potential users willing to buy mobile phones priced higher than 3,000 RMB is small.

2.2.2 Revenue Projection for the Chinese Mobile Value Added Service Industry

Research and Markets has announced the addition of Mobile Value-Added Services Annual Synthesized Analysis 2005 to their offering. In its research report, China 3G states that in 2008, mobile value added service revenue will reach 19.5 billion RMB, while the total mobile value added service market will be 92.6 billion RMB.[7]

2.2.3 Average Consumer Annual Spending on Mobile Value Added Service

The total of 106.8 million of 3G mobile users will spend 19.5 billion RMB on mobile value added services. Therefore, personal annual spending on value added services will be 19.5 billion/106.8 million = 183 RMB, or 15 RMB per month, and it accounts for 15 percent of total monthly bill of a mobile phone user. We see that 3G customer average spending on value added service is 70 percent more than that of 2G and 2.5G customers. (183/108 = 1.7).

2.3 Service Offering of the Industry

Below is a descriptive list of all the services that the industry offers. Tiros offers most of these services, except mobile e-wallets and video phones.

[7] 3G services in China to reach 19.5 billion RMB in 2008 (January 15, 2006) by Research and Markets http://www.3gnewsroom.com/3g_news/jan_06/news_6594.shtml

SP companies generally offer similar product portfolios to the public because once the business is set up; the system platform (HW/SW and infrastructure interface) enables them to deliver a full range of services with some extra investment on specific service modules. The marginal investments required for 2G and 2.5G service products are considered relevantly small compared to the investments made to acquire business licenses and obtain an interface with the infrastructure. However, 3G service development is costly because general development tools are not available, and professionals with customer 3G experience are a scarce resource.

Because all SPs currently offer similar products, the author will study this industry as a whole, without further breaking down the industry into smaller segments based on the different service products offered, and will assume that a customer would use a full range of services offered by an SP.

2.3.1 Instant Messaging

Instant messaging is a source of income application for the industry. In 2005, it brought in 21.5 billion RMB revenue[8]. However, SMS revenue to SPs is declining due to a newly released government regulation, which restricts unwanted and bulk messages sent to mass consumers, while the infrastructure provider's revenue of SMS has been increasing.

Tiros offers SMS services to the market. However, they are not expecting a high growth on this segment.

Mobile phone users nowadays have great flexibility in sending and receiving messages in SMS format. One SP now offers converted MSN, Yahoo and ICQ services to its mobile customers and has achieved a two-way instant text messaging service between PCs and mobile phones.

[8] Research and Market report, No. 312918,
http://www.researchandmarkets.com/reportinfo.asp?report_id=312918

2.3.2 Download Service

Tiros offers a mobile down load service. The download service currently offers ring tone and music downloads, and it is the most popular value added service. In 2005, this service generated 5 billion RMB for the industry, a figure that is expected to grow to 13 billion RMB in 2008 (5 billion for ring tones and 8 billion for music tones)9. It is a high growth area for the industry.

Many ISPs have started to brand music download services, and enable music to be shared between mobile phones and computers. To expand music sources, ISPs are in the process of enhancing cooperation with music publishers, in order to obtain the latest and most popular songs, to attract the young consumers who account for 80 percent of their revenue in this category. In the near future, the download service will expand to movies, video clips, offline games, pictures, to name a few items.

2.3.3 Online Gaming

Online gaming is another hot spot for mobile value added services. The majority of online gaming business customers are young people, aged from 13 to 35. Individual consumers are price sensitive. Therefore, to constantly reduce the cost of online gaming services and provide indexable game services are the keys to successful for online gaming services.

Tiros operated an online gaming service one year ago, but decided to drop it due to low return on investment.

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[9] Research and Market report, No. 312918, http://www.researchandmarkets.com/reportinfo.asp?report_id=312918

2.3.4 Video Phone Service

Video phone service is an integration of voice and data service. It is the foundation of multi media service. The market demand for video phone services is high. However, due to high costs, the service will not expand very rapidly. Tiros offers a video phone service.

2.3.5 Mobile e-wallet Service

Mobile e-wallet service offers a method of payment to merchants for mobile phone users. Its attractiveness is its convenience and safety. Once a merchant has installed an e-wallet reader that is capable of interacting with a mobile phone, the mobile user can shop without carrying a credit card or different currencies. The SIM card in the cell phone can store personal information, such as a membership card, parking card, or even personal identifications and passes. Once such a solution has been implemented in the merchant business; it will offer a great convenience to mobile phone users. Tiros does not offer this service

2.3.6 Mobile Web Browser

The mobile Web browser has a different format from a regular computer-based Internet browser because mobile wireless access has a limited bandwidth and a human to machine input method. Currently Wireless Internet Application Protocol (WAP) has been widely used to support 2G (GSM system) and 2.5G (GPRS system) wireless Internet users. The good news is that the 3G will have a broader bandwidth, and it supports more applications. Meanwhile, the mobile handheld terminal has also evolved to the level of merging the cell phone and PDA, and hybrid products are already on the market. Mobile Internet is the most important application for 3G mobile system.

Although Tiros offers this service to the public, it is a less important service product for the company from a revenue point of view.

2.3.7 Mobile Map and Navigator

With the now increased bandwidth and enlarged capacity of CPUs, mobile phones may be used as GPS terminals. A mobile terminal can receive signals from multiple radio base stations and will determine which station has the best service quality before it connect itself to that one for service. Each radio station broadcasts its GPS location to mobile users all time. By using a special algorithm to calculate the received signal, a mobile phone can locate itself in a GPS map.

This means that mobile phone users need never get lost. Some applications enable mobile users send precise location information to 911 to report an emergency, or request roadside assistance when lost in a strange area.

Tiros does offer this service to public, and this service will be the company's core business for coming years. This is Tiros's R&D area of competitive advantage.

2.3.8 Location-based Service

Tiros offers this service to public, and keeps developing newer applications to accommodate market needs.

The location-based service (LBS) is another killer application for the 3G value added service, and many other services may be offered once the end user can be located.

For example, if a user goes to a huge mall, and wants to shop for a camera, he or she can enter the keyword "camera", and the mobile phone will return a result of shops available nearby with directions on how to get there. This method of getting information is referred to as "pull".

A further example is that shops can pay an SP to deliver an advertisement to mobile phone users near their shop, i.e. wireless flyers. This will certainly increase sales, and being another new method of advertising, it may create a new industry. This method of sending

information is known as "push". The above two examples are business to consumer (B2C) applications.

Consumer to consumer (C2C) applications also exist. For example, if you want to sell a used camera, you could approach your valued added SP. The value added SP has a database, generated from a from customer visit log, which can tell it which customers have a hobby of photography and which of these are searching for the specific camera that you want to sell. The SP can then match you with them by sending your information to those select customers only. You may even be able to define, through your value added service provider, which region you would like to send your information to. The advantage is that this information can reach precise target clients and it is, therefore, far more effective and efficient than any other advertisement.

Many other potential service applications may be created as part of a location-based service, either locally oriented or international. For example, if you are walking your dog in a large park, you may use the LBS to locate people who have the same breed of dog. Another example is, if you are football fans at the world cup, it could be fun to locate other fans from your home town. There is no limit to the LBS application; the only limit is people's imagination.

LBS has a high anticipated growth rate, This is good news for Tiros and Mr. Qian sees the opportunity, given that the number of automobile owners in China is over 20 million today and that they are clustered in major Chinese cities[10], a very low percentage of them have GSP installed.

Online voice navigation has remarkable advantages over the traditional GPS:

1. First, it's small, cheaper and portable. To install a car-use GPS costs at least ten thousand RMB and it has to be fixed in the car. However, mobile navigation only

[10] http://truckandbarter.corn/rnt/archives/2006/07/cars~in~china~s.html

costs customers three thousand RMB for an AGPS phone (and the price will lower sharply when batch delivery becomes available) and 18RMB monthly subscription.

2. Second, it has a quick startup time: 4-6 seconds to provide the first location information from cold start, while a traditional GPS takes minutes to report the first location information.

3. Third, a normal GPS does not work in an enclosed environment while AGPS phones do, with the assistance of a radio base station providing reference location information. This can be very convenient in a downtown indoor shopping mall and it is critical when a care receiving customer in an apartment needs emergency services. If such a customer calls 911, his or her location information will be provided automatically.

4. Last, the mobile navigation service offers a dynamically interactive route optimization service, which the off-line GPS cannot do. Navigation can be conducted in many languages.

2.3.9 Trend of Growth of SP Value Added Services

Tiros offers the value added services of SMS, download, mobile Internet (Wap), mobile navigation, and location-based service. Among these services, SMS seems to be declining from the SP's prospective, but the other services are seeing an upward growth trend, at the predicated growth rate[11].

[11] Research and Market report, No. 312918,
http://www.researchandmarkets.com/reportinfo.asp?report_id=312918
http://truckandbarter.corn/rnt/archives/2006/07/cars~in~china~s.html

- Download 50 percent
- WAP 20 percent-30 percent
- Download 100 percent
- Mobile navigation >200 percent
- Location based service >200 percent

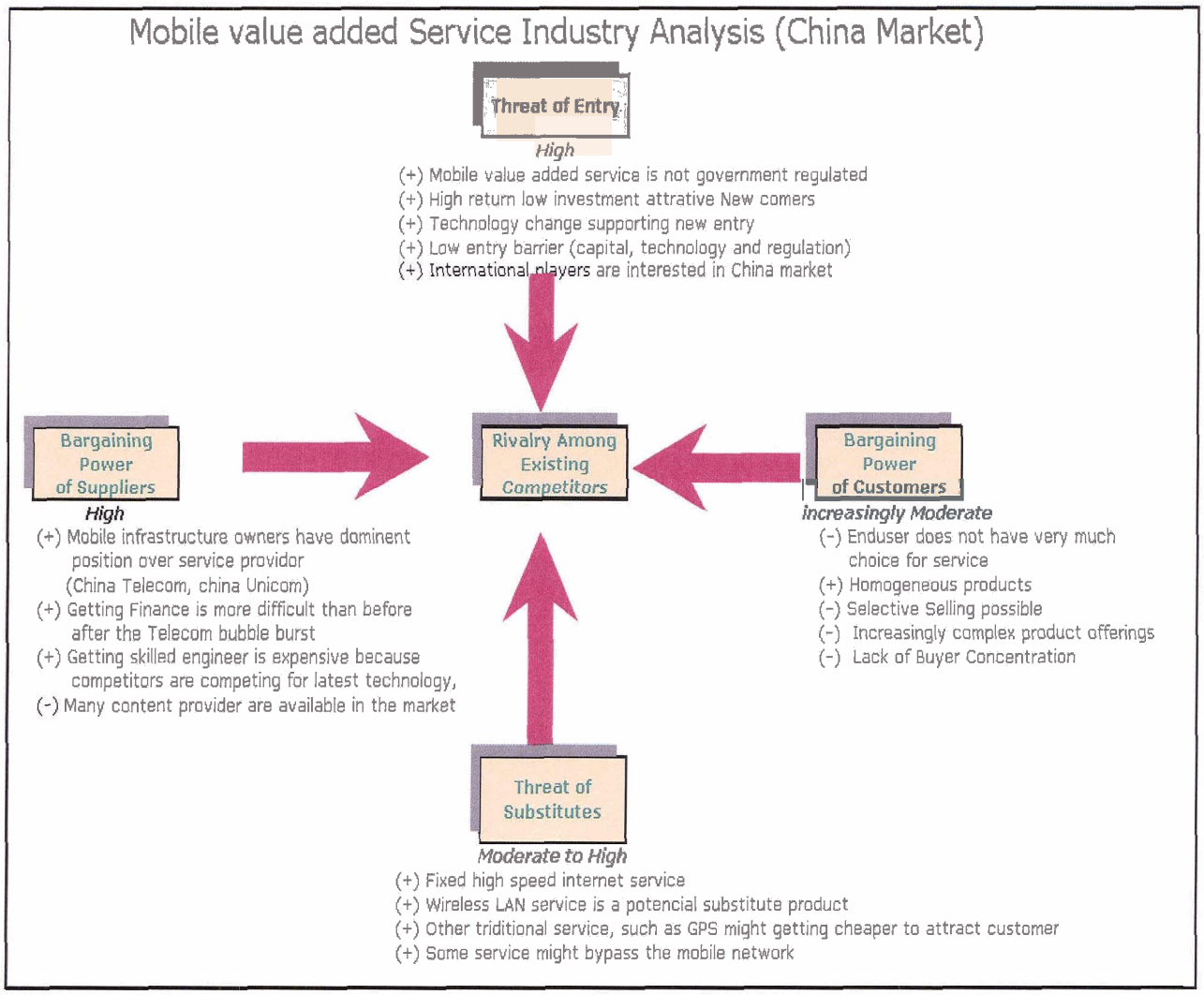
The area of growth is where the investment is. Mobile navigation and location-based services are attractive to investors, yet the technology comprehensiveness is greater than other services. Qian's company has a vision to do business in the mobile navigation and location-based service business.

2.4 Industry Competitiveness Study and KSFs

Following the industry update above, I would now like to apply Porter's 5 forces theory to study the competitiveness of this industry.

The 5 forces theory was developed by Michael Porter in 1979. He determined five forces in the field of Industrial Organization (IO) economics that determine the attractiveness of a market. Porter referred to these forces as the micro-environment, in contrast with the more general term macro-environment. They consist of those forces close to a company that affect its ability to serve its customers and make a profit. A change in any of the forces normally requires a company to re-assess the marketplace. The 5-force study will disclose the sources of competitive advantages in the industry, which will be labelled key success factors (KSFs).

Table 2-2 Porter 5 factor industry profitability study



2.4.1 Threat of New Entry (High)

The industry in relation to firms within the industry may be likened to that of a cake to children, the more children share the cake, the smaller each share. The threat of new entry study shows how easy it is for a newcomer to enter a business and survive, in order to grab the market share from existing players. Ideally, higher barriers of entry will protect the profitability of existing firms. Lower entry barriers will make the industry less profitable over time.

2.4.1.1 No Government Regulation (+)

The mobile value added service industry is less regulated by government; rather it is the market that decides how many SPs will eventually survive.

The only known barrier is the entry of foreign capital into the telecom service industry. However, this barrier will be removed by the end of 2006 to fulfil the WTO obligation China has. The Chinese government sets and practices legal barriers; for example content censorship affects SPs in a similar way to the way the privacy act does to SPs in the United States and Canada, although the content of the law is totally the other way around.

Because many players, small and large, see the mobile value added business as a very profitable business, they rush into this industry, causing a rush comparable to a gold rush or the Internet (ISP) fever of the latter 1990's.

2.4.1.2 Low Start Up Capital Requirement (+)

A low capital investment requirement to start up a business makes entry into the market easier. On one hand, it is easy to set up a Web site, provide download information, and have couple of engineers writing scripts, in order to collect money for ever after. On the other hand, the high profit was brought in by the huge number of mobile phone users. One hundred million subscribers who each spare one cent to a firm will make that firm a millionaire. Chinese mobile phone users total more than 400 million.

2.4.1.3 Technology Change Support New Entry (+)

Every new technology and new application creates potential customers, and grows the business, by attracting and inviting new entrants to the value added business with a lower cost of service or the ease of providing differentiated service.

2.4.1.4 Likely Get International Big Player to Enter (+++)

International players, such as Japanese DOCOMO and Korea KDT who already have value added service operations in their local market and mature business models, are likely to join the game, given the size of the Chinese market and the potential growth. That would be bad news for many start ups; it would be as if they were forced to compete in the ring against a professional boxer, with little or no time for training.

2.4.1.5 Key Success Factors to Defeat New Entrants

- **Build the first mover advantages**

Once a firm has acquired the mover advantage, it will have a unique position over other SPs. It took the low hanging fruit in the market place; customers of a first mover are usually early adaptors who are less price sensitive, which gives the firm a higher profit margin. Being the first mover helps to build brand image and reorganization among the infrastructure providers, content providers and customers. Newcomers have to either lower the price and profitability or think about alternative strategies to gain some competitive advantages at high cost. First mover advantage is an even stronger factor in China than North America. Because Chinese Confucius culture endorses first mover with a better reputation, if product and service are identical, a Chinese consumer is willing to pay a reasonable higher price to buy from the first mover.

- **Create a loyal customer cluster**

A loyal customer cluster means steady cash flow to a company in a competitive environment. It gives the company some financial security to compete with newcomers.

- **Brand image**

Good brand image means a higher profitability for the same product offered to the market, or better product competitiveness in the market place at same price level. Good brand image has a long term effect, brings benefit consistently, and it is a constant effort for a firm over time. There is a relationship in China between being the first mover and having the preferred brand – again stronger than in North America.

2.4.2 Bargaining Power of Supplier (High)

A company makes a better profit if it incurs less costs for a product sold. The overall costs consist of the cost of acquiring needed supplies from the company's suppliers, production, selling, service, and the cost of overall management. Among these cost factors; the cost of acquiring needed supplies very often carries the biggest weight.

The bargaining power of a supplier determines a firm's ability to negotiate the price of needed supplies. It directly influences the firm's bottom line. In this industry, needed supplies include the information that will be converted (processed) and delivered to the end users. They also include the required human resources to process this information, sell the product (or service), and serve the customers. Lastly, channels of delivering service to customers and financial resources are needed to run the business.

2.4.2.1 Dominant Position of Infrastructure Provider (+)

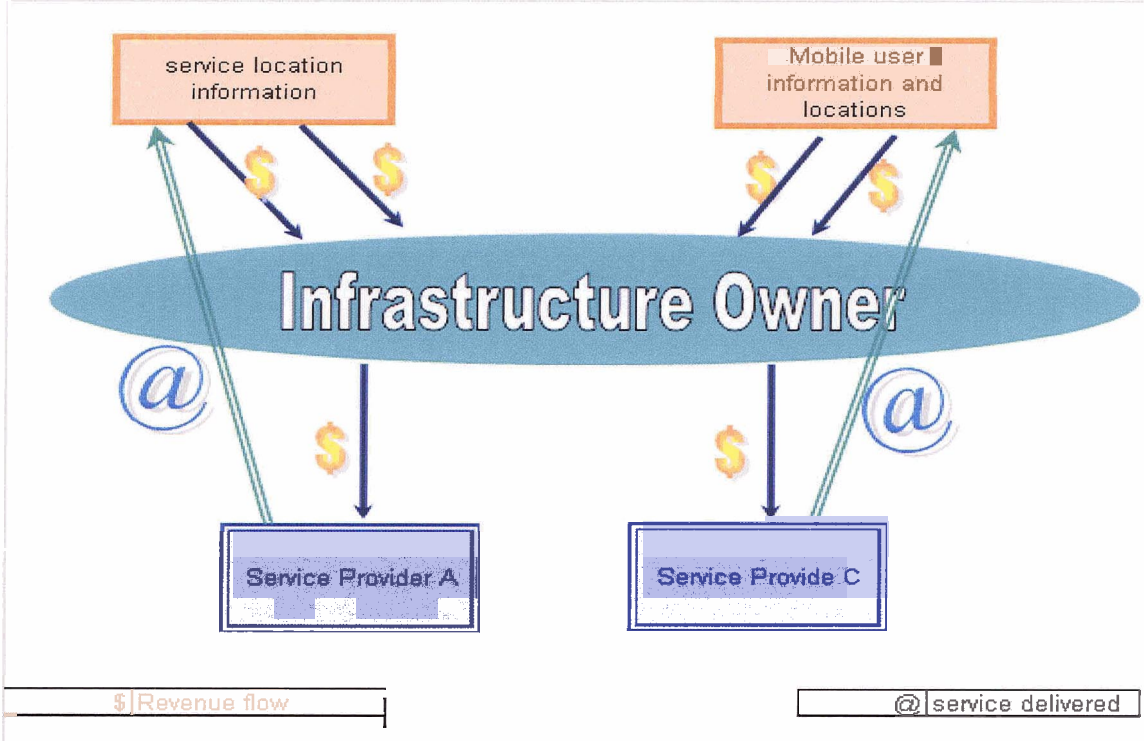
Infrastructure owners supply access for the value added services provided. Normally they share the service revenue, and each different product has its own schedule of sharing. The problem is that infrastructure owners themselves also have value added service operations. Therefore, it would be in the interests of infrastructure owners to squeeze small SPs in order to make them less profitable and to favour the company of the infrastructure owner. After

censorship laws were implemented in mid-2005, by leveraging the dominant position, (i.e. they have a centralized facility, technical advantage, and funds available to invest on the deep packet exam), to comply with government censorship requirements. China mobile's and China Unicom's subsidiary SPs' business revenue from SMS has been growing fast, while other smaller SPs have declined in revenue[12]. A good percentage of SPs who used to rely heavily on the SMS service have gone under, and the mobile value added service industry is now having the first round of consolidation brought about by this legislation, which seems to favour infrastructure providers. The current business model, for both China Unicom and China mobile, is to have service providers connected to their system, to bring traffic to its end-users, and to share the profits with SPs. Each SP provides either a similar or a differentiated service. China mobile and China Unicom collect the fees from mobile phone users and distribute them to the SP at the end of the billing cycle.

Table 2-3 on next page is to show value added service delivery flow combined with revenue distribution flow of the industry, we can see that SPs can not bypass the infrastructure owner to delivery the service.

[12] Research and Market report, No. 312918, "Year 2005 witnessed the decline in SMS revenues for most SPs, while operators' revenue are increasing steadily"
http://www.researchandmarkets.com/reportinfo.asp?report_id=312918
http://truckandbarter.corn/rnt/archives/2006/07/cars~in~china~s.html

Table 2-3 Table, map of industry service delivery flow and revenue stream



The flat fee that the infrastructure owner pays the service provider is only a small portion of what they made. For example, if the mobile subscriber subscribed for a mobile navigation service, he or she pays 18 RMB, of which 85 percent flows to the SP. However, in order for the mobile customer to use this navigation service, he or she has to enable the data service, for which China Unicom charges according to the volume of data used. For monthly unlimited access of data traffic, a subscriber pays 40 RMB. This amount will not be shared by the SP, but both traffic and services were generated by the SP during the actual delivery of the navigation service, and it is the SP who delivered all the time services to this mobile user. It does not seem a fair state of affairs. It would make sense that China Unicom also share the data traffic revenue, which was brought about by navigation services with the SP.

Another problem seems to be that the infrastructure provider has the control to forward the traffic to selected SPs. For example, China Unicom has some SPs who offer the same mobile

navigation services; each SP has different capacity and a special value. However, when customers subscribe to the mobile navigation service, unless a specific request is made, he or she will be "randomly" assigned to an SP for delivery of the required service. Randomly is in quotation marks because the "random" process is not a transparent process (and service providers treat it as a commercial secret), which might be easily abused to favour SPs who have a special business or personal relationship with the infrastructure provider.

Another problem is that when an infrastructure owner has the dominant position over the SPs, there is no way that SPs can determine the price, or the market. Even if an SP provides a differentiated high-quality service with a higher-cost structure, they are paid the same. Therefore, the current setting does not encourage innovation and service improvements.

2.4.2.2 Difficulties of Obtaining Financial Supply (+)

The character of mobile value added services is that initial capital required is not significant, but that working capital might be significant when a firm plans to grow its business, especially when a firm needs money to fund a new project, capital supplies become critical.

Other facts also contribute to the high level of working capital requirement, such as the high cost of acquiring and retaining knowledge workers, new service product development and marketing, and development of new customers (often the earlier adopters).

Getting finance is more difficult these days than before, because, on the one hand, many other industries in China have high yield and attract investment while setting up high expectations for return on investment (ROI), For a firm, the cost of capital is higher than it is in western countries. On the other hand, venture capitals are more conservative than before after they learned lesson in the latter 1990s' Internet bubble burst.

The implication is that some smaller firms will go under if they cannot manage their cash flow properly nor have found the right source of capital to sustain their business during the business cycle.

2.4.2.3 Competing for Skilled Knowledge Workers (+)

Getting highly skilled engineers, and sales marketing and management for this specific industry is difficult, and it is even more difficult to retain them.

This industry developed so quickly that the supply of experienced engineers and sales and marketing personnel has become a bottle neck. Admittedly, some knowledge can be transferred from other sub-telecom industries or the IT industry, to this industry with three to five months of training. However, there is no well-defined training mechanism available in the market. Because all SPs are pulling resources from this small pool, this pushes the labour price higher and higher. The result is a higher operational cost, which is bad news for start-ups.

2.4.2.4 Source of information is not expensive (--)

Mobile users consume information; and the service provider is the intermediary who fetches information according to mobile phone users' instructions. The information to be supplied to SPs is luckily mostly available on the worldwide web (WWW) at a very small or no charge. Many information providers are available to provide information.

2.4.2.5 Key Success Factors (KSFs) in Dealing with Suppliers

- **Multi-vendor Strategy**

Multi-vendor strategy is a long-term strategy to cut supply cost down and to sustain the firms' profitability. In this industry, the biggest cost is the service delivery cost over the network infrastructure, i.e. the usage of the China Mobile and China Unicom platform. If an SP delivers value added services exclusively through one infrastructure, it loses the position of negotiating a

better rate. Multi-vendor strategy here refers to the fact that an SP has connections to both the China Mobile and China Unicom infrastructures. As long as a company is less dependent on infrastructure providers, the company's profit margin is not likely to be squeezed. The good news for SPs is that the advancement of technology has mitigated the compatibility problem and resulted in the tremendous cost saving of connecting SPs to different network infrastructure providers.

- **Building Industrial (Business) Alliances**

Given the consideration that infrastructure owners have dominance over SPs, they are going to maximize this power as more SPs enter the business. A business alliance will help firms improve their position and empower them in dealing with infrastructure owners: for example, promoting themselves from an individual consumer to a big customer, which does bulk purchases and is awarded a wholesale price. For concentrated big customer groups, such as suggested alliances, infrastructure providers normally offer favourable terms of service at a better rate in order to reduce the overall cost of service for SPs and to improve profitability.

- **Acquiring and Retaining Talent**

Talent acquisition and retention is one of the major concerns of many SPs, because of the limited amount of skilled professionals available in the market. Hiring costs are high and it is very costly and takes long time to train an engineer in house. The loss of an engineer, means a loss of investment. If a company has successfully developed a system to attract the and retain the talent, it helps the company to reduce the labour cost in the end.

- **Necessary Finance and Self-financing**

For firms with strained finances, and firms competing for financial resources, the best option is to use the money smartly in areas where it can give high returns in the shorter term. A self-sufficient firm will be in a better position to fight for its place in the market.

2.4.3 Bargaining Power of Customer (low)

It is the customer who actually brings revenue into a company. A firm's profitability will be reduced if its customers have power over the company and can decide the price. In this industry, customers are referred to as mobile phone users.

In this business, customer power such that customers decide product and service trends. A firm will go bankrupt if its business is to provide the latest services, but it does so with an inadequate product and service portfolio (not meeting customer requirements or keeping up with trends). However, given the huge size of this market (400 million customers), it is not too difficult for an SP to survive if it captures a small portion of customers by offering quality services, not necessary fashion.

2.4.3.1 Less Selection of Service Channel (-)

Mobile phone users do not have many choices of service delivery channels. They subscribe to either China Mobile or China Unicom. In addition, customers can only use the services attached to the infrastructure to which they have subscribed; they cannot use services that the other network offers.

2.4.3.2 Many Choices Available for Content Services (+)

Thanks to new technology developed over the past two years, besides the homogeneous services offered by many SPs, such as SMS, mobile phone users now have the choice to select

different client applications if they have compatible handsets (handheld). Some choose MSN, others choose Yahoo Messenger or ICQ as client applications to instant message their partners.

2.4.3.3 Selective Selling is Possible (-)

The infrastructure owners, China mobile and China Unicom have a good record of customer spending over a period of time, which gives them good idea to practice the price discrimination. The same applies to value added service providers.

2.4.3.4 Customer Segmentation and Price Discrimination Exists (-)

The complexity of product offerings is as a result of customer segmentation, and it is a practice of price discriminations, customers might have found that what was bundled was not useful.

Customer segmentation refers to the practice of dividing customers into sub-groups based on differing consumer behaviour. In this business, customer groups may be differentiated by traffic patterns, for example, business users tend to make calls during business hours, and students tend to make calls after school hours. Additionally, different customer groups are assumed to have different spending ability, require different levels of service, and evaluate the service quality with different criteria.

Price discrimination means that sales of identical goods are transacted at different prices by a single vendor. Theoretically, price discrimination requires that a business have the ability to identify its customers precisely. An airline's practice of price discrimination may be to tell vacation customers to stay over a weekend to get a lower fare; while the mobile value added service business may identify customers by observing what service they use and at what time, and charge higher prices for customers who are less price sensitive, for example, business users.

2.4.3.5 Lack of customer concentration (+)

There are a lot of buyers and no one customer has any significant purchasing power.

2.4.3.6 Key success factors

- **Customer segmentation**

Mobile value added service is not a one-size-fits-all business; different customers have different needs, and consume different service products. Services have to be tailored for different groups and charged differently according to their financial capabilities.

The current customer segmentation practice was suggested by China mobile and based on customer monthly spending and times that the traffic was generated. Business users tend to use their mobile phones 24 hours a day, including a lot of roaming, while family users tend make calls after office hours.

Customer segmentation in mobile value added services will give a company the edge because different user groups will have different needs, for example, young people tend to download fancier ring tones. SPs that specialize in the download business are wise to offer the latest fashionable music. Business people tend to use data services and local information services more often, and are normally less interested in fancy ring tones, but they demand high availability and reliability of service. Therefore, SPs serving the business market are wise to use the most reliable equipment. If an SP wants to serve the business market as well as all other markets, it must use different applications and business processes to accommodate the needs of different customer groups.

For example, a growing Chinese middle class will have different service requirements to other middle classes. They tend to require a higher quality of service and broader service coverage. The services they may be interested in are mobile navigation services (as most of them

own cars), e-wallet services, and consumer information services (such as luxury goods, tourism packages and health life style offerings).

The "little emperors" are pursuing the fashion of the mobile phone itself, and believe that the fancy appearances of mobile phone and characterized ring tone display who they are. They spend more time than other customer groups downloading music and gaming on the go, and they are the people who send the majority of bulk SMS (which means big revenue for SPs and infrastructure providers).

Another customer group worth mentioning is the enterprise users. Currently they are not grouped together in order to sign up for service to get a discount. Instead they sign up individually for mobile phone services and have company expense accounts for their monthly mobile phone bill, which include the cost of SP services. These people tend to send more information to their co-workers and business colleagues, customers, suppliers and partners. Once well defined, this segment will be the most profitable segment for SPs, as they are not price-sensitive customers. If an SP can create applications, for example to enable an enterprise to dynamically track the location of their moving personnel and assets (taxi, ambulance, delivery crews) at lower cost, that SP will have remarkable business revenue from this segment.

- **Selective selling**

Firms may decide to serve only target customers who have either a higher profit margin to the firm (normally a differentiation company), or who fit the firm's low cost structure for volume business (normally a cost company).

Once it has successfully distinguished its customers, China mobile awards its business users with prestige status. For example, in major domestic airports China mobile has set up

executive lounges to host its prestige-status customers , in order to keep top business users in its network.

The same principle can be applied to the mobile value added service business; an SP can identify its high-value customer cluster by studying customer traffic patterns and in order to serve different groups of users differently, and to provide a more tailored service to fit each group's needs.

- **Differentiation**

Only companies that provide differentiated products or services would be able to attract selected customer groups and sell selectively. As customers become better educated and more discerning, they tend to select the best service available in its class at a reasonable cost. This KSF overlaps somewhat with the last (i.e. selective selling). Although, in some senses selective selling involves a kind of aggressive or push selling, it must be backed up with the differentiated products or services the company offers. However, differentiation does not always actively push but rather passively pulls or retains. For example, good customer service does differentiate a company from its competitors and help to retain its valuable customers, but it does not involved selective selling in the first place, that is a differentiation KSF. Conversely a new application targets a specific consumer group, for example, an enterprise customer, and will enable the company to do aggressive selective selling and differentiate itself from its competitors.

2.4.3.7 Strategic Alliances to Enlarge Footprint and Improve Service Quality

In 2G and 2.5G many SPs provide similar services, which have lower perceived value to customers and drive down the SP revenue and profit. The upcoming 3G has provided opportunities to improve the situation.

There are many chances that a new service with a higher value can be created with the same limited resources by creating alliances. Using the location-based service as an example again, it is possible for small firms to create route selection features for their customers by forming alliances with partner SPs. Assuming an alliance has been created, they've built an integrated system (HW/SW system). This system enables SPs to exchange information and make the system looks perfect. For example, SP1 has 5,000 customers who use mobile navigation systems, and SP2 has another 5,000 customers who use the same service. 5,000 subscribers may not be statistically sufficient to measure the traffic situation in big area such as Beijing, and forecast route conditions but 10,000 are. (Once a mobile phone user uses the navigation service, the SP will track its moving speed in order to send navigation instructions accordingly).

If an SP has a mobile navigation customer who is moving slowly on a certain route, the SP may not know if it is his or her personal driving behaviour or if the road is blocked. However, when another SP shares their database and indicates that 10 other driver-users on the same route are moving at almost the same speed, then it is statistically sufficient to say that the road has slow traffic. The system can then dynamically set this road as a slow route, and tell the rest of the customers to select another optimized route to avoid bringing more traffic to an already jammed road. Cooperation with other firms of the same kind and sharing data is just one form of strategic alliances. The beauty of such an arrangement is that small firms can form strong alliances that, which allow them to deliver higher quality of service to their customers.

2.4.4 Threat of Substitutions (high)

The risk of substitution is that it might steal the customer base of the whole industry. If a powerful substitution emerges, the industry has either to lower the margin to retain its customer base, or the whole industry will crash.

2.4.4.1 High-availability Low-cost-fixed High-speed Internet (+)

In some areas, customer use mobile phone services because no fixed telephone Internet access is available. China is embarking on a major project to connect every rural village with telephone and high speed Internet access and the low cost of services that fixed infrastructure offers might attract some customers.

2.4.4.2 Wireless LAN Mobile Phone and 4G (+)

Technology debt is always present; some are looking at the technological development of the 4th generation of mobile communication infrastructure, based on the wireless LAN standard (known as WiMax or 802.16e). Intel has begun batch production of the chipset, but the Chinese telecom industry has made no comment on it yet. [13]

Because wireless LAN will still be part of the mobile service but via a different air interface, the mobile value added service may still be provided for the wireless LAN platform, and will treat wireless LAN as the new infrastructure. The difficulty for SPs will be migration costs, but SPs have to go with their customers' choice if this becomes a reality.

2.4.4.3 Cheaper Traditional Service (+)

Some value added services are substitutes for traditional services, for example, the mobile navigation service is a substitute for the traditional GPS service because of the price advantage and its added features. However, once GPS equipment manufacturers realize that the market has been stolen from them, they may lower prices and also consider adding features in order to fight back.

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[13] "Mobile industry looking beyond 3G", 2006 Global Mobile data. Http://www.3gnewsroom.com/3g_news/jun_06/news_7055.shtml.

2.4.4.4 Services May Bypass the Mobile Network (+)

Mobile TV delivers real-time TV through the mobile infrastructure and charges customers for the service. However, it is technically possible to have a small TV tuner integrated into a mobile handset to enable a mobile phone user to view real-time TV. In this instance, the mobile phone user pays the TV station directly.

2.4.4.5 Key Success Factors for Dealing with Threats or Substitutions

- **Customer Focus Is the Key**

Once a firm gets close to its customer, the firm will be able to feel the customer's pulse, which will enable the firm to understand the customer's preference, If its major customer opts for new technology, this may be justification for the firm to invest in upgrading its technology and service solutions to accommodate this. For example, WiMax infrastructure may need a different HW/SW interface. Technology enables the service provider to deliver service to its customers in a cost-effective fashion, and although many customers are concerned with the content and quality of service they may not be concerned with the delivery channel. In other words, customers may not be as sensitive about technology as a firm is.

If a firm has the core competence to deliver the content, and leave the distribution channel to outsourcers or subcontractors, it may not be affected (or will be less impacted) by changes in technology.

- **Carefully Design Product & Service with Scalability**

For a firm to use the latest technology as a differentiator, it must have the ability to keep track of the latest technology and clearly understand the implications that newer technologies have for current business. It must also be able to plan a realistic product life cycle and product pipeline in order to rollout any new product or service in a timely fashion. For example, if a firm

currently launched a service in the 3G infrastructure in order to deliver service to 3G customers, it would have to have a forward-looking plan of whether its core business has the scalability[14]. to support the upcoming 4G service (WiMax or WLAN). If a firm's business is to deliver content service to its customers (such as mobile payment), it must ensure that service delivery to customers is consistent and that the quality of service is improved with new technology (Scalable Service).

2.4.5 Summary of KSF

Now we have gone through Porter's "Four-Force-Study", (rival study not yet done) i.e. the threat of new entry, the bargaining power of suppliers, the bargaining power of customers, and the threat of substitutions; we can now summarize the KSFs learned and look at another study. This study will compare Tiros's performance with its competitors' on the KSFs' map, in order to understand threats to (or weaknesses) and opportunities for further development of Tiros's strategic alternatives.

1. **Build the first mover advantages/pre-emption**

   This is from the threat of entry discussion on page 28

2. **Create solid customer base and loyal customer cluster**

   This is from the threat of entry discussion on page 28

3. **Build brand image**

   This also from the threat of entry discussion on page 28

4. **Multi-vendor strategy**

   This is from the bargaining power of supplier discussion on page 33

5. **Building up Alliances (Industry Association)**

[14] The ability to scale to support larger or smaller volumes of data and more or less users. The ability to increase or decrease size or capability in cost-effective increments with minimal impact on the unit cost of business and the procurement of additional services.

This is from the bargaining power of supplier discussion on page 33and from the power of the customer discussion on page 37

6. **Acquiring and retaining talent**

   This is from the bargaining power of supplier discussion on page 33

7. **Financial resources and self-financing capability**

   This is from the bargaining power of supplier discussion on page 33

8. **Product and service differentiation**

   This is from the bargaining power of customer discussion on page 37

9. **Customer segmentation**

   This is from the bargaining power of customer discussion on page 37

10. **Selective selling**

    This is from the bargaining power of customer discussion on page 37

11. **Customer focus**

    This from the threat of substitutes discussion on page 42

12. **Product and service scalability**

    This from the threat of substitutes discussion on page 42

2.5 Current competitive position

2.5.1 Competitor information and competitor strategies

2.5.1.1 Who are the Competitors?

Competitors are companies that serve in the same mobile value added service sub-industry, and who compete for customers, revenue, and resources.

An identified competitor is PDAger Mobility Inc., (http://www.pdager.com.cn/index-english.htm – refer to the company named PDAM). PDAM started in 2001 with an initial capital of 13 million RMB. It positioned itself as a mobile value added service provider and specialized

in location-based service. It successfully launched the first mobile navigation service application China Unicom infrastructure in 2005. Currently this company has two core businesses:

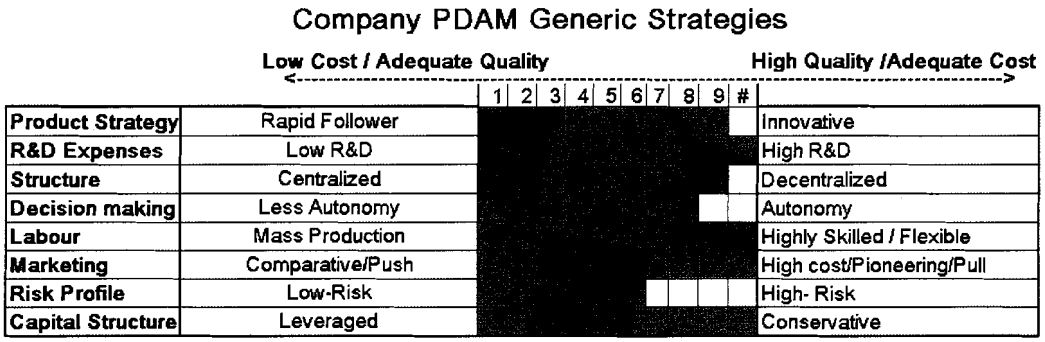
- Public mobile location-based service
- Mobile gaming and entertainment

Another identified competitor is Sichuan Great Wall Software Technology Co., Ltd., (http://www.gwsoft.com.cn/index_e.htm – refer to the company SGWS). SGWS was founded in 2001, with a registered capital of 12.5 million RMB. It specializes in value-added business development and operation, and was one of the earliest hi-tech companies to focus on mobile data value-added services. Currently it has 150 employees, with an average age of 28, in which more than 70 percent have qualifications higher than a bachelor degree. It offers a full portfolio of mobile value added services, operating in the China Unicom platform. It has a core competence of BREW development. BREW is an application development platform created by Qualcomm for mobile phones. It is air-interface independent, i.e. it can support GSM/GPRS, UMTS, and CDMA. However, when BREW was first introduced it was solely developed for CDMA handsets. Standing for "Binary Runtime Environment for Wireless", it is a software platform that can download and run small programs for playing games, sending messages, sharing photos. BREW runs in between an application and the wireless device's chip operating system.

2.5.1.2 What are the Competitors' Strategies?

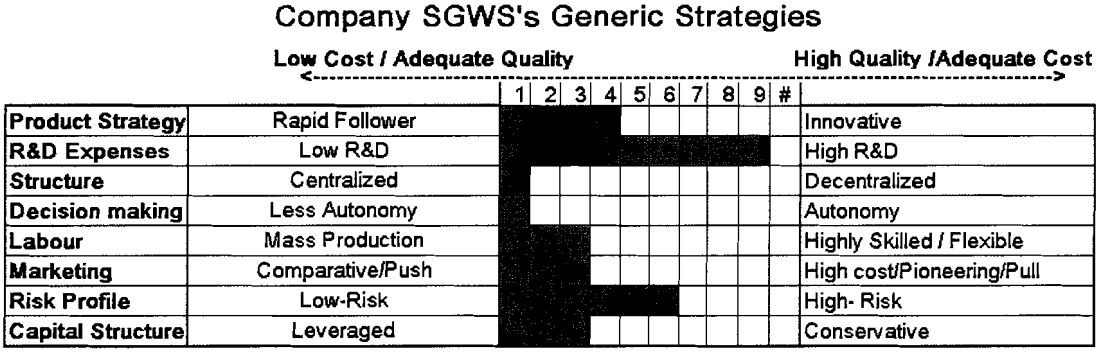
By studying the profiles of PDAM and SGWS, we can summarize their strategy fit as follows:

Figure 2-1 PDAM Strategic fit mapping



PDAM is identified as a differentiation company because it has a full character of focused product strategies, a high-cost structure and autonomy structure with a highly skilled well-trained engineering and marketing force.

Figure 2-2 SGSW strategic fit mapping



SGWS is identified as a cost company, because it offers a full service product line (rather than concentrating on certain break-through technologies). It also has a younger engineering and

business team, with major operations in areas with a relatively lower cost of living (employees in Chen Du, Sichuan Province, are paid a third of the salary of employees in Beijing).

2.5.2 KSF Mapping Against Competitors

The purpose of comparing the strategic positions of competitors is to get an idea of how Tiros is doing in the current competitive environment.

The below table uses different colours to describe the competitive positions of the different companies in the study,

- Red stands for threat, and refers to a KSF that a competitor has, but Tiros does not have.
- Green stands for opportunity, and refers to a KSF that Tiros has but that its competitors do not have.
- Orange stands for neutral alternative, and refers to the fact that no party has the dominant competitive ability to seize the KSF (both have it or neither has it).
- The numerical scale under each company shows how well the company is doing in the area of competition: 3 stands for good, 2 for average, 1 for entry level, and empty stands for no such practice for this company in this area. If both companies have the same KSFs; the one with highest score has the advantage.
- The importance rankings show how important a KSF is and its competitive relevance. The importance rank was provided by Tiros management, with reference to its industry. The most important ranking is given as "1".

Table 2-4 Competitive positions

	Client Company	Competitor PDAM	Competitor SGWS	R: Threat G: Opportunity O: Alternative	Importance ranking
Threat of entry					
Build first mover advantages		3√	2√		9
Create a loyal customer cluster					8
Brand image		3√			5
Bargaining power of supplier					
Multi vendor strategy			2√		6
Acquire and retain the talent					2
Access to external capital		2√			1
Strategic alliances					4
Bargaining power of customer					
Customer segmentation	2√				7
Selective selling					10
Differentiation	2√	1√			3
Threat of substitutions					
Carefully define core business with customer focus					11
Design Product & Service road map with service scalability	3√	1√	2√		12

2.6 Strategic alternatives

2.6.1 Approach to Defining Strategic Alternatives

KSFs are the assets and competencies a company must have to compete in the industry. Comparing a company's KSF against those of its competitors, helps us identify a firm's opportunities, threats and neutral alternatives, which provides the foundation to discuss the company's strategic alternatives further. An effective strategic alternative would take advantage of the opportunities and try to overcome as many threats as possible.

Strategic alternatives are a set of possible strategic selections that might help to convert a company's opportunities into its competitive advantages, to neutralize threats posed by its competitors, or to break away in area where no competitors have remarkable advantages.

By reviewing the competitive position mapping, we see that Tiros has two opportunities:

- ***Differentiation (Tiros 2, PDAM 1, SGWS 0, importance ranking 3)***

Tiros has a slight advantage over PDAM in terms of creating and providing differentiated services (SGSW does not deal in this field), which is related to its customer segmentation knowledge.

In terms of creating differentiated services, Tiros has developed some differentiated service applications. One of these is an operator-triggerable mobile voice navigation service, which applies to mobile users who have the name destination (such as Forbidden City) but who do not know the actual address. These users can easily call Tiros service, and then navigation is trigged on their handset. It is very convenient and practical for travellers.

In terms of providing differentiated quality services, customer service representatives of Tiros can tell a customer's name by seeing his or her calling number, which registers in the Tiros CRM database. All the customer's historical documents will show up on the computer screen the customer's call is picked up, and customer service representatives can give the customer an update on his or her previous service request instantly, without asking further question, or even to follow up service issues by automatically calling back if the customer requires. These tactics are now seen in United States and Canadian financial institutes. However, in China only a few companies have such sophisticated solutions, as the Chinese economy is not a service economy but a manufacturing economy. It is a differentiated customer service, a higher-quality service, which yields customer satisfaction at less cost in comparison to Tiros's competitors.

- ***Customer segmentation practice (Tiros 2, other companies 0, importance ranking 7)***

Tiros has developed an application to log customers' activities and store them in the database. After data has been collected over a period of time, for example, three or six months, the data analysis will be statistically sound and will enable Tiros to identify and separate customers according to different user behaviours (relevant customer behaviour dimensions and parameters were already set in the database). Such applications used to be so expensive that only infrastructure owners could afford them. Tiros had a good breakthrough by using different technical solution and approach core value of customer.

No other SP of the same size as Tiros is reported to have a similar core application in their operations; the conclusion is that the customer segmentation knowledge is a valid KSF-derived opportunity for Tiros.

Threats to Tiros are:

- No first mover advantage (Tiros 0, PDAM 3, SGWS 2)

Tiros is a late comer to the 2G and 2.5G mobile value added service business, whereas PDAM and SGWS have already been in the business, have good relationships with infrastructure providers and have a customer base. In China, "Guanxi", or relationships, are very important in the business world. SGWS has a good first mover advantage in the 2G and 2.5G mobile value added services, and their most remarkable first mover advantage, BREW, does not compete head-to-head with Tiros. The real threat to Tiros's business is that PDAM has the first mover advantage in the China Unicom mobile navigation service. PDAM was the first company to deliver generally available mobile navigation in the China Unicom platform. Tiros is going to fight an uphill battle against PDAM on this front.

- No brand image (Tiros 0, PDAM 3, SGWS 0)

A good brand name enables a company to make a better profit than its competitor. The reason is that, not only do more potential customers know of the services that this company offers and therefore might buy from it, but also, in the competitive environment for identical products or services, those with a brand name might be acceptable to consumers at an even slightly higher price. PDAM's brand name is on the mobile navigation service. In addition, Tiros is involved with future business opportunities in 3G mobile navigation service, where PDAM has again been seen as a threat.

- Single vendor (Tiros 0, PDAM 0, SGWS 2)

This refers to the connection to the mobile infrastructure providers, who are seen as service delivery channels for SPs.

Currently Tiros is only connected to the China Unicom platform. SGWS is connected to both China mobile and China Unicom and, as a result, its operational cost of delivering a unit of service is 40 percent lower than that of Tiros and PDAM. In order to improve profits, connecting to both network infrastructures is a way to save costs. The argument will be that the nature of a differentiated company means it does not need go down the path of cost saving. However, the counter argument is that access to multi platforms will not only contribute to cost saving, but will also provide access to a greater customer base for business expansion, which is crucial for a growing business.

- Financial strains (Tiros 0, PDAM 2, SGWS 0)

Fund availability, from Mr. Qian's point of view, is currently an important and urgent factor, which determines how far and how fast Tiros can go. The dilemma is that, given Mr. Qian's preference, the funds available in the market (i.e. venture capitals) come with unfavourable conditions. Preferred funds, however, come with higher costs and are not more easily approved by traditional lenders. The competitor PDAM has access to funds, although the amount is not remarkable, but it has been sufficient to sustain their competitive advantage for a period. Given the advantages of such resources, PDAM will be difficult to compete with in the mass market.

The competition neutral on the following KSFs:

- Retain talent (Importance ranking 2, in which no company has an advantage over the others)

- Building strategic alliance (Importance ranking 4, in which no company has an advantage over the others)

- Customer loyalty (Importance Ranking 4, in which no company has an advantage over the others)

- Selective selling (Importance ranking 8, in which no company has an advantage over the others)

- Customer focus (Importance ranking 10, in which no company has an advantage over the others)

- Product and service scalability (Importance ranking 11, in which Tiros has a scale of 3, and a slight advantage over the others). Note that the author classifies this KSF as a neutral factor but that the figure shows that Tiros has a marginal advantage on the product and service scalability design. The rationale is that 1) In a industry full of dynamics (new technology is updated daily, and new entrants with business idea appear weekly in the market), Such a small advantage is hard to sustain unless the company has sufficient resources dedicated to the market and technology intelligence service; 2) This KSF is least important for the current business and upcoming 3G business, and it is not an urgent agenda and not on the management's discussion list.

These neutral KSFs are listed in order of importance, which means that Tiros has to consider this order of importance in business strategic discussions and future strategic implementation.

2.6.2 Proposed Strategic Alternatives

The purpose of the preceding study of the industry (identification of KSFs), and the competitor or rivalry study (mapping the KSFs), is to reveal the current business opportunities

and threats that Tiros has, and to suggest winning solution(s) for the firm to consider, which are referred to as strategic alternatives.

Business strategy is a combination of activities that works well for the purpose of successful competition in the market, in order to achieve business objectives. Alternatively, in the words of Michael Porter, competitive strategy is, "a combination of the ends (goals) for which the firm is striving and the means (policies) by which it is seeking to get there."

Having overviewed the industry, and Tiros and its competitor's positions, the author suggests the following strategic alternative:

Take advantage of having the differentiated-service-product and customer-segmentation knowledge to launch the 3G mobile navigation service and location-based service which are aimed at special market segments, i.e. enterprise customers, the growing middle-class consumers and little emperor segments. A successful launch will give Tiros the first mover advantage, build its image and create a loyal customer cluster in the area where Tiros competes.

Once Tiros has successfully built a good brand and image, it may have enough power of influence to build strategic alliances, for the purpose of neutralizing the dominant power of the infrastructure providers (supplier power), and create a higher-valued service for its customers by consolidating the product services offered among its strategic partners, in order to improve profits. (neutralize customer power).

This set of strategies consists of the following aspects (or sub strategies):

2.6.2.1 Focus strategy and Differentiation Strategy

Take advantage of having differentiated service products and customer segmentation knowledge to launch the 3G mobile navigation service and location-based service, which is aimed

at special market segments, i.e. enterprise customers, growing middle-class consumers and little emperors.

This strategic alternative is derived from the opportunities of Tiros's customer segmentation knowledge, a neutral-slightly advanced KSF of R&D for the scaleable product, and the neutral-slightly advanced KSF of differentiation ability.

We learned that 3G consumers have a higher value (revenue per customer) to SPs, and that among these 3G consumers, different consumer groups have different concepts of spending. Therefore, different applications need to be developed to accommodate different consumer dimensions.

Currently, mobile phone services are end-user oriented, but this market is not only about end-users. For example, there is potential for enterprise users to have group applications, such as group messaging (an SMS application), company resource tracking (a location-based service application), and group billing service.

A firm with the ability to launch a differentiated service product will be able to capture the revenue of the enterprise market. Normally enterprise markets are less price sensitive compared with personal user markets, and the SP will have a higher profitability.

2.6.2.2 Pre-emption Strategy

A successful launch will give Tiros the first mover advantage in the area where it would like to compete. The first mover advantage, in turn, will enable Tiros to build a better brand image in the market (such as in the enterprise market). Currently Tiros does not have good branding practice for its 2G and 2.5G products. The launch of the 3G mobile navigation and location-based services project offers Tiros the opportunity to brand its new services differently, to reflect the customers' values and to align with customer preferences.

The first mover advantage will require the SP to invest in a pioneer project. It requires both R&D and product marketing expertise in the area of creating the service and marketing the service. This type of pioneer project often requires a noteworthy capital investment, over and above the company's regular operational expense.

2.6.2.3 Build Strategic Alliances

Strategic alliances will help Tiros to neutralize suppliers' and customers' power, and to improve profitability and avoid radical competition, which normally form part of a price war. Strategic alliances will also enable Tiros to service its customers better, by only focusing on the core business and leveraging its partners with special skills to do the rest of the job for the customer, at good quality and at a lower cost to the customer. For example, to target the less-price-sensitive little emperors' market segment, Tiros could attract them by offering a fashionable cell phone with pre-installed applications and ties to Tiros services (SW can also be updated online). Tiros itself is not a HW company and has no plan to do retail business. Tiros can order a batch of cell phones from Motorola or Nokia's outsourcing manufactories in China or Singapore and have the patented application software preloaded during manufacture. Thereafter, Tiros can ship the cell phones to authorized retail partners who will promote the product to the market.

To build business alliances, Tiros needs to have an experienced channel management to develop a business process and handle the business. Above all, it needs a reputable brand and enough funding.

3 INTERNAL ANALYSIS

In Chapter 2, we completed an industrial competitive analysis and identified KSFs. By measuring Tiros and its competitor KSF scales, we got a clear picture of Tiros's opportunities and threats to it by competitors. A strategic alternative was suggested as result of those studies, for the purpose of seizing opportunities and neutralizing competitors' threats. This strategic alternative is stated below.

Take advantage of differentiated service product and customer segmentation knowledge to launch 3G mobile navigation and location-based services, which will be aimed at special market segments, i.e. enterprise, the growing middle-class, and the little emperors.

A successful launch will give Tiros a first mover advantage, build its image and create a loyal customer cluster in the area where Tiros competes.

Once Tiros has successfully built a good brand and image, it may have enough power of influence to build strategic alliances, for the purpose of neutralizing the dominant power of infrastructure providers (supplier power), and creating higher-valued service for its customers. Tiros will do this by consolidating the product services it offers among strategic partners, in order to improve profits, which will neutralize customer power.

This chapter aims to evaluate Tiros's ability to implement the proposed strategic alternative. By testing Tiros's internal assets and available competence, the author will identify gaps in resources and ability, will suggest solutions by performing a relevant cost-benefit study, and will justify the strategic alternative as the strategic choice.

3.1 Management

3.1.1 Management preference

Management preference refers to how the management evaluates the suggested strategic alternative. It is a question of management style, compatibility, and supportability. I asked Mr. Qian to spell out success in his own words and tell me what his criteria for strategic selections are. He gave me the following:

3.1.1.1 Control of the company

In terms of ownership, Mr. Qian prefers to control Tiros for next the two years. This limits the equity finance option to not to exceed 50 percent of Tiros's ownership. This eliminates the possibility of having big equity capital finance to fund the big project, given the fact that Tiros currently has a registered capital of 5 million RMB (700,000 USD). The assumption is that, if Tiros's current equity were 5 million, Mr. Qian would accept another 4.99 million RMB capital injection to make Tiros's total equity 9.99 million, while he still has over 50 percent of the ownership. We will discuss the capital gaps at end of this chapter, on page 91 , and then restate in Chapter 4 whether the management preferences can be satisfied or not.

3.1.1.2 Acceptable Alteration of Management Style

The management is open to adopt an adequate management style, which encourages innovation and creation. Innovation and creativity are important success factors for the value added business because the majority of customers are the fashionable young, who are interested and attracted by new creative ideas. Because such an innovation-oriented management currently does not exist, there is a gap here.

3.1.1.3 Culture and Organizational Maturity

Tiros is a relatively small-sized company with a family feeling, (even though it is not a family business) and it has developed internally a Confucian parent-child relationship between management and employees, and a sibling-type relationship between employees. Given the fact that Tiros is relatively new, the management system still under construction, and that mistakes often happen at operational level, Tiros's ability to achieve high operational efficiency is limited. Changes in operational efficiency are encouraged, but currently the operational efficiency gap does not block Tiros from implementing strategic alternatives, because efficiency is important for a cost-based strategy, but less so for a differentiation strategy.

3.1.2 Management Ability Assessment

Mr. Qian is the decision maker. He is very well educated, has had international exposure and has a successful record of accomplishment in business.

Mr. Qian graduated from one of the most reputable universities, Tsing Hua University, in 1990, with a BA degree (majoring in computer science). He then worked for a world-leading mobile-infrastructure vendor (Ericsson) for another eight years. As senior technical supervisor and troubleshooter, he travelled almost everywhere across the world, Mr. Qian speaks Chinese, English and French.

Mr. Qian's technical experience in Ericsson has helped him setting up Tiros, as he understands the core technology of the mobile telecom infrastructure. Mr. Qian also has some good personal contacts at the directors' level in China Mobile and China Unicom that have made his life easier.

Mr. Qian had some unsuccessful business experiences previously, but he kept investing in learning business knowledge in classes and in the real business world. Beside this SP business,

Tiros, he has successful business investments in restaurants and real estate, which have more than 40 percent ROI annually. A manager of a hi-tech firm needs a different set of management knowledge and experience to that required in other firms. Mr. Qian does not appear to be a very realistic or practical manager and he admitted that he needs more management experience and that he might just have to learn it in a hard way. This is a management gap, because we know that every good strategy selection and implementation needs good overall strategy managers, regardless of the content of the strategy.

Other senior management in Tiros are the VP of R&D (one of the founders of Tiros), the marketing director and the customer service manager. All of them are highly educated.

The founders of Tiros have knowledge of the service products that Tiros currently offers the public. Core knowledge was well documented and is accessible to key engineers in the organization. The marketing director has been working in this industry for seven years and he has a good high-level relationship with key customer contacts in China Unicom. He has recently been working on developing a new relationship with China mobile. His full load of work means that he does not have extra capacity to target new segments of customers. He has made a good contribution to Tiros's business; because of him, Tiros would have been profitable at a 35 percent level of return on investment, if it had not been investing heavily in R&D for the 3G infrastructure launch.

The customer services manager is a junior manager, who completed a university degree only five years ago. He has the technical background knowledge required for the call centre, and his current job is to run the customer service operation. He is well respected by his peers and subordinates, it could be said that he is the glue of his operation. No gap is present in the area of the customer service manager.

Currently Tiros has an administrator to do the office management and payroll. HR and finance is managed by Mr. Qian.

3.1.3 Gaps in Management

3.1.3.1 Management Capability

Given the fact that Mr. Qian has not enough knowledge of running a hi-tech business and management of a big operation, Mr. Qian is concerned about his management ability creating a threshold. He says that he thinks 50 employees, with 10 people reported directly to him daily will be too much, Currently he can manage weekly personal contact with employees. Going forward, Mr. Qian believes he needs a dedicated HR and finance function in the operation, with candidates to be promoted either from within the company or acquires from outside. Cost used to be the concern of having staff to perform these two functions but, looking forward, the cost in terms of lost opportunity may be greater if Mr. Qian himself must mange company daily logistics, which would leave him no time to make important business decisions. Given such a fast-growing industry, opportunities come and go quickly. However, the cost benefit does need to be justified.

Suggested Gap-bridging Solution 1

Ongoing training for Mr. Qian and his management team, taking instructor-led courses. Courses delivered in Tiros cost 25,000 RMB, and four training sessions a year would be the first aim.

The four suggested training sessions are:

- **Hi-tech Business Essentials** (Give a generic idea of the hi-tech business, and provide direction on important aspects, including funding.)

- **Risk Management** (Given the high failure rate of hi-tech business, discuss common problems, symptoms, and solutions.)

- **Manage the Geeks** (Give an idea of how to best release the engineers' potential and improve their productivity.)

- **Build Company Culture** (Give direction in creating healthy business environment internally, in order to stretch the business goal.)

  Cost: 100,000 RMB/year

  Benefit: 200,000 RMB/year

The assumption is that to improve management efficiency and productivity by 20 percent and saves money on avoiding making mistakes, the management annual salary expense is one million RMB. Therefore, a 20 percent productivity improvement means saving the cost of hiring another manager.

Even if only from risk management point of view, this 200,000 RMB/year benefit is a conservative estimation. In 2005, Tiros made a wrong business decision of buying a premature solution from a small company. Qian admitted that was a 300,000 RMB mistake, which might be avoided if management had the risk assessment knowledge.

Alternatively, Tiros can hire a COO under Mr. Qian, and free Mr. Qian to make strategic alliances and work actively for future funding, but the cost of a COO will be 300,000 RMB a year, so it is not a realistic option now.

3.1.3.2 Product Management Needed

The VP of R&D has good technical knowledge and a passion for innovation; he is interested in new technologies. However, new technologies do not always come with accurate

business projections that justify his R&D spending. He will need better business forecasts and a sound trending report, in other words, a good product manager to assist him in making a good plan of the product pipeline. Strategic alternatives require creation of differentiation and focus on products, so the product manager's role is critical.

Suggested Gap-bridging Solution 2

Hire a professional product manager with both good product-marketing experience and good business sense. He or she must have experience of communicating with internal customers (sales people and customer service agents), and external customers (enterprise customers and resale partners, including Motorola and Nokia mobile phone outsourcing manufacturers, who, although they are suppliers, are still consumers of these new product solutions). The product manager must also have experience of communication with an R&D team, who must deliver a weekly report to the management team. This report must contain information on the readiness of the product itself, the internal resources readiness (Tiros must have a trained customer service engineer before it can launch a service to customers), external customer readiness, forecast business volumes, and justify Tiros's resource allocation (such as investing in new HW/SW, R&D and service resources)

Cost: 150,000 RMB/year

Benefit: 300,000 RMB/year

The assumption, based on the product manager's ability to make more accurate forecasts will shorten marketing time and avoid wasting engineering resources for a total of two engineer years. Due to the lack of product management experience and no accurate product forecast, in the past 3 years, Tiros has cancelled two R&D projects, resulting in the loss of more than one million

RMB. It's fair to say that the annual average cost of not having a product management is more than 300,000 RMB.

3.1.3.3 New Sales and Marketing Management Needed

The marketing director currently fulfils the role of maintaining key accounts. Going forward, a new service will be created either to differentiate company or to target specific customer groups. A new competency of differentiation marketing and focus marketing has to be built up internally or acquired from outside. The existing marketing manager may not be skilled in attracting new customer segments or differentiating value statements to appeal to them. His skills are relationship development and senior management business communication. It is clear that he is suited to a business-development type role, which does not fit the new picture.

Suggested Gap-bridging Solution 3

Hire a professional marketing manager with good customer-segmentation knowledge and value-differentiation-selling experience and skills. His or her role would be to create special markets (as opposed to the general market), with special customer focus. (A Chinese local MBA is preferred). He or she may report to the director of marketing, with the potential of being promoted to director under the SBU once the SBU is set up.

Cost: 200,000 + 200,000 RMB/year

Benefit: 2,000,000 RMB/year

The assumption is that sales cost is 20 percent of the revenue, which is the typical assumption industry uses to justify a new hire of this type. According to business forecast (page 86 , Table 3-4 Tiros's mobile navigation service subscription forecast (in Thousands)) and revenue projection (Page 88 Figure 3-3 Business and revenue projections), we can see that in FY07, the new service revenue (mobile navigation service and Location Based

Service LBS) will be more than three million RMB, in FY08 the new service revenue is expected to be more than 19 million RMB. The sales and marketing manager of new service is a key person to bring the new business to Tiros.

Industrial Communicator/Partner Development Executive Needed

The strategic alternative stated previously was to build industry alliances and to improve the competitive (hostile) business environment so that it becomes a collaborative business environment. This can only be achieved by having a very competent vision communicator in the organization, who is very senior, visionary, convincing and viewed by the industry as a trusted advisor .

Suggested Gap-bridging Solution 4

Hire a channel-development partner with experience of communication with strategic partners, and include peer companies in the same industry, in other words, suppliers and distributors. This channel-partner manager must have good presentation and excellent communication skills.

Cost: 150,000 RMB/year

Benefit: Profound but intangible

The above-mentioned gaps will be discussed further below in the following section on organizational structure.

3.2 Organization – System, Structure and Culture

3.2.1 System Assessment

Tiros has been moving fast, and the system has been updated continually, while business has been ongoing. The current company system consists of an HR system, a finance system, and a quality system to improve ongoing business processes (such as strategic project identification, business forecast accuracy, and value customer retention).

3.2.1.1 HR System (Includes Performance Management and Compensation)

Since there is no dedicated HR manager on board, Mr. Qian manages HR himself, and his administrator, who helps with payroll and hiring logistics also interviews candidates and finalizes hiring of new employees. It is unusual for a company this size to have an HR manager. It is also unusual for the CEO to do all the work himself. The industry often hires through job placement agents, who normally charge a placement fee equal to three to six month's of the employee's salary. Tiros last year paid more than 200K RMB for job placement services, for eight new employees whose combined salaries are close to one million. There are three major types of employees in Tiros. The first is professional engineers (the majority) who are measured and managed by objectives (MBO, performance management system). For example, if an engineer is assigned an R&D project, he or she needs to complete the write program within the given period and his or her code must pass the integration test according to quality specifications. If no bug was identified during the test, he or she will get a high score in his or performance review, which reflects his or her salary and bonus pay. Tiros has a generic compensation plan for employees of different functions; an engineer is paid between 120K to 180K RMB annually. Experienced engineers, among three types of employees, are the most difficult to find, and they are crucial in order to implement the strategic alternatives.

The second major type of employees is customer service representatives, These employees work in the call center and knowledge transfer is reasonably easy. This type of employee is easiest to find, and this type has less correlation with the implementation of strategic alternatives (although we need good customer service to retain customers in the long run. However, it is worth mentioning here because we are talking about systems; and customer service representatives are measured by their workload and customer satisfaction. A customer representative who handles the largest amount of customer service requests, while meeting customer satisfaction requirements will get the best pay.

The third type of employees is sales, BD and marketing. Sales and BD are important for the implementation of strategic alternatives, because they are the people who market and sell differentiated services to focused customers. These employees are not stable and are less loyal than the other two types of employees. Good sales people are not easy to find. Typically, they are paid a 50 percent salary and 50 percent commission, which is 5 percent of revenue. Typically, a sales person with a one million quota will have 100,000 base salary. After he or she has fulfilled the quota, the incremental part will be paid as a 10 percent commission. In other words, if he or she makes a sale of 500,000, he or she will make 100,000 + 500,000*5%=125,000. If he or she finished on par, he or she will get 150,000 (100,000 + 1 million x 5% = 150,000); if he or she finished at two million, he or she will be paid the 250,000 (150,000 + 10% x 1 million= 250,000).

Training of employees is another aspect of the HR system. Currently Tiros has internal training and job rotation to maintain the dynamics of the employees. However, job rotation is not suitable for sales people in such a setting. During the job rotation period, supervisors will provide on-the-job training to employees (so-called "learning by experience").

3.2.1.2 Financial System

Implementation of the strategic alternative needs sound financial management. However, the gap is that Tiros does not have a good financial system. During company operations, there is very often a short-term cash flow problem due to improper financial planning. The root cause of the problem is that Tiros's financial structure is simple because Mr. Qian is the sole investor in Tiros. In addition, there are not many accounts payable or accounts receivable activities, or tax affairs. Tiros maintains a relatively low level of cash flow currently.

3.2.1.3 Quality System

Mr. Qian is aware that for a fast-growing company, a quality system is important in order to ensure long- term success. A good quality system will ensure a smooth transition between a small company and a big company, without major operational disruptions. A quality system consists of following aspects:

- Quality of management and business decisions

This is one of the most important aspects. It defines the management decision-making process, ensures that business decisions follow guidelines, and prevents major mistakes from being made. One wrong business decision may bankrupt a company.

- Quality of product

Good product quality ensures a low cost of operation and high customer satisfaction. A product quality system defines guidelines in product development. For Tiros's products, which are SW applications, the process ensures that there are fewer bugs in the SW application, which will save money in the future.

- Quality of service

Quality of service retains the customer base, by delivering good service and ensuring customer satisfaction. The service quality system defines the service quality standard and processes that must be followed.

The strategic alternative states that Tiros needs to sustain its competitive advantage through continued improvement. There is a clear gap here.

A quality system, as understood by Mr. Qian, will be to adopt a six-Sigma[15]-type methodology to identify Tiros's ongoing opportunities and threats. A company is like a car, after you have run it hard on tough roads for a time, you should see to its maintenance. A quality system has mechanisms to identify and correct problems that develop during operation, and add more required features to handle the ever-updating environment.

"Unfortunately, we don't have such system built yet, and I myself don't have the spectrum to drive this initiative. As result, we have to do it over and over again to identify the strategic projects and revisit the business forecast in each business cycle, and deviations are hard to control," says Mr. Qian.

3.2.1.4 Gaps in the System

Dedicated HR Manager Needed

The previously identified strategic alternatives require that Tiros have the ability to acquire and retain talent. Tiros must build an attractive reward and retention system. Compared with other competitors, Mr. Qian's company is paying average salaries to its employees, and training opportunities are not considered good.

[15] Six Sigma at many organizations simply means a measure of quality that strives for near perfection. Six Sigma is a disciplined, data-driven approach and methodology for eliminating defects (driving towards six standard deviations between the mean and the nearest specification limit) in any process - from manufacturing to transactional and from product to service.

Suggested Gap-bridging Solution 5

Hire a dedicated human resources manager and build a retention and reward system. Outline an employees' training plan and provide a competitive salary structure to prevent competitors from stealing experienced employees.

Cost: 200,000 RMB/year

Benefit: 450,000 RMB/year (direct benefit, and indirect strategic benefit is intangible)

Benefit assumptions are based on the saving of not using the job placement service (refer to page 61) and rather hiring directly. In a later discussion we will see that Tiros needs to hire more employees at an additional salary cost of 1.8 million (refer to page 91, the financial study in Figure 3-4), which would cost company 450,000 RMB potentially, (A job placement company's one time service charge is about 3 month salaries of a new employee, paid by Tiros)

We measure financial benefit by tangible returns. Intangible returns, however, might be greater than tangible returns. The effect of a reward system, will not only be the retention of valuable employees, but also the encouragement of employees to do the right thing for the company and grow the business in a more productive way.

Financial and Quality System Needed

An incomplete financial and quality system will result in operational problems. For example, Tiros cannot implement cost control and risk management for certain projects or for the overall operation, let alone have high operational efficiency. However, this is an efficiency discussion, and it is not necessary to suggest the gap of implementing the suggested strategic alternative, because we are not making Tiros a cost company. A financial system may be needed

but, in reality, many small firms use bookkeepers to record expenditures, accountant consultants to do the monthly report for tax purposes, and the owner keeps track of the capital and financing issues.

Suggested Gap-bridging Solution 6

Use consultation services to cover financial management and the six-Sigma practice, in order to save costs. Given the fact that Tiros may need some cash budget every month and improvement project every quarter, it might cost effective to use the consultation service to bridge the function gaps.

Cost: 40,000 RMB/year (half for financial consultant and half for quality consultant)

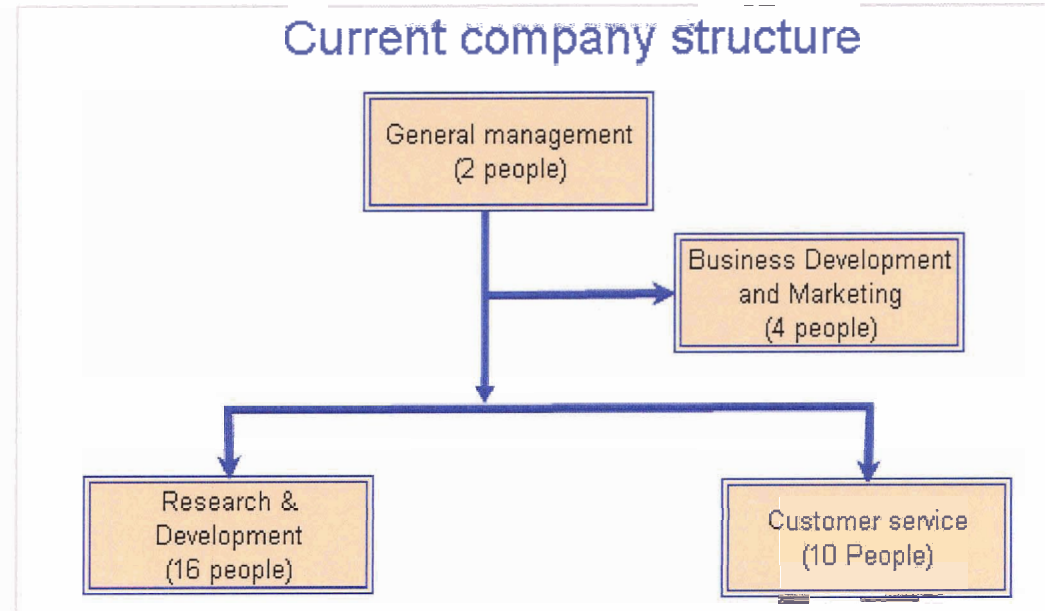
Benefit: Save time (which equals money) and effort in order for the CEO to do things more effectively

3.2.2 Organizational Structure and Capability

3.2.2.1 Organizational Structure

The table below shows the current company structure, including how many employees perform each function.

Table 3-1 Tiros's current organizational structure



Tiros's current structure includes general management, R&D, BD, marketing and customer service; 32 people in total.

The strategic alternative requires that the organization have the ability to create (R&D) and deliver (marketing) a differentiated and focused product, retain talent (HR), secure capital (finance), create a loyal customer group (product and service), and sustain the competitive advantage by continued improvement (six Sigma). The figure above shows that currently Tiros has only four functions.

R&D has a good capacity for handling assigned projects and customer services are measured by adequate workload. Business development has the primary task of dealing with China Unicom (infrastructure provider) and major business customers, and general management runs the overall business, including company strategy, HR, and finance.

3.2.2.2 Organizational Capability Assessment

- **Structure**

Tiros's structure is centralized. The CEO, who is not very experienced in running Tiros, makes key business decisions. It may be suitable to have the (presumably) more capable second general manager between Mr. Qian and the rest of Tiros's personnel, and have the CTO (i.e. the VP of R&D) make technical decisions. There is no dedicated HR or Finance management; the CEO manages the HR and finance departments himself. The CTO manages service creation and in-house R&D.

In such a structure, the management's capacity is seen as a bottleneck, which will likely mean that Tiros has no excess capacity to handle future business needs. For example, there is a need to set up a strategic business unit aimed at 3G product-service creation and there is no dedicated financial management to do it.

- **Decision-making**

Decision making is also centralized, which reflects Chinese Confucian values. Employees are expected to do their own jobs well and leave decisions to their management. This means that management has more workload and burden, which may affect their ability to do their job well. Since Mr. Qian is not very experienced, centralized decision-making could potentially produce poor decisions.

- **Management Function Setting**

HR and finance are handled by Mr. Qian himself, Going forward, this will become a bottleneck, because he will have more to do and more critical decisions to make in the near future, as the 3G infrastructure is launched.

3.2.2.3 Gaps in the Organizational Structure

The strength of Tiros's organization is that it has a slim structure, which is cost saving and has been running effectively. However, going forward, we are seeing gaps in the organizational structure, as far as accommodating growing business needs is concerned.

- **Management Capacity is Becoming a Bottleneck**

According to Cisco's management practice, a good manager can effectively manage 10 knowledge workers; communication will become a problem beyond that, in terms of both frequency and quality of communication. Tiros has a slim management setting. The R&D and service manager manages more than 10 people and business managers, i.e. Mr. Qian and the BD marketing managers, are multi tasking themselves to do different things for cost saving. The workload will be overwhelming when the 3G infrastructure is launched, and clearly, there is a management capacity gap to be bridged. Gap-bridging solution 1 has been suggested as the management-training solution.

- **Decision-making Autonomy**

In a new economy, especially in a hi-tech company with a fast-growing pace, Confucian values need to be modified. First, because all employees are well-educated and highly skilled professionals, they are assumed intelligent enough to know what is best for Tiros; that is what

they have been paid for. Second, micro management consumes management capacity and prevents employees from working effectively on important aspects.

Suggested Gap-bridging Solution 7

Set up company business guidelines and assign objective business targets to employees. Measure outcomes rather than manage on a detailed level. However, a good report structure must be set up for management to track business status.

Cost: None

Benefit: Improve working environment and productivity. The outcome is intangible.

- **New Functions Setup Needed**

For a sophisticated hi-Tech company with 32 employees, the HR function and financial management functions are essential. For the future, Tiros must set up a strategic business unit (SBU) to champion the 3G services product rollout, because those services will have different customer focus and technical elements. Therefore the internal business operations and external marketing activities needed are different to those of the current business Tiros is running.

Suggested Gap-bridging Solution 8

Since setting up an HRM has been discussed and proposed, setting up a CFO might not be as critical. However, a strategic business unit (SBU) is important to align with the strategic alternative implementation.

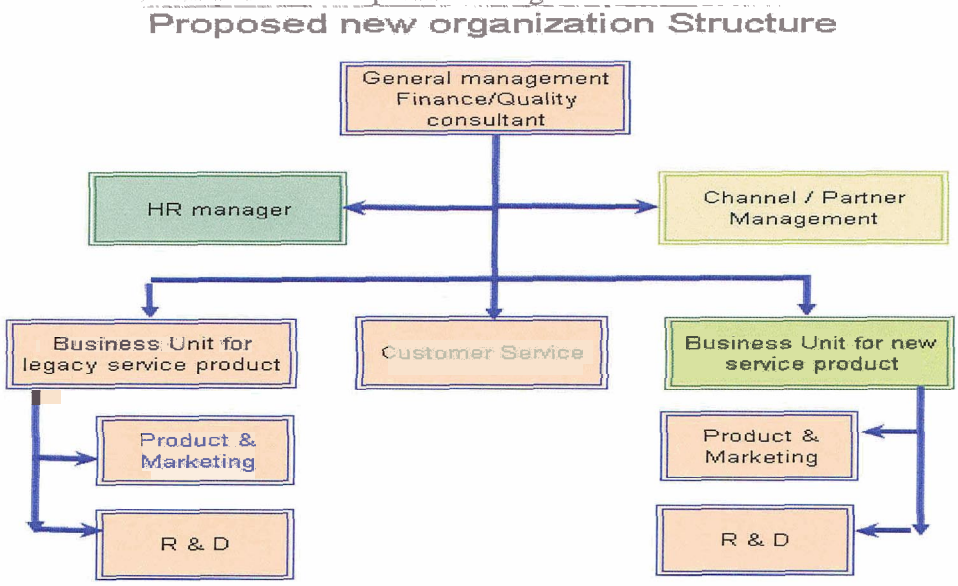
A suggestion is to hire a professional general manager (in a COO-type of role), with both product and marketing experience, to champion the virtual SBU initiative, and to assist Mr. Qian in terms of general strategy and business efficiency. An SBU can be considered as a virtual organization, to optimize the resource usage.

Cost: 300,000 RMB/year

Benefit: Similar to hiring a COO for a new business operation focus and a CEO assistant for new business strategies and implementations.

The table below shows a proposed organizational structure, introduces financial management, channel-partner management, and separates business units for scalability and functionality considerations.

Table 3-2 Proposed new organisational structure



3.2.3 Culture Assessment

3.2.3.1 Current Culture

Organizational culture is the specific collection of values and norms that are shared by people and groups in an organization and that control the way they interact with each other and with stakeholders outside the organization. Organizational values are beliefs and ideas about what kinds of goals members of an organization should pursue and ideas about the appropriate kinds or standards of behavior organizational members should use to achieve these goals. From organizational values, develop organizational norms, guidelines, or expectations that prescribe appropriate kinds of behavior by employees in particular situations and control the behavior of organizational members towards one another. [16]

I have observed that in the main office, R&D people are busy all the time, some working on the Web portal, others on product integration testing. They seldom talk to each other, as their

[16] (Strategic Management, Charles W. L. Hill, Gareth R. Jones, Fifth Edition, 2001 Houghton Mifflin, MeansBusiness, Inc.)

jobs are so well defined and people have to finish their own tasks in given times. It is clear that Tiros has a culture of working hard, and delivers work of good quality. I do not perceive any other work culture at Tiros. When I asked Mr. Qian to describe Tiros's work culture, he laughed and said, "Work hard and survive". Employees connect well with each other after work hours; they gather for birthday cakes, weekend drinks, and New-year's parties. This interaction is one of the attractions of a small company.

3.2.3.2 Culture Gaps

We learned that an important factor in implementing strategic alternatives is to attract and retain talent; another important factor is being innovative. To do so, a company has to create a suitable environment for employees' creative ideas instead of using employees as machines.

Two problems have surfaced in respect to company culture:

- The current culture does not inspire employees' creativity
- The current culture does not give employees a sense of ownership which would connect Tiros's success to employees' personal successes

Suggested Gap-bridging Solution 9

Tiros's company culture can be developed by using a system to encourage good behaviour. Suggested solutions are:

- Build or reword the incentive or compensation system to encourage employees' creative ideas and help employees to achieve them.

- Assign employee stock options to tie the company's success with to that of employees'. The amount of stock options will be determined by employees performance; top performers will get more shares.

Cost: 250,000 RMB/year, if 5 percent of current company shares are used

Benefit: Improved employee retentions, to keep top performers in Tiros, critical in such a competitive industry.

I advised Mr. Qian that he needs to understand that his business is innovative, and that he needs to understand the character of a "geek" because his engineers have this type of character. Paul Glen's <Leading Geeks: How to Manage and Lead the People Who Deliver Technology> would be a very good book for him to read.

Geeks have special characteristics. Power does not work for them. Conversely, self-realization, respect, and a sense of achievement are more important than other factors in retaining them within a company.

My recommendation to Mr. Qian is that he needs to create an environment to encourage his engineers' innovative ideas and help the engineers achieve them. He also needs to set up a reward system to recognize their achievements in a suitable way. A company can do things such as reward employees with company products, which may have status but are cheaper, or even name projects or service products after employees' names to make them feel they have ownership. Once a company has introduced such a culture, it is much more likely to retain employees' talents for a longer term.

3.3 Resources – Product Portfolio, HR and Financial

3.3.1 Business and Product Portfolio (Resource Gaps)

3.3.1.1 Current and Future Products, R&D Capacity

Tiros currently has the service products SMS, MMS, download and WAP (web browser), delivered on the China Unicom infrastructure. These services provide a source of income that will keep bringing money into Tiros over the next two years, and they are the company's most important financial resource. For future products, Tiros has already had technology reservations and successfully tested solutions, for example, the general mobile navigation service application. The current status is that the connectivity test to China Unicom is done and features need to be added to target more specific consumer market segments. We may compare the current R&D progress to building a house, of which the general construction is complete, but the interior decoration is still to be done.

3.3.1.2 Gaps in the Operation, Product Portfolio and Human Resources

Missing Focus/Differentiated Products in the Portfolio

To implement Tiros's strategic alternative, it needs differentiated products and services in its product and business portfolio.

Suggested Gap-bridging solution 10

The product manager will identify the required features for targeting specific market segments, and will prioritize them in the R&D and product rollout pipeline. The product manager has been discussed in gap-bridging solution 2 on page 62

Cost: Already covered

Benefit: Big, but hard to quantify

Missing the SBU Function in the Operation

A thorough study of customer segmentation, market trending and consumer behaviour should be conducted. It cannot be done without introducing a strategic BU into current operations. The setup of an SBU was discussed in solution 6.

Extra Engineering Force Needed

To implement the strategic alternative, and to create differentiated services with specific customer focus (or customization and solution integration), Tiros will need extra investment in both HW and the engineering force. However, the investment in engineers will be based on the ongoing business projection and its costs are covered there separately, see page 84. The setup of an SBU was discussed in solution 6.

Extra Sales and Marketing and Business Development Force Needed

To sell differentiated services might be more difficult than to create them. Marketing, business development and sales forces are not yet available, which is another gap to be addressed. The setup of an SBU was discussed in solution 6 and the setup of sales and marketing was discussed in solution 3.

3.3.2 Financial Study (for the Current and Next Three Years)

3.3.2.1 Current Financial Snapshot

From the Tiros FY06 income statement shown below, we can see that it has revenue of 5.3 million RMB, but that the net income is a mere 126,000 RMB, which is only 2.5 percent of its invested capital (a 5 million RMB investment was made by Mr. Qian). The biggest cost is salaries, which is associated to having highly paid senior engineers in the R&D of the mobile navigation service project (which has not yet been launched for service), and pioneer marketing

activates. An SP business is subjected to tax at 5 percent of revenue, regardless of the net profit. Note that in the income statement below, the black figures represent company revenue and red figures the expenses.

Figure 3-1 Income statement

Tong Lian Co. Ltd		
Incom statement, in RMB		
For the year ended June 30 2006		
Nat sales		
	Cash income	4,800,000.00
	Account receiveable 1	64,750.00
	Account receiveable 2 (from customer within 30 days)	440,000.00
	Total Net sales	**5,304,750.00**
Cost of Sales		
	cost of supplier (inventory)	960,000.00
	Total of Cost of Sales	**960,000.00**
Gross Margin		**4,344,750.00**
Operating cost		
	Salary & Wage	3,600,000.00
	Heating light power	15,000.00
	Sales and administration	48,370.00
	Interest 1	2,880.00
	Office rent	240,000.00
	Tax payable	265,237.50
	Total of Operating cost	**4,171,487.50**
Other Revenue (expenses)		
	Account payable	35,000.00
	Amotization	12,000.00
	total of other expense	**47,000.00**
Net Income		**126,262.50**
Earning statement (500,000 capital stock)		2.53%

The balance sheet below shows Tiros's assets allocation. We can see that Tiros has no debts, and that its assets are weighted on the intangible side (4 million RMB out of 5.45 million total assets). Its intangible assets are business licenses and intellectual property, which might only be useful during Tiros merger-acquisition or equity finance activates, and which have little or no use in terms of funding Tiros's operations. It is not likely that banks will lend big amounts (for

example, 2 million RMB) to Tiros, because it will not use the intangibles as collateral. From the balance sheet below we can also see that Tiros is a typical SW and R&D company, with no inventory (if products in the pipeline do not count), and very minimal fixed assets.

Figure 3-2 Balance Sheet

Tong Lian Co. Ltd Balance Sheet, June 30, 2006 (in RMB)			
Assets		**Liabilities & Equity**	
Tangible assets		Account payable	35,000.00
Cash	150,000		
Prepaid rent	120,000	TAX payable	265,237.50
Account receviable	504,750		
Auto mobile	180,000		
office furniture	150,000		
equipment	350,000		
Intangible assets			
Business License	2,000,000		
Intellectual property	2,000,000	Owner's equities	5,154,513
	5,454,750		**5,454,750**

Tiros's business license amounts to 2 million RMB, which is the market norm, because:

- This type of business license is more difficult to obtain than before. At beginning of 2006, Chinese government set a higher bar for firms to obtain such mobile value added service business licenses. The barriers include a high initial capital investment and a mandatory requirement that firms have to pass a lengthy technology certification process before they are granted a license.

- Tiros spent time and money branding its business, the cost of which is to be captured in this asset category.

- A 2 million RMB business license is the market value; it is the lowest price that several investors, private and public, who have asked to buy Tiros, offered for this specific license alone.

Tiros's intellectual property amounts to another 2 million RMB. The rationale for this figure is that Tiros believes that the worth it has built up over the years is in the format of business applications which enable the delivery of value added services to it consumers (mobile phone users and enterprises customers that it has developed). Tiros's intellectual property can be broken down to specific items such as in-house developed software (middle-ware), system solutions and business processes.

Mr. Qian notes that another important asset of Tiros's is the extensive training delivered to its employees and the knowledge that employees have. "I have no way to price that", said Mr. Qian.

Currently, Tiros's legacy service is a profitable business; it brings in about 5 million worth of revenue. Only a third of company resources are allocated to legacy-related products, and the majority of company resources go into the creation of mobile navigations services, testing, and marketing.

From Tiros's financial snapshot, we can see that expensive R&D operations over the past years have almost drained all its capital; currently it has dispensable capital only at the 126,000 level, which are the retained earnings of FY06.

3.3.2.2 Business Projections

Tiros is, as is the whole industry, expecting exponential growth with 3G mobile infrastructure launches in 2006, and it predicts that services based on 3G applications will be profitable. However, the debate of the TD-SCDMA standard has postponed the 3G launch schedule, and companies seem to have been waiting too long at the start line.

Tiros, on the one hand, has chosen to keep a low profile on 3G service products as a secret weapon. On the other hand, it is working hard in the traditional business to try to extract

every cent from it in order to have some financial reserves to back it up in the face of brutal competition in the 3G services market.

For Mr. Qian, traditional services based on 2G and 2.5G seem to be going well, i.e. the traditional service portfolio seems adequate and fits the market at this stage. It yields steady revenue to Tiros. Mr. Qian sees the delay of 3G infrastructure as a good opportunity; because he needs more time to consolidate his service packages and do back end tests, to ensure the quality of service that his service products will offer to the 3G market.

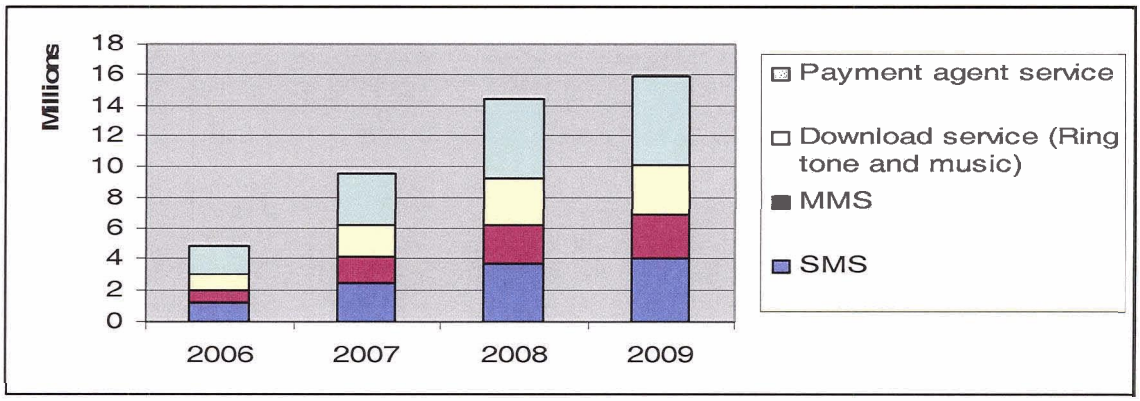
Regarding future business growth, Mr. Qian says, "the growth will be definitely be on the 3G side, currently service we offered is to bring regular food to all of us, but it is not worth such hard work."

Important decisions Mr. Qian will have to make will be how to identify the investment needed to support the 3G business, how much investment is needed, and what the most effective way to get finances will be.

We will take the approach of having a good look at the growth plan, to understand what needs to be done (or invested) to support the growth, what we have currently, what the gap is in capital structure and what the best way of getting it is.

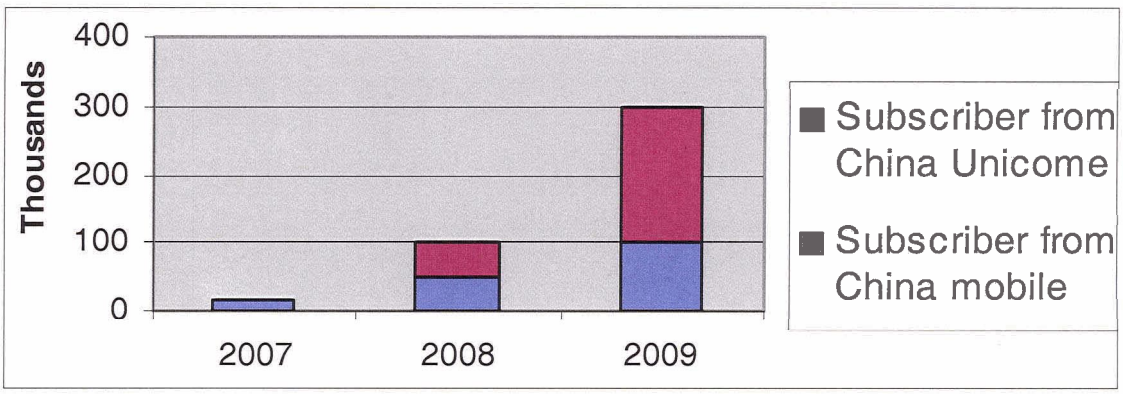
Tiros's three year forecast shows that a traditional-services business based on 2G and 2.5G mobile infrastructures will still grow, but at a reduced speed. It is a common expectation in the industry that 2007 will still be a good year for these businesses (at double the revenue of 2006) but that growth will slow by a half for the next two years. (See table below).

Table 3-3 Tiros's legacy business revenue forecast (in Millions RMB)



This slowing of growth is attributed to the introduction of a 3G mobile service, and industry expectations that customers who enjoy value added services would migrate from a slow 2G or 2.5G network to the modern 3G network, in order to enjoy high-speed access together with the variety of value added services available. Conversely, the new 3G-related services are growing at a fast pace. The table below indicates the industry's anticipation of how many customers they will serve in the coming three years.

Table 3-4 Tiros's mobile navigation service subscription forecast (in Thousands)



Currently Tiros has signed up with China Unicom and is conducting interconnection and functionality tests. These tests will be completed by the end of July 2006 and services will be

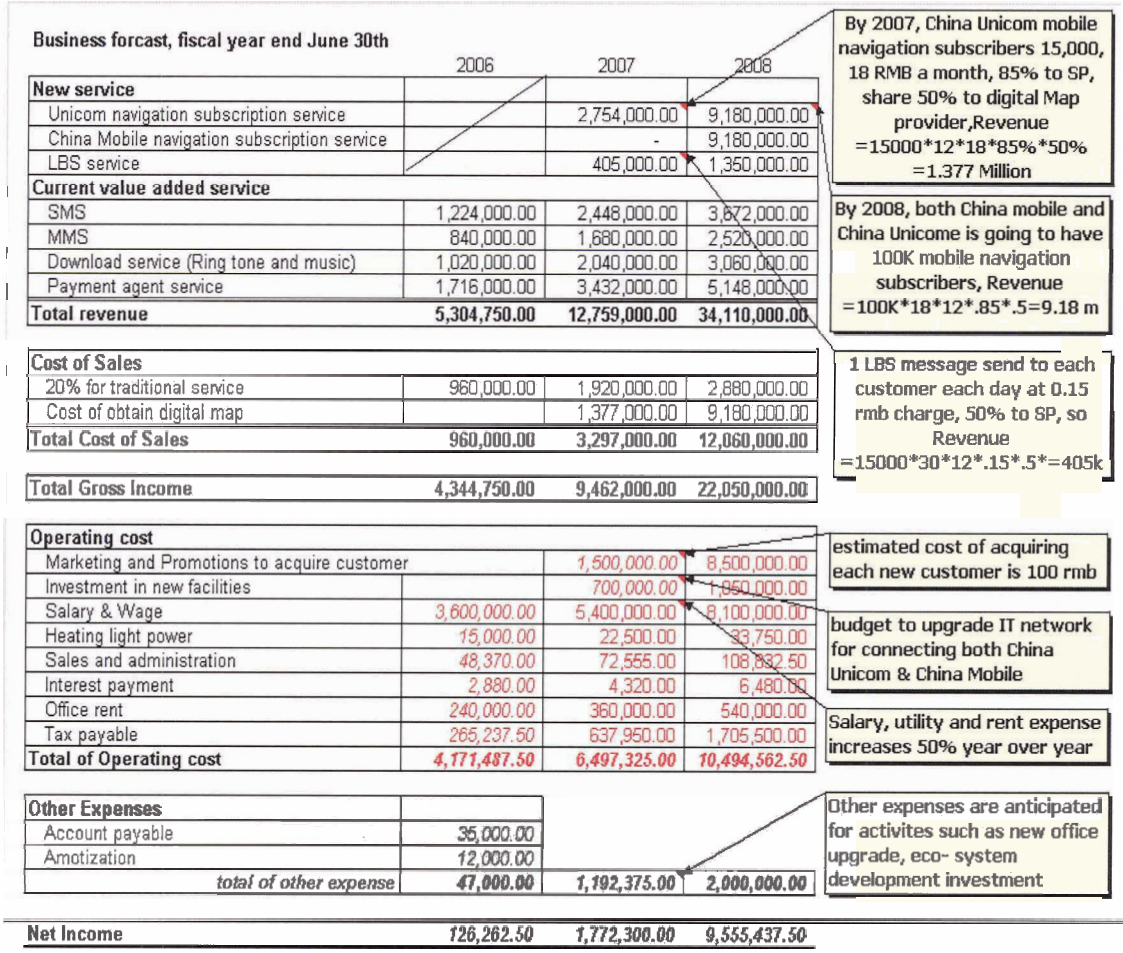
launched on the China Unicom infrastructure in August. Tiros is aggressively negotiating a contract with China mobile, and has committed to sign up with China Mobile as soon as possible.

We have a conservative projection that China Unicom mobile navigation users in FY07 will be 15,000. In FY08, the situation will improve because with anticipated market product absorption and concept acceptance, more users will access this service and will be driven by lowered handset prices. In FY08, 50,000 customers from Unicorn and another 50,000 from China telecom are expected. In FY09, l00,000 customers from Unicorn and 200,000 customers from China Telecom are expected.

The problem for Tiros is that currently the profit levels and capital available are not sufficient to support the growing business need, i.e. Tiros needs a capital injection for 3G service product creation, marketing and R&D.

Below is the business projection based on the above-mentioned growth opportunities in both traditional and new services. It explains in detail what Tiros's revenue (top line) and net income (bottom line) will be in the next two years if sufficient investment is made to enable Tiros to ride the wave of 3G business, i.e. launch a 3G service targeted at specific segments and build a first mover advantage and brand image. It is noteworthy that, at the end of FY08, Tiros will have a net income of 9.55 million RMB, and at that point, its cash flow will be positive and healthy.

Figure 3-3 Business and revenue projections



Business forcast, fiscal year end June 30th	2006	2007	2008
New service			
Unicom navigation subscription service		2,754,000.00	9,180,000.00
China Mobile navigation subscription service		-	9,180,000.00
LBS service		405,000.00	1,350,000.00
Current value added service			
SMS	1,224,000.00	2,448,000.00	3,672,000.00
MMS	840,000.00	1,680,000.00	2,520,000.00
Download service (Ring tone and music)	1,020,000.00	2,040,000.00	3,060,000.00
Payment agent service	1,716,000.00	3,432,000.00	5,148,000.00
Total revenue	**5,304,750.00**	**12,759,000.00**	**34,110,000.00**
Cost of Sales			
20% for traditional service	960,000.00	1,920,000.00	2,880,000.00
Cost of obtain digital map		1,377,000.00	9,180,000.00
Total Cost of Sales	**960,000.00**	**3,297,000.00**	**12,060,000.00**
Total Gross Income	**4,344,750.00**	**9,462,000.00**	**22,050,000.00**
Operating cost			
Marketing and Promotions to acquire customer		1,500,000.00	8,500,000.00
Investment in new facilities		700,000.00	1,050,000.00
Salary & Wage	3,600,000.00	5,400,000.00	8,100,000.00
Heating light power	15,000.00	22,500.00	33,750.00
Sales and administration	48,370.00	72,555.00	108,832.50
Interest payment	2,880.00	4,320.00	6,480.00
Office rent	240,000.00	360,000.00	540,000.00
Tax payable	265,237.50	637,950.00	1,705,500.00
Total of Operating cost	**4,171,487.50**	**6,497,325.00**	**10,494,562.50**
Other Expenses			
Account payable	35,000.00		
Amotization	12,000.00		
total of other expense	**47,000.00**	**1,192,375.00**	**2,000,000.00**
Net Income	**126,262.50**	**1,772,300.00**	**9,555,437.50**

By 2007, China Unicom mobile navigation subscribers 15,000, 18 RMB a month, 85% to SP, share 50% to digital Map provider,Revenue =15000*12*18*85%*50% =1.377 Million

By 2008, both China mobile and China Unicome is going to have 100K mobile navigation subscribers, Revenue =100K*18*12*.85*.5=9.18 m

1 LBS message send to each customer each day at 0.15 rmb charge, 50% to SP, so Revenue =15000*30*12*.15*.5*=405k

estimated cost of acquiring each new customer is 100 rmb

budget to upgrade IT network for connecting both China Unicom & China Mobile

Salary, utility and rent expense increases 50% year over year

Other expenses are anticipated for activites such as new office upgrade, eco- system development investment

Assumptions for the revenue (in black):

- In FY07, (July 1- June 20), Tiros will have an average of 15,000 mobile voice navigation service subscribers. The average means the total subscription over a 12-month period, just for the convenience of calculating the revenue stream.

- Mobile-navigation-service customers will request location-based service information each day, such as route selections, location of gas stations and shops, or destination information. This is a one-time billable service (0.15 RMB).

- Navigation charges of 18 RMB per month to customers, 15 percent taken by the network infrastructure provider and 85 percent forwarded to the service provider. In addition, the service provider has the cost of obtaining digital map information, which is 50 percent of its revenue. Therefore, for each subscriber a year, the gross revenue for the SP is 12 x 18 x.85 x.5 = 91 RMB.

- The current value added service in FY07 grows by 100 percent and by 50 percent in FY08.

Based on business projections, some investments must be made to attract business volume (expenses shown in red in the table above).

- Investment in acquiring customers (includes marketing and promotion, product handbooks, customer training, and follow-up services). Based on the industry study, this would cost 100 RMB per customer.

- Investment in a new system with the ability to connect to both China Telecom and China Unicom. This business IT system will cost 70,000 to set up in FY07 to begin with and will be expanded to a large scale in FY08. The initial cost is high, and expansion will double the capacity, but only at 50 percent of cost in FY08.

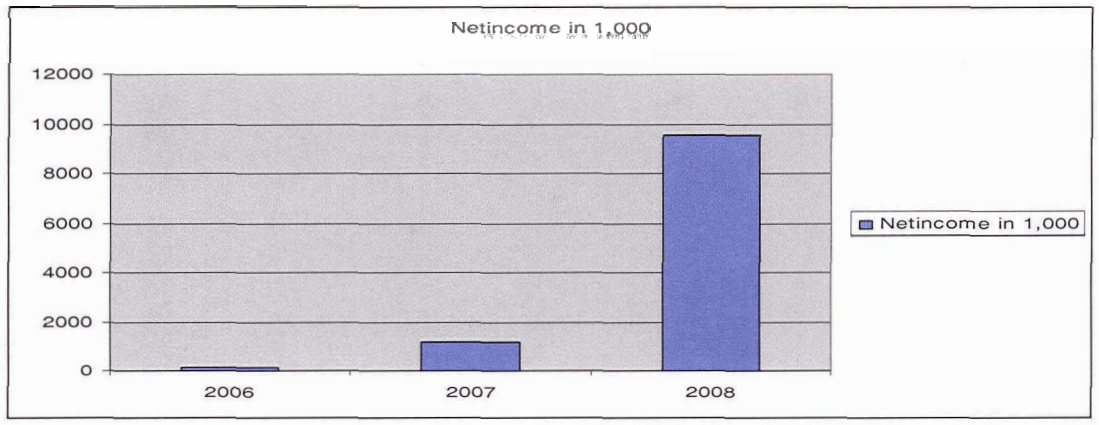
- Other expenses, including acquiring and decorating of new office space and furniture, and a new automobile are also in the budget for service drive testing purposes.

- Investment attracting talent into Tiros, including HR manager, R&D engineer, product manager, marketing manager, SBU manager and channel manager. Additionally, create strategic BU operations to align with the company business objective, which is to launch mobile navigation and other location-based services

(LBS). This will require an estimated 50 percent increase (1.8 million RMB incremental in FY07 and 2.5 million incremental in FY08) in salary expenses. However, it is justified by huge returns in future years. (The previously mentioned new necessary hiring is at total budget of1.24 million RMB, detail in Figure 4-1 Summary of gap study, excluding the financial section which is well justified in this big picture)

The above business projection paints an attractive picture. Tiros would be able to grow the business exponentially with mobile navigation services to be launched at the beginning of FY07 and catch the momentum of 3G wave (if it has sufficient funds and expanded management capacity as per the previous gap study). The figure below shows Tiros's net income growth over the next two years.

Figure 3-4 Projected net income for the next three years



In Chapter 4.1, we discussed that Tiros has drained its capital in lengthy and expensive R&D, and it now has only 120,000 RMB as dispensable capital to run daily operations.

3.3.2.3 Financial Gaps (Capital Needed)

It is clear that Tiros needs extra capital to fund its new project, such as upgrading its IT system, integration and compatibility tests to connect both China mobile and China Unicom, service product marketing and promotions, office expansion, and new hiring and training of talent.

Figure 3-5 Required investment

Assets	FY06	FY07	FY08	Liabilities and Equity	FY06	FY07	FY08
Tangible assets				**Liabilities**	300,238	0	0
Cash	150,000	500,000	1,200,000	Account Payable	35,000		
Prepaid rent	120,000	180,000	270,000	TAX payable	265,238		
Prepaid advertisment		1,500,000	8,500,000				
Account receiable	504,750	1,000,000	2,000,000				
Auto mobile	180,000	480,000	1,080,000	**Owner's Equities**	**5,154,513**	**6,926,813**	**16,482,251**
office & furniture	150,000	850,000	1,500,000	Stock at Par	5,000,000	5,000,000	5,000,000
equipment	350,000	1,035,000	1,450,000	Earning current year	126,263	1,772,300	9,555,438
Intangible assets				Retained Earning	28,250	154,513	1,926,813
Business License	2,000,000	2,000,000	2,000,000				
Intellectual property	2,000,000	2,000,000	2,000,000	**Required Investment**		**2,618,187**	**3,517,749**
	5,454,750	**9,545,000**	**20,000,000**		5,454,750	9,545,000	20,000,000

From the above projected balance sheet (End of Period), we get an idea of how much extra capital investment is needed for the coming two years. For the first year, FY07, Tiros will require 2.62 million RMB extra investment (which is to be made at the beginning of the year) and for the second year, FY08, Tiros will need an extra ongoing investment of 3.52 million RMB. All of this is based on the current business forecast. Very likely, more capital will be needed because this mobile navigation service will be well received by market.

This amount is much smaller than Mr. Qian imagined. I explained to him that the amount is just a rough estimate, that I have not considered everything. I have even excluded some critical facts for sound investment calculations, such as days of accounts receivable, days of accounts payable, and major investment schedule (what time of year to make certain investments).

Therefore, the amount is not a precise number that Mr. Qian can entirely trust. Mr. Qian has a choice of either waiting for me to get CMA certification next year in order to help him do professional books, or to get a CFO.

I told Mr. Qian that short-term cash flow planning and budgeting is very critical for his company; it helps a lot with operations and uses money effectively. I believe that a new CFO would do it for him.

3.4 Key Notes of Internal Study

The external study (Chapter 2) suggested strategic alternatives, and in this chapter (Chapter 3), we have studied and identified Tiros's internal capability and resource gaps in management capability, structures, systems, culture, as well as HR and financial resources. We learned that there is no single strategic alternative that can easily become a strategic choice. The choice has to be made depending on the management's further assessment and approval of capital investment, and has to bridge the gaps by increasing management capabilities, change and adding the organizational functions to make it happen.

Tiros's current business has a steady revenue. However, because Tiros is investing heavily in a new project, a cash flow problem is surfacing. Therefore, the most urgent problem is Tiros's capital structure. Either it has to get extra financial resources to fund its ongoing R&D, in order to catch up with the China 3G momentum, or it will go back to square one. However, one management decision criterion has to be met, that is, that introduced capital should not interfere with the control of Tiros.

The required capital gap identified is about 2.62 Million RMB in FY06 and 3.52 Million for FY07. To bridge the gap, Tiros has to either to use leveraged debt finance or accept an extra amount of equity financing to sustain a high R&D investment. The alternative solution is that, if

Tiros cannot get extra capital or decides not to take further risk; it can go back to refining its old business. The status quo might be a viable strategy too.

We have concluded that, yes, the suggested strategic alternatives are viable strategic choices. The management has the determination, assets (except that more investment is needed), competence, the strategic alternatives are within Tiros's capacity. Tiros needs to make adjustments (bridge the gaps) to make it happen.

4 RECOMMENDATIONS

This chapter will summarize the findings, and recommend the best alternatives based on previous study, and explain how and to what extent the recommended alternatives will satisfy Tiros's business needs. The fundamental questions put to Mr. Qian, the owner of Tiros, at the initial phase of this strategic analysis project, (Chapter 1 page 3) were:

- What is the best competitive strategy?
- How to compete effectively?
- What is the right amount of capital to handle the growth?
- What is the cheapest way to get capital over time?

To delivery strategic consultation and to answer these questions, I have to meet Tiros management's criteria, which are to grow the company in a well-controlled way (page 3) and to improve the return on investment to greater than 15 percent (page 4).

4.1 Summary of Best Fit Strategy

After going through the industry and rivalry study and the internal capabilities test, the author came to the conclusion that that the best strategy for Tiros would be to take advantage of market segmentation knowledge and having differentiated products and services. These differentiated products and services would be available to launch new services on the 3G infrastructure (i.e. the mobile navigation service, relevant location-based service and personalized/characterized mobile handsets bundled with Tiros media-rich core applications). The

focus would be on specific market segments (i.e. enterprise users, the growing middle class and young emperors), in order to get the first mover advantage in these specific areas. A successful launch would help Tiros to build up brand image, create a loyal customer cluster and give it a good foothold for the future development of business alliances. This would, in turn allow Tiros to create high-value services at lower cost (refer to strategic alliances on page 56), in order to sustain its competitive advantages in this segment. Given the financial strains, the limited management capability and other competence gaps (in system structure and culture), Tiros is more likely to succeed if it focuses and competes in these market segments rather than competing on all fronts.

The strategy identified above is derived from Tiros's current advantage of having the ability to distinguish a customer by describing their consumer behaviour, and having differentiated products (which have passed a general compatibility test with China Unicom, and to which more features will be added, as phase 2).

In the KSF study, we learned that customers could be segmented into high-profit and low-profit groups. If Tiros implements a focus strategy to target high-end customers (enterprise, the growing middle class and young emperors), this will lead to an improvement in Tiros's financial performance, because each selected customer will bring in a higher-than-industry-average revenue to Tiros. To maintain these customers, Tiros must offer differentiated services. In other words, the services must have better features than those of other SPs (such as the previously mentioned operator-triggerable mobile-voice navigation service (refer to page 49)or must provide higher-quality service to meet customer needs (refer to Tiros CRM database page **Error! Bookmark not defined.** 49). The above-mentioned focus and differentiation, and alliance strategies answer the first question of "What is the best competitive strategy?"

4.2 Summary of Gaps and Bridging Solutions

To implement the above-mentioned best-fit strategies, Tiros has to make an effort to bridge the gaps identified in the areas of management capability, systems and resources. The figure below shows details of the gaps identified in the internal study, recommended solutions, as well as cost benefits/studies in detail.

Figure 4-1 Summary of gap study, excluding the financial section

	Gap	solution	Cost of implementation	short term financial benefit	Investment required for launch 3G service?
1	Management capability (cost benefit study at page 62)	Train himself (Qian) and management team on the ongoing basis, and take the instructor led courses	100,000	200,000	√
2	Product management needed (cost benefit study at page 63)	Hire professional product manager with both good product marketing experience and good business sense.	150,000	300,000	√
3	Differentiation selling require specialized BD and marketing and sales skill set (cost benefit study at page 64)	Hire professional marketing manager with good customer segmentation knowledge and value differentiation selling experience	400,000	2,000,000	√
4	Partner development manager need special skill and competence (cost benefit study at page 65)	Industrial communicator / Partner development executive is needed, Hire part time professor from reputable university or institution, such as from Tsing Hua university or ,Beijing University, alternatively, hire a retired MII officer to present the vision in industrial forum.	150,000	profund	√
5	Talent acquiring and retation (cost benefit study at page 62)	Hire dedicated human resource manager and to build a retention and rewarding system, outline employees' training plan and providing competitive salary structure to prevent competitors from stealing experienced staffs	200,000	450,000	√
6	Incompleted finance and quality system (cost benefit study at page 70)	To hire a professional CFO and 6-Sigma-black-belt to have them manage ongoing business finance needs to and manage the business risks	40,000	pending	
7	Decision making autonomy (cost benefit study at page 72)	Setup company business guidelines and encourage, empower employee to make right decision for company, this should be managed by dedicated HR manager.	n/a	n/a	
8	Strategic business unit is missing in the picture (cost benefit study at page 73)	Suggest hiring professional general manager with both product and marketing experience to champion the SBU initiative, SBU can be as a virtual organization to optimize the resource usage	300,000	short term retuen can't be calculated	√
9	Current culture does not inspire employees' creativities, Current culture does not give employee sense of ownership which and connect company's success to personal success (cost benefit study at page 77-78)	to build rewording system to encourage employees' creative ideas and help them to realize it. Assign employee stock option to tie company's success with employees'	250,000	n/a	
		Total cost and benefit	1,590,000	2,950,000	
		Minimized New hiring and consultant cost	1,240,000		
		Total 3G product launch required investment	1,300,000		

In summary, the short-term hypothetical financial benefit (one year) will be greater than the cost of implementing the suggested gap-bridging solutions, and it gives Tiros and its management good justification to consider the strategic alternative.

The following areas were identified to have gaps:

Management capability (Page 61); cost benefit study at Page 62

Product management needed (Page 61); cost benefit study at Page 63

Marketing manager for new business (Page 61); cost benefit study at Page 64

Channel-partner manager for alliance strategy (Page 61); cost benefit study at Page 65

Talent acquisition and retention (Page 69); cost benefit study at Page 70

Decision-making autonomy (Page 69); cost benefit study at Page 73

Financial and quality consultant needed (Page 74); cost benefit study at Page 75

Strategic BU needed (Page 74); cost benefit study at Page 74

Culture and reward system (Page 78); cost benefit study at Page 78-79

As indicated in the right column of the table above, some gaps need be bridged immediately so that Tiros can implement a short-term strategy of launching a 3G product. The cost of bridging these gaps is estimated at 1.3 million, while the short-term benefit estimated is 2.95 million, which will justify the investment. The immediate gap-bridging recommendations are:

- Management training
- Hire product manager

- Hire marketing manager
- Hire HR manager
- Hire financial and quality consultants
- Hire SBU director

In the financial study in Chapter 3, we learned from the growing business projection that a total extra investment of 2.62 million RMB needs to be made at the beginning of period (BOP) of FY07. We also learned that this 1.3 million gap-resolution investment is at the top of the priority list, to provide Tiros with a capable physical structure to ride the wave.

Now we have summarized the answers to the second question of "How to effectively compete."

4.3 Finance: Equity or Debt?

The third question ("How much capital is needed?") was answered in the financial study in Chapter 3, in relation to the business projection. To summarize, the 2.68 million RMB investment needed for FY07 and the 3.52 million needed for FY08 were both calculated for the beginning period of the fiscal year (or BOP). The author has a final mission – to explore the optimum financial solution, and to satisfy Mr. Qian's criterion of controlling Tiros from an ownership prospective.

The figure below shows a different scenario, that of using equity finance and debt finance.

Figure 4-2 comparison of debt and equity financing

		FY06	FY07	FY08
Net Income		126,263	1,772,300	9,555,438
Owner's equity		5,154,513	6,926,813	16,482,251
Required Investment			2,618,187	3,517,749
		5,454,750	9,545,000	20,000,000
Return on Equity	Debt finance		22%	56%
	Equity finance		19%	48%
Assume 10% interest applied to commercial loan				

There are several assumptions here:

- The debt finance annual interest rate is 10 percent.

  Equity is sold at par value, due to the nature of a high-risk industry.

Therefore, the return on equity for debt financing for FY07:

= (Net income – debt x interest rate) / owner's equity

= (1,772,300 – 2,618,188 x 10%) / 6,928,813 = 22%.

The same calculation can be used to get FY08 ROE = 56%.

For equity finance, it is simple to use earnings / total assets to get 19 percent for FY07 and 48 percent for FY08. If Mr. Qian can access debt finance, this is the optimum solution.

However, the traditional bank loan requested might be a problem because the bank might not lend money to a company with high percentage of intangible assets on its books. Therefore, realistically, equity finance might be the only option, especially for the first year, FY07. People often want equity sold not at par, but at market value, which often get 10 times to 20 times the

return. Mr. Qian understands that this is good practice, but only for firms that already have an established and good business model, with stable operations and a steady revenue stream, which is the dream of all IPOers. To start with, firm do not always have this kind of luck.

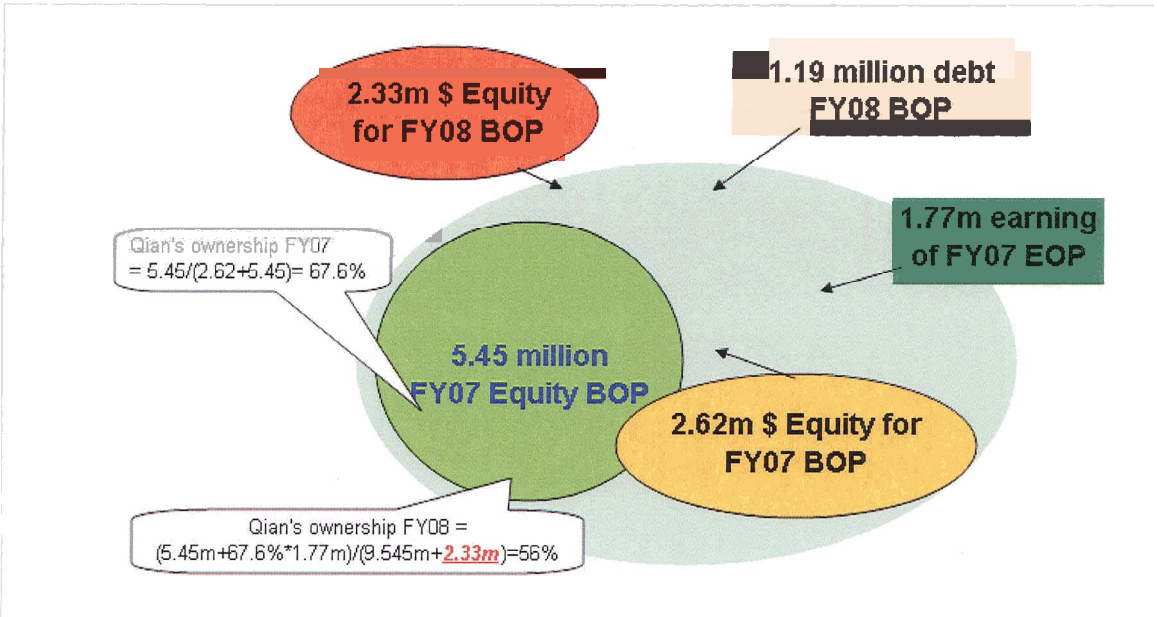
Mr. Qian mentioned that some Venture Capital (VC) companies approached him to request a higher percentage of ownership in order to invest in his company (i.e. they want control as an insurance), which is not Mr. Qian's preference. Mr. Qian was not aware that there are some investment practices in the market, where venture capital sometimes offers a buy back option in the contract as a clause, and states that if company performs well and matches the revenue/profit target, the previous owner could buy a certain percentage back to regain the ownership. This might be another solution for Tiros, the only question being the buy-back price. The price may be high, which is an unknown at this point.

Some private investors in the market are willing to accept minority ownership of a firm with good returns. Tiros's current equity at the end of FY06 is 5.45 million and additional capital is required to support next year's growing business needs. Therefore, for a total of 8.05 million (5.45 + 2.6 million), Mr. Qian will give up 32 percent of the ownership of Tiros (2.6/8.06 = 32%). In FY08, another 3.5 million will be required on top of the total equity of 9.55 million. Therefore, the newcomer will get a share of 26.8% (3.5 / (9.55+3.5)), while Mr. Qian's ownership will shrink accordingly to 49.8% ((1-32%)(1-26.8%)), which is not an acceptable solution for Mr. Qian. However, if two different investors made investments, each would own shares less than Mr. Qian's; a solution he would still consider. Another consideration is the strategic proposal to offer 5 percent of Tiros stocks to its employees. If majority ownership has been given up, Mr. Qian will not have the freedom to implement that plan.

Mr. Qian would not consider, at this point, selling his other businesses to fund Tiros's new project, because as an investor, he needs a diversified investment portfolio.

The author proposes a "bottom line" financial plan, which reflects Tiros's current financial reality (difficulty in obtaining debt finance), while it satisfies Mr. Qian's criterion that he have 56 percent of the ownership, with 5 percent reserved as the employees' stock option plan.

Figure 4-3 "Bottom line" equity capital option



In FY07, introduce equity capital of 2.62 million RMB, which would dilute Mr. Qian's ownership to 67.6 percent. At the end of FY07, Tiros has earnings of 1.77 million RMB, pushing the company's equity to total 9.545 million RMB. This equity includes tangible assets close to 3 million RMB in the form of cash, accounts receivable, equipment and office furniture (refer to Figures 3-5 on page 91). Tiros would be qualified to get a bank loan for an amount of 1.5 million.

Tiros still needs an extra 3.52 million RMB capital to finance growth needs in FY08. To maintain 56 percent ownership, the maximum amount of equity Mr. Qian would use be 2.33 million, and he would borrow the rest of the 1.19 million from the bank.

My conclusion is again confirmed that debt finance is the optimum solution. Mr. Qian has other businesses and investments. Given Tiros's projected revenue and profit in the coming years, it would justify that he keeps on investing in his business by leveraging other assets and businesses that he has.

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