

**FORMATION OF STRATEGIC ALLIANCE
FOR A SOFTWARE COMPANY**

by

Andy Suen

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APPROVAL

Name: Andy Suen
Degree: Master of Business Administration
Title of Project: Formation of Strategic Alliance for a Software Company

Examining Committee:

Dr. Michael Parent, MBA, Ph.D
Academic Director and Associate Professor
Faculty of Business Administration

Dr. Colleen Collins-Dodd, B.Comm., Ph.D
Associate Professor
Faculty of Business Administration

Date Approved:

April 18, 2005

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ABSTRACT

Although most chained stores such as Walmart have been using sophisticated Point of Sale (POS) systems for the past decade, many small and medium sized retail stores are still using legacy point of sale solutions. This provides an opportunity for Mightywand, a POS solution provider, to build its market share in this niche market. In order to quickly establish a position in this market, Mightywand must pick an appropriate method to effectively market its products.

This paper, first, introduces one of the strategic methods of development – alliances. It then examines the retail market for POS product, the external environment, Mightywand's competitors and its internal competence. Based on this in-depth analysis, a strategy for formation of alliance is proposed.

DEDICATION

To **Angela Chan**, my wife-to-be, who has been patiently supporting me day and night throughout my study of MBA. Her love and encouragement have enabled me to devote my focus to this 2 years journey without diverting attention.

To my mother who had been reminding me the importance of pursuing higher education level. This inspires me to continuously look for ways to improve myself. Although she passed away a few years ago, her love and support will remain in my heart forever.

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GLOSSARY

CRM	=	Customer Relationship Management
EAN/UCC-14	=	Commonly used as the case code
ECR	=	Efficient Consumer Response
EPC	=	Electronic Product Code
ePOS	=	Electronic Point of Sale System
GLN	=	Global Locator Number
GTIN	=	Global Trade Item Number is a unique 14-digit numeric identifier of a trade item within the global EAN.UCC code of standards.
ITF	=	Interleaved Two of Five is a barcode commonly used on corrugated cases
PLU	=	Product Look Up (www.plucodes.com)
POS	=	Point of Sale
UCN	=	Unique Component Identification Number.
UPC	=	Universal Product Code is the standard bar code symbol for retail food packages in the USA and Canada.
RFID	=	Radio Frequency Identification
SKU	=	Stock Keeping Unit
SSCC	=	Serialized Shipping Container Code is commonly used as the code on a pallet

1 INTRODUCTION AND COMPANY BACKGROUND

1.1 Company Overview

Mightywand Solution Provider (hereafter referred to as Mightywand) was formed by a small group of people with varied technical backgrounds, the core group being software development professionals. Mightywand developed a Point-of-Sale (POS) software system for small retail stores and has sold their POS systems to three stores over the last three years. Each POS system was customized by Mightywand to fit each customer's specific requirements.

The company was founded by two individuals and later expanded to include 7 staff; one of whom would later join in the founders becoming the core trio of the management group.

Mightywand is currently building a new version of their POS system designed specifically for single location grocers operating between 1-5 terminals. In addition, the company is forming a new team to provide web-hosting solutions for its POS customers.

1.2 Company History

ICI is a computer store specializing in both software and hardware. Aylwin Yu, a part time employee of ICI, who used to work as technical support in the shop, discovered that many walk-in customers were looking for POS solutions. As an experienced software developer, he suggested that the shop accept such projects and outsource to him. After receiving his first POS software project from ICI, he realized that he could never complete the project on time by himself. He therefore approached his friend

Vincent Tang for help. Together, they recruited a team of freelance developers to create the first version of POS software. The revenue was shared equally among the developers upon completion of the project.

Following the delivery of the first system, Aylwin and Vincent started a company to create work opportunities for unemployed developers. Thereafter, they developed two other POS systems each for a different retail store. Most developers lasted only brief stints with the company because it did not offer permanent positions.

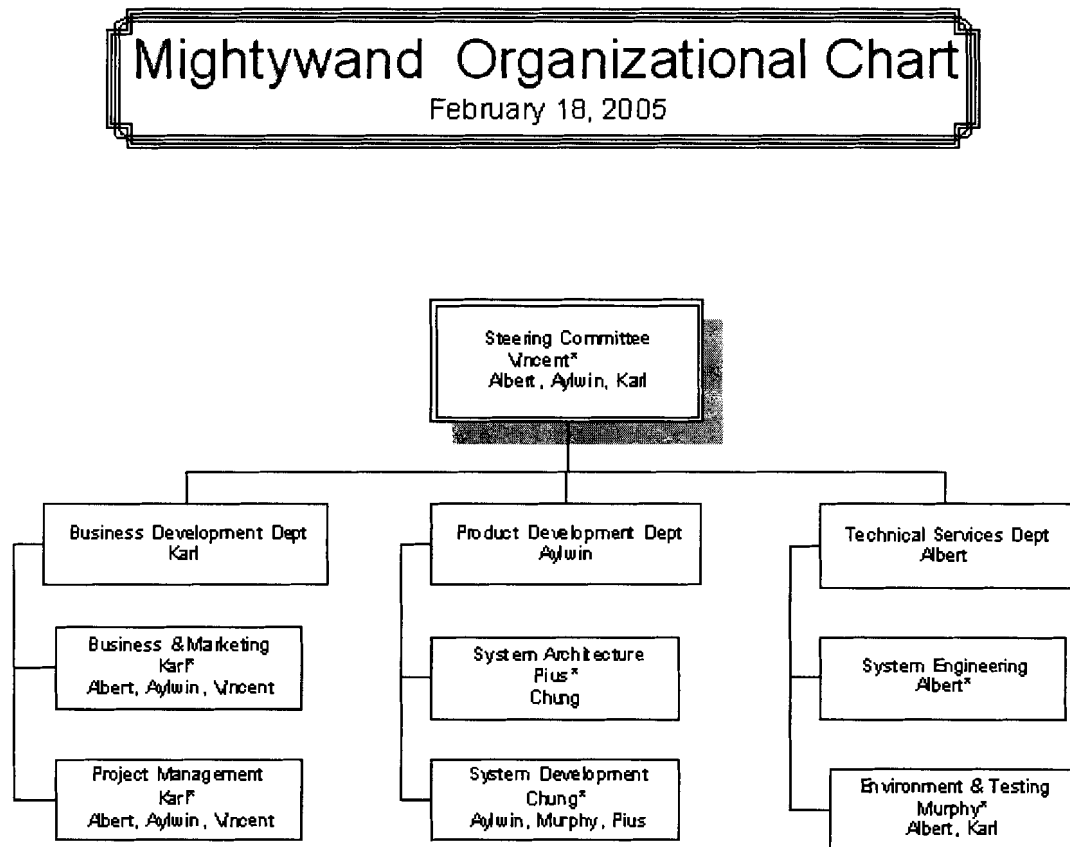
One of Mightywand's customers, a grocer, constantly requests upgrades to their POS system. This close interaction with the customer provided Mightywand with an opportunity to significantly improve their POS product for the specific application of a retail grocery-produce store and increased Mightywand's confidence in its POS product for the small retail store market. At the same time, a new system consultant, Albert Ho, joined the management group of the company. He identified increasing demand for POS products based on his connections with a group of small business owners. Most importantly, he brought with him useful knowledge of business management to the company. These factors have strengthened the trios' belief that they can reap good profit out of products in the small and medium business market. Ultimately, the company's direction changed to a profit orientation from an employment orientation.

1.3 Organizational Structure

With the belief that POS would thrive in the small and medium business market, Vincent and Aylwin spent the next year assembling the Mightywand team. The trio remained the core of management group and was responsible for defining the direction of the company. With all of the staff working on a part time basis, they attempted to

define a flexible structure with overlapping roles and responsibilities. The organizational structure of Mightywand is depicted below.

Figure 1 Mightywand Organizational Chart.



Note: * - lead member

(Source: Company document, 2005, by permission)

The company is primarily divided into three teams: Business Development, Product Development and Product Support. The Business Development team defines product features, promotes sales and marketing and handles customer queries, whereas, the Product Development and Product Support teams develop the products and provide post-sales support respectively. The three teams are headed by a three-member steering committee that drives the company's direction.

1.4 Business Model

Mightywand had a very simple order-to-buy business model. They did not sell off-the-shelf POS solutions. Instead, they got their POS projects from customers prior to any development. Mightywand has never marketed its products directly to the market. ICI generated leads for the company to follow. Since the staff did not possess any particular application area knowledge, they usually worked closely with the customers to gather the user requirements defining the screens together. Once the product was developed in accordance with the requirements set forth by the customer, the customer made the agreed payment to the company. Normally, the company sells the POS system at around \$3000 and charges the customer for each new enhancement.

In addition to product development, Mightywand also provided operations support. Phone support was free, while onsite support was charged at \$75/hr. As the system is quite stable, very few phone calls were received from the customers.

1.5 Key Employees

The founders are aware that the success of the company is based on the quality of its employees. For that reason, the founders have selectively retained the best people in the company.

Vincent Tang, one of the founders of the company, is adept at social networking and has successfully built up good relations with his customers. Vincent was a key developer of the first POS system at the inception of the company. He gradually realized that he needed to position himself in the company to effectively manage the resources available to the projects; He therefore started to devote his efforts to the managerial aspects of the company.

Aylwin Yu, who co-founded the company with Vincent, has a long established relationship with ICI. He completed his Master of Philosophy in Computer Science at the Chinese University of Hong Kong and also possesses a Bachelor of Science in Electronic Engineering from the Open Learning Institute of Hong Kong. Aylwin was a key developer of the first generation POS system. After delivery of the POS system to the first three customers, Aylwin became the primary technical support for the system. He also takes up the key designer role for the new generation of Mightywand's POS system.

Albert Ho graduated with a Bachelor of Science degree. He majored in Computing Science and has 8 years of software development experience using C and Fortran. He changed his career from being a programmer to becoming a system support consultant 14 years ago. He has worked for Sitl Systems, Tyba Group, and Dyrand System where he learned about web-hosting services and business support helpdesk operations respectively. A year ago, he became an entrepreneur and a member of the British Columbia Commerce Association where he has built a network of contacts with business owners.

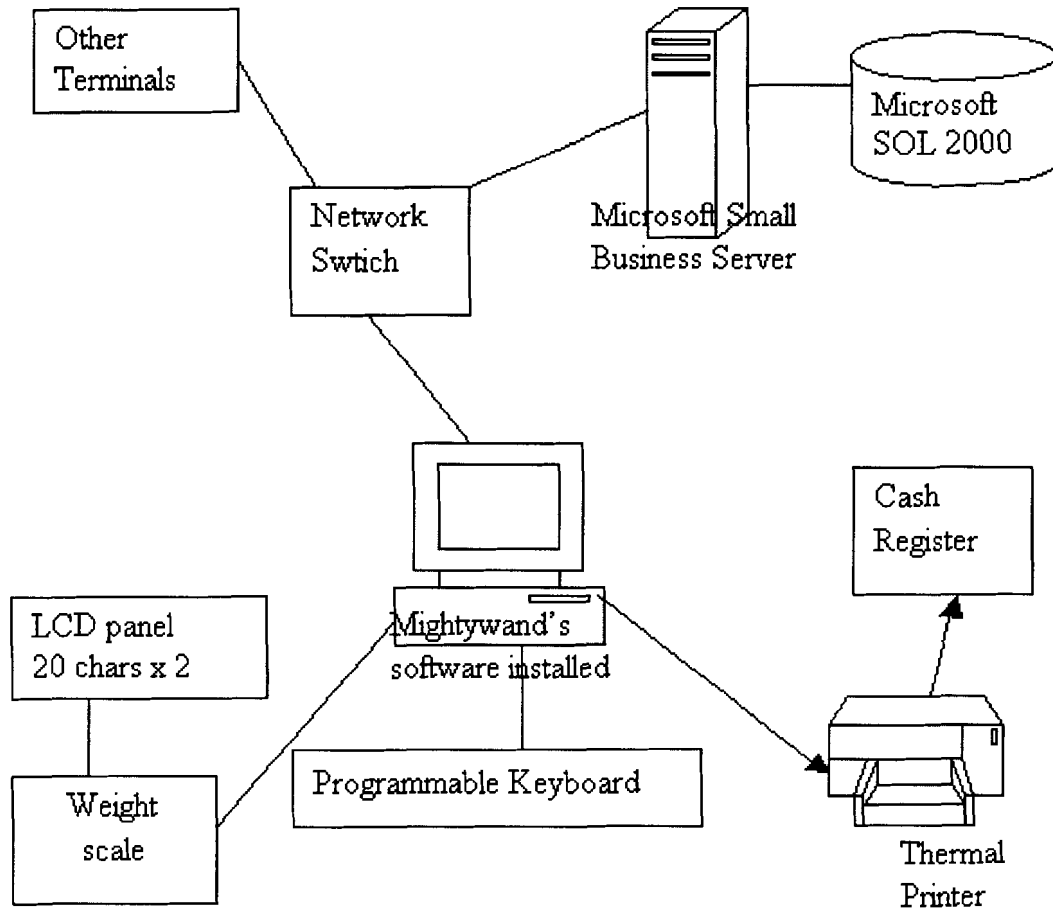
1.6 Key Product

The company's flagship product is its POS system. A typical POS system is comprised of a PC, installed with POS software and a database, connected to a cash register. When a transaction is received, the POS system will process the data and store it in a database for additional processing. A more advanced POS system can be installed in a networked environment with a dedicated database server that manages all the data sent and received from different PCs. Moreover, it can integrate with other

hardware components such as a barcode scanner, a printer, a weight scale and a credit card reader to streamline the business process.

Unlike most installed POS systems in the existing retail market, the POS system developed by Mightywand is based on a PC open system platform. It uses neither closed hardware nor proprietary operating system. Instead the system employs hardware and software that are industry standards. As a result, there is no dependency on a particular hardware supplier. The first generation of Mightywand's POS system had very high code reusability and has undergone a number of enhancements to improve its functionalities. Subsequent releases of its POS systems are built with customization on top of the first version. The current version of POS system supports only English, while the next generation of POS is being enhanced to support multiple languages - National Language Support (NLS). The company has put in a lot of effort to make the new version of POS as a standard edition so that the system can be put into production with very minimal/no customization. This new POS is considered the first flagship product of the company and is targeted to be available in Q2 2005. The new POS system is depicted in Figure 2.

Figure 2 Mightywand POS System



(Data Source: Mightywand)

The price of a traditional POS system depends on the number of terminals required by the customer. Mightywand has fixed the price of its software component and does not charge extra for each additional terminal added, therefore, the number of terminals requested does not affect the cost to the customer. Except that the Small Business Server software includes only 5 licenses, which are sufficient for most small and medium grocers. The cost breakdown of this new POS system for a single terminal is tabulated below.

Table 1 Product Cost

Component	Cost
LCD Panel	\$200
Weight Scale	\$550
Terminal (a PC including a monitor)	\$1000
Programmable Keyboard	\$450
Thermal Printer	\$350
Cash Register	\$150
Network Switch	\$40
Server PC	\$1500
Small Business Server Software (includes Operating System and SQL 2000 for 5 licenses)	\$1500
Mightywand POS Software	\$3000
Total	\$8740

(Data Source: ICI and Mightywand)

1.7 Other Product

The management team believes that web page hosting services can be supplementary to its POS system for the retail market and that the return can be lucrative. The company has interviewed a number of business owners and found that a strong Internet presence is very desirable. The web page hosting service offered by the company will include the development of a few web pages to be hosted on the company's web server. These web pages will be developed based on a standard template and will not contain any special processing logic like what other web applications offer, keeping the development cost extremely low. As a result, the company is now developing a standard template and forming a team to maintain this line of business. A small retail grocer normally targets customers living in the neighbourhood, there is no incentive for the grocer to have a Internet presence. As the focus of this paper is on the produce market, therefore the study of web page hosting is beyond the scope of this paper.

2 KEY BUSINESS PROBLEM

Mightywand is encountering difficulty in developing and growing its business. Although it has developed a POS system for an established market, it has sold the system to only three retail shops over the last three years, all of which require customisation. They know they have a full team of competent developers and a fully functional product. They have decided the development direction but are struggling with how to develop customers so that they can survive and profit in this market.

Receiving projects from ICI, Mightywand did not build its own capability to market nor to sell its products. Moreover, the dependence on ICI also limits its ability to expand into other markets where ICI does not have any customers. They need to identify alternatives to produce revenues from its existing product. In particular, they would like to find out how they can maximize the company's profits by selling more of its existing product to the produce and grocery market, but do not know where to start.

Within the company, they have problems obtaining resources to complete critical project tasks on time. They believe the root cause is that the business is not making enough income. Mightywand has developed an enhanced version of POS system. They are planning to sell this new flagship POS system as an off-the-shelf POS product to various computer stores. This way, they can create a continuous stream of revenue for the company. Ideally, they would like to penetrate into existing markets with this new product. They are also open to any other alternate distribution channels available to the company.

These new challenges faced by Mightywand need to be addressed quickly so that they can efficiently lower their product development and distribution costs, and more effectively market their products. They have a few hardware providers, one of which would like to forge a closer relationship, and they are in contact with a network of small business owners, many of them having small retail stores. There is also an individual solution provider who has expressed interest in their products. They would like to examine how these relationships and their existing resources can be effectively leveraged to expand their business, and to become more profitable and competitive in the POS retail market especially in the produce market.

3 STRATEGIC ALLIANCE

Traditionally, firms developed their businesses by internal development, for example, by reinvesting their profit into the business and vertical integration. At that time, it was probably the only option to build market share because the size of market was small and the number of value added companies were not many. Today, the options available have been increased due to a structural change of the market environment – the migration toward open systems (Moore 153).

In addition to internal development, there are several other market development methods available for a company to grow. They are acquisition and alliance. Of the 3 options, strategic alliance is usually the best fit for a small firm to build market share in this turbulent environment, where the demand of product go up swiftly but the product life cycle is usually short (DiMaggio 13). Instead of doing business alone with many opponents, firms are beginning to build alliance in order to maintain and grow position (Ohmae 143). This can be supported by the fact that the growth rate of new alliances is approximately 25% per year between year 1985 and year 2000 (Mol 150). Of course, strategic alliance is not limited to the use by small firms, but also can be quite useful for larger firms expanding into a new market.

The possible alliances for small and medium enterprise can be different from those of the corporate market, for example, the resources available to the small start-up companies are usually small. It also depends on a number of factors such as target market and core competences of the company. For a company to distribute its software products to a market, the product might never reach the target market if the distribution channel is not well chosen. For instance, big corporate usually go to consultants for

advice on what business and IT solutions to implement while small business owners usually do not budget for these consultation services.

Besides, each industry has a different possible set of alliances. Possible alliance partners available to software vendor might include consulting firms, hardware suppliers, customer's buying groups, value added resellers, hardware manufacturers, and other software companies (e.g. AccPac, Microsoft), whereas the partners for a retailer are generally fewer and only contains distributors and wholesalers. The selection of alliances, therefore, is deemed to be a challenging task involving a very good understanding of the business and its surrounding environment.

The type of alliances can also vary depending on the company's strategy and the companies involved. This topic will further be examined in the following section.

3.1 Type of Alliances

Geoffrey (Moore 164) stated that strategic relationship should be given priority in a resource-constrained operation. This does not imply that partnership with a big corporate is more important than one with small company. In his view, partnership can be formed for a single revenue opportunity, or a revenue stream or a market leadership. Building a partnership for a single revenue opportunity is not considered as a strategic option as it usually is a short-term development. Although a revenue stream is a long-term development, but it is not considered a strategic option as it is a typical "net present value" problem. What's more, such opportunity usually does not exist in this rapidly changing environment. Here we explore the last strategy choice – partnership for market leadership. The alliance forms (Johnson 380) that are suitable for a small start-up software company will be examined.

A network is a type of alliance where the participating parties work together without a formal relationship. This type of alliance requires a great deal of trust and mutual advantage. This relationship enables firms that are dependent on internal and external networks to cooperate with one another to build best-valued products. This is particularly common in many organizations today, where work activities can be carried out in different location by a network of independent workers who may be full time employees, contractors, or a mixture of both (Johnson 452). In general, there are several solutions available to streamline the work activities in this network setting. They are one-stop shop, one-start shop, and service network. One-stop shop provides a single contact point that channels all customer enquiries, whereas the one-start shop first identifies customer needs and refers customers to the most appropriate provider. The first one hides the complexities of the product integration from customers by providing a product/service at one single access point whereas the latter exposes the actual service provider to the user. The service network allows customers to access services at any allied members. An example would be a chain of independent hotels where customer can make any hotel bookings.

Another type of alliance is Subcontracting. There are a lot of integrators and solution providers in the market who are actively subcontracting the development work to software companies. This normally involves contracting the work to other providers but the provider does not take ownership. Subcontracting to others who are more competent will effectively build the solution and considerably improve time to market. Although this can be an effective approach, it can potentially ruin the company's reputation when one contractor fails to deliver the agreed solution. A typical example of subcontracting is a solution provider contracting out one part of its software development to a software company. By doing so, the solution provider can focus its resources on

integrating solutions for its customers. Subcontracting is, in fact, one of today's common alliance models.

The involvement of customers or / and customer group in "customising" or "defining" the product is also a possible alliance option – co-production. This is a customer centric solution as the customer has the power to decide most of product features, thereby creating more satisfaction with the product at the end. On the other hand, this type of alliance is usually the most complicated and costly one. This is due to the interaction between the customer and the company's staff increases the cost of development. Unless most of the interaction can be automated, this usually isn't the optimal alliance option. There is an exceptional case, where no existing product is available in the newly emerged market and a new product needs to be built to serve new demand. Developing the product together with customers can be very useful in establishing a position in this new market.

At the end of this paper, a list of possible alliance partner will be identified for the company. Following the list of possible alliances, an evaluation will be made to assess the suitability and acceptability of each of the alliances.

3.2 Pros and Cons of Alliances

Alliance partnerships provide a number of advantages to business in general. This is particularly true for small firms that have very low market share. Unlike large companies with strong financial resources, most small firms usually have very limited cash flow and thus can only allocate its resources to core business operations. In order to gain access to market, smaller firms require the collaboration of other firms. This collaboration enables these companies to focus on their own core business and thereby increasing the chance of success.

A new player aggressively entering a market usually generates a lot of resistance. Conflicts with existing market players can easily be intensified. By partnering with others, everyone wins.

“Partnering, by spreading the reward of market development among multiple companies, creates multiple sources of support in the marketplace. Other people now have a stake in your success. By contrast, when completely vertically integrated vendors win, no one else does. This means every hand in the market is turned against them.” (Moore 167)

By entering the market with strategic partners, it also enables the company to build entry barrier to others. For example, new players not only need to compete with existing players in terms of product, but also need to take into account the value-added services provided by the existing players' partners.

Building alliances can also potentially shorten the start-up process by avoiding some of the early learning steps. This can definitely improve time-to-market and reduce start-up cost. Instead of putting in significant amount of investment in exploring the market and building distribution channels, the sales channel can readily available by introducing product to some of alliances' existing customers. As a result, the cost of distribution is lower through collaboration than the cost of operating alone. Market development can be made easier by leveraging alliances' resources. For example, Pacific Edge had successfully set up its first office in Australia and closed a few customer deals within two months. This was made possible by leveraging a strategic relationship Pacific Edge had with Oynx, an American company that had good knowledge of Australian market (Rasmusson 116).

Conversely, there are a few disadvantages associated with partnership. The first is due to a possible limited/non-existent brand identity. Some solution providers might contract to put their brand on the product, making the actual product vendor invisible to

the end user (DiMaggio 14). This can be a good arrangement where the reputation of the solution provider can be leveraged, however this can be a problem if the solution provider decides that a different product contractor should be used. As the end user may not be aware an alliance even exists, the solution provider can easily form another partnership to get supply of the product when the existing partnership expires. As long as the new vendor provides the same or better quality of product, the customer will continue the relationship with the solution provider.

Another possibility is that the solution provider may build its own product and sell the product at a cheaper price to its customers once it masters the technology. This is an important issue to most start-up firms as they have only one product or service to offer their customers. In other words, the product/knowledge they possess is their most important asset and they need to protect it as much as possible from potential competitors -- including its current customers.

On the other hand, it is possible that the software vendor takes all the blame when a solution sold by an allied partner was not implemented correctly (DiMaggio 17). This can happen when the allied partner does not really understand the target market well, or when the allied partner is solely interested in short term profit gained by selling the solution. Instead of choosing the best solution for the customer, the allied partner might decide to market a solution that is higher in profit for its business but not in the best interests of the customer or the partner. This normally can be avoided by not granting exclusive marketing rights to a solution provider. If this exclusive deal is unavoidable, then closer monitoring is needed to ensure the gains can be reaped by both parties as well as customers (DiMaggio 17).

In Geoffrey's Evolution of the Whole Product model (Moore 156), the marketplace, in order to drive the cost down, applies pressure to standardize product.

This force tends to eliminate the partnerships that no longer add value to the products/services. Once the opportunity gained through the partnership is no longer attractive, the allied partner might choose to end the relationship and look for a better one.

When forming an alliance with a big company, it is possible that the small start-up company ends up being acquired or manipulated. It is always vital for the small start-up firms to consider this possibility and develop partnerships properly to avoid any unexpected outcome. If the start-up firm considers its absorption undesirable, it could enter a portfolio of partnerships given resources available (Meyer 327).

3.3 Critical Success Factors

In order to build a successful alliance, there are a number of success factors that need to be taken care of by the companies involved.

- It is crucial to make target market selection top priority (Johnson 383).
By confirming the target market with partners, it puts all partners on the same page, thereby reducing the potential conflicts and making allocation of resources more efficient.
- The partnership must capitalize on the company's and its partners' strengths because the foundation of the partnership is to leverage the competences of the alliance partners (Stanek 185).
- Proper care of the partnership agreement is necessary to maintain good relations, thereby building trust with each other. This is particularly beneficial to a new alliance without previous knowledge of their partners (Johnson 383).

- It is essential to protect the company's most important assets from potential competitors, which includes its partners. On the other hand, it is important to communicate the value contributed by the software company such that proper share of return can be justified. This poses difficulty to the software company, especially because there is no standard way to assess the actual value of a technology (Meyer 327). Independent trusted advisors might help to mitigate this conflict by providing a fair valuation.
- Firms must devote enough managerial resources to the partnership management. For start-up companies, the number of alliance partners must be carefully planned as they are constrained by the management resources. Proper matching of complexity and number of partnerships with the available management resources is one of the ingredients for successful alliance (Meyer 327).
- Constantly assess the need and type of partnerships. In short, partnership must be attractive to all parties (Moore 168), otherwise, it is a waste of resources to keep the partnership.

4 MARKET OVERVIEW

4.1 Retail Grocery Industry Statistics

Retail stores, usually the last entity in the supply chain in various markets, are organized to sell goods in small quantities to customers. These retail stores usually establish point of sale locations with high volume of walk-in customers.

According to the data published by Statistics Canada, total retail sales grew by 5% from 2003 to 2004 (Statistics Canada 2004¹). The sale of supermarkets and convenience stores, approximately \$68 billion, represents one fifth of the total retail sales in 2004. Food is sold through various distribution channels such as supermarkets and grocers. In 2004, supermarkets and other grocers, excluding convenience stores, accounted for \$59 billion sales, whereas convenience and specialty food stores accounted for the remaining sales, which is approximately \$8.9 billion.

Convenience stores, meat markets, fish and seafood markets, fruit and vegetable markets and other specialty food stores are grouped under the category of Convenience and Specialty Food Stores by Statistics Canada. As supermarkets normally offer more services and better prices than independent grocers do, these retailers carry products based on demand of local community that partially overlap with those carried by supermarkets. Wen found that the overlapping of brands and products is extremely small even between similarly sized retail stores or supermarkets (Wen 5). More importantly, most of the stores operate differently, taking advantage of the flexibility

¹ Statistics Canada information is used with the permission of the Minister of Industry, as Minister responsible for Statistics Canada. Information on the availability of the wide range of data from Statistics Canada can be obtained from Statistics Canada's Regional Offices, its World Wide Web site at <http://www.statcan.ca>, and its toll free access number 1 800 263 1136.

gained from their size and local, to effectively serve their local customers. These competitive advantages have enabled them to compete against chain stores and supermarkets. These grocers do not consider supermarkets as their direct competitors², but other grocers in the same region.

Table 2 Terms in Retail Market

Term	Definition
Convenience store	Small local retail store selling mainly groceries open until late at night or even 24-hours per day. Sometimes abbreviated to c-store.
Chain store	Broad term referring to shops under the same fascia, usually owned by multiples
Discount superstore	Large retail unit (up to 9,000 square metres) offering goods direct from the manufacturer at heavily discounted prices. Such outlets typically carry between 5,000 and 10,000 product lines.
Grocer	Food business specializing in packaged groceries, where food accounts for at least 50% of total retail sales
Supermarket	Terms used interchangeably with grocery store; refer to a large retailer whose primary product is food, yet also include non-food items in a departmentalised merchandising set up, offers fresh, frozen, and packaged food products, offers customer parking, typically ranges in size from 10-75,000 square feet in size.
Superstore	Over 60,000 square feet, food and non-food splits, at least 25% of floor space devoted to non-food.

(Data Source: Euromonitor International, Retailing in Canada April 2004)

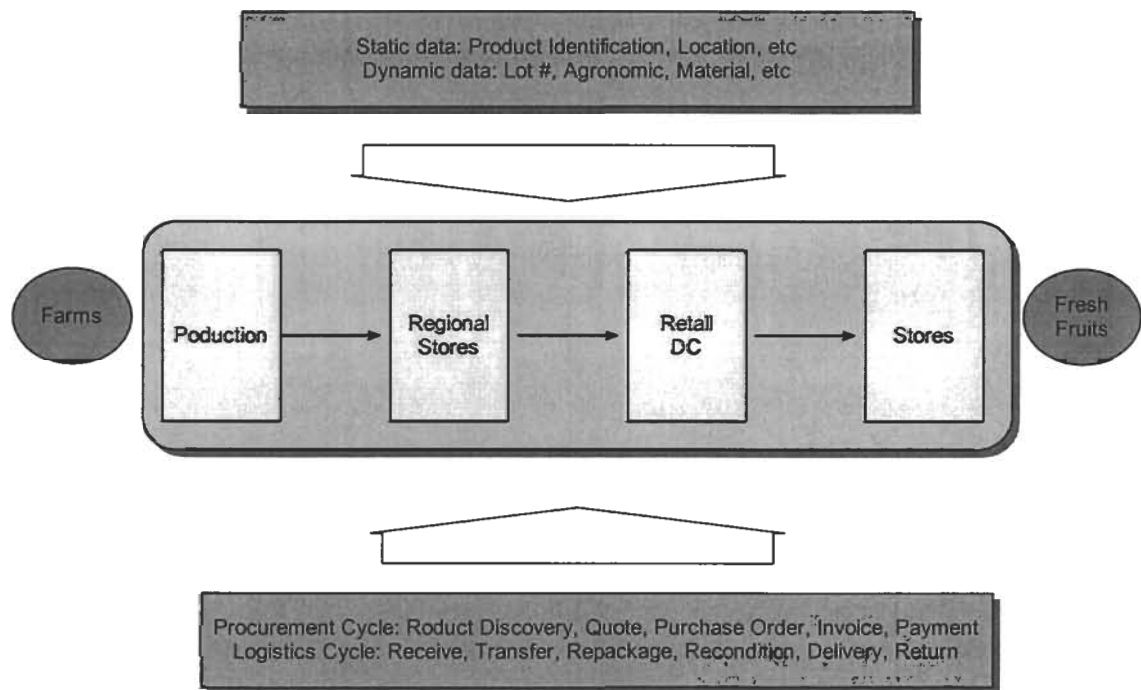
4.2 Supply Chain and Operations

The supply chain of independent grocers shares similar structures with those of chain stores and supermarkets. Chain stores are vertically integrated with a wholesaler to take advantage of economies of scales, whereas independent grocers can increase their purchasing power by forming voluntary affiliations that make bulk purchases directly from wholesaler. Buy-Low Foods, Van-Whole Produce, and Associated Grocers are three buying groups servicing over 1500 supermarkets and independent grocers in BC, Alberta, Saskatchewan, Manitoba and Ontario.

² Based on the interview conducted with local grocers

There are some other associations such as Canadian Federation of Independent Grocers (CFIG) and Canadian Produce Marketing Association (CPMA) that also represent the interests of the affiliated independent grocers. For example, CFIG is one of the Canadian associations that help stores to improve operations and to increase profitability. A list of associations in Canada can be found in the following website: <http://ats.agr.ca/supply/associations-e.htm>. A typical foodservice supply chain is depicted in Figure 3, followed by a sample supply chain in Table 3.

Figure 3 A Typical Foodservice Supply Chain



(Data Source: Canadian Produce Marketing Association 2003)

Table 3 Sample Produce Market Supply Chain

Primary Producers	First Processor	Secondary Processor	Retailer/Food Service
All Season Mushroom	Oppenheimer	Oppenheimer	Sobeys
Oppenheimer	Pro-Organics	Pro-Organics	Thrify's Food Services
	Neptune Food Service	Neptune Food Service	Fairmont Hotels
		Sobeys	Neptune Food Service

(Data Source: Can Trace 2004)

Efficient Consumer Response, began in 1993, is a food industry strategy where distributors and suppliers collaborate to increase value for customer (Tosh 4). The objective is to improve the efficiency of the supply chain, thereby reducing costs, inventories and physical assets of the participants in the supply chain. It was initially believed that this initiative could save up to tens of billions of dollars a year. ECR has categorized four basic subject areas to achieve efficiency: efficient store assortment, efficient replenishment, efficient product introductions, and efficient promotion. A study of 9 retail grocery chains was conducted in 1999, which showed that the ECR had fallen short of expectations (Brown 78). This was mainly because most retailers and suppliers were still heavily relying on forward buying (Partch 138), which made ECR less effective (Brown 82). Business processes must be shared before shared benefits can be gained across the value chain. Also, ECR was adopted mostly by large firms than by small grocers (Brown 83) because the cost of training, implementation and maintenance of ECR solution was very high and was not justified for the gain earned from operational efficiency. ECR will yield more benefits to the small grocers when the cost of ECR goes down significantly and enough business partners in the supply chain have implemented it. Analysis of the current ECR initiatives such as Radio Frequency Identification (RFID) and traceability are further elaborated in the PESTEL and SWOT sections.

4.3 POS Systems

Unlike chain stores and supermarkets, most independent grocers, especially retailers with simple business models, still heavily rely on their old cash registers and manual processes to maintain their goods. Although electronic point of sale systems (ePOS) have been available to retailers for more than 10 years, only minority of these retailers have adopted the technology. As most supermarkets have already employed POS technology, independent grocers have had the chance to observe benefits such as reduction of checkout lineups and improvement of inventory management. Moreover, small and medium retailers usually do not approach consulting firm like chain stores do, but other sources such as friends and local computer stores for POS solution advices³. This is because they are looking for something simple and, most importantly, cheap to start with. Having said that, these retailers expect installation and full technical support from POS provider for the first two months. They normally seek for upgrades after the use of POS system yield satisfactory result.

4.4 Produce Retailing POS Issues

Produce retailers have developed their own best practices, which are different from retailers selling dry groceries. This is mainly due to differences in nature of the business. For example, produce changes price frequently depending on the grade of the produce, weather conditions, seasons (Canadian Produce Marketing Association 2005). Also, since perishable produce cannot be inventoried for long, careful monitoring and ordering is vital in the produce business. Perishables such as meat and produce are sold on a price-per-unit-measure basis and a conventional POS system utilizing

³ This is based on the interviews conducted with various sources: produce store owner, computer shop owner, and other business owner.

UPCs alone does not work for random-weight perishables, because the price varies from item to item even within the same product line (Cummins 50).

To address the random weight item identification problem, the Produce Electronic Identification board (PEIB) created a central repository to maintain a set of PLU codes for all the participating countries since 1990. PLU codes are used to identify bulk produce and random weight produce. With PLU codes, a store cashier can identify a conventionally grown Fuji apple from an organically grown Fuji apple which sells for a different price. Today, there are 1300 PLU codes assigned to produce and related items.

Other than the above issues, Produce retailers must have their POS weight scales inspected and certified by Measurement Canada, an agency of Industry Canada, before use in commercial use. Measurement Canada is also responsible for inspecting the scales throughout the course of their service life.

5 ANALYSIS

5.1 PESTEL

It is useful to examine the environment external to the company to gain a broader view of a number of factors that affect the company itself and its surrounding business environments. By carefully outlining the predictable changes, potential impact of these changes to the company can be analysed and incorporated into the company's plan.

The PESTEL framework is comprised of 6 different key forces in the macro-environment. These forces are political, economic, social, technological, environmental, and legal. This framework provides a starting point for businesses to evaluate its future based on the impact of these six forces.

5.1.1 Political

The Foodservice industry has established a Uniform Code Council and Efficient Foodservice Response to develop new e-Commerce standards (International Foodservice Distributors Association 2002). The initiative of this task force is to standardize the electronic communication protocol between trading partners in the foodservice supply chain in order to achieve greater efficiency and effectiveness of business transactions. The resulting standard can be adopted by food services entities such as distributors and food retailers in the foodservice supply chain. The EFR/UCC partnership is aimed at developing e-Commerce standards compatible with standards used in other complimentary industries and in other countries. It is likely that this new eCommerce standard will become the core standard of most future computer systems in the foodservice industry.

The Canadian government has been proactively working with the industry to establish food safety and traceability⁴ in different provinces. The government is targeting to have a system in place that allows for 80 percent of domestic products sold at retailers to be traceable through the agri-food value chain by 2008 (Lalonde 2004). This has been outlined in the Agriculture Policy Framework⁵ (APF). In addition to the initiative pursued by the EFR/UCC partnership, other organizations such as International Federation For Produce Coding⁶ (IFPC) and Produce Marketing Association⁷ (PMA) have made tremendous efforts to standardize product identification (Canadian Grocer 16) and develop traceability in the produce supply chain. In 2001, the PMA drafted a paper to address data synchronization between supplier and retailer without the need for human interaction. A Traceability Task Force, PMA and Canadian Produce Marketing Association, has recently published an Industry Standard paper (Canadian Produce Marketing Association 2004) for the Produce Market in an attempt to standardize a number of practices in the industry. (see Table 4)

Table 4 Hierarchy of Coding

Level	Current Standard	Emerging technology
Item Identification	PLU codes for bulk and random weight produce and UPC for fixed weight /count produce	RSS 14, RFID
Trade Item (Case Codes)	UCC/EAN 128, ITF	RFID
Logistics Unit (Pallet)	SSCC18	RFID

(Data Source: CPMA 2004)

⁴ Traceability is the ability to precisely locate a food item backwards and forwards through the food supply chain.

⁵ Source: http://www.agr.gc.ca/cb/apf/index_e.php

⁶ Source: <http://www.plucodes.com/plucodesaboutus.asp>

⁷ Source: <http://www.pma.com/>

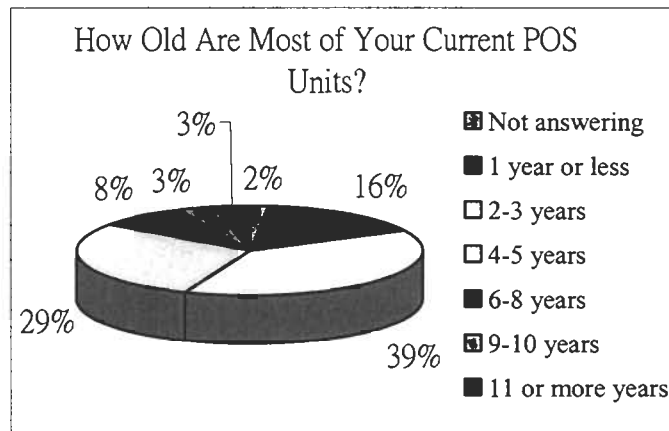
This paper clearly identifies standard practices for retailers and suppliers to handle coding and traceability of Produce products. All these efforts enhance the quality of data synchronization and streamline business processes. It also introduces opportunities for software companies to develop new generation software that are IFD Certified⁸.

5.1.2 Economic

IHL Consulting Group, a global research and advisory organization, has recently reported that there was a 15% increase in POS spending in North America in 2004 and it has also forecasted an additional 12% increase for 2005 (Chain Store Age 2004). Convenience stores are planning to spend the greatest proportion, 37%, of their IT capital budgets on POS. The increase in demand does not stop here though, in fact, those retailers who had already adopted ePOS are likely to upgrade their aging systems in next two years. This is mainly because either POS vendors no longer support their POS or the old system is more expensive to be maintained than replaced. As shown in Figure 4, 45% of surveyed respondents indicated that their systems are at least 4 years old.

⁸ In order to get IPD certified, the production level system need to be examined by PMA to conform to PMA IPD standards and features.
http://www.pma.com/Template.cfm?Section=UPC_and_PLU_Codes&CONTENTID=6121&TEMP LATE=/ContentManagement/ContentDisplay.cfm

Figure 4 Age of Existing POS System



(Data Source: Chain Store Age 2004)

5.1.3 Sociocultural

Most grocer owners do not possess high-level education. Because of that, they tend to avoid the use of technology in their businesses. Most of them are late adopters who do not adopt technology until it was widely adopted in the industry. With the cost of technology plummeting and the success of POS in other industries, these independent grocers are more willing to implement an electronic POS in their shops.

5.1.4 Technological

The produce sector has typically lagged behind other dry grocery sectors in implementing efficiencies through technology. There are several reasons behind this phenomenon. Firstly, because the produce market lags behind in terms of technology products - software firms are likely to direct all of their resources to more lucrative markets such as banking and dry food grocery. Another reason is that the price of technology products is perceived to be relatively high by this market. POS system would take a long time for a small grocer to recover/ breakeven in the past. Hence, the opportunity cost is not justified for the owner to make the purchase. In addition, the

technology was not reliable in its early days and could be problematic for the owners when the POS system went down.

Technology advances have provided new opportunities to both software companies and business owners along the supply chain. The cost of hardware and software has drastically gone down over the last decade. Together with the open system architecture, POS software solutions can be purchased as off-the-shelf products easily and installed on previously purchased hardware. This was not possible in the past where proprietary hardware and software were combined to create a POS solution.

In the retail markets, new technological products such as self-checkout and RFID have made great strides in the last few years (Praskey 68). The success of RFID is credited to both Walmart, the most powerful grocery retailer in the world, and the US Department of Defense, the largest supply chain in the world, have been providing strong support for the use of RFID. Walmart has demanded its top 100 suppliers to place RFID tags on all cases and pallets by 2005 (Pruitt 2004). As a result, the cost of producing RFID decreased significantly. Compared to the existing technology – barcode, the RFID technology has greatly transformed the overall business processes and reduced the human interaction to the minimal, which in turn increases the accuracy and efficiency of the management of a number of activities such as inventory control, demand planning and continuous replenishment system.

At the beginning, RFID will be employed at the pallet level and then case level. It is expected that the technology will be widely adopted at the item level in 10 or more years. Incucomm, a US based venture and consulting firm, predicted by 2008, major consumer packaged goods companies will use more than 20 billion RFID tags annually (Praskey 70). The adoption of this technology has a positive impact on the produce supply chain. For example, the traceability initiative can be met easily by embedding a

RFID chip in the case/pallets level. Of course, much work is still needs to be done to make this a reality.

Another new technology starting to receive more attention from later adopters is Collaborative Customer Relationship Management Systems (CRM). CRM solutions were extremely expensive in the past. With the introduction of Internet and the emergence of rapid software development tools, the technology has now readily available to retailers at a reasonable price. For example, independent grocers can now choose to pay a nominal monthly fee to access a web-based application⁹ for its CRM functions.

5.1.5 Environmental

Environmentalism arose in Canada in the 1960s. Concerns over how grocers handle the perishable food and how waste is disposed of have long been issues. Traditionally, grocers purchase their produce such as fruit and vegetables directly from distributors on a daily basis to avoid the overstocking problem. However, the fierce competition in the grocers market has changed the number of products they carry. As the number of stock items kept in the shop increases, the difficulty associated with inventory control has also increased. In addition, some of the customers of these grocers are food services operators like restaurants and salad bars, these businesses tend to make bulk purchase that can last for a while to avoid buying fresh food on a daily basis. This reinforces a strong need to look for an environmentally friendly way to handle produce in the food industry. This has increased the demand for the integration of the supply chain management or/and inventory control into Point of Sale system with the aim of minimizing waste in the foodservice supply chain. Integrating the grocers' system in the supply chain can potentially reduce the waste.

⁹ A sample application can be found in this URL: <http://www.absolutebusy.com/>

5.1.6 Legal

The events of September 11, 2001 strengthen the need to increase food security in United States. The United States Food and Drugs Administration is enacting a policy, the BioTerrorism Act¹⁰, for the protection of food by registering all food processing facilities in the supply chain regardless of whether it is a domestic or foreign facility. In the United States, facilities that produce, process, package or store food products for human and animal consumption will have to follow this act. In addition to this act, the Department of Agriculture of the United States (USDA) has incorporated Country of Origin Labelling (COOL)¹¹ into a law, in which retailers will have to post and/or label products with their country of origin. The implementation of the above policies is to increase traceability of food such that recalls can be made immediately in case of crisis. For example, the BSE crisis of 2003 has notably raised the attention of traceability of food products. Other than the United States, similar regulations like the European Food law regulations have come into effect January 1, 2005. Although produce retail stores, which sells primarily to consumers, can be exempted¹² from the BioTerrorism Act, these changes will alter the way on how a retailer can operate its store, for example, supply chain information and product information can easily be incorporated into their computer systems. It eliminates the manual process of entering product information. Consequently, it creates incentives to introduce or enhance computer system for grocers.

¹⁰ Source: <http://www.fda.gov/oc/bioterrorism/bioact.html>

¹¹ Source: <http://www.ams.usda.gov/cool>

¹² As noted, an establishment's primary function is to sell food directly to consumers if the annual monetary value of sale of all food products directly to consumers exceeds the annual monetary value of sales of food products to all other buyers. (Source: <http://www.cfsan.fda.gov/~dms/ffregui4.html#b>)

5.2 Competitor Analysis

To gain competitive advantages in this hyper-competitive market, one must identify its competitors and adjust its products/services to better meet the need of customers. It is crucial that the study should not be limited to direct competitors with similar products offer, rather the study should be begun with the company's target customers. This enables the company to assess the close substitutes as well. Ultimately, the aim of this competitor analysis is to evaluate the strengths and weaknesses of the company's competitors

5.2.1 Strategy Canvas

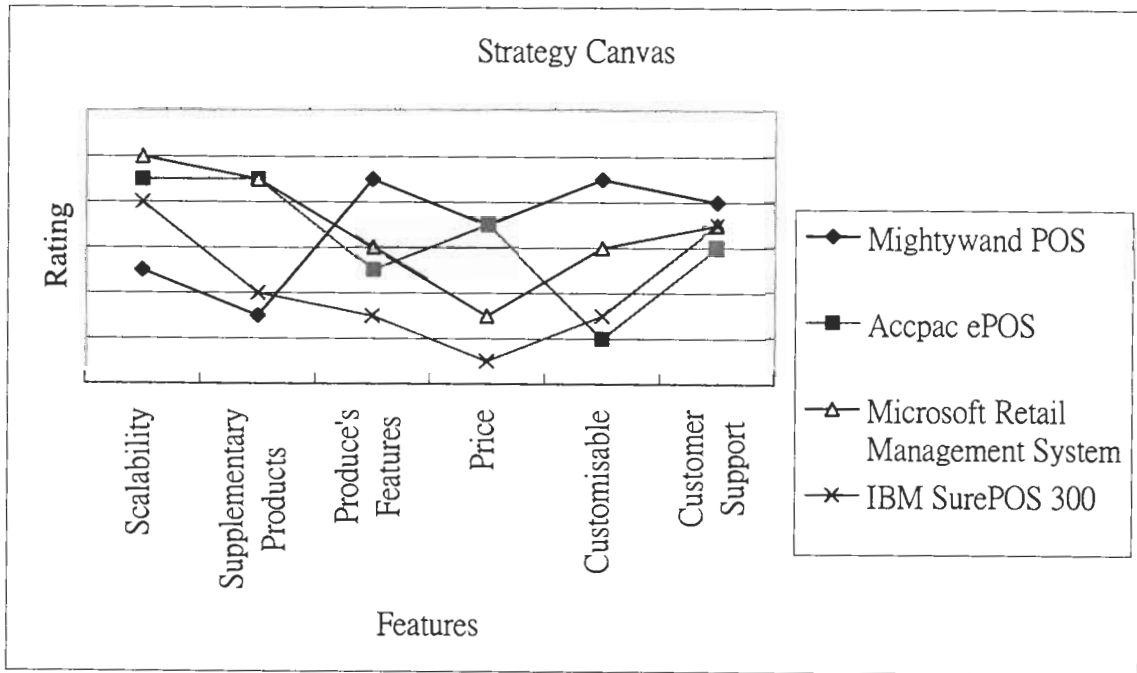
Strategy canvas is a tool that compares one's business with its competitors' by drawing an "as is" strategy picture (Kim 77). By visualizing the "as-is" picture, a strategy can be formulated accordingly to take advantage of the product capabilities and the strengths of the company. In the following, a strategy canvas has been developed to compare Mightywand's POS solution against its competitors' POS solutions.

A features list was identified based on interviews with owners of retail stores, information provided by review of competitors' product features list and research article (Linsenbach 2005). A questionnaire was developed and presented to a number of retailers from various markets such as grocers and restaurant operators. The numbers were then calculated based on the rating of importance of each feature and how each product meets their expectation. The ratings range from 0 to 10, which represents how the product performed on that aspect. The average of the resulting data is tabulated in Table 5 and is depicted in Figure 5.

Table 5 Strategy Canvas

Features	Mightywand POS	AccPac ePOS ¹³	Microsoft Retail Management System ¹⁴	IBM SurePOS 300 ¹⁵
Number of Terminals Supported	5	9	10	8
Supplementary Products (e.g. Accounting system)	3	9	9	4
Features that handle Produce (e.g. weight scale)	9	5	6	3
Price	7	7	3	1
Customisable	9	2	6	3
Customer Support	8	6	7	7

Figure 5 Strategy Canvas Diagram



Mightywand POS system provides a comprehensive set of functions that facilitate the handling of produce. Unlike other products, it is more “produce” market focussed and is highly customisable.

¹³ Source: <http://www.accpac.ca/products/epos/>

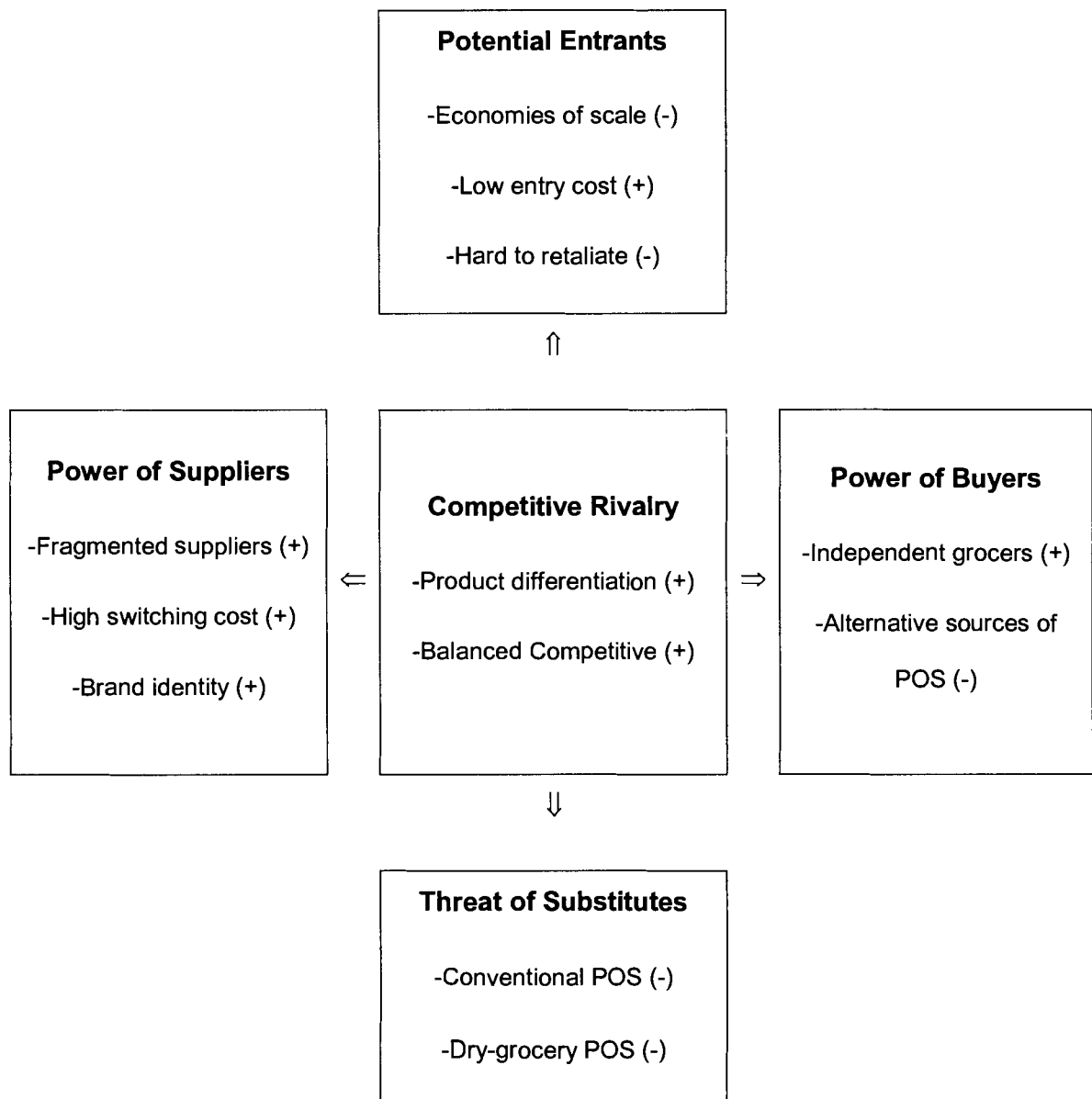
¹⁴ Source: <http://www.microsoft.com/BusinessSolutions/RetailManagementSystem/default.aspx>

¹⁵ Source: <http://www.pc.ibm.com/store/exp/300/specs.html>

5.2.2 Five Forces Analysis

Porter's five forces framework provides a big picture of the firm's competitive position in its context. This framework is useful for analysing the different sources of competition especially when there are three or more competitors in the context of the firm.

Figure 6 Porter's Five Forces



An analysis, using the framework, had been conducted for Mightywand in produce market. The different sources of competition were evaluated. The source of competition that yields a favourable impact is denoted by a positive sign, whereas a unfavourable impact is denoted by a negative sign. The result of the analysis is shown in Figure 6.

Among the five forces that affecting competition, the threat from potential entrants is the greatest. The new entrants can easily start their business with low capital cost and the economies of scale do not play a significant role in this market. Moreover, the expected retaliation from existing players will be very little. However, since industry knowledge and standards take time to learn and build, they create natural barriers to entry. New entrants must overcome the entry barriers before they can compete successfully with the existing players. Mightywand, on the other hand, already has three and a half years of experience in the industry, therefore it can take advantage of the barriers to compete.

There are many POS products that can be considered as substitutes exist in the market. As these substitutes do not offer complete solution to the customers, the negative impact to Mightywand's product is relatively low comparing to other threats.

The buyers are independent grocers which are very fragmented in the market. They normally do not collaborate with others to make technology purchase. Though there are many alternative sources of POS available to these buyers.

The power of suppliers (i.e. POS hardware stores) is low in this industry because the source of supply is fragmented. Moreover, the cost of switching supplier is low as Mightywand has adopted an open architecture for its product and the brand identity is not important to the customer.

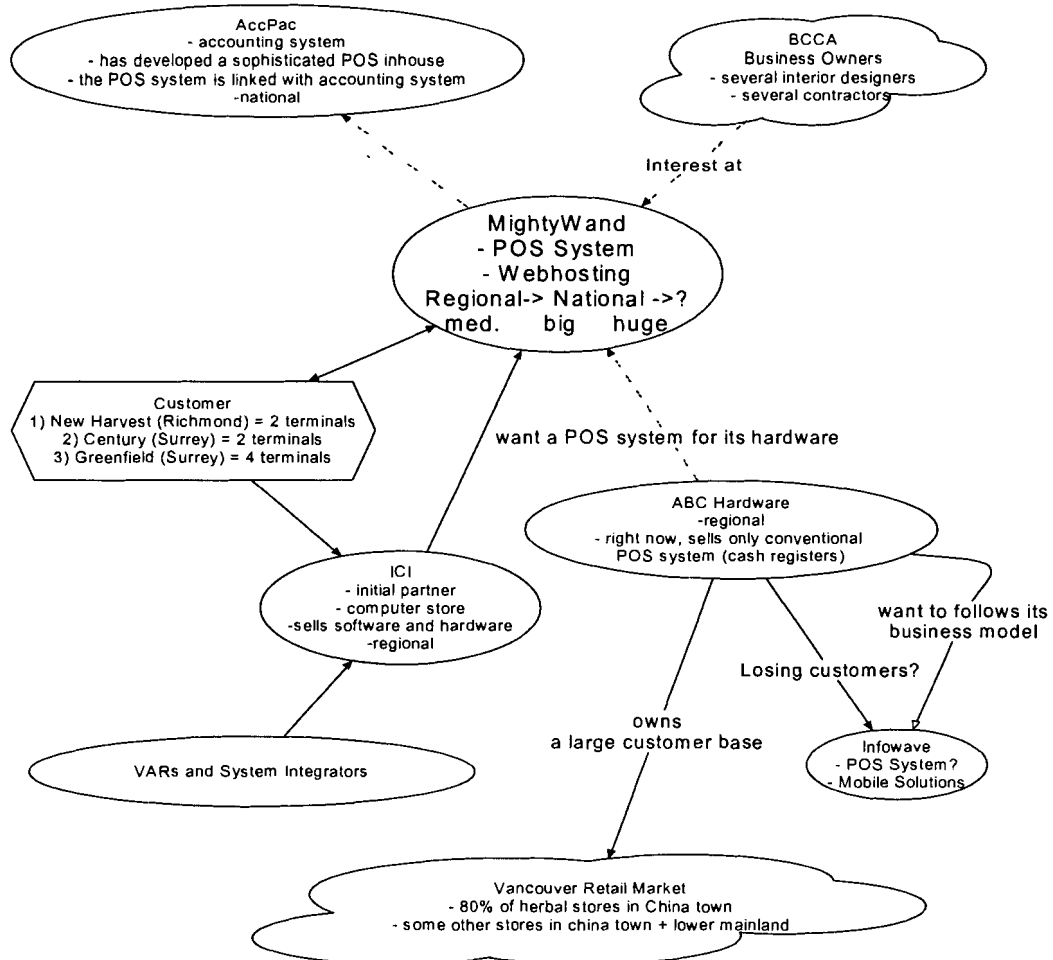
On the other hand, the greatest opportunity is from competitive rivalry. By building produce-oriented POS solution with different pricing model and open architecture, Mightywand differentiates itself from other competitors. This, in turn, enables Mightywand to confine its efforts to certain niches, instead of competing head to head with similar sized competitors.

5.3 Stakeholder Analysis

The external environment usually involves a number of parties. Each of them carries different level of power and interest. Some might have low interest and less power, when the others might have high interest with great power. Obviously, the expectation of the latter group must be quickly managed to avoid unexpected outcomes. A stakeholder analysis evaluates both the interests and power of each stakeholder. It helps firms to identify where they should put their focus such that proper actions can be performed effectively to achieve the goals.

The Figure 7 outlines all potential relationships between Mightywand and its surrounding entities. The diagram was drawn based on the analysis of the data provided by Mightywand's staff. The solid lines represent an existing relationship, whereas the dotted lines represent a potential relationship in the future.

Figure 7 Stakeholder Diagram



(Data Source: Mightywand)

AccPac is a software provider who is renowned for its accounting products. During the past couple years, it has introduced a number of new products such as CRM, eCommerce and HR management to medium size businesses. All of these new products can be integrated with its flagship software – AccPac Accounting solutions. It is trying to leverage its core competences to create market share in other markets. AccPac is known to Mightywand as it is also a company founded in Canada. Secondly, an employee from Mightywand is aware of the POS development within AccPac through a personal connection.

ABC is a hardware provider that sells a conventional POS system to the local market. The owner claimed that he owns a large market share in Chinatown for its POS system. Realizing a significant decline in the demand of its conventional POS system, the owner is now actively looking for software developers to develop a POS software and to provide technical support of the system such that he can package the software with hardware and sell the bundled system to its existing customers, who most of whom are still using a conventional POS system. These customers are likely to consider Mightywand's product as a close substitute as they also use weight scale in their businesses.

British Columbia Commerce Association (BCCA) business owners are looking for POS and web-hosting solutions in the market for their businesses or their client's businesses.

New Harvest, Century, and Greenfield are the three grocers who had purchased POS system from Mightywand. New Harvest has been proactively asking Mightywand for upgrades to streamline its business management. All of these customers initially ask for a simple POS solution. When they feel comfortable with the solution, they usually show interest to get new upgrade for the system. Customers' suppliers are distributors (e.g. Van-Whole Produce) and growers of produce products.

Customers' association such as CPMA assists individual members to get access to different kinds of resources. In addition to information related to fresh vegetables and fruit, other educational tools are also available to grocers for building their businesses. For example, they offer POS material, quality control report, and nutrition pamphlets to their members freely.

ICI Computer Inc.¹⁶ labels itself as a computer consulting firm that primarily sells personal computers that are either custom built or brand name. It also carries a wide range of computer related hardware devices for sale. Over the last few years, ICI has generated a number of POS leads for Mightywand. ICI's customers are either small business owners or walk-in customers. These customers walk into the shop hoping that a computer solution is available for their businesses. In addition to walk-in customers, ICI also sells hardware and software to VARs and system integrators. In general, POS hardware yields higher profit margin than other types of hardware such as computer systems and network systems. This is mainly because ICI needs to keep the prices of these computer systems low enough to compete with other computer stores. ICI's suppliers supply software and hardware solutions to ICI. Mightywand is one of the informal software suppliers who provide POS solutions.

Infowave was a small software solution provider who worked for ABC Hardware¹⁷. Over the last few years, the firm has become a leading provider of enterprise mobile applications (EMA). This has motivated the owner of ABC Hardware to enthusiastically seek business for computerized solutions.

5.4 SWOT

S.W.O.T. analysis identifies and lists a firm's strengths, weaknesses, and its opportunities and threats.

¹⁶ <http://www.icicomputer.com/>

¹⁷ Source: Mightywand

5.4.1 Strengths

- Good link to the market (Meyer 325). The good interaction with the market allows Mightywand to develop a dominant design through sequence of pilot products.
- Specialized in Produce market with 3.5 years experience. Industry practices and standards (i.e. Measurement Canada compliant) are incorporated into the POS system.
- The POS core components have been developed. Any subsequent new product development can be done at a lower cost compared to building from scratch.
- Established relationship with a few customers.
- Mightywand system and services are offered at a competitive price.
- Open System architecture, no dependency on a particular hardware vendor (Garry 11).

5.4.2 Weakness

- Lack of a strong management team that deals with strategic issues. The management team is comprised of technical experts who lack knowledge of tools such as organization analysis, process flow, and business sense – things that are not software-related.
- Lack of product variations/number of products. Only a single product is available to customers, which limits the potential numbers of customers that can be satisfied and reduces the power to open doors of customers and distributors

- Do not possess resources, including access to markets, marketing knowledge and funds to effectively market its products.
- No full time staff which makes it hard to retain knowledge.
- No commitment on the product delivery.
- Not yet established a reputation in the market.

5.4.3 Opportunities

- The independent grocer market is not yet saturated, however, with space for growth. The market is neglected by other POS software companies because the market size appears to be small at this point.
- The retail market is a huge market, where a number of market segments that use weight scales are potentially available for the company to expand into.
- In addition to the Produce market, there are other shops, for example, herbal stores and meat and fish stores that can use Mightywand's products.
- No POS company has assumed leadership position in the retail market. For example, there are 50 versions of POS software in use with 300 retailers surveyed by International Cycle Works. (Wiebe 1). This is especially true in the Produce market. There are very few POS solutions available for small and medium Produce market.
- The continuous support of traceability by government in the food supply chain will create demand of new supply chain management system and new functionalities in POS system.

- New technologies such as wireless devices and RFID have emerged that need new software systems. From time to time, customers upgrade their computer systems to take advantage of the new capabilities, introduced by new technologies, which old hardware couldn't handle.

5.4.4 Threats

- Although there are many existing POS solutions in the market, no dominant design exists.
- No brand identity / awareness for Mightywand.
- No protection of the know-how (Meyer 324). Competitors can copy ideas and incorporate into their solutions.
- Giant companies such as IBM, SAP, and Microsoft are starting to look at small and medium retail markets (Garner 2005).

6 STRATEGIC ALLIANCE ALTERNATIVES

Based on the information gathered through several interviews with Mightywand's key staff. A possible list of strategic development directions for Mightywand is outlined below in Table 6. The management team sees the market opportunity and have a strong faith in its products. It is strongly believed by the team that the POS product could reach a wider group of customers and good harvest can be reaped. Consequently, the strategic direction selected by Mightywand is to build market share in its existing market with its flagship product with the option to explore new markets such as Herbal stores and other dry-grocery stores.

Table 6 Products - Markets Matrix

Markets \ Products	Existing	New
Existing	<u>Protect and Build</u> -POS system for Produce -Improve User Interface -Expand distribution system	<u>Product Development</u> -Incorporate new technology RFID, RSS 14 -Add New functionalities such as forecasting and inventory control
New	<u>Market Development</u> -POS system for non-perishable retailers -POS system for bigger stores such as supermarkets	<u>Diversification</u> -ERP, CRM -Self-Service

To cope with increasingly complex environment and stiff competition, Mightywand needs to address various issues in order to build up market share quickly in its target market. Mightywand can go into the market alone by marketing and

distributing its products directly to customers, but this isn't a favourable option given that Mightywand is lack of resources and competences to take care of the marketing and sales activities. Mainly, the company has to resolve its distribution problem that is caused by lack of internal resources and competences, which can be potentially addressed by building a strategic alliance.

Taking into consideration the external and internal analysis conducted in previous sections, a list of strategic alliance alternatives has been developed in this section. These alternatives will be thoroughly assessed in this section and a recommendation will be presented in the end of this paper.

6.1 Strategic Alliance Alternatives Available to Mightywand

The existing partnership model is 3 years old and do not yield any benefit to either Mightywand or its partner. A new alliance model is needed in order to strengthen its market penetration. In this section, several strategic alliance alternatives are identified and discussed. The focus of these alliances is on the distribution of Mightywand's POS system. The goal is to develop appropriate distribution channels such that customers from produce market know where to find Mightywand's POS solution.

6.1.1 Partner with a Hardware Provider

One option for Mightywand is to partner with a local hardware store, which normally is the first contact point of the produce market, for lead generation, product distribution and installation, thereby allowing Mightywand to focus on product development and ongoing technical support. This service network model enables Mightywand and its partner to complement each other by leveraging each other strengths.

The difficulty of this model is to assess how much each company contribute in this alliance model, in that way a new business model can be created with the aim to create synergy and minimize conflicts. It is rational for the hardware provider to take up more responsibilities to maintain its exclusive right to sell, for example, by taking up the installation and initial training of the product to customer. A clear roles and responsibilities with common goals and objectives must be defined, after which, they need to communicate it clearly within their companies so that the two companies can work seamlessly with each other.

6.1.2 Partner with Multiple Hardware Providers

Instead of giving one hardware provider an exclusive right to sell Mightywand's POS solution, Mightywand can create alliances with multiple hardware providers such as ICI computer store and Company ABC. This arrangement immediately increases the number of distribution points and thus potentially generates greater demand of its POS solution.

To work with multiple hardware providers, the service network model mentioned in the previous alternative cannot be reused. A different alliance model based on one-stop-shop is needed to partner with multiple hardware providers. By working with multiple hardware providers, Mightywand needs to spend more managerial resources to effectively manage these alliance relationships and to reduce channel conflicts. Mightywand needs to devise a selection method to evaluate which hardware store they should invite for better return. For example, they need to consider the established customer base of the hardware store and whether this customer base is consistent with its deliverables.

6.1.3 Partner with Solution Provider

Another option is to build a partnership with solution providers, such as value-added resellers and system integrators, which are composed of highly skilled professionals. They can market, sell and install Mightywand's products with minimal involvement of Mightywand's resources. There are lots of potential partners available in the market for Mightywand to engage with.

The shortcoming of this option is that this subcontracting model does not hold the solution providers responsible for the sales performance of Mightywand's POS product. It is possible to let the partners to follow up the lead, but that could create agency problem and produce less profit for Mightywand. Potential agency problem like selling a high profit margin POS solution to customer, which might not be the best solution for the customers, can potentially weaken the reputation of Mightywand. In fact, these solution providers are likely carry products for many software companies, as selling Mightywand's system alone does not generate sufficient volume. For that reason, Mightywand should develop more than one alliance relationship of this type to increase its reach to the market. Also, Mightywand must work effectively with these solution providers to ensure common goals and objectives are achieved.

6.1.4 Software Company's Partner Program

Many software companies leverage their market share by attracting partners that build solutions on top of what they currently offer, and as a result, strengthen their offerings. These software companies provide resources and distribution channels to its partners in return. For example, Microsoft Partner Program¹⁸ offers independent developer/software firms a number of benefits to build application on top of Microsoft Windows platform. The program provides its certified partners a wide range of benefits:

¹⁸ <https://partner.microsoft.com/global/program>

co-marketing, access to Microsoft's resellers, and access to development tools/resources. Moreover, the program provides customer referrals from its established customer base. This one-stop-shop network model enables Mightywand to fully leverage its partner's complementary assets, which the company lacks, to build market share. AccPac¹⁹ is a software company that offers this kind of partner program.

By joining a software partner program, Mightywand will gain access to resources and tools for building its application. The partner program usually assists its members to build up its marketing and sales competences. Some of them might market members' products as part of their solutions. On the other hand, participation in this program requires Mightywand to rebuild or realign its application to fit into the system requirements mandated by the partner program. Another disadvantage is that Mightywand will need to follow the direction of the software company to make it an effective alliance. In other words, Mightywand's future direction will be constrained by this alliance. Although this is not consistent with the original intention of Mightywand to reap profits from its existing products and build market leadership, this is a possible option the company can consider.

6.1.5 Customers' Buying Group/Association

Grocers sometimes consult their buying group/association for technology solutions referrals, therefore partner with these organizations to provide a POS solution for produce market is another possible way to increase visibility of Mightywand's POS system. This normally requires a coproduction model which involves Mightywand to work closely with customer's buying group (e.g. Van-Whole Produce) or association (e.g. Canadian Federation of Independent Grocers) to gain access to the market. This model not only enables Mightywand to understand its target customer more, but also potentially

¹⁹ http://www.accpac.com/Current/DP_program.asp

strengthens its lock-in position. Once satisfied with the product, grocers do not like to switch to another product until it is really necessary.

This option presents multiple challenges to the software company. The biggest challenge the company needs to overcome first is to get buy-in from majority of the group. This model is particularly useful for developing products for new markets, but the cost is higher than the costs of the other options. Tremendous time will have to be devoted on working closely with customers. As each of the leads requires some level of follow up, the more leads generated by the partners the more resources the company has to allocate for lead follow up. If Mightywand adopt this option, it will have to create demand and work with end users to define products. Conversely, an accepted quality solution will build a barrier to the company's competitors.

6.2 Strategic Alliance Alternatives Evaluation - Ranking

The primary goals of the focal firm are to leverage its POS solutions and sell it to the existing markets. As the firm has limited funds available, it does not want to make substantial investment at this stage. The company considers that one of its core competencies is that all developers in the company are very technically competent at their current responsibilities and assignments. If not necessary, they would prefer to keep the number of staff the same to limit costs. It is also understood by the company that the POS product they built has not yet established its brand name in the market, for which they would like to increase the awareness of the products in the target market. The ultimate goal of the company is to establish a leadership position in the produce market quickly.

A Ranking approach is used here to determine the relative suitability of each strategic alternative (Johnson 386). In this framework, strategic alliance alternatives are

evaluated in light of the key factors that are in consistent with the expectation of the company. These key factors are internally and externally consistent to the direction of the company. The steps followed include prediction and valuation (Boardman 24). For prediction, each of these key factors was checked against each alternative, and the value of each alternative is marked as favourable, unfavourable, or irrelevant in the cell of the matrix. The cell can be filled in with more quantitative and more level of qualitative variables should they become available. For example, instead of using three levels of quantitative variables for investment funds, one can put in the forecasted funds required for each alternative in the table. The matrix format ensures all key factors are considered before concluding the result. At the end, a rank is given to each alternative to summarize how favourable it is to the goals of Mightywand. Table 7 shows the evaluation matrix for Mightywand with the assumption that the key target market is Produce market and the secondary market is other small and medium size Herbal stores and Dry-Grocery stores.

Table 7 Strategic Alliance Alternatives Ranking

Strategic Alliance Alternatives	Leverage Existing Product	Lack of Management Staff	Complementary Fit	Established Customer Base	Expandability to New Market	Channel Costs	Ranking
Partner with a Hardware Provider	√	√	√	√	√	√	A
Multiple Hardware Providers	√	?	√	√	√	?	B
Partner with Solution Provider	√	X	√	X	√	?	C
Join Partner Program	X	√	√	?	?	?	C
Work with Customer's Group	X	?	X	√	X	X	C

√ = favourable; X = unfavourable; ? = uncertain or irrelevant
A = most suitable; B= possible; C = unsuitable

The Ranking result in the table above illustrates how suitable each alternative meets the expectation of the company. Having said that, one must understand that an alternative receiving a lower ranking could also be a viable solution.

7 RECOMMENDATIONS

7.1 Type of Alliance

It is recommended that Mightywand partner with one local hardware store, as this strategy offers the company the greatest chance of success and is best matched with its core capabilities and resources. In this service network model, the best candidate will be ICI computer store. This alternative allows Mightywand to market its existing POS solution to produce market via its partner without the need to rebuild new product to align with other software products. The partners within this alliance also complement each other very well in term of resources and competences (Hill 24), which effectively lower the cost for Mightywand and ICI. For example, ICI computer store has its own technical support team that can be trained to install POS system on behalf of Mightywand. Most importantly, this relationship also creates a win-win situation for both companies. It not only allows Mightywand to enter the market, but also makes new sales opportunities available to the hardware stores.

Although the alliance with multiple hardware stores increases the number of distribution outlets, it requires substantial resources, for example training, from Mightywand and creates channel conflicts (Marken 2005) especially if the size of the produce market is limited. The key factor in determining whether a single or multiple distributors is to be used lies upon the ownership of the responsibilities for installation and customer training. If Mightywand had the resources to provide training themselves, then they would enjoy a broader range of opportunities in partner selection. Partners would not need the staff or technical knowledge to perform this critical, but resource

intensive function. In the future after Mightywand builds up its alliance competences and creates more lines of POS products, Mightywand can consider moving into the next level of alliance model. This involves partnering up with multiple selected hardware providers and expanding into other retail markets such as meat and fish and herbal stores or into other geographical locations such as outside Lower Mainland area.

7.2 Alliance Business Model

In this alliance model, customer demand generation activities will be a priority to raise customer awareness of Mightywand's POS solution. These marketing functions will be undertaken by Mightywand's partner as it is the first contact point to the target market and it is resourceful in this area. Direct mail can be sent to the hardware store's existing customer base for lead generation. Furthermore, the POS solution can piggyback with the hardware store's advertising. To the hardware store, this represents an opportunity to expand its POS hardware sales. To Mightywand, it is a significant saving on advertising costs.

Mightywand will need to provide a demo version so that salesperson in the hardware store can provide demonstration of the POS solution on behalf of Mightywand to walk-in customers. Training and limited time system support must be bundled together with the POS solution as most end users from the target market do not have experience using computer systems in their stores. This prevents buyers from purchasing the solution alone, which likely resulting in bad customer experience of the POS system if they use the POS system incorrectly.

Once the sales are closed, the technical support team within the hardware store will have to provide POS installation and product training. This implies that Mightywand will have to educate the technical support team whenever a new product is released.

This arrangement is essential for the hardware store to undertake, otherwise, it will be very costly for Mightywand to provide this kind of follow up services. This is the value that the hardware store can contribute in order to maintain the exclusive rights to sell.

After sales technical support will be provided by Mightywand. Aforementioned, a limited time sales technical support must be bundled into the POS package to ensure good user experience, which valued the most by the customers in this target market. Post sales follow up should be performed by the hardware store as a way to generate demand for upgrades and other products. The feedback solicited in this process will be passed back to Mightywand for enhancing its POS solution.

7.3 Organizational Structure

Mightywand has undergone several organizational changes to arrive in this organizational structure. Most of the current organizational structure can remain intact, except that the company should be shaped with a slim management layer with majority of the staff focus on product development and support. It is essential that staff in the company understand this organizational structure and commit to their job mandates. It is expected that overlapping roles and responsibilities create flexibility in operations and support, but not to confuse the ownership of each assignment.

Since sales and marketing activities are outsourced to the hardware provider, Mightywand will need to shift its resources from marketing activities to alliance relationship management. This includes ongoing, open and honest discussion of goals and objectives with its partners.

7.4 Products

Product variation of Mightywand is weak. Mightywand's product should be packaged into several editions with different selling prices. Different bundles of POS solutions can lower the product cost and selling price, thereby increasing the product's reach to all levels of the target market. For example, the product can be packaged into the following 3 different editions:

- 1) Product for 1 terminal with Microsoft Access (for single machine).
- 2) Product for multiple terminals with SQL Database (for multiple machines).
- 3) Product with additional functionalities like report generation.

Should the company decide to increase its presence in other markets, the company can utilize what it has and quickly make it available by repackaging it accordingly. For example, it can repackage the software and sell it to other markets such as fish and meat stores and herbal stores that use weight scales. It can also package it without a weight scale and sell it to dry-food retail stores. A different pricing model will have to be developed based on the market conditions and product cost.

To build market share in the produce market, Mightywand should carefully reassess its product roadmap and refrain from building customised product for each customer. This is because individual customisation can easily tie up Mightywand's valuable resources, which should be allocated to build future systems. Rather than customize for each customer, Mightywand should continue to release upgrades containing new functions to generate more revenue as well as to come up with a dominant design.

Most importantly, the company must focus on product development to meet the future needs of POS system. Incorporate new technology (i.e. RFID) and industry

standards will add strengths to the company's product, thereby enabling the company to expand its market share in the future.

7.5 Success Criteria of Mightywand's Strategic Alliance

In the past, the company has been spending resources in different types of POS systems and exploring opportunities in other product development. In order to effectively exploit the synergy of this partnership, the company needs to set the produce market as the priority item and communicate this target with its partners

Common objectives and goals must be defined and communicated to both parties. For example, the traditional grocers who are using conventional POS system will likely prefer a phased approach to implement POS system instead of a complete rollout. As the latter one can adversely affect its business operations, which can reduce their interest on the POS system, this message must be communicated to the partner such that proper sales offer can be presented to potential customers.

Open communication involving the right people (Stanek 186) must be established between the two companies. The communication should be open and free flowing after protected asset has been identified.

The nature of this market makes hardware stores a good entry to the market. Mightywand needs to leverage this partner's advantage and makes good use of it. Since the company is now competent in its POS product for the produce grocer market, it should have no problem providing support to a larger customer base provided that the resources of the companies are utilized efficiently in this area.

To maintain a healthy relationship with its partners, the management team of Mightywand must constantly assess the market needs and allocate its resources accordingly to meet the growing demand of its POS product.

8 CONCLUSION

Leadership in a market place can never be built in one day, regardless of whether or not the product is of superior quality. This is particularly true in today's hyper-competitive environment with short product life cycles. It becomes more difficult for firms to go into the market alone. To succeed, they need a strong competitive business strategy. The analysis conducted in this paper reveals that Mightywand lacks a strong direction by which it may succeed. This direction might be towards a strategic alliance model to gain market share. This paper provides a basis on which to build a strategic alliance for Mightywand.

Head-to-head competition with other competitors who already have brand identities makes brand building more difficult. The company must build its reputation and its competencies in a particular market prior to expanding into other markets. Although not many studies on POS usage exist for the small and medium produce market, survey results unveiled that cutting-edge technology is not the key to small and medium grocers who are beginning to adopt technology. Rather, full technical support and basic capabilities that can solve domain-specific problems are vital at these initial stages of technology adoption.

The fact that a dominant POS solution has not emerged in this market provides tremendous opportunity for Mightywand. Since the produce market is neglected by other software companies Mightywand has a strong potential to dominate the market if its product is specifically marketed to this niche. Once Mightywand's POS product dominates the market, vertical integration with the supply chain for ECR becomes possible for Mightywand to pursue.

Mightywand has the right people for POS product development and support. However, the company needs a way to effectively leverage these resources to build core capabilities for the company. It must stop betting on all horses by continuously changing market focus or developing new products that are not consistent with its core business, and then hoping that they will sell. The company needs to concentrate on its target market and understand the customer's needs in this market. The market knowledge and resources possessed by ICI perfectly complement Mightywand in marketing its POS solution to its target market. To make this alliance model succeed, Mightywand must reengineer its business process and restructure to better use its resources.

From ICI's perspective, Mightywand is an irreplaceable partner. Facing fierce competition in the computer system retail industry, this alliance model creates new opportunities with less risk to ICI. Should ICI want to switch to another partner for the software, they will face challenges in identifying a partner that has the relevant skills and internal resources. Besides, it will take these software providers time to build a competitive solution that incorporates industry practices and standards like those offered by Mightywand's POS system. The alliance is clearly a win-win solution for both Mightywand and ICI.

The recommendations in this analysis by no means identify all the work that needs to be done. However, it does provide an alliance model that draws attention to areas where the firm must focus on in order to establish a position in a market. This model extends its existing relationship with ICI from being a pure hardware provider to a strategic partner. The strategy focuses on building market share in the produce market where opportunity exists with negligible threats. The large installed base will result in increasing returns in the produce market (Hill 8), and eventually prepares the company to enter into other markets.

APPENDIX I – MIGHTYWAND SYSTEM FEATURES LIST

MightyWand® Grocery System (**MGS**), which is one model of MightyWand® Retails System (**MRS**), is a retail system that supports POS operations. (Please refer to the functional specification of MRS). In general, MightyWand® Retails System (**MRS**) comprises of 3 sub-systems – “**SIR**”.

1. **S**hop System

– A system to maintain daily business activities

- Sales & Invoice
- Sales Enquiry & Update
- Invoice Printing
- Payment System
- System Maintenance & Security

2. **I**nventory System

– A system to maintain the item details, category, stock level, unit cost and pricing.

- Item Category
- Item Details
- Item Cost and Pricing
- Item Taxable Details
- Stock Level – Check In/Out, Reversal

3. **R**eporting System

– A system to prepare managerial reports by analyzing records from database

- Sales amount by salesperson
- Profit per month
- Stock Re-order list
- Inactive Item list

The system has 2 major user interfaces: cashier and manager. Cashier is the interface for entering invoice items and generating the invoice/receipt. The Manager interface is for the manager to administrator the store. These include tasks such as defining the GST percentage and the list of products available for sale.

APPENDIX II – QUESTIONNAIRE FOR STORE OWNERS

1. Is PLU standard across the industry? How do you handle products with or without PLU?
2. Where do you get your POS solution? Will you go to a consulting firm? Value Added Resellers? Solution provider?
3. Do you change/upgrade POS solution frequently? If not, what's the reason?
4. What do you use computer system for? POS only? Inventory Control, Accounting, or Demand Forecasting?
5. How is the supply chain look like? Are you a member of a buying group? Or you purchase your goods from wholesaler?
6. Can your POS support supply chain management?
7. What are the value-added features you want from a POS?
8. What value does your store add? For example, repackaging? Clean and prepare?
9. What market segments are you targeting at? Walk-in? Or Food operators such as Restaurant?
10. What's the day-to-day operation process look like? e.g. get fresh-cuts from wholesale, price setting, price adjusting?
11. What is the most time consuming process?
12. How do you determine price of the produce? Mark-up your purchase price by certain percentage?
13. How do you compete against chain stores? Frequent price drop? Better service? Different products?
14. What's the inventory turnover rate?

15. Who are your direct competitors? Indirect competitors?
16. Do you have an established produce specification?
17. Do you provide both pre-cut and raw ingredients?
18. Do you keep track of a list of customers/food services info such as their order list, delivery time? Do you repack and regrade to meet individual need?
19. How much do you purchase? How to avoid overstocking?
20. How do you keep the business with the existing customers? Do they switch frequently?

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