

# STRATEGIC ANALYSIS FOR A SOFTWARE PUBLISHING START-UP

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## **ABSTRACT**

As it matures, the software market is becoming ever more competitive. Plorus Labs Inc., a Vancouver based start-up, has an innovative strategy to reduce high R&D costs and the risks inherent in market uncertainties. However, Plorus faces resource challenges which inevitably force the company to make difficult near-term strategic decisions and tradeoffs.

After analyzing the external market for each product in Plorus' portfolio and its internal resources and competencies, it is recommended that Plorus focus on one product first and then subsequently bring the rest of products to market. In the long term, to sustain its competitive advantage, Plorus needs to acquire its own intellectual property and strengthen its core competencies.

The analytical research serves to balance the entrepreneurial intuition of the founders that has driven the business to date. The research provides a clear path forward whilst recognising that analytics cannot compensate for entrepreneurial verve and vice-versa.

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# **1 INTRODUCTION**

## **1.1 Chapter Introduction**

This introductory chapter starts by presenting background information about China's current economic condition, which offers a dazzling number of business opportunities. Plorus Labs Inc., the subject company, was founded to take advantage of some of the attractive opportunities within the Chinese software industry.

Subsequently, this introduction provides an overview of Plorus' history, discussing in some detail its business model and its progress to date; and concludes by setting forth the objective and scope of the analysis that follows.

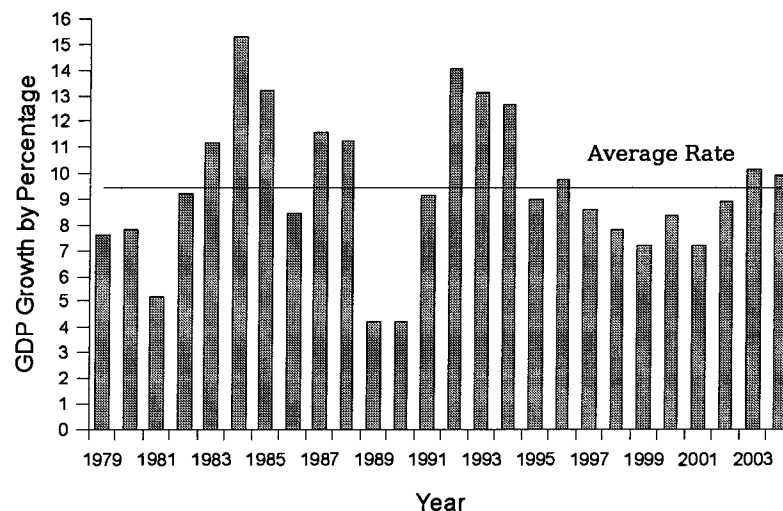
## **1.2 Background**

### **1.2.1 China's Economic Perspectives**

Since China launched economic reform during the late 1970s, the Chinese economy has been on a high growth path averaging more than a 9% increase in gross domestic product (GDP) per year (Figure 1.1). China's entry into the World Trade Organisation (WTO) is expected to further strengthen its economic power. Much of China's success has been attributed to its ability to attract foreign direct

investment because of its vast pool of low cost labour. Many multinational companies have chosen to locate their labour intensive manufacturing facilities in China.

**Figure 1.1 GDP Growth Rate of China**



*Produced by authors using data from source: IMF Database*

Despite this growth, to date China has not been considered a real contender on the world's economic stage because of its lack of competitiveness in knowledge intensive sectors. In recent years, China and India have emerged as outsourcing powerhouses in information and communication technology (ICT) and biotechnology. With over three million new college graduates each year (Ministry of Education of the People's Republic of China, 2006), China has, and is, demonstrating its capacity to challenge any assumptions that it cannot be a leading player in cutting edge technologies.

Indeed ICT is now one of the fastest growing industries in China. As of the end of 2005, China's Internet population had reached 111 million (China Internet Network Information Center, 2006). At the current growth rate, China's broadband Internet subscribers will outnumber those in the U.S. during 2006 (Website Optimization, 2006). Such unprecedented growth creates tremendous opportunities for businesses and entrepreneurs. Many of these opportunities centre around creating innovative software that delivers content, enables businesses and powers consumers. Historically, China has tended not to lead in innovative software technologies as it has been plagued by problems including piracy and inadequate intellectual property (IP) protection. In recent years, however, the Chinese software market has improved greatly along with the overall Chinese industry conditions. Fuelled by enormous domestic and international market demand and continuous and significant research and development (R&D) investment from world technology leaders including IBM, Microsoft and Google, a fast growing number of Chinese companies now compete to deliver innovative software products and solutions. China has started to position itself as a serious competitor within software innovation.

### **1.2.2 Plorus Labs Inc.**

On the other side of the world sat two budding entrepreneurs and authors of this project; both founders of Plorus grew up and have their roots in China. They possess strong technical backgrounds in software; and had, over many years, accumulated technical and entrepreneurial experience in North America.

Following their entrepreneurial instincts, they wanted to create a company able to bring innovative software products to customers. They brainstormed many product ideas, each of which had seemed to be a potential candidate.

Accordingly, they started to investigate what resources would be required to bring these products to market. It became apparent immediately that a substantial amount of initial funding would be a prerequisite to supporting any ideas requiring product research and development (R&D). Furthermore, although it looked possible to create the business around just one product, the chances of obtaining initial funding looked very slim without a working product prototype and a convincing business case. The frustration of not being able to work on multiple products and the risks associated with tremendous R&D cost in North America forced them to abandon their original plans.

The founders still pondered how the risks and uncertainties related to developing software in-house could be mitigated. What outsourcing companies have always done is to move product development to a low-cost country like China. Such a move would help to dramatically reduce R&D costs, but is subject to uncertain market risks if focusing entirely on one product. If multiple products are being developed simultaneously, the R&D costs still add up quickly.

Following their roots, the Plorus' founders visited China to search for inspiration and direction. They left stunned having seen for themselves what the introductory piece on China (section 1.2.1) had told them. First, China has a large and active

software industry. Second, software technologies developed in China have had minimal exposure to foreign markets including North America.

The founders were extremely encouraged by what they found, and decided to create a business taking advantage of Chinese software opportunities. As a result, Plorus was founded in late 2005 in Vancouver, British Columbia, Canada. Plorus' mission statement is "To transform Chinese software innovations into leading edge software solutions for North American customers". Based on its founders' knowledge of North American market conditions, Plorus scouts for innovative Chinese software technologies that are market favourable or have market potential, and then enters licensing agreements with the companies behind them to bring those products to the North American customers. This business model sounds simplistic, yet the success of a software product does not depend only on its technical attributes. Plorus relies on its founders' technical and market expertise to tailor a product's functionality and user experience to specifically fit the North American market.

Currently, Plorus has acquired three products for its portfolio. The first is a media format conversion utility. The second is an application that restores a Windows system to a previous state. The last one is the most sophisticated, an online 3D virtual map technology.

On the one hand, Plorus is eager to prove its business model of using a portfolio of different kinds of software to diversify its market risks. On the other hand, Plorus has reached a point where it is faced with many immediate challenges. As



a start-up, it has very limited resources, meaning that it cannot move forward at the pace that it would like to in a competitive world. Given its time and resources constraints, Plorus may have to prioritise these products in some way knowing that early revenue generation is a top priority. In summary, Plorus has to make critical strategic decisions on how to progress forward while keeping true to its business model and vision.

### **1.3 Objective and Scope**

This analysis examines the challenges and risks of Plorus implementing its business model. To date, the founders have developed their ideas mainly based on their instincts and entrepreneurial opportunism. Now the time has come for some more analytical thinking and forward planning.

This analysis is presented in the three main chapters that follow. Chapter 2 studies Plorus' three products and their respective markets. Its aim is to determine in an ideal non-resource-constrained world what would be the ideal way of marketing these products. Chapter 3 delves into Plorus' available resources and identifies gaps between what was discovered in Chapter 2 and what Plorus has. Chapter 4 considers alternative approaches to implementing the Plorus' business model, discusses the challenges and risks in depth and finally offers recommendations for both short and long term strategies.

What is out of scope is both a full business plan given that decisions have already been made regarding these three products, and equally given that all

three products are analysed, none are analysed in great depth. The analysis of the portfolio and hence the aim of the project is to steer Plorus in the right direction taking into consideration both the short and long term.

## **2 PRODUCT AND MARKET ANALYSIS**

### **2.1 Chapter Introduction**

This chapter presents a detailed analysis of Plorus' current portfolio consisting of three software products. These three products hardly share any similarity in functionality, yet they are equally attractive to Plorus because of their market potential. The portfolio is a demonstration of Plorus' business model of product diversification to reduce market risks. As each product possesses unique characteristics as well as opportunities and challenges in its own market, this chapter lays out each product's functionality, competitive environment and market conditions. In doing so, the aim is to reveal what is required to market each product and the associated risks, both of which need to be managed by Plorus' internal resources discussed in the following chapter. The upside of a diversified portfolio is lower market risks. However, the downside is the need for larger amounts and more diverse types of resources and competences. The following chapter analyses what Plorus currently possess and what it might reasonably obtain to formulate what is the best practical balance between external and internal diversification.

Before discussing each product, an overview of the North American software industry and market serves to outline some background and contextual information, which helps to understand Plorus' opportunities and threats. Against

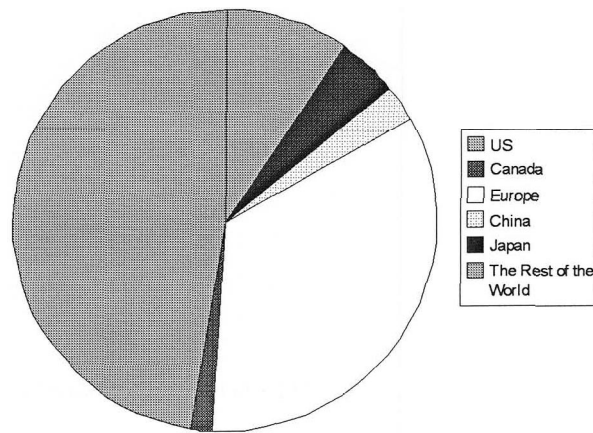
this backdrop, the need for Plorus to be different is highlighted. Subsequently, each product is analyzed from the perspective of its existing competition and market.

The first product is a media file format conversion tool. This product faces steep competition amongst many existing products. The second product is a system recovery utility. This product contains highly innovative technology which has very few direct competitors on the market. As it is a new technology and application, its market penetration is minimal; it has just entered the early adopter stage on the product adoption life cycle. The last product is an online 3D map service. This technology is the most challenging one to market as it is not a ready-to-sell product, and to market a service is very different from a product.

## **2.2 Overview of Industry and Market**

Recovering from the downturn in late 1990s, the North American and global software industry and market are growing steadily with a 3.9% and 4.5% gain respectively in 2005 (Datamonitor Plc. industry profile, 2005). The demand for software from consumers and businesses alike is ever increasing. It is forecasted that the global software market will reach \$188.9 billion and \$92.9 billion for North America in 2008 (Datamonitor Plc. industry profile, 2005). As illustrated in the figure below, accounting for almost half of the global market, the North American software market remains a lucrative and attractive market.

**Figure 2.1 2008 Global Software Market Forecast**



*Produced by authors using data from source: 2005 DATAMONITOR Software Industry Profiles*

Since the downturn, innovation has been the driving force in the software industry resulting in higher and higher R&D spending. Staying competitive in the software industry is a survival challenge, especially for small players as only large companies can afford to invest in R&D on multiple products simultaneously, whereas small companies usually have only enough resources for a single product. Nonetheless, new start-ups are constantly emerging to provide innovative solutions to consumers and businesses in niche and unexploited markets. The risk is, however, much higher for small players and the failure of one product is often life threatening.

The competitive situation is made more difficult by the cost structure of the software industry which is very different from that of other industries because the marginal cost for software products is insignificant. On one hand, small software

companies have negligible marginal costs due to low overhead. On the other hand, they incur a huge burden and risk for their initial and continuing R&D costs. In an environment of perfect competition, the price of a product drops to its marginal cost. The low marginal cost forces the price of many software products to remain low to be competitive.

More specifically as regards the industry structure, the software market is maturing and, to a certain extent, is dominated by a few large players who are very aggressive in eliminating competitors and exploring new opportunities. These large players have recognized brand names, abundant financial resources and other exclusive competencies at their disposal to protect their dominance and to exert tremendous pressure especially on newcomers.

The lucrative maturing, but still growing and innovation hungry market, is thus made less attractive to start-ups by the presence of some established players and the need for substantial early investment in the Product Life Cycle. This reality forces many start-ups and small companies to innovate by adopting a new strategy or business model to improve their chance of success. Like many others, Plorus faces the challenge of creating a business model that can accommodate the following challenges:

1. Low R&D costs whilst still being innovative.
2. The agility to switch to different markets when targeted markets become less promising.

3. Utilization of global resources by tapping into low cost countries such as China whilst being able to manage within a start-up the complexity of sourcing globally.

All of these challenges must be accommodated within the overall goal to provide value added products and services to customers in the most cost effective way possible. Small companies can have advantages over big by adopting a different business model and remaining agile and this is what Plorus intends to be.

## **2.3 External Analysis of Plorus Current Portfolio**

Analyses of Plorus' three products are to follow. The analytical structure for each product covers a product overview, competitor analysis, entry barrier analysis and market analysis. This allows rounded conclusions to be drawn around that lead to the development of an ideal product development and marketing strategy for each product. The question of whether and how Plorus might be able to implement these strategies is discussed in the following chapter.

### **2.3.1 Product #1: Media Converter**

#### **2.3.1.1 Product Overview**

The media conversion product includes a set of utilities that convert video and audio files between various formats and other functions such as merging and splitting video files and extracting sound tracks from video files. It helps users to change media file formats for different devices or purposes, and allows users to

do some basic media editing. Most similar software products in the market are provided by small software companies or independent developers.

The media conversion product was chosen to become part of the Plorus portfolio because:

1. The demand for media conversion software is rising owing to fast growing and changing media technologies and hardware products.
2. The partner's product has comparable features with existing products in North America.
3. Entry barriers for media conversion software products are relatively low.

The following analysis inquires as to whether these assumptions are justifiable upon analytical scrutiny and what their resource and marketing implications are.

### **2.3.1.2 Competitor Analysis**

There are many software products in the marketplace today that provide similar functionality for converting video and audio formats. However, the competition in this market is not as intensive as it is in other adjacent markets such as media player software. There are very few free solutions and none offer attractive features. In general, media conversion software products can be grouped into two categories, all-in-one solutions and standalone media conversion utilities. All-in-one solutions typically have a full range of functionality including video and audio capture from various devices, converting format, clip editing and more. One example of all-in-one solutions is the Ulead VideoStudio 10, which is



claimed by Ulead as the “only complete solution for high-definition video” (CNET Networks, Inc., 2006). All-in-one solutions are updated regularly because new features like support of new devices and new media data formats are always demanded by the customers. They must keep up with the competition to maintain and increase market share. Additionally, user interface (UI) design for all-in-one solutions is more likely to be better. These high-end products incur higher development and overhead costs. As a result, they have a different market positioning requiring the customers to pay a premium price in excess of \$100.

Standalone media conversion utilities are mostly developed by small companies or independent developers. Most of these products focus on certain features for niche markets. They are updated very quickly to respond to users' current demands. The price is normally lower than the all-in-one solutions. Independent developers tend to spend their resources on the technical implementation of their products neglecting user experience and marketing. In addition, most media conversion utilities lack brand name recognition.

**Table 2.1 Comparison of Media Conversion Software Products**

	<b>Plorus Media Converter</b>	<b>Existing Media Conversion Software</b>	<b>All-in-one Media Solution Products</b>
<b>Price</b>	Bellow average	Average	High
<b>Features</b>	Specific	Specific	Rich
<b>Performance</b>	Average	Vary	Average
<b>Graphic design</b>	Professional	Vary	Professional
<b>User friendly design</b>	Professional	Vary	Professional

As illustrated in the table above, an assumption is made to price the Plorus media converter lower than average as an incentive to attract customers. Its user friendly interface aims to provide a better user experience than competitors. Its functionality is aligned with other standalone media conversion utilities but less than all-in-one solutions.

### **2.3.1.3 Entry Barriers**

There is no significant barrier for Plorus to enter the media conversion software market; since the product is already available for Plorus, the main barrier has been eliminated. As customers of such products are less brand name conscious than in many other sectors, the chance of Plorus attracting new customers with better user experience and lower price is higher than it would be for highly branded products. Plorus' plan to sell all its products online only reduces its distribution costs.

Having a low entry barrier does not however guarantee success. Exploring a niche market and communicating a new product to the customers is challenging. The low entry barrier has resulted in a large number of competing media conversion software products in the market. Faced with many substitutive products, customers prefer products that have a high number of downloads from others and more favourable reviews. It could take a long time before Plorus builds a significant customer base.

#### **2.3.1.4 Market Analysis**

##### **2.3.1.4.1 Segmentation**

Based on familiarity with technicality, customers can be divided into sophisticated and average users as follows:

Sophisticated customers require advanced features that allow them the total control of how they want to configure the desired video and audio output. They often work with different media file formats and for different purposes.

Sophisticated customers prefer simple and efficient UI for productivity. Before purchasing the software, sophisticated customers will research competing products' features that matter to them, the most common of which is configurability.

Average customers want simplicity and functionality that is intuitive. Their major concern is whether the product can help achieve tasks such as converting video

clips for their portable devices. When searching for a product, average customers pay attention to easy-to-learn UI design.

Based on usage frequency, customers can be divided into frequent and infrequent users. Most of the time frequent users use the software to accomplish similar tasks. Hence they favour software that has friendly UI design making their routine work easier. Because the software is a handy tool for them, frequent users are less price sensitive than infrequent users.

Infrequent users pay less attention on whether the UI design is productive. Since they use the software occasionally, they are more likely price sensitive.

#### **2.3.1.4.2 Distribution**

There are three dominant distribution channels for media conversion software: in-store retail, online retail and online affiliate programs.

In-store retail has the lowest gross margin among the three. Packaging and shelf space costs are the major overhead, and retailing stores generally demand a sizable discount from the vendor.

Through e-commerce customers can directly purchase and download the software from the company's website. Often customers are invited to try the software for a period of time before purchasing. Online retail has the least overhead compared to other channels.

Another distribution channel is the online affiliate program, which organizes a network of websites promoting advertisement for clients and taking a percentage of the resulted sale as commission. A high commission rate is an incentive for participating affiliate websites to promote a product over another.

For the media conversion software, direct online retail is the most desirable distribution channel. In-store retail is too unrealistic for small companies like Plorus. Only established companies can absorb the high overhead. Affiliate programs, however, are very attractive for the small software providers especially to help gain market exposure and penetrate the market initially.

#### **2.3.1.4.3 Promotion**

There are several ways of bringing the product to potential customers' attention as follows:

First, search engines such as Google, Yahoo and MSN are now an effective tool to target customers. To achieve such targeting, the product website needs to be carefully optimized for search engines. Alternatively, advertisements can be purchased on these search engines for more guaranteed, but costly, results.

Second, there are popular shareware listing websites including download.com and tucows.com. These websites attract a phenomenal number of visitors who search for all kinds of software.

Third, high traffic online forums and blogs are visited by potential customers to discuss their need to for certain software. Thus it is a very good place to target customers who have demand for such products.

It is a common practice to allow customers to try software for free before making a decision to buy. Offering free trial attracts customers to evaluate such products and can lead to a potential sale.

Finally, a secure and professionally designed website, which has both clear layout and attractive content, is more than necessary. Otherwise, the website can turn away potential customers if they do not feel that the website can be trusted.

#### **2.3.1.5 Summary**

Despite the fact that there are a sizeable number of competitors in the market, the market conditions for such a media conversion product are favourable. The absence of dominant large players demands less resources from Plorus to compete and differentiate its product. It is most likely that customers will not have a pre-existing preference for one product over another. The ability to deliver friendly and attractive user interface at a low R&D spending would allow for completion on both price and differentiation. Media conversion products have crossed the chasm that exists before mass adoption and are at the early majority stage of their product life cycle. As the customers already understand the value of such products, Plorus will not need to educate the customers to market its product. Furthermore, the market has shown continuing increase in demand for

media conversion products, which may indicate that the market is not as saturated as the number of players may suggest.

## **2.3.2 Product #2: Instant System Restore**

### **2.3.2.1 Product Overview**

This system restore software is able to take snapshots of all files at a given system state on a computer running Windows and restore the system to any of the snapshots. The technology requires minimal storage space for the snapshots, and taking and restoring to a snapshot can be done in seconds. This technology is an innovative solution in system protection and recovery.

Plorus has chosen this technology based on the following considerations:

1. This technology is very innovative and unique.
2. The product is mature, yet development is still continuing.
3. The product has a strong R&D team behind it.

Again the following analysis tests and refines the assumptions to move towards a development and marketing plan for this product.

The product adoption life cycle entails five stages for the acceptance of a new product: innovators, early adopters, early majority, late majority and laggards (Moore, 1999, p12). Innovators are technology frontiers who follow the leading technology trends. Early adopters are visionaries who accept new products based on their own intuition and understanding of new technologies. The early

majority are interested in new technologies and products but accept them only after the benefits are proven by visionaries. Different from the early majority, the late majority would wait until the new technologies and products are becoming standards and well supported. The laggards simply resist on changing their current technologies and products.

The system restore software is at a point between early adopters and early majority, before the chasm defined by Moore. The technology itself is proved to be valuable by the early adopters; there are very positive reviews from technology editors on such products over the Internet. It remains a challenge to educate the average customer to understand and appreciate the benefits that this type of software can bring to them.

#### **2.3.2.2 Competitor Analysis**

There are many system restore or recovery software or hardware products existing on the market. One example is Norton Ghost, which is based on the disk image technology and is able to backup an entire hard disk to a storage media, and restore a hard disk when needed. Another example is the network backup software that can backup and restore a system via network storage devices. Other products may even recovery the system when the problem was caused by hardware failure. Most of popular system recovery products have recognized brand names, and users are familiar with the technologies behind these products. Nonetheless, these products have some obvious disadvantages such



as huge extra storage space, very long backup and restore time, and the recovery process is not reversible.

Another indirect competitor is OEM recovery image. Almost all new brand-name PCs or laptops come with a system recovery image CD. The system image is customized system recovery software that can recover the computer to original manufacturing state.

**Table 2.2 Comparison of Instant Restore Software Products**

	<b>Restore software with snapshot technology</b>	<b>Traditional recovery software</b>	<b>OEM recovery image</b>
<b>Easy to use</b>	Average	Average	very
<b>Restore and recovery speed</b>	Fast	Average	Average
<b>Can recover from hardware failure</b>	No	Yes	Yes
<b>Virus and spyware resistance</b>	Partly	Partly	Yes
<b>Required storage space</b>	Small	High	High
<b>Price</b>	Average	High	Included with system purchase
<b>Functionality</b>	Rich	Rich	Single purpose

As illustrated above, the price and ease of use of system restore software based on snapshot technology are about average. Its ability to recover from hardware failure and resistance to virus and spyware are limited compared to other solutions. Snapshot based solutions require less storage space and restore systems faster than other solutions.

Anti-virus and anti-spyware software can potentially substitute system-restore software in the customers' mind because a major contribution to the demand of such software is caused by the widespread annoyance of virus and spyware.

In spite of customer dissatisfaction about current backup and recovery products, penetrating the market with improved technology is so far restricted.

### **2.3.2.3 Entry Barriers**

Normally software products from companies with an established brand name and reputation are perceived by customers to have reliable customer service and frequent product updates. For example, although Microsoft often releases less impressive early versions of its new software products, most customers expect that Microsoft will improve their products in subsequent releases. For small companies or independent developers, customers can rarely count on them for anything more than what is currently available.

Switching costs are another hurdle for customer adoption of alternative products. The benefits of adopting a new and improved product may not be obvious for most customers. Unless their current solutions fail to meet their needs, there is no little or incentive for customers to switch.

The technology itself is proven to be mature, and there are very favourable reviews on the products. However, it is still very difficult for average users to

appreciate the benefits that the new technology may bring to them. To cross the chasm, customers need to be educated about the product.

### **2.3.2.4 Market Analysis**

#### **2.3.2.4.1 Segmentation**

Based on customers' sensitivity on the safety of their system, there are the safety conscious and careless users. The safety conscious customers intentionally take care of their computer system and data. They are very sensitive about security issues and will use protection software as early as possible. These customers are less price sensitive but desire reliable products and customer service. On other hand, the careless customers do not have system safety in mind for different reasons. They normally do not protect their system using software tools and are more price sensitive.

If measured by usage frequency, system recovery software users can be divided into frequent users and infrequent users. Frequent users care more about recovery speed and ease of operation. Infrequent users do not care too much about these matters because they seldom need to use the software. Also, infrequent users are more price sensitive than frequent users.

There is also a difference between the sophisticated customer and the average customer. Sophisticated customers have advanced computer knowledge that allows them to understand the benefits of new technology, whereas average customers are more reluctant to adopt new products as they lack of general

understanding of technology make them have a less informed approach to their computing. In addition sophisticated users appreciate feature rich products more than average users.

#### **2.3.2.4.2 Distribution and Promotion**

Retail stores are still an important channel for system restore and recovery products, although the retail distribution channel is very expensive. It is the best place to directly communicate with target customers. Products placed on shelves give customers a sense of trust and reliability.

#### **2.3.2.5 Summary**

Although there are a number of system recovery products including a few from large players like Symantec, Plorus' system restore and recovery product has many unparalleled features and solves customers' need using a very different approach. The advantage of being unique, however, is undermined by the fact that customers do not see and understand the value added. Plorus' product is exploring a new market that has very few competitors, but only early adopters have shown interest, and such products have yet to cross the chasm to reach the masses. Plorus may have to answer the question whether the market is ready to receive the product. At the end, how easy it is to enter into this market is dependent on whether Plorus can communicate its value proposition and convince the customers to adopt the product.

### **2.3.3 Product #3: Online 3D Map**

#### **2.3.3.1 Product Overview**

Even in the early days of Internet, companies like MapQuest offered online map services. Enhanced by advancement in web technologies, the debut of Google Maps and other similar services have revolutionized the way people look up addresses and directions. These services have become an essential tool for travellers and trip planners. It is not too difficult to find new applications of map services appearing on the Internet. Expedia and Travelocity are examples of sites that benefit from online map services to help its customers to plan itineraries.

Seeing the huge potential of more and more people depending on and attracted to online map services, Plorus entered a partnership with a Chinese company that is a provider of innovative 3D map technologies. Plorus has its mind on unexploited markets in North America. Plorus' 3D map technology gives people complete virtual 3D experience with directional navigation. Unlike Google Maps and MSN VirtualEarth, Plorus' technology takes user interaction to the next level where details of individual buildings are provided as show Figure below.

**Figure 2.2 Online 3D Map Demo Screen**



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Plorus included this 3D map technology in its portfolio for the following reasons:

1. If the other two retail products were unable to generate adequate revenue, Plorus may consider taking on consulting projects to support its operation.
2. Providing consulting services allow Plorus to work directly with its customers rather than relying on online retail sales channels of which Plorus has little control.
3. This technology is very innovative and has the 'wow' factor to attract attention from potential customers.

### **2.3.3.2 Revenue Model**

Unlike Plorus' other two products, the online 3D map service will not be available as a retail product. When Plorus considered diversifying its products, it wanted to include both products and services so that it could increase its ability to generate revenue from different sources.

With the online 3D map service, Plorus created a project based revenue model. As a consultant, Plorus would customize solutions based on its technology for business clients. For example, a real estate developer would benefit from the 3D technology by incorporating an interactive virtual model of its property on its web site, which helps the viewers to better and more easily appreciate the features of the property visually before and after the construction. Another example would be that a retail chain like Starbucks could utilize the online 3D map service to help its customers to conveniently locate stores.

Plorus' revenue this product is envisaged as coming from delivering solutions to its business customers. Each project and customer will vary considerably depending on the specific requirements. Even though Plorus will manage the entire life cycle of a project, the actual development work would be done in China by its partner. Therefore, Plorus' role is much like a consultant. The real advantage for Plorus is that the development cost is much lower in China compared to North American, which entails a higher profit margin.

### **2.3.3.3 Competitor Analysis**

In North America, there are a number of online map service providers. Google Maps, MSN VirtualEarth and MapQuest are the largest of all. These web sites offer similar kind of street directories for North America and other parts of the world. Viewers are able to search for specific locations and seek driving directions. These websites provide 3D satellite images in addition to 2D street maps. All the services offered are freely available to anyone. Google Maps and others even allow any website to plug into their service and display bookmarked maps. It is not Plorus' intention to compete in anyway with Google or Microsoft. Plorus believes that its unique and more advanced technology would help business customers to achieve what map websites are not able to offer. Because none of the big players offer custom solutions to businesses, Plorus avoids any direct competition with them. However, some businesses may find the free services sufficient for their requirements.

Besides the popular free online street maps, there are many design and consulting companies that are willing to take various kinds of projects including ones that require 3D map modelling. These are usually smaller players that provide custom solutions to clients. They are not head-to-head competitors with Plorus. Firstly, Plorus focuses only on projects that involve the application of 3D map or building modelling. Plorus' partner has developed a mature, cutting-edge and non-existing technology that would require significant investment to duplicate. Secondly, unlike other consulting companies, Plorus may not expect



its customers to come and know what they want. Typically, this requires a dedicated sales force to educate the customers and recommend an attractive solution.

#### **2.3.3.4 Entry Barriers**

To penetrate this market it is not enough to have the technology know-how and competent resources to implement solutions. With respect to any consulting services, what matters is the ability to win customers. Reaching these customers often requires more than a simple online advertisement. Instead dedicated sales resources are highly desirable to generate leads and engage the customers. The preparation and groundwork required before customers' commitment is usually substantial.

#### **2.3.3.5 Market Analysis**

##### **2.3.3.5.1 Segmentation**

Consulting services, in general, require a significant amount of communication with the customers. The considerations for choosing the initial segments are given to how easy to reach the customers and how much value there is for the customers. Based on these considerations, it is more likely to target customers that are geographically convenient and that are early adopters who will most benefit from the technology.

As a small start-up with limited resources, Plorus has to select a small number of industries and markets that it wants to target. Plorus is planning to penetrate three distinct markets that it thinks is most likely to benefit from its technology and solution. First, it is the local real estate industry which has experienced historical growth for the last three years. The number of housing starts is at record high. Most of the property developers are relying on their websites to reach the broadest audience. Many of these websites feature flash presentations to give the visitors the best possible impression of their property development. Plorus believes that its technology is far superior than what is on these websites. The visitors will see a more realistic and more detailed representation of the property. Second, the public and private transportation sector is an ideal candidate to benefit from Plorus' technology. The transportation infrastructure in Vancouver includes buses, sky trains, trains and ferries. Vancouver is also a popular destination for in-country and international tourists. More and more people use online services to book tickets, plan trips and search for locations. Plorus' technology can help to build a intuitive and interactive 3D model of a transportation system that enables customers to more easily find needed information. Last, Plorus sees a fit for its technology in the retail sector. Plorus wants to target large retail chains and shopping malls. Customers often search store locations online for retail chains such as Starbucks. Also large shopping malls would benefit from Plorus' technology to allow customers to virtually navigate the mall online.

#### **2.3.3.5.2 Distribution and Promotion**

The main distribution channel for Plorus' 3D technology is envisaged as direct field sales. Plorus needs to have technology consultants and sales experts to push the solution to the customers. Plorus plans to start with cold calls and generate as many leads as possible. It is expected to be extremely difficult to close first few sales as it builds up its client portfolio. Plorus' strategy is to offer to build a prototype for its potential customers to demonstrate the value of the final solution. Plorus is hoping that the prototype can impress the customer enough to buy into the solution.

#### **2.3.3.6 Summary**

As part of its diversification strategy, Plorus has added a service into its portfolio aside from the two products aforementioned. The service has brought new dynamics to Plorus. The market execution requirements for the service are more demanding than those for the two products. Although Plorus is able to clearly define the target markets for its service, everything seems uncertain in these markets. Not only does Plorus have no experience in these industries, but also they are not typical adopters of cutting-edge technology. There are many hurdles including hiring a sales force that Plorus need to clear before closing deals.

Nonetheless the competition around Plorus' 3D map service is less severe and more controllable than the other two products. The two products' customers are individuals with whom Plorus has no direct communication. The clients for the 3D map service, however, will be in direct contact with Plorus. This will be

advantageous for Plorus as it can apply different strategies for different clients. But can Plorus deliver on this plan and on time – as with the other products the following chapter investigates these issues.

## **2.4 Conclusion**

This chapter has introduced the two products and one service currently in Plorus' company portfolio. Plorus has attempted to increase its chances of success by diversifying its product and service offerings. It is uncertain which or if any of the product or service will be successful. It is, however, apparent that all three are quite different in many respects. Plorus believed that each possesses certain appeals in its respective markets when it chose to make them part of its portfolio and this less intuitive and more analytical survey of its portfolio has served to reinforce its choices. The media conversion tool is easy to position in the market, but the market is full of competitors. Plorus wants to offer lower price and better user experience to attract customers. The system restore utility contains impressive technology that could save customers a lot of trouble in today's spyware and virus prevalent computer world. Yet it is still unclear how Plorus would be able to communicate the value to the customers without confusing them with common system protection and recovery software. The 3D map service is an exciting area that Plorus thinks has big potential. The technology is versatile and Plorus' partner has very capable development resources. However, it requires additional expertise that can bring the technology and customers together.

As much as the analysis in this chapter is reassuring, currently, Plorus feels it is in a maze in which it needs to find the right path to what strategy it needs to take with each product and service. It also has limited resources – exactly what it has and is able to obtain is the subject of the next chapter (chapter 3). It proceeds to analyse the difference between the ideal stipulated in this chapter and what is in reality available internally.

## **3 INTERNAL ANALYSIS**

### **3.1 Chapter Introduction**

The previous chapter presented an overview of the North American software market, and of Plorus' three current software products. It included an external analysis for each product, developing an overall picture of the software industry segment and market for each and covering competition, entry barriers, segmentation, distribution and promotion channels. It concluded that as intuitive as the choices were to include these products/service in its portfolio, they were not bad choices!

This chapter analyzes the company's strengths and weaknesses likely to affect product delivery of the ideal type discussed in Chapter 2 and hence the challenges the company faces in executing its product strategies. They might not be bad choices given the external environment but can Plorus deliver them to market to realise their potential.

This chapter starts by extending the analysis found in Chapter 2 for each of Plorus' three products to present what resources each of the product strategies demands if they are to be implemented in full. These products differ with respect to product category, business model and market; thus Plorus has necessarily adopted a different product strategy for each of them. Analysing what resources

Plorus has and can tap into easily beyond its boundaries reveals the gap between what Plorus has and what it ideally needs. Other constraints such as time-to-market that the company faces when executing specific product strategies, are also discussed to complete the picture. Finally, the company's dilemmas when executing these individual product strategies within its overall company strategy are explored.

The gap analysis forms the subject of the following chapter, which discusses what choices need to be made, whether the ideal product strategy should be compromised, whether resources and competencies that are lacking could be easily obtained, how the company's scarce resources should be allocated amongst the three products, and how resource and competence management need to develop over the short and long term.

### **3.2 Current Product Strategies**

All three current software products are newcomers in their markets with no established brand names and no customer recognition. Accordingly, Plorus has tailored the market penetration strategy for each product to its unique market position and attributes.

For its media conversion software, Plorus is aiming its efforts at average users who frequently need to perform media conversion tasks. Entering this market, Plorus intends to compete with other media conversion software providers by

offering a lower price, a friendlier user interface and more frequent software updates.

A major assumption here is price elasticity i.e., that Plorus' media conversion software will gain a larger market share at a lower price. Because the original software is ready, and its Chinese supplier will handle all the development work, Plorus' R&D costs for supporting the media conversion software are expected to be low enough to permit a low selling price and an aggressive marketing strategy. To provide a better UI, Plorus has contracted local professional UI and graphics designers to polish the software. To improve customer awareness of this product, Plorus is planning an aggressive e-marketing campaign employing online advertising, an online affiliate program and community based media publicity including reviews by technical columnists and editorial articles.

For the instant system restore software, Plorus is still analyzing the market potential and market penetration strategy. Plorus is aiming this product at customers who often need to recover from computer system malfunctions and who are dissatisfied with current system recovery products. Intuitively, this potential market is substantial because of chronic reliability issues affecting Microsoft Windows operating systems. The instant system restore software will compete with existing system recovery products such as Norton GoBack on superior software performance including more rapid recovery speed and smaller required storage space. To get the word out to the target customers about this



product, a well-designed marketing plan and concomitant human and financial resources are needed.

The online 3D map product is to be offered as a service rather than as a shrink-wrap retail product. Hence, the product strategy for it is very different from that for the other two software products. Existing online map service providers include MapQuest, Google, Yahoo! and Microsoft; these services offer 2D maps and satellite images. It is not in Plorus' interest to compete with these big players. Plorus targets the business customers who demand customised solutions for their own purposes. Plorus needs to employ a team of sales experts who can start with local customers and industries that may be easier to penetrate.

In the next section the presupposed resource requirements of each of these embryonic product strategies is discussed. Plorus' overall product strategy cannot be successfully implemented unless it has enough resources to support these specific strategies.

### **3.3 Ideal Resource Requirements**

To implement the strategy that Plorus has laid out for each product and service, there is a set of resources and competencies that Plorus need to have or acquire. The following analyzes of what the ideal set of resources and competencies consist to successfully to market each product and service.

### **3.3.1 Product #1: Media Converter**

As simple as the media conversion software may be, it still requires all three of human, physical and financial resources according to its product strategy. For the human resources, it needs a UI designer to dress up the user interface, an online marketer to launch online marketing campaign, a project manager to oversee the development work for updating the product. For the physical resources, it needs a web server hosting facility that handles the online retail transactions and customer support. Finally for the financial resources, it needs an adequate operating budget to hire new personnel and purchase hardware.

Having these resources does not yet give Plorus competitive advantages as they are not unique and are imitable. Plorus needs to coordinate and utilize these resources effectively and turn them into competencies that may help Plorus to gain competitive advantages. First, an impressive UI that is user friendly and nice looking needs to be delivered by the UI designer. A better UI is what will differentiate Plorus' product from others. Furthermore, well executed project management and coordination are required for the entire software development life cycle. A well designed website and e-commerce platform is necessary to enable users to download trial versions of the media conversion software and to purchase the software online. Finally, marketing expertise is needed to optimize the launch of the e-marketing campaign.

### **3.3.2 Product #2: Instant System Restore**

For the system restore software, the product strategy appears likely to require more resources than those required for the media conversion software. As they are both retail software products, they share similar threshold resources which include the UI designer, online marketer, project manager and web server. In addition, it needs an application analyst to design new use cases to penetrate additional markets. The product strategy also intends to push this product into offline in-store retail channels. This requires additional marketing and sales personnel to manage these channels.

Because the entry barrier for new system recovery software appears to be higher than that for new media-conversion software, extra market analysis is required. Because the merchandising strategy for the instant system restore software must undertake to convince potential customers of the real advantages of the new technology, instead of merely exhibiting a new and improved interface, more resources must be allocated to communicating to the customers. If Plorus decides to develop new functionality targeting different audience other than system recovery, additional R&D resources will be needed to support developing this new product.

### **3.3.3 Product #3: Online 3D Map**

Since the 3D map technology is offered as a consulting service by Plorus, it requires a different set of resources and competencies. For the human resources, it needs a sales force to acquire customers. It also needs a technical consultant and account manager to work with and deliver the customized solutions to the customers. It may also need additional personnel to provide customer support. For the financial resources, it needs to be able to obtain the human resources required.

The success of the 3D map consulting services relies on the effectiveness of its human talents. Its sale force has to understand the technology, educate and communicate the value to the customers. The sales force's competence defines Plorus' ability to get customers. Making a sale is only the beginning, and Plorus' ability to deliver satisfactory solutions on time and on budget will allow it to obtain customer referrals and returned work and grow its customer base quickly.

## **3.4 Available Resources and Competencies**

As a start-up company, Plorus has very limited resources. However, its founders knew when they established the business that they had certain essential resources on hand. What follows is an analysis of existing resources and competencies as well as though which could be obtained relatively easily.

### **3.4.1 Existing Resources and Competencies**

Plorus' management team already includes people with various types of expertise needed by a software company. One founder has strong software product marketing skills and executive management experience. Another founder has many years of software architecture and development experience in various leading software companies, and closely follows the latest software technologies and trends. The third founder has a strong project management background from work in China. All three founders have previous start-up experience and fully understand the challenges and risks they face.

Currently Plorus is currently self-funded by its founders, and thus the available funding to launch the products is very limited. There are other possible funding sources including angel venture funds and private loans. However, accepting external funding might well come at the cost of foregoing partial ownership and complicating decision making.

### **3.4.2 Accessible Resources and Competencies**

Plorus has been able to establish a supplier network of technically competitive Chinese software companies. Each of Plorus' three current suppliers was selected from more than one thousand small software companies in China. Each organisation has a strong and experienced software development team and mature software products. All of them have shown great interest in working with Plorus, and are eager to establish and strengthen their partnerships with Plorus

to enter foreign markets. Moreover, there are many other software companies in China that can similarly provide competitive software products and support. Thus Plorus has a vast pool of suppliers for future business expansion and for emergency product line replacements. This competence to move appropriately within both the Chinese and North American markets is essential to the business.

Finally, Plorus has business contacts with distribution and promotion channels that the founders have worked with before. Company Alpha offers a leading e-commerce platform and an online software distribution channel. It can provide data processing, customer support, e-marketing consultation and business analysis services; these can effectively reduce Plorus' infrastructure-development costs. Also, Plorus will engage with Company Beta as its promotion channel. Company Beta offers a sophisticated e-marketing platform, via which Plorus can promote its products through Company Beta's online affiliate program.

### **3.5 Resource Gaps**

Although Plorus already has many essential resources, there are still some gaps between its available resources and the resources required to fully and adequately support the company's product strategy. Plorus' available resources, versus the resource demands of its current product strategies, are summarized in Table 3.1 below.

**Table 3.1 Resource Demands and Gaps**

<b>Resource Demands</b>	<b>Media Converter Software</b>	<b>Instant System Restore Software</b>	<b>Online 3D Map Service</b>	<b>Available Resources</b>
<b>Staffing</b>	Light.	Heavy market analysis and customer communication. Possible heavy project management.	Dedicated sales force and account managers	Marketing. Software development. Project management. All of these on a part-time basis.
<b>Network Presence</b>	Sufficient at present.	Sufficient at present.	The sales force need to engage the customers	Distribution channels. e-marketing channels. Graphics designers. UI designers.
<b>Funding</b>	Light.	Depends upon final marketing plan.	Need additional to acquire the sales experts	Limited at present.
<b>Supplier Efforts</b>	Light redesign work.	Possible heavy redesign work.	Development work required for each new project	Low-cost, experienced Chinese suppliers with backups.
<b>Infrastructure</b>	Light-use website.	Light-use website.	Vary with each project	Capability to support light-use websites.

For the media conversion software, Plorus' founders are able to support the project adequately on a part-time basis and to afford the cost of supporting the project. Also, the company's network and infrastructure are strong enough to support the planned product strategy.

For the instant system restore software, the situation is similar to that for the media converter software, except that staffing and funding requirements are greater. The tasks of market analysis and project management will take too much

time, unless the founders can commit more of their own time to the project. The founders have estimated that the cost of an aggressive marketing plan is likely to exceed the level of what they can afford.

As for the online 3D map service, Plorus does not have the necessary sales expertise to reach the planned customers. Plorus needs to bring onboard an experienced team of sales specialists to enter the market. Along with these sales resources, Plorus also needs technical account managers able to oversee projects throughout its life cycle.

### **3.6 Constraints**

Besides resource gaps, there are also other challenges to be met if these three products are to deliver value to Plorus. These challenges include time-to-market, external funding, remote development and the commitment of the founders. This section discusses these constraints with respect to the products they apply to.

For several reasons, the time required to move software products from development to market is crucial for Plorus. First, software users' preferences are dynamic and change rapidly. Thus, if a software product is not ready at its announced delivery time, customers' expectations may have changed from when the product's specifications were initially published. The media conversion product could fall into the category.



Second, there are tens of thousands of software companies and independent software developers who track the latest technology news and trends. With massive information sharing across the Internet and sophisticated software development productivity tools, it is not rare for several companies to be working on the same new idea. If one company does not shorten the development period and deliver a working software product to its customers, other competitors will.

Finally, cash is always limited; the longer the no revenue development period is, the greater the opportunity cost is incurred. If the product development time can be controlled and reduced, this opportunity cost risk will be much lower.

Bringing in external funding is another challenge for Plorus. Although the Plorus founders have begun to operate the business without external funding for a certain period of time, seeking external funding is always on their agenda. However, getting a bank loan is nearly impossible as it requires a record of operating history, some business references, and a few tangible assets that can be used to secure the loan. Venture capital is more active now than it was two years ago, but it is still very difficult to access since most venture capital managers are looking for projects that either are already generating revenue, or else have attractive Intellectual Property (IP). A more feasible funding source for Plorus could be angel funds, which have more lenient requirements about operating history and IP. However, securing angel funding still requires considerable time and staff effort.

Remote product development of products by companies in China whilst the founders of Plorus operate within North America is another big concern. First of all, there is an obvious problem with communication efficiency. Remote communication is not as effective as face-to-face communication. Body language is very helpful in face-to-face presentations, whereas clues to meaning must be found within the text context when using remote communications such as email or text chat. Furthermore, there is a sixteen hour time-zone difference between Vancouver BC and China. The time window for immediate communication is only about four hours a day, four days a week. Waiting 24 hours for an email response is the norm.

Second, remote project management is challenging. The developers in China and the project managers in Vancouver have never worked together, and time that can be allocated to team-building is minimal. So developing a smooth working relationship and trust between the two groups could take some time. Also, Plorus' project management process is different from that of its counterparts in China.

Finally, because of communications lag and geographic separation, it is difficult for Plorus to accurately track the development progress at its Chinese partners. Plorus would suffer a lot if any major delay were to occur; lead time means a lot to Plorus.

One last big challenge that Plorus is facing is its founders' commitment. The founders are investing various available resources into the company including

their time, money, expertise, social network and so forth. Depending on the continued availability of these resources, Plorus is launched on its designated path. However, because the opportunity cost for each of the founders is likely to differ substantially, each one's future commitment to the company might differ a lot. Since Plorus is currently entering the product development and delivery stage, the demand for human effort investment is much higher than when Plorus was back in the planning stages. Also, because the founders' expertises are complementary, the loss of anyone's contribution could result in major time-to-market delays. It is necessary for Plorus to resolve the uncertainty of its founders' commitments as soon as possible.

### **3.7 Summary**

If the needed resources become and remain available, the founders of Plorus are confident that they can handle the development of all three software products, and can deliver each product according to its separate product strategy.

However, the reality always is that the resources that you have are less than the resources that you want, especially for small start-up companies. Given the opportunities for these three software products, the weakness of Plorus' constrained resources, and the obvious challenges of time, funding, operation and morale, Plorus is uncertain as to how to move forward. Plorus needs suggestions regarding feasible solutions and implementations to overcome its constraints and challenges.

## **4 RECOMMENDATIONS AND RISK ANALYSIS**

### **4.1 Chapter Introduction**

The previous chapter analyzed the resource gaps and challenges that Plorus currently faces in seeking to deliver its current portfolio of software products/service. The analysis covered the company's possible product strategies and their requirements for resources, and other challenges that Plorus will encounter.

Given the resource constraints and challenges that Plorus is facing, this chapter discusses what alternatives are available for Plorus to overcome or finesse its weaknesses and how to move forward both in the short term and over the long term. It describes Plorus' current strategic dilemmas and sets forth several possible alternatives for Plorus in the short term. It also offers recommendations as to the company's short-term and long-term strategies and concludes by analysing some foreseeable risks.

Presently, Plorus is challenged by executing the company's software-product development plans with very limited resources. It is quite difficult to decide among several mutually exclusive strategic options. It needs analytical advice as to how to proceed, specifically regarding:

1. How to move forward in the short term?
2. How to grow over the long term?
3. What are the major potential risks so they can be managed?

The end of this chapter offers answers to these questions, and makes recommendations.

## **4.2 Strategic Dilemmas**

Considering the opportunities and challenges, Plorus is seeking to make some strategic choices. The founders are currently facing four dilemmas:

1. Concurrent versus Sequential Product Development.
2. Financing versus Early Revenue.
3. Exclusive versus Nonexclusive Distribution Rights.
4. Focus of Business – product diversification to lower risk versus resource diversification to deliver to market.

Each of these dilemmas are discussed below and the outcome used to develop some strategies as to how to move forward.

### **4.2.1 Concurrent versus Sequential Product Development**

The assumption behind Plorus' business model is that the company can reduce its market risks and increase its chances of success by diversifying its products and by reducing its software development costs by using R&D resources in China. Fast-changing software technology and market conditions require Plorus to market each of its products as quickly as possible. Thus Plorus is tasked to

bring several software products to market at the same time and support the development of all of its products with its limited resources. This is also why Plorus has signed agreements with multiple suppliers.

However, because of existing resource gaps, Plorus does not have either enough human or financial resources to work on all three of its chosen products simultaneously. Yet, if Plorus starts out offering only one of the three products, it cannot benefit from product diversification. Also, Plorus will face the risk of missing existing windows of opportunity for the other two products. On the other hand, if Plorus is to seek additional resources to support moving ahead with all three products at once, some new strategizing needs to be considered.

#### **4.2.2 Financing Versus Revenue**

External funding is always desirable for a small start-up such as Plorus. Given adequate financing from angel investors or others, Plorus would be able to bring several software products to market at the same time and to concentrate more on product development without worrying too much about its cash flow. However, the trade-off is that seeking outside financing would divert Plorus' time and resources away from product development and marketing to creating a business plan and seeking investors. This diversion will inevitably delay the launch of any product.

If Plorus were to focus its limited staff on one product development, its first software product could be brought to market within four months and might

reasonably be expected to start generating revenue within six months. From then on, Plorus might be able to continue operating and developing and marketing other products financed by this revenue. However, if the first product were not as successful as expected, Plorus might see neither adequate revenue nor financing.

#### **4.2.3 Exclusive versus Nonexclusive Distribution Rights**

Currently, Plorus' agreements with its suppliers provide nonexclusive distribution rights. Plorus appreciates the importance of exclusive rights. Unfortunately, Plorus does not yet have much bargaining power over its suppliers and lacks sufficient leverage to induce its suppliers to agree on exclusive rights.

As a backup plan, there are other Chinese software companies besides the ones that Plorus has chosen to deal with that can supply similar products. However, since Plorus has already spent time and money on its initial set of software products and will spend more to market them it would be very costly to switch to different suppliers. And all three of them are very attractive; Plorus is reluctant to give them up simply because of non-exclusive rights.

#### **4.2.4 Focus of Business**

Plorus' present product portfolio includes two retail 'shrink-wrap' software products and one technology based service. Plorus is familiar with the development and distribution of retail software products. However, resources

invested in retail-software product development may have no return because there is no guarantee that the products will sell or sell well. Furthermore, revenue does not start to flow from retail-software products until after the product development cycle.

On the other hand, the consulting service business may have a shorter turnover cycle and bring in cash for Plorus more quickly. As illustrated in the table of resource demands, selling software products and offering consulting services are dissimilar activities and require different kinds of resources. Plorus will need to acquire additional expertise and funding before it can get itself into a position to be able to offer both software products and consulting services. Spreading itself across two dissimilar business activities may significantly drain Plorus' limited available resources, and thereby delay the development of sellable products.

### **4.3 Short-Term Alternative Strategies**

Compiling together the strands of analysis produces the following short term alternative strategies:

1. A team of people with complementary experiences and skills in software product development, project management and marketing.
2. A low-cost supplier network and established distribution and promotion channels.

However, to deliver its software products, Plorus must overcome its weaknesses of very limited staff, funding and infrastructure. Four alternative strategies are explored based on Plorus' current situation to help Plorus to move forward:



1. Focus on one retail software product first.
2. Develop two retail software products at the same time.
3. Seek financing first.
4. Focus on consulting services for the time being.

After presenting each, the strategies are compared and contrasted.

#### **4.3.1 Focus on One Retail-Software Product First**

Plorus is already in a position to take one of its two retail software products to market. The effort and funding required, to develop and market one software product at a time, is within the range of affordability for Plorus at present, and the overall cost would be low.

Taking this approach would test Plorus' planned business process and its collaborative relationship with its suppliers. However, the possible financial return from just one product is lower. If this product were to fail, there would be damaging effects on Plorus' morale and productivity.

#### **4.3.2 Develop Two Retail-Software Products at the Same Time**

Plorus could undertake to develop and market its two retail software products at the same time, to diversify its product portfolio. Although the cash flow required to pursue this alternative may still be feasible for Plorus, more human resources are required. The possible payoff for success here is greater than that for the one

product alternative. With two products, the probability is higher that at least one of them will win market acceptance, and perhaps both will win.

#### **4.3.3 Seek Financing First**

Plorus could choose to create a formal business plan and use this documentation to seek out potential investors. Preparing the business plan and negotiating with possible investors are both time consuming processes. The personal cost is high as Plorus' founders would need to give up some ownership in exchange for the investment. Also, the chances of success for this strategy are generally low.

However, with some initial external investment, Plorus would be able to concentrate on product development as well as marketing, and hence might improve its odds of winning.

#### **4.3.4 Focus on Consulting Services for the Time Being**

Focusing on consulting services is a possibility because Plorus has two main concerns at the present time:

1. The lead time required to begin generating revenue.
2. The inherent risks of entering the highly competitive software business.

It is unlikely that Plorus can begin to generate revenue from product development in less than three months — generally, this is the minimum time needed to develop a software product and bring it to market. A quicker path to generating

revenue might be to offer consulting services. However, the consulting service business requires a strong sales force, which does not yet exist at Plorus.

**4.3.5 Comparing These Short-Term Alternatives**

The following table compares the four short-term alternatives that have just been presented:

**Table 4.1 Comparison of Alternatives**

	<b>One Product</b>	<b>Multiple Products</b>	<b>Raising Capital from Investors</b>	<b>Consulting Services</b>
<b>Requirements for Human Resources</b>	Low	High	High	High
<b>Requirements for Internal Funding</b>	Low	Medium	Low	Low
<b>Requirements for Additional Expertise</b>	None	None	Sales and Customer Support	Sales
<b>Overall Cost</b>	Low	Medium	High	Medium
<b>Possible Rewards</b>	Low	Medium	High	Medium

Among the four alternatives, the 'One Product' strategy has the lowest overall cost and the lowest expected return; whereas the 'Raising Capital from Investors' strategy has the highest overall cost and the highest possible return. Also, the 'One Product' strategy has the lowest requirements for human resources and internal funding. Finally, the 'One Product' and 'Multiple Products' alternatives may not require bringing in additional expertise, while the 'Raising Capital from Investors' and 'Consulting Services' alternatives will.

## **4.4 Recommendations for the Short and Medium Term Strategies**

Based on these four alternatives, it is recommended that Plorus adopt a staged approach: 1) complete the product development for the Media Converter software package; 2) and then continue with other retail-software products including the Instant System Restore software. This approach is discussed further below in terms of why it is recommended (section 4.4.1), what it would mean for core competencies (4.4.2), seeking finance (4.4.3) and the medium term (4.4.4).

### **4.4.1 A Staged Approach**

The two main advantages of Plorus' software publishing business model are its low cost software supplier network and its diversified software product portfolio. To take full advantage of its supplier base and product portfolio, Plorus needs to follow the 'Multiple-Products' approach.

However, before Plorus attempts full-blown multiple-product operation, a small pilot project is recommended. First, this pilot project would for the first time allow the founders to actually work together as a software development team, and thus would be a good opportunity for team-building. Second, because Plorus' business model is unique, Plorus needs to systematically develop its business process from the ground up. One product would be easier to handle if anything were to go wrong.

Once the pilot project has been completed, the knowledge and experience derived from the pilot project can be used to refine Plorus' business process and validate its marketing strategy.

#### **4.4.2 Focus on Core Competencies**

It is suggested that Plorus, at its current stage of development, focus on its retail software products. First, Plorus is more familiar with the product development process; hence sticking with that activity for the time being will be more effective and efficient and will at the same time produce better and quicker results.

Second, based on its core competencies, Plorus can more quickly and easily realize competitive advantages over its rivals for its retail software products.

Third, seeking external funding and acquiring external expertise are both very resource intensive and time consuming; spreading Plorus' limited resources across several business areas would significantly delay the delivery of its first sellable product, or might not even be feasible at all.

#### **4.4.3 Seek External Funding to Accelerate Growth**

Although raising money from external investors would have the obvious effect of diluting the founders' ownership of Plorus, external funding is still very important.

Given some external funding, the founders would be able to commit fulltime to developing and operating the business; and Plorus would be able to offer a larger number of marketable software products than it could pursue if it were self-funded.

Currently, it is difficult for Plorus to attract potential investors because the company has neither a track record nor any tangible assets. However, when Plorus finishes developing its first software product and starts selling it, equity in Plorus will become more enticing to potential investors.

#### **4.4.4 The Medium Term; experience and readiness for growth**

By executing its pilot project to develop the media conversion software package, Plorus will not only bring its first software product to market but will also expand its competencies. First, the Plorus team members, as well as the company's suppliers, will become more familiar with each other and with the business model so that they can collaborate more smoothly in the future. Second, Plorus will have gained more experience with their chosen business process and consequently will be able to improve it. Third, after going through one product development and marketing cycle, Plorus will have a deeper understanding of the software market and of their software suppliers.

By increasing its experience with the software market, its business processes and its suppliers, Plorus will become more competent to capitalize on potential new opportunities. There are many more Chinese software products that can potentially fit into Plorus' business model. As the company grows, Plorus will be able to handle more products, plus being able to deal on a more equal footing basis with larger software suppliers.

In addition, with more experience and a product portfolio, Plorus would be able to look for adjacent business opportunities. For example, Plorus might be able to license its media conversion product to original equipment manufacturers (OEM).

Finally, Plorus would be more likely to find suitable external funding on favourable terms with several finished software products in hand and some cash flow.

## **4.5 Recommendations for the Long-Term Strategy**

At this time, Plorus' business model is quite unique in the software industry. However, it could be copied easily if it proves to be successful. The key components of this business model, the software-supplier network, the project-management expertise and the software distribution and promotion channels, could easily be imitated by imitators. Hence, to defend itself from new entrants and to maintain sustainable growth, Plorus needs to build competencies that cannot easily be duplicated by potential 'copycat' competitors.

### **4.5.1 Create Own Intellectual Property**

Plorus does not at present have any completely unique software product or technology of its own. There is no unique technology inside the Media Converter software. Plorus could easily lose its advantage of product design and of being first-to-market, even if one direct competitor copies Plorus' product-design concept and marketing strategy.

As for the other two software products, Plorus does not have exclusive rights from their suppliers. Thus Plorus potentially faces the risk of having to compete with its own products from the same suppliers offered via different channels into the North American market.

There are several possible avenues for Plorus to build up its own Intellectual Property (IP) assets. Plorus could start its own technology research and product development, possibly establishing a research and development (R&D) centre in China. Another approach is to purchase IP from other software companies. However, both of these approaches would be very costly to implement.

#### **4.5.2 Possess Exclusivity**

Exclusivity implies exclusive distribution and ownership rights. With such exclusive rights, Plorus would be able to contact device manufacturers or other software companies for software licensing deals without having to worry that these clients might choose to bypass Plorus and contract directly Plorus' Chinese suppliers. To obtain exclusive rights from its software suppliers, Plorus would need to increase its bargaining power when negotiating with these suppliers.

#### **4.5.3 Build Brand-Name Recognition**

One of Plorus' current weaknesses is that it lacks brand recognition. If Plorus can build a strong brand name for its software publishing and product development, it will have a much easier time gaining access to funding and to expanding its client



network, and it will have more bargaining leverage with large software suppliers. Hence, brand recognition will give Plorus advantages over newcomers. To build this intangible asset, Plorus must grow its product portfolio, deliver excellent products, explore partner networks in the software industry and put significant resources into promotion of the company as well as of its products.

#### **4.5.4 Continue Team Building**

A talented, productive and tightly bonded team able to move seamlessly between China and North American is very hard to duplicate. Everybody understands the importance of team building, but many managers give up on it when internal conflicts occur. Plorus' founders must remain keenly aware of the importance of team building, and must encourage good practices. Also, Plorus needs to be open to welcoming new talent to join its existing team. As precious as management time is it needs to think carefully about how it can generate practices that do build a seamless operation between China and North America.

#### **4.5.5 Be Innovative**

In the software industry, innovation is everything. By focusing only on its core competencies, Plorus may merely survive or not but innovation will drive the company's growth. Plorus must be innovative in technology and product development to create its own IP. Plorus also must be innovative in exploring new markets for its products as well as for its services. And Plorus must also

seek to discover new ideas, new business processes and perhaps even new business models.

## **4.6 Risk Analysis**

While recommendations have been offered here for both the company's short, medium and long-term strategies, there are risks that Plorus need to be aware of and to control. Plorus needs to pay attention to the warning signals of such potential risks and to be prepared in advance if and when they materialise.

### **4.6.1 Supplier Shortage**

Currently Plorus has a big network of low cost Chinese software suppliers, with R&D expertise and mature software products. Plorus' founders hope that 'The good days last forever.' But there are at least two possible ways that Plorus' current supplier advantage might be undermined.

One hazard would be that, when more and more multinational software companies decide to establish R&D facilities in China, many or even most talented Chinese software developers may be hired away by these companies, thus leaving the smaller Chinese software companies that Plorus is depending on unable to find and retain the talent necessary to keep themselves going.

Another possibility would be that as global 'quicksilver technology' information exchange gathers momentum, more and more small Chinese software

companies may be able to enter the North American software market directly on their own so that Plorus will face difficulty in finding suitable software suppliers still content to sell their products through Plorus.

A possible approach to countering both of these scenarios would be vertical integration. Plorus could acquire Chinese resources or even establish its own Chinese R&D operations to protect its technology and product pipeline.

#### **4.6.2 Higher Software Licensing Cost**

Plorus' current software licensing cost is low enough to allow the company to operate several products at the same time. However, there are two factors that may drive this cost up. First, the exchange rate between China's currency, RMB, and other currencies, in particular, the Canadian dollar and the U.S. dollar is under great political and economic pressure to rise. If the RMB does rise, as the Canadian dollar did in recent years, Plorus will face major cost inflation affecting its business model.

Second, the pace of the ICT industry in China has been heating up during the last decade. Although the average R&D cost in China remains low enough that Plorus' business model is still viable, there is no guarantee that labor costs in China will not increase substantially in the future and thereby drive up Chinese R&D costs, which is the pattern underway now in India.

If these circumstances do indeed come to pass, Plorus will need to seek technology and marketing advantages rather than relying merely on cost advantages. But Plorus must have enough resources in hand to do so by the time that these scenarios materialise.

#### **4.6.3 Copyright Infringement**

This risk arises from two sources: First, Chinese software suppliers are less aware of copyright issues. Some Chinese software developers may perhaps be ignoring the fact that they are actually obliged to pay license fees for the technology that they are using in their software products. Plorus needs to make sure that such infringement does not affect its software products.

Second, the current patent system is too complex to be properly applicable to the software industry. Some software entrepreneurs have intentionally misused the patent system by obtaining software patents for common software concepts that can hardly be deemed as legitimate inventions. Plorus cannot afford to wait until the patent system is improved; it needs to take precautionary measures now, to avoid being trapped into conflicts with existing software patents.

#### **4.6.4 Team Crisis**

Last but not least, Plorus faces the possible risk that key members may leave the company. At present, because all team members have expertise complementary to each other, losing anyone now on the team could significantly delay or even

terminate the business. Once again, Plorus needs team building and the founders' commitment.

With greater commitment from its founders, Plorus may be able to finish its pilot project more quickly. If the results of this pilot project are promising enough to start generating income, the founders will gain more confidence.

## **4.7 Conclusion**

We have analyzed the software industry, Plorus' current software products, the company's current product strategies, its resource gaps, the challenges that may prevent the company from delivering its products and the major strategic dilemmas facing the company. Finally, in this chapter, a staged approach and recommendations for short, medium and long-term strategies have been suggested for Plorus to enable it to overcome its weaknesses and to capitalize on its opportunities in the software publishing business. This staged approach involves going first with an easy software product as a pilot project and then continuing on with multiple product developments.

This strategic analysis comprises a starting point for Plorus to continue further analysis and can be used as a reference for its current strategic decision-making. But the strategic-analysis process is not finished yet. First, there are a number of assumptions underlying this strategic analysis. If some of these assumptions prove to have been inaccurate, the conclusions and recommendations of this analysis may change, and it will need to be reviewed to revalidate its

applicability. Second, as the company's external environment and its internal environment both continuing to change, the results of the analysis will change along with its inputs. Hence, Plorus will need to perform continuous analysis to adapt the company's strategies to match its external and internal environments.

## **5 AFTERTHOUGHTS**

It has been a challenging, yet interesting and valuable ride with this project as well as Plorus. This project is coming to a close but the future of Plorus is just starting. The whole experience of working through this project has enlightened and enriched us in so many ways - making us better entrepreneurs, businessmen and decision makers. In this final chapter, we reflect upon our journey and upon what we have learned and what we have found to be most useful.

### **5.1 From Yiting Zhang**

One of the problems that we have faced has been how to deal with constantly changing inputs to our analysis. Because the writing of our paper has gone on in parallel with the evolution of our real-world business during this recent three-month period, both the external and the internal environments for our small start-up have been changing quickly. It would have been impossible for us ever to have finished our analysis, if we had felt compelled to change its inputs to track all significant environmental changes in real time. So, what we have done is to take snapshots, at the beginning of the project, of Plorus and of its business environment; and then to distinguish between what was the status quo of the company, and what decisions had to be made, as of that point in time.

Another problem has been how to be objective in our analysis. Since we have already put much effort into the Plorus business, we definitely believe that its business model is sound and will be successful. But, while we were doing the analysis, we wanted to think as if we were outsiders, to test the reasoning behind the Plorus business model and to review our strategic decisions. So, we tried very hard to distinguish between what were facts and what were our assumptions, and between what resources we actually had and what we did not have. When we finished with that analytic process, we found out that something that we had passionately hoped to achieve was a bit beyond our immediate capabilities.

Although the analysis and the writing have been hard, their results have been encouraging. As we stated in our Conclusion to Chapter 4, our analysis can serve as a reference to guide future management decision-making, and also to test our current business practices. From another viewpoint, our analysis is moreover a test drive in applying strategic analysis to the real world of business management.

## **5.2 From Rui Chen**

Looking retrospectively, so many things have changed since we started Plorus late last year and this project early this year; both of these efforts have been progressing along in tandem. My biggest challenge has been to juggle between these two related yet distinct activities. I have to constantly remind myself of



applying a different mindset while I work on this project. Often, I think naturally as an entrepreneur about what Plorus should do and what is best for Plorus and bring that kind of thinking into writing this project. Sometimes it takes me to sit back and read again to realize that I have injected implicit and subjective assumptions. Many other times, it is relentlessly reminded by Jill, our project supervisor, who has persistently given us very helpful feedback and advice that finally enabled us to think objectively and analytically beyond our entrepreneur's intuition.

This project has finally turned out to be more and better than what we had originally anticipated. Not only we managed to pull together so many things that were vague and unclear to us at beginning, but also we have produced a strategic plan that can help us as we move forward with Plorus. It is rather rare for companies, especially for start-ups, to apply a quantifiable and qualifiable analysis to drive strategic decision making versus relying on intuition. I firmly believe that such analyses are useful and helpful and can sometimes be critical to a company's survival. Although the results of our analysis still remain to be validated, I am more confident now than before with how Plorus should proceed as we based our analysis on numbers, evidence and critical thinking.

### **5.3 Joint Conclusion**

The history of Plorus, however short, has illustrated that as founders we have entrepreneurial flair and verve, good managerial intuition and are able to be

analytical. This competence combined with our idea of sourcing in China and marketing in North America, which we can do effectively given our backgrounds, puts our company on a sustainable path. Forgetting where we came from would however mean at best not to build on these core competencies, and at worse to lose them altogether.

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