AN ANALYSIS OF MARKET DEVELOPMENT STRATEGY OF A POINT-OF-SALE SOLUTIONS PROVIDER'S MARKET RESEARCH DATABASE

by

Ahmed H. Medina

PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF BUSINESS ADMINISTRATION

In the
Faculty
of
Business Administration

Management of Technology Program

SIMON FRASER UNIVERSITY

Summer 2007

APPROVAL

Name: **Ahmed H. Medina**

Degree: **Master of Business Administration**

Title of Project: **AN ANALYSIS OF MARKET DEVELOPMENT STRATEGY OF A POINT-OF-SALE SOLUTIONS PROVIDER'S MARKET RESEARCH DATABASE**

Supervisory Committee:

Dr. Michael Brydon

Senior Supervisor

Faculty of Business Administration

Dr. Jan Kietzmann

Instructor

Date Approved: April 30, 2007

Declaration of Partial Copyright Licence

ABSTRACT

This paper is a strategic analysis of Vivonet Inc. and its restaurant performance-benchmarking tool ZATA. Vivonet is a Point of Sales (POS) systems provider for the hospitality and the retail industry. Its ZATA product captures POS and other related information from restaurants and allows the restaurants to compare their performance with restaurants in their market segment.

With ZATA, Vivonet has the opportunity to extend beyond the POS systems segment and compete in the market research industry. The external analysis shows Vivonet has strategic alternatives to compete in both the industries. The paper performs an analysis of the POS system provider and the market research industry and an internal analysis of Vivonet and examines which strategic alternative is the best option based on Vivonets resources and capabilities. The paper recommends that Vivonet should enter the market research industry as an information supplier rather than as an information consultant.

DEDICATION

I wish to dedicate this project to my wife Nagma who sacrificed her time with me so that I could complete this process and to my mother, whose prayers helped me complete the program.

ACKNOWLEDGEMENT

I would like to thank Dean Prelazzi and Robb Alexander for giving me directions and providing me information required to complete this project.

I would also like to thank Dr. Michael Brydon for guiding and mentoring me throughout the whole process and Dr. Jan Kietzman for giving me final suggestions and enabling me to deliver a quality paper.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

GLOSSARY

API: Application Programming Interface. An API is any interface that enables one program to use facilities provided by another, whether by calling that program, or by being called by it. At a higher level still, an API is a set of functionality delivered by a programming system, and as such, the mix of APIs in a particular system tells you what that system can do. (Source: Mobile Phone Glossary, www.polyphonic-ringtones.co.uk)

ASP: Application Service Provider (ASP) hosts a variety of applications on a central server. For a fee, customers can access the applications that interest them over secure Internet connections or a private network. This means that they do not need to purchase, install and maintain the software themselves; instead, they rent the applications they need from their ASP. (Source: www.x-solutions.poet.com)

Data Warehouse: A data warehouse is a database geared towards the business intelligence requirements of an organisation. The data warehouse integrates data from the various operational systems and is typically loaded from these systems at regular intervals. Data warehouses contain historical information that enables analysis of business performance over time. (Source: www.oranz.co.uk)

ETL: Extract Transform Load. ETL tools are a special class of tools designed to gather data from different source systems, transform the data and load it into the denormalized data warehouse. (Source: www.webopedia.com)

Halo: Name of Vivonet's Point of Sale product.

POS: Point of sale refers to the capturing of data and customer payment information at a physical location when goods or services are bought and sold. The POS transaction is captured using a variety of devices, which include computers, cash registers, optical and bar code scanners, magnetic card readers, or any combination of these devices.

ZATA: Name of Vivonet's benchmarking product.

1. INTRODUCTION

The objective of this report is to analyze Vivonet, a POS solutions provider, and recommend strategy for its ZATA product. ZATA is a benchmarking tool for restaurants and retailers that allows them to compare their performance with other restaurants and retailers. In the new version of ZATA, called ZATA 2.0, Vivonet is creating interfaces to load data from various POS systems into the ZATA data warehouse. This report analyzes the ZATA data warehouse and the different customers that can utilize this data and makes recommendation on the most attractive markets for ZATA. Vivonet's primary business is the POS systems provider business in which it operates through its flagship product, Halo. However, with ZATA data warehouse, Vivonet competes in the market research industry. Therefore, this report includes an analysis of the restaurant POS systems industry as well as the market research industry.

Although ZATA caters to both the retail and the restaurant industry, this report focuses on the restaurant industry for two reasons: First, Vivonet has more experience in the restaurant industry (three years) than the retail industry, which it entered six months ago. Vivonet can use its accumulated knowledge in restaurant POS and benchmarking systems to target this industry first. Second, the retail industry is very fragmented with many segments, while the restaurant

industry is relatively homogenous. Analysing the foodservice industry keeps the scope of this report manageable.

The management at Vivonet believes that their POS solution is an early-stage enabler towards building one of the largest restaurant and retail databases in the world. Internally they have referred to this as their "Data Strategy" (Prelazzi, 2006). The goal of the analysis is to find out how Vivonet can translate the massive transactions database in ZATA into a viable strategy.

1.1. Vivonet

Vivonet was founded in 1999 by Ryan Volberg and Kevin Falk whose vision was to harness the power of the Internet to improve existing POS systems. The industry on which the founders initially decided to focus was the restaurant and hospitality industry and they developed the Halo POS product to address some of the problems facing restaurateurs.

When Vivonet was founded in 1999, the POS systems used throughout the restaurant industry had several limitations. First, they were restricted to a single outlet for chain restaurants. Every branch in the chain had a separate installation of the product making centralized configuration changes such as setting menu prices and promotions difficult. Second, installing and maintaining these systems was complex. In order to resolve issues with the POS application or to upgrade the software, the POS systems provider had to send in a support person to perform the task. Finally, the existing POS systems required

purchasing of additional hardware and hiring of integrators to set up and maintain the systems.

HALO, which Vivonet introduced in 2004, is an ASP (Application Service Provider) based product which only requires a POS terminal connected via Internet to a central computer server maintained by Vivonet. The ASP technology allows the application logic and data to exist on a remotely located computer server, which the application users access over the Internet. In Halo's case, ASP allows multiple outlets of a restaurant chain to share information and lowers the complexity of maintaining the POS system. As of 2006, Halo's customer base has grown to 200 customers.

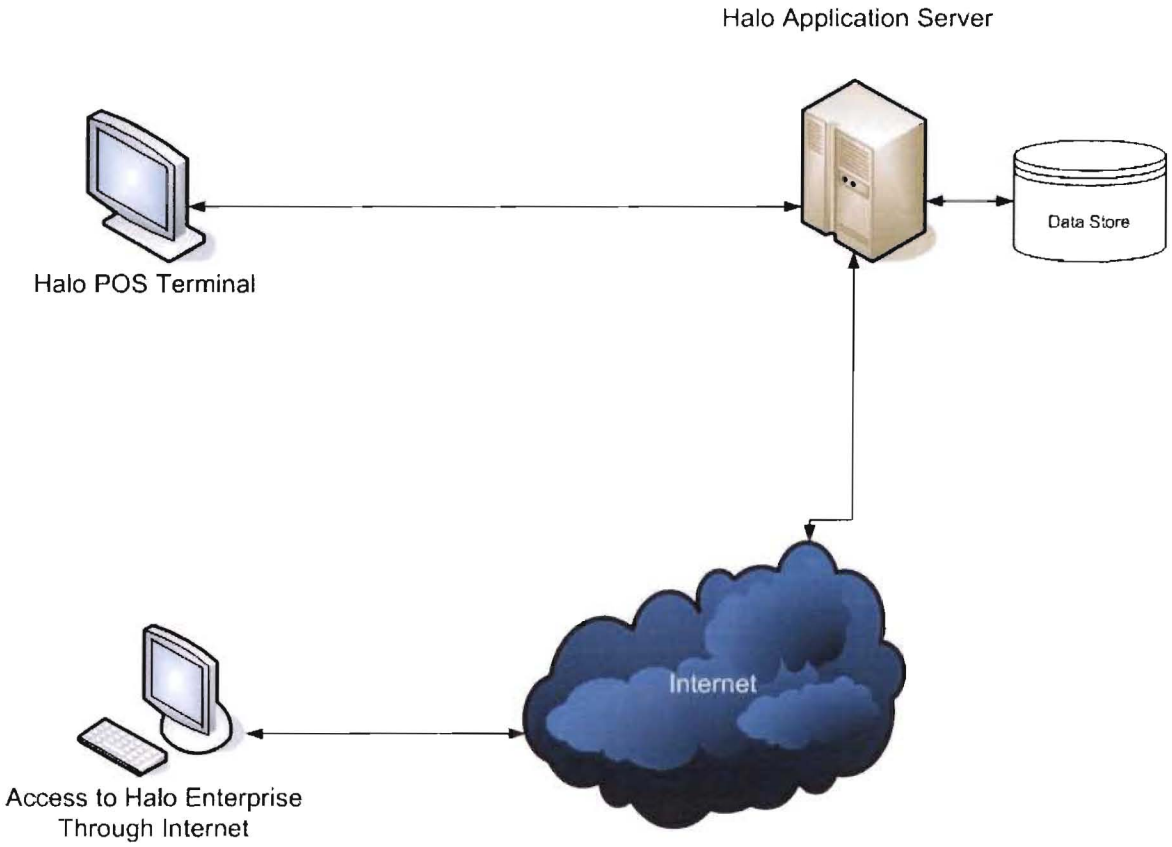
Halo's main features include:

- A touch-screen terminal (shown in *Figure 1*) installed at the customer site. Halo does not require any computer server at the restaurant location to host the POS software; instead, the touch screen terminal connects via the public Internet to a central application server located at Vivonet's office. In case of a problem with the Internet connection, the Halo terminal at the customer site can switch to offline mode and process POS transactions locally until the connection is restored. *Figure 2* shows a high-level architecture of Halo.
- Halo Enterprise Manager, which allows the restaurant to configure its POS system by setting menu prices and promotions. Restaurants can operate the feature through any web browser.

- Benchmarking feature, which allows a restaurant to compare its POS performance with other Halo customers. Since all the transactions are captured at a central server and stored in a single database, Vivonet is able to aggregate the transaction information and create measures that allow a restaurant to compare its performance with that of the entire customer set.
- Customer survey feature, where diners can answer survey questions. The payment receipt given to customers contains a system-generated code. The customer has the option of going to a survey terminal located within the restaurant and answer survey questions. The customer survey can be tracked to the individual customer via the system-generated code allowing the restaurants to merge customer survey information with the customer's order information.
- Integrated payment processing within the POS terminal. Many restaurants have separate POS terminals and payment processing machines in which they enter credit or debit card payment information in each device separately. With the integrated payment processing, only one entry needs to be made, which not only eliminates the chance of human error, but also avoids redundant entries.

Figure 1: Halo Hospitality Terminal

Figure 2: Halo Architecture



In 2006, Vivonet introduced a benchmarking tool, ZATA that allows restaurants to compare their performance with other restaurants in their market segment. ZATA is a web-based tool in which members manually enter their weekly benchmark information including weekly sales, labour costs as a percentage of sales and product costs as a percentage of sales. The system then compares the entered information with other entries in its database and returns a set of scores called ZATA that rank the restaurant compared to other

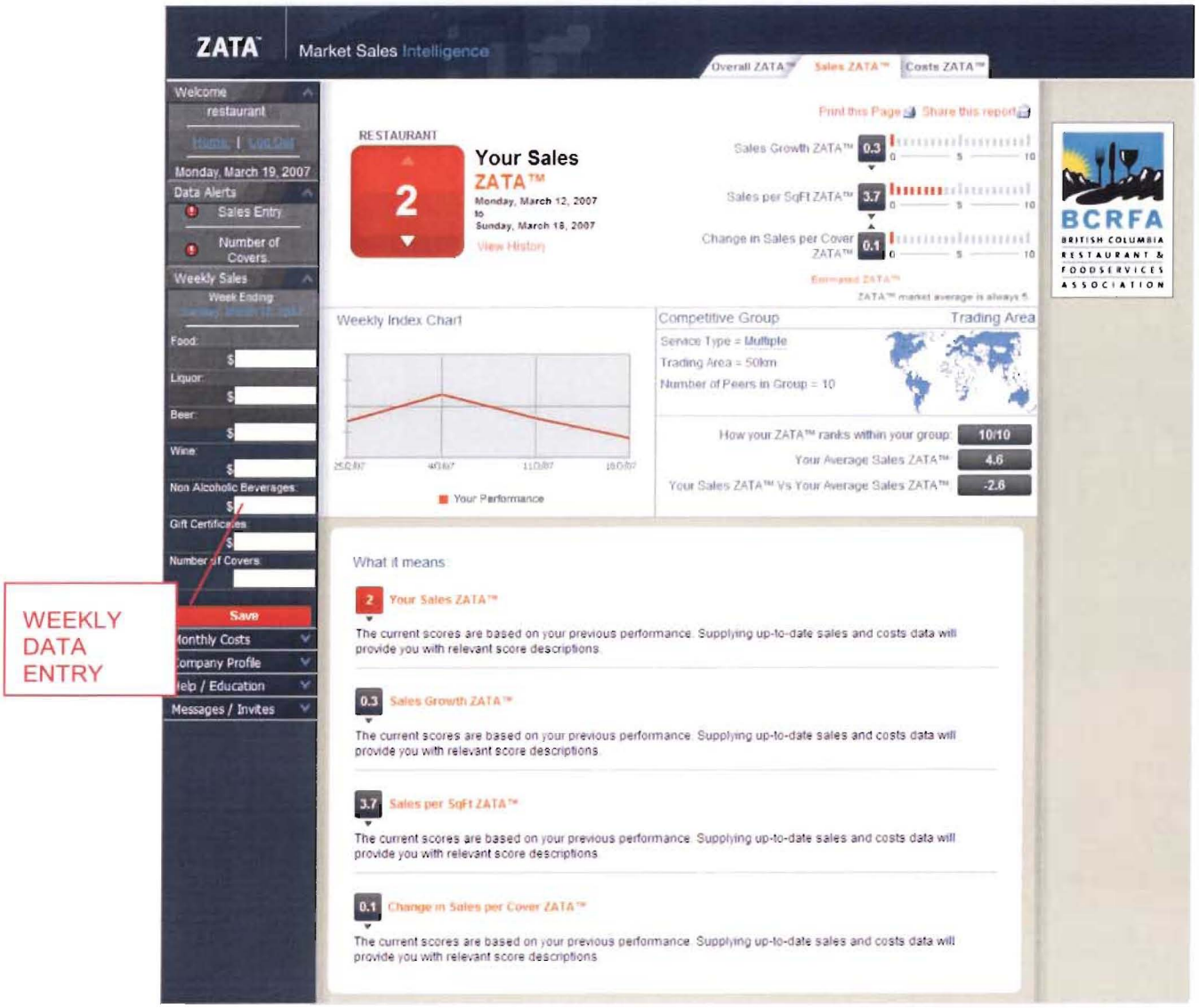
restaurants in its market segment (Manfield, 2006). All the ZATA scores are calculated using a proprietary formula developed by Vivonet. The measures are shown in *Table 1.* Vivonet ensures that members contribute to ZATA by returning ZATA scores only if the members enter the weekly information.

Vivonet originally developed ZATA, which currently has 3,400 registered users, for the British Columbia Restaurants and Foodservice Association (BCRFA) to enable its members to assess their performance with restaurants in their market segment. Although ZATA was initially available only to the association members, it was opened up to any restaurant wishing to participate after Vivonet negotiated this with BCRFA. *Figure 3* shows a screen image of the ZATA Report. Vivonet is currently developing ZATA 2.0, which will have features to automatically transfer point-of-sale transaction information from different POS systems directory into the ZATA data warehouse.

Table 1: ZATA Measures

Measure Name	Description
Overall ZATA	Score given to restaurant based on internal calculations that combine the Sales ZATA and Cost ZATA measures
Sales ZATA	Score based on weekly sales
Sales Growth ZATA	Score based on change in sales over the past week
Sales per Square Feet ZATA	Score based on sales per square feet
Change in Sales Per Traffic	Change in sales per average order
Cost ZATA	Score based on weekly costs
Cost of Goods Sold	Weekly Costs
Labour Cost	Weekly Cost of Labour
Sales vs. Average Sales ZATA	Score comparing weekly sales to the average sales
ZATA rank	Ranks the ZATA compared to ZATA scores of other restaurants in the same market segment.

Figure 3: ZATA Report



1.2. Market Research Industry

The market research industry provides services that include collection and compilation of information and creation of insight from the information about consumers, businesses and markets. Information provided by the market research firms is used by the client companies to identify and evaluate new markets, benchmark their business and monitor the any lingering threats to their growth.

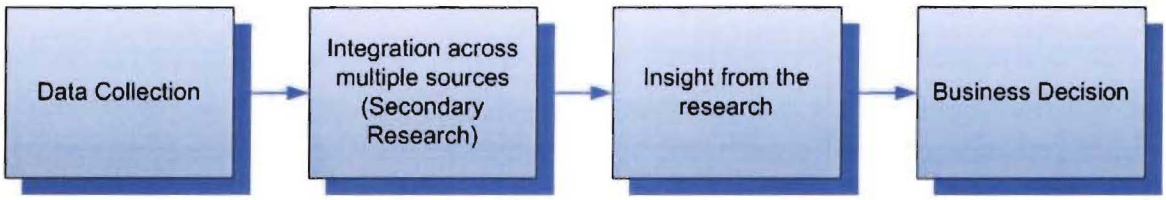
The flow of market research across the value added chain is shown in *Figure 4*. The market research process starts with collection of primary data from different sources. The following are some examples of primary research:

- Surveys of consumers to get demographic or consumer preference information through face-to-face interviews, telephone or online surveys.
- Focus groups to understand consumer views.
- Performance information such as revenue and customer traffic from restaurants of a specific market segment.

The next stage is the secondary research process that consists of integrating data from different primary research reports. For instance, combining customer survey conducted in a particular area with that area's demographic information. The integrated data is then analyzed to derive insight from the information. For instance, the research could show which brands of a company

are preferred by higher income people. Finally, the insights gained from the research are used to make business decisions by the company. A wine maker, for instance, can decide which brand of wines to distribute in a particular market.

Figure 4: Market Research Value Added Chain



1.2.1. Market Size and Growth Trends

The Canadian market research industry was valued at $477 million as of 2003. The growth of the Canadian market was at a compounded annual growth rate of 6.1% between 1999 and 2003 (*Market research in Canada, 2004*). The Canadian market is forecasted to grow by 29.4% to $617 million by 2008. This translates to a future annual growth rate of 5.4%.

The US market was valued at $6.7 billion as of 2003 when its growth was 5.6% compared to the previous year. The compound annual growth rate of the US market was 6.7% from 1999 to 2003 (*Market research in the United States, 2004*). The US market research industry is forecasted to grow by 29.9% to $8.6 billion by 2008. This translates to a future annual growth rate of 5.4%. The annual market value and year-by-year growth are shown in *Table 2*. In the future, both the US and Canadian markets are expected to experience declining

growth rates (*Market research in Canada, 2004*; *Market research in the United States, 2004*).

Table 2: North American Market Research Market Segmentation – 2003

Year	Canada		USA	
	Market Value (in C$ millions)	**% Growth**	**Market Value (in US$ billions)**	**% Growth**
1999	527.9		5.1	
2000	608.0	15.20%	6.1	17.90%
2001	586.4	(3.50)%	6.5	7.50%
2002	629.0	7.3%	6.3	(3.20)%
2003	668.3	6.2%	6.7	5.60%

Source: DataMonitor

1.2.2. Information Suppliers vs. Information Consultants

The market research industry is bifurcating into consulting on one hand and routine data gathering (or information supply) on the other hand (Chadwick, 2006). The consultation portion consists of companies that provide knowledge and insight from data to their clients. The information supply portion consists of companies that provide data collection services. It also consists of companies that have created major market information databases and are providing this database for secondary research.

Technology is the primary driver for this bifurcation as the increasing use of Internet and software applications (described above) to conduct data collection has reduced the cost of the process. According to Chadwick, there are 15 to 20 companies whose core business is to provide the software, platform and survey panels to make the internet research work. With such offerings, the research companies are choosing against investing in their own data collection processes and instead outsourcing it to specialized firms so that they can focus on providing information insights to the client. Due to the changing client needs the research companies are restructuring their own skill sets and offering consulting, data integration and business specific insights. Outsourcing also contributes to the bottom line of the firm: the company providing the outsourced services is able to utilize economies of scale to do the data collection process at a lower cost as it is offering similar services to other research companies. With a 10% profit margin considered as good in the market research industry (Chadwick, 2006) the cost savings that outsourcing allows becomes more relevant.

1.2.3. Foodservice Research by Information Consultants

Restaurant and menu item sales information are currently collected by existing market research companies. This information is collected periodically and for various media markets (or geographic areas defined by the marketers). The market research companies also integrate this information with other data such as traffic count, demographic information, customer satisfaction surveys

and visit frequency. The information generated by a competing market research company for the foodservice industry is shown in *Table 3.*

Table 3: Market Research Information Provided for the Foodservice Industry

Research Category	Research Metrics
Restaurant local market information	Restaurant unit count and change in unit count Traffic share: traffic of a particular segment compared to the total traffic. Meal occasion Foods and beverages consumed Consumer Demographics Customer Satisfaction
Customer Satisfaction	Food quality Beverage quality Service Restaurant Environment Value & Overall experience
Restaurant on site information	Traffic (average number of customers entering the restaurant) Average check amount Food and beverage servings Promotional activity and deal rates Consumer demographics and satisfaction
Flavour & Toppings Report	Flavour and toppings trends and combinations Demographic profiles of specific toppings and ingredients Flavour and topping use by restaurant category and segment Occasions when flavours and toppings are used.

Source NPD Group Inc.

1.3. Research Methodology

Research for this report consisted of examination of scholarly articles for management theory, interviews with Vivonet and foodservice industry personnel and examination of different articles and papers on foodservice and market research industry.

- An internal analysis of Vivonet was done by interviewing Vivonet President, Chief Technology Officer and Product Managers of Halo and ZATA.
- In interviews with Vivonet personnel, a number of potential customers were identified and the attractiveness of their markets for the ZATA product was analysed. Additional research was done for the restaurant, foodservice supplier and market research industry segments as shown in *Table 4.*

Table 4: Sources of Research

Research Area	Primary Sources of Information	Secondary Sources of Information
Restaurants and POS systems sector	Conducted interviews with Vivonet product managers, who have understanding of the sector, to evaluate the demand for ZATA.	Examined Internet-based business article databases to get an understanding of information in ZATA that could be useful for the segment.
Foodservice supplier sector	Conducted open-ended interviews with representatives of different companies in the industry in order to understand the research being used by the industry and to examine any gaps in the research that ZATA can address.	Examined Internet-based business article databases to understand the research and gaps in the research.
Market research sector	Researched Internet-based business article databases to understand the industry characteristics and evaluate industry trends.	

1.4. Organization of the Analysis

Chapter 2 summarizes the theoretical perspectives used to perform the strategic analysis and generate recommendations. Chapters 3 analyses the POS systems provider and the market research industry using Porter's Five-

Forces analysis (Porter, 1998). Chapter 5 performs an internal analysis of the company to understand its unique assets and discusses contingencies that arise in markets with increasing returns to scale. The different strategic alternatives are explored in Chapter 6 along with the pros and cons of each alternative. Finally, in Chapter 7, a recommendation is made on a strategy that Vivonet shout adopt for its ZATA product.

2. THEORETICAL PERSPECTIVES

For its ZATA product, Vivonet has a choice of two industries in which to compete: the POS industry and the market research industry. In the external analysis (Section 3), the attractiveness of each industry for Vivonet is examined using the Porter's (1998) five-forces model. ZATA has an increasing returns characteristic for which reason the five-forces analysis is augmented with Economics of Technology Standards theories. Vivonet's choice of industry in which to compete depends critically on the fit between its resources or competencies and the industry in question. In the internal analysis (Section 4), the Resource-Based Theory of the Firm is used to understand Vivonet's resources and how they match the possible industries. Finally, ZATA is a product with the potential for increasing returns to scale. The Economics of Technology Standards perspective is used to better understand the unique constraints and opportunities created by such goods. This section provides a brief overview of the three theoretical perspectives.

2.1. Porter's Five-Forces Model

Porter's (1998) five forces of competitive strength is a useful evaluation tool to understand the nature of the industry. It identifies five forces that determine the competitive intensity and attractiveness of an industry. The five

forces are bargaining power of buyers, bargaining power of suppliers, threat of new entrants, threat of substitutes and rivalry among existing competitors. Analysis of each competitive force in the industry reveals what challenges companies can face in the industry and how the firm can position it to respond effectively. The five forces are summarized in Table 5.

Table 5: Porter's Five Forces

Competitive force	**Questions**
Rivalry among Existing Competitors	Strength of competition among existing players Presence of dominant players vs. many equal strength players
Bargaining Power of Suppliers	Strength of suppliers position Number of suppliers relative to companies in the focal industry
Bargaining Power of Buyers	Strength of buyer position Price sensitivity of the buyer Volume purchase Switching costs
Threat of New Entrants	Barriers to entry Expected retaliation from existing players
Threat of Substitutes	Potential substitutes that exist Price compared to the existing product

2.2. Economics of Technology Standards

The Economics of Technology Standards examines different strategies for increasing-returns technology environments. Increasing return environments exist when the success of the product depends on its installed base and its complementary products re-enforce each other. For instance, in case of operating systems such as Microsoft Windows, the greater the number of software applications that exist for Windows, the greater the number of people who will prefer the operating system; likewise, the greater the size of the installed base of people the greater the number of companies that will create software applications for Windows. ZATA falls into the category of products that benefit from increasing returns: in order for ZATA to become the standard POS market intelligence application, the greater its installed base of users, the greater will be the depth of information in ZATA; the greater depth of information will allow more customers to join its installed base. Hill (1997) analyzes four competitive strategies that a firm can take based on the presence or absence of certain factors.

2.2.1. Licensing Agreements

A firm can license its technology to other established companies in the industry, including potential or existing competitors. This will ensure a wide initial distribution for the technology. This in turn will help in maximizing the installed base for the technology and allow the product to be part of the increasing returns mechanism. Licensing will also ensure that competitors are not motivated to

develop competing technologies as the technology becomes complementary to their current suite of products. As the acceptance of the technology gains momentum, suppliers of the complementary product for the technology also get on board. A risk associated with licensing is that competitors can use loopholes in the licensing contracts to create their own product and avoid paying licensing fees.

2.2.2. Strategic Alliances

Strategic alliances are more than licensing agreements and involve commitment to cooperation between the signing parties such as joint development and commercialization of the technology. Like licensing agreements, strategic alliances also ensure initial wide distribution and maximization of the installed base. However, alliances offer additional benefits in that they help in co-opting competitors capable of developing its competing technology. A potential competitor may find it easier to form an alliance and get shared benefit rather than spending resources on creating its own competing technology and then battling with other firms in establishing its own technology as the dominant standard. A strategic alliance also allows partners to benefit from each other's complementary capabilities. A good synergy between the strategic partners ensures that the final technology developed is superior to the product that would have been developed had the companies decided to go alone.

Strategic alliances suffer from the same risks as licensing. If the alliance involves significant knowledge transfer between firms, there is a chance that the strategic partner may decide to break the alliance and try to create its own technology standard. Therefore strategic alliance agreements need to be carefully constructed to reduce this risk.

2.2.3. Product Diversification

In this strategy, the firm decides to create all the complementary products required to make its technology standard successful and gain wide acceptance. This can be done if there are no manufacturers of the complementary product and manufacturers are not willing to invest in a new unproven technology. If the complementary products are crucial to the success of the technology, then the company may not have any choice but to invest. If this strategy succeeds, the returns can be enormous as the company profits from both the sale of the technology and sale of the complementary products. Failure to make the technology widely accepted could mean significant losses for the company, as the company makes investments in both the technology and the complementary products.

2.2.4. Aggressive Positioning Strategy

A positioning strategy, which involves adjusting the product's price, features, promotion and distribution, is a key determinant of the market acceptance of the product. The aggressive positioning strategy consists of three

elements, namely penetration pricing, product proliferation and wide distribution. A company trying to establish its technology as the dominant standard should, initially, price the product below current costs to make the product more acceptable and to reduce the switching costs from the existing technology. This may result in an initial loss, but the cost of the product will go down because the company is able to utilize economies of scale to produce the product at a lower cost. Such a penetration pricing strategy may also mean that a company is not taking advantage of price skimming by pricing the product high to target the early adopters and then gradually lowering the price to attract the rest of the market. However, when maximizing installed base quickly is the primary objective, penetration pricing is the more effective strategy in the long run. Product proliferation involves customizing the product for as many market niches as possible. A wide initial distribution is also important to jump-start the acceptance of the product. A firm can utilize multiple distribution channels to ensure that the product reaches all the targeted market segments quickly.

The aggressive positioning strategy does however require considerable investments in production capacity, advertising and promotion that a new entrant to the market may not be able to execute. There is also considerable risk involved: all these investments will not produce a return if the aggressive positioning strategy is not successful in creating wide market acceptance.

2.2.5. Contingencies

The strategies discussed above are driven by four contingencies: Barriers to Imitation, Complementary Resources, Capability of Competitors and Supply of Complementary Products (Hill, 1997)

2.2.5.1. Barriers to Imitation

Barriers to imitation refer to factors that limit the competitors' ability to replicate the technology. A high barrier to imitation will buy the firm valuable time to maximize its installed base before the competitors can introduce a competing product. The firm can use the valuable time to adopt a relatively gradual approach to introducing the product rather than aggressively positioning it. A gradual approach will also mean reduced risk for the firm in case the technology does not catch on.

2.2.5.2. Complementary Resources

In order for a product to be successful, the company must have all the resources to produce the 'whole product' rather than just the product alone. This means that the firm must have capabilities in marketing, mass-producing, distributing and supporting the product in addition to the product itself to ensure wide acceptance. According to Hill (1997), if a company does not possess the required capabilities to create the whole product then it needs to either acquire the capabilities or partner with another company that possesses these

capabilities. There is considerable risk of failure if the company decides to be the sole provider without having all the complementary capabilities and resources.

2.2.5.3. Capability of Competitors

In case of high barriers to imitation, a firm may adopt a sole provider strategy, as it would be difficult for competitors to create a competing product in a short timeframe. However, this strategy may not work if there is also a competitor in the market that is capable of developing a competing product even if the product is difficult to imitate. In fact, a high barrier to imitation may encourage the competitor to create its own technology as it can be assured that few other companies will be able to do the same. In case such a capable competitor is present, the firm may want to establish strategic alliances with the competitor rather than directly try to compete with it. A strategic alliance may be especially useful if the competitor is already on the road to develop its competing product.

2.2.5.4. Supply of Complementary Products

If the complementary resources necessary for the product are not available than the firm may have to adopt a product diversification strategy and create the product on its own. Alternatively, the firm can try to convince the existing suppliers to produce the complementary products. On the other hand, if there is adequate supply of complementary products for the technology then the firm increases its chances of creating wide acceptance for its technology.

2.2.6. Strategy Combinations

Based on the above contingencies, Hill (1997) recommends a combination of the strategies discuss in Section 2.2.1. These competitive strategies are summarized in *Table 6.*

2.2.6.1. Aggressive Sole Provider

An aggressive sole provider utilizes a combination of the product diversification and aggressive position strategies. If there are high barriers to imitation for the technology and if there is a lack of complementary resources in the market the firm can take advantage of the high barriers to imitation and diversify into producing the complementary products on its own. This strategy will be further viable if there are no capable competitors in the market than can create a similar product.

2.2.6.2. Passive Multiple Licensing

Passive multiple licensing involves applying the licensing strategy and widely licensing the product in the market. This strategy is useful when there are low barriers to imitation for the product and many capable competitors exist. This strategy becomes more viable if there is a lack of complementary resources in the market. The licensing strategy will require fewer resources from the firm and allow the firm to generate license revenue with little overhead.

2.2.6.3. Aggressive Multiple Licensing

If, on the other hand, the firm possesses the complementary resources necessary for its technology, it can try an aggressive positioning strategy in addition to the passive licensing strategy. By aggressively positioning itself in the market, the company increases its chances of being the dominant player in the market while at the same time earning revenue from its licenses. If there are low barriers to imitation and many capable competitors in the market, then pursuing an aggressive positioning strategy alone may by risky, as the competition is certain to respond in such a case. By also licensing its product, the firm pre-empts the competition from responding by having its technology widely available in the market.

2.2.6.4. Selective Partnering

If barriers to imitation are high but there is one competitor capable of developing a competing product then it makes sense for the company to enter into a strategic alliance with that company. Selective partnering will also make sense if the barriers to imitation are high but company lacks one critical complementary resource that the partner possesses. Partnering with such a company will make sure that the company delivers the whole product and pre-empts any competitive response from the competitor.

Table 6: Competitive Strategies

Competitive Strategy	Main Features	Contingencies Favouring Strategy
Aggressive Sole Provider	Pursue Aggressive Positioning Strategy Pursue Product Diversification Strategy	High barriers to imitation Firm possesses required complementary resources Suppliers of complementary products exist Lack of capable competitors
Passive Multiple Licensing	Pursue Licensing Strategy	Low barriers to imitation Firm lacks complementary resources Many capable competitors
Aggressive Multiple Licensing	Pursue Licensing Strategy Pursue Aggressive Positioning Strategy	Firm possesses required complementary resources Low barriers to imitation Many capable competitors
Selective Partnering	Pursue Strategic Alliance Strategy	High barriers to imitation One or more capable competitors Partner possess critical complementary resource

Source: Competitive Strategies, Hill, Charles W.L.

2.3. Resource-Based Theory of the Firm

The resource-based theory of the firm argues that the firm's resources are the main drivers of the firm's performance (Barney, 1991). In order to give competitive advantage to the firm these resources must be inimitable, valuable and rare. The resources, in isolation, can be imitated but it is difficult to imitate them in totality.

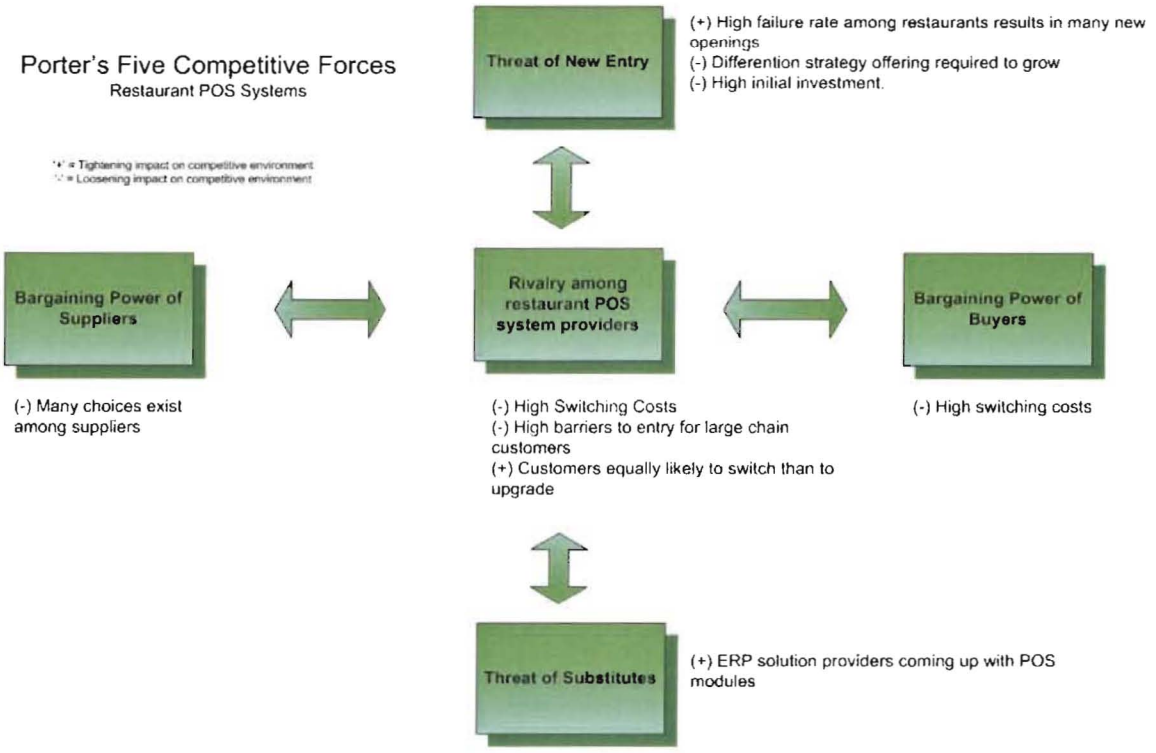
Recent literature has established links between a firm's resources and the firm's performance and how effective utilization of these resources can give the firm competitive advantage. It should be noted that the presence of resources alone is not enough to make them inimitable and give the firm a competitive advantage. Rather, it is how these resources are channelled to support the firm's strategy that gives the competitive advantage to the firm. Ravichandran and Lertwongsatien (2005) point out that two firms can have the same technological resources but only one firm obtains competitive advantage because the better performing firm is using its investments in developing its functional capabilities and utilizing these capabilities to develop its core competencies (Ravinchandran and Lertwongsatien, 2005).

3. EXTERNAL ANALYSIS

3.1. Five-Forces Analysis: Restaurant POS Systems Industry

The restaurant point-of-sale systems industry provides the hardware and applications required to perform POS operations. The POS systems replace the cash register and offer additional functionality such as order taking, tracking servers to tables and reporting on ordering and sales transactions. Most POS systems consist of a computer system that hosts the application and a touch screen terminal through which the restaurant servers access the system to place order and print checks. In most cases, the POS systems provider sells its own terminals with the POS application. The latest POS systems also offer touch screen functionality and wireless terminals. The five-forces analysis below examines the different forces influencing the restaurant POS systems market. The five-forces analysis of the POS systems industry is summarized in *Figure 5.*

Figure 5: Porter's Five Competitive Forces - Restaurant POS Systems



3.1.1. Rivalry among Restaurant POS System Providers

There are three major companies in the North American restaurant POS industry:

- **Micros Inc.** is the largest provider of restaurant POS systems. Its annual revenue for 2005 was $700 million. Micros offers a number of POS products for the restaurant industry, which include:

  RES 4.0: Integrated POS for restaurants that offers labour management, financial management and kitchen management solution.

  mymicros.net: An information portal that provides restaurants with real-time reports on different business metrics that allow the restaurants to monitor sales, promotions and labour from a web browser.

  Micros e7: A POS system designed for quick service restaurants.

- **Squirrel Systems** was the first company to introduce touch screen POS terminals.

- **Radiant Systems** has the second biggest market share after Micros and earned a revenue of $172 million in 2005

The rivalry among the existing competitors is moderate to low. A significant factor is the high switching costs in case a restaurant wants to move to another POS systems provider. When buying the POS system, a restaurant will have to invest in both the application and POS terminal. Furthermore switching

to another provider also carries additional effort of retraining employees to the new system and integrating the POS system with the restaurant's existing systems such as inventory and labour management. Since a typical restaurant is open fifteen hours a day and seven days a week, the effort to manage the move to a new provider while keeping the restaurant operational becomes specially challenging. According to Robb Alexander (2007), product manager of ZATA, when a large Canadian restaurant chain decided to switch to another POS systems provider, it had to spend approximately $50,000 per restaurant.

The high switching costs are also sometimes associated with upgrading the system as, for major upgrades, the POS systems provider also introduces new POS terminals. Since, in such cases, it costs the same to either upgrade the same system or switch to a new one, the restaurants are likely to consider other POS systems providers as alternatives.

Another factor contributing to low rivalry among large restaurant chains is that the large chains prefer integrated systems, such as inventory management and labour scheduling, from the same provider. The large POS providers have the complementary systems available and are able to fulfil the restaurant's needs. Companies like Vivonet, who do not offer this whole product solution, have been less successful selling to the large restaurant chains.

3.1.2. Bargaining Power of Suppliers

The major suppliers to the POS systems provider industry are the POS terminal manufacturers. According to Robb Alexander (2007), the bargaining

power of suppliers is low as there are several manufacturers of POS terminals, giving the POS systems providers considerable choice in choosing a POS terminal manufacturer for their application. The large choice of suppliers is evident from Vivonet's example where it uses Posiflex terminals for its restaurant POS application but is using Partnertech manufactured terminals for its retail POS because Partnertech offered a lower cost alternative.

3.1.3. Bargaining Power of Buyers

The buyers, who are the restaurants in this industry, have low power. The high switching costs mentioned above mean that the buyers do not have much choice if they are dissatisfied with the POS system.

3.1.4. Threat of New Entrants

The threat of new entrants is moderate. The POS system is complex and requires a high initial investment to develop. According to Robb Alexander (2007), a key contributor to the complexity is developing sales tax calculation into the POS software for the different tax laws at state or province level and even municipality level in certain areas of US and Canada. For example, in Florida the tax only applies if the item is more than $3 while in Louisiana there are certain municipalities with local taxes in addition to the state sales tax.

However, for a new company that is able to make the high initial investment, the market has a significant amount of recently opened restaurants looking for POS solutions. The failure rate for new restaurants is estimated to be

between 60 and 90 percent (Sanson, 2003) resulting in new restaurants regularly entering the market.

3.1.5. Threat of Substitutes

Threat of substitutes is low to moderate. There are a number of technological advances that are being introduced into the restaurant POS market. These include wireless POS terminals that allow servers to enter orders directly into the POS terminal when taking the customer order and self serve terminals where customers can place an order directly on the POS terminal. However, these technologies are being adopted by the existing POS system providers and are not threatening the industry.

On the other hand, Enterprise Resource Planning (ERP) providers such as IBM and SAP are entering the POS systems market by introducing their own POS modules as part of their ERP application. This may threaten the POS system providers with large chain restaurants as clients as the chain restaurants may prefer an integrated solution from an ERP provider.

3.1.6. Attractiveness of the Restaurant POS Systems Industry

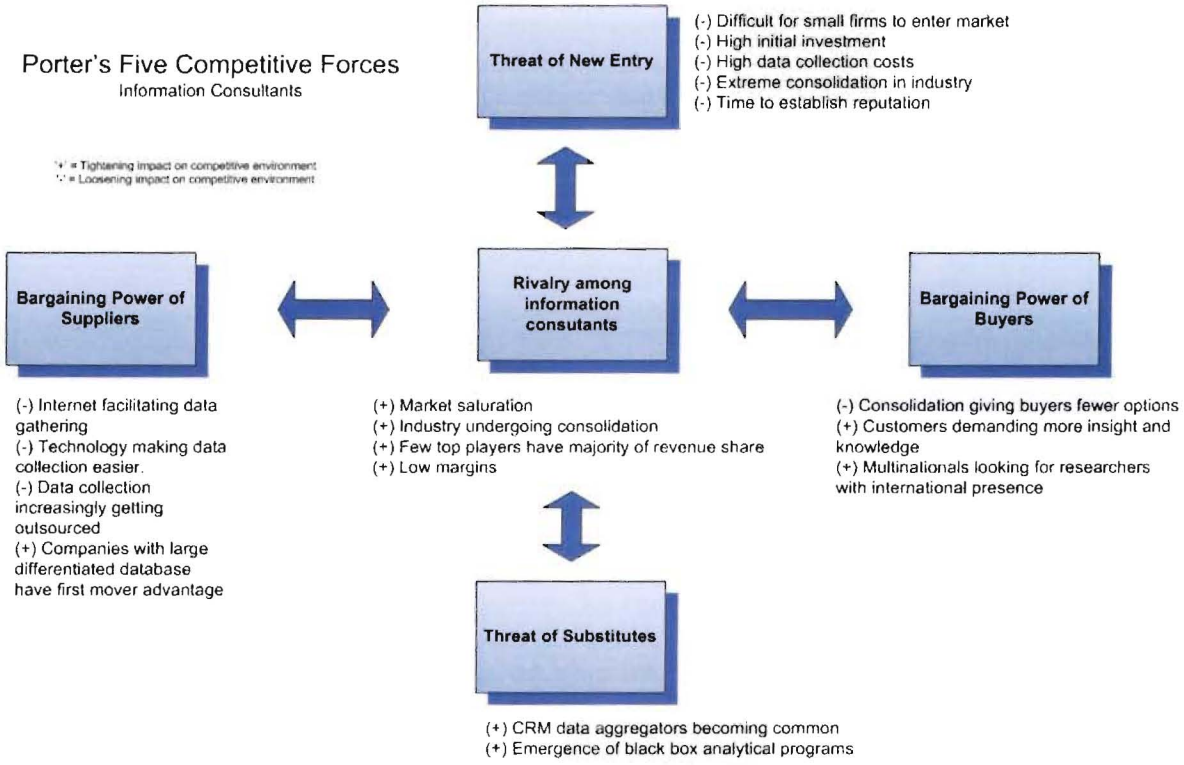
Based on the analysis, the overall attractiveness of the restaurant POS systems industry is moderate to high. The high switching costs combined with availability of new restaurants provide the POS firms a measure of insulation from competition while at the same time allowing them grow by acquiring new

customers. The attractiveness of the industry is moderated by the threat of substitutes such as ERP providers coming up with their own POS modules.

3.2. Five-Forces Analysis: Information Consultant Industry

As discussed in Section 1.2.2, the market research industry is bifurcating into information consultants and information suppliers. The information consultants use the secondary research available in the market, integrate the information to provide insight to the clients.

Figure 6: Porter's Five Competitive Forces – Information Consultants



3.2.1. Rivalry among Information Consultants

Rivalry in the market research industry is strong. The market research industry has become saturated which is evidenced by three trends in the industry: significant amount of consolidation, low profit margins (Chadwick, 2006) and slowing of growth (Section 1.2.1). During the 1990s, 450 mergers and acquisitions took place within the market research industry over a 14-year period. This has been cited as one of the most fundamental shifts in the industry's history (Chadwick, 2006). Currently the top 10 companies account for 50% of the revenue.

In the US, a relatively small number of large multinational companies dominate the market. These companies include VNU N.V., Information Resources Inc., IMS Health Inc, Arbitron Inc, Kantar Media Research, Icon Brand Navigation and Taylor Nelson Sofres Plc (*Market research in the United States, 2004*). The Canadian market is also well developed. It is dominated by VNU N.V., IMS Health Inc. and Taylor Nelson Sofres Plc (*Market research in Canada, 2004*).

Table 7: Market Research Firms in North America

Company	Description
VNU	VNU produces marketing, media, news and consumer information in around 100 countries in the world. In February 2001, VNU acquired ACNeilsen in a $2.3billion takeover (*Market research in the United States, 2004*).
Information Resources, Inc.	Information resources sell and markets data services in the consumer goods industry that includes retailers and foodservice.
Taylor Nelson Sofres Plc	Taylor Nelson Sofres Plc provides customized research and analysis in over 80 countries worldwide using its 150 offices.
WPP Group Plc	WPP Group provides a wide range of diversified advertising and marketing related services. It has a network of 1400 offices in 106 countries (*Market research in the United States, 2004*) .
NPD Group	The NPD Group provides POS tracking and consumer panel information. The foodservice industry is among one of its industry verticals (*NPD group corporate web page.*)

Profit margins have also been shrinking in this sector. The current profit margins for the market research sector are around 10% (Chadwick, 2006). Reduced profit margin is one of the main drivers of consolidation as companies try to obtain economies of scale to bring costs down. As companies grow the

remaining players in the industry are trying to acquire customers from one of the remaining few competitors. An article in the periodical *The Economist* discusses the rivalry in the industry and gives an example of "fierce battle" in the marketing world between AC Nielsen and NRI where both companies are trying to acquire each other's clients ("Market Research Data Wars", 1995).

3.2.2. Bargaining Power of Suppliers

The information suppliers, who are the suppliers to the information consultants, are an integral part of the research industry. The bargaining power of suppliers is low to moderate. Customer surveys, an essential part of most market research activity, used to be conducted in-house by departments within the market research firm. This is however, changing because technology developments such as the Internet and VOIP have opened a new low cost channel for conducting customer surveys and made data collection possible at a much lower cost. Technology has also reduced the initial investment required to set up a survey operation, thus reducing the barriers to entry in the information supplier area. Buyers have considerable choice in which supplier to choose which reduces the bargaining power of suppliers.

There are a few exceptions to this, however. There are certain information suppliers that have been able to construct information databases that are difficult to imitate. These companies have implemented business models to collect information and by being a first mover have created barriers to potential competitors. ComScore, for instance, has signed agreements with a panel of

Internet users who install the ComScore monitoring software on their computers in exchange for certain benefits (such as fee virus protection, sweepstakes, prizes, etc). The monitoring software monitors all the Internet activity of the user including what sites they visit, what they buy and even what credit card they use. This information is aggregated and made available by ComScore to its customers. ComScore currently has 2 million users. Another example is Hitwise, which uses a different technique to collect Internet usage information. Hitwise has agreements with different ISPs (Internet Service Providers) located worldwide to capture anonymous internet traffic data flowing through the ISPs. Both ComScore and Hitwise large user bases, which are barriers to entry as it would be difficult for a competitor to reach the same scale of users for two reasons: First, the potential competitor will not have the economies of scale in data collection costs that the existing companies have and may not be able to compete with them on price until it reaches a similar user base. Second, the larger user base allows the existing firms to cover more market segments (particularly geographical) than a firm with fewer users, thereby being able to serve a larger client base than the smaller company. Another company, TGI (Target Group Index) Network, gathers and maintains a database of consumer demographics, product usage and media consumption from 50 countries around the world. These companies have a higher bargaining power than other information suppliers.

3.2.3. Bargaining Power of Buyers

The bargaining power of buyers is moderate. The buyers in this industry are the different customers in the foodservice sector: suppliers, manufacturers and restaurants. Among restaurants, the chain-restaurants are the primary buyers of market research whose bargaining power is high. The client companies are increasingly demanding more from the market research industry. They want more than compiled research data and are looking instead for insights gleaned from the research. They want the research suppliers to integrate results across studies as well as determine insights and knowledge from previous studies integrate the research with knowledge that that already exists in their own other research databases (Chadwick, 2006). According to research conducted by NOP World consisting of interviews with research directors and marketers from Fortune 500 companies across US and Europe, the clients tend to fall into five distinct categories in terms of their needs (A taxonomy of client needs. 2002).

Table 8: Customer Research Needs

Level	Research Needs
Level 5	Knowledge Management and Business Decision Support
Level 4	Integration of information and insight from multiple sources
Level 3	Design, analysis, reporting and generation of insights from one or more sources
Level 2	Project management, data processing and quality control
Level 1	Primary data collection

According to the customer interviews, the majority of the marketing executives wanted Level 4 and Level 5 type of information. These directors view research companies as experts from whom they could derive insight and advice using their experience and knowledge of the market.

On the opposing side, the extreme consolidation currently occurring in the industry is giving the client companies fewer choices of research consultants. According to Frederic John, VP of Consumer Intelligence at MasterCard, the consolidation is negatively affecting the buyers and forcing them to accept less real value, less quality and fewer options (Chadwick, 2006).

3.2.4. Threat of New Entrants

Threat of new entrants ranges between low and medium in the research consulting companies. There is an initial investment required to set up the research business which includes hiring and retaining of research personnel who also possess expert knowledge of the business environment. This initial investment raises the barriers to entry and decreases the threat of new entrants.

It is possible for a new entrant to survive in this market if it concentrates on a particular market segment. According to Steve Levy, President of Ipsos Reid Eastern Canada, small companies with niche-oriented services will be able to develop a sustainable revenue stream (Harris, 2004). It may however, be difficult for a firm to compete with the large market research companies with multinational presence. According to Ibny Cowling, Chairman of TNS, one of the major drivers of business in the market research industry is the client organizations going worldwide and demanding research on a worldwide scale (Harris, 2004). For a small company or even a large company within one market segment it would not be possible to bid for global research projects.

3.2.5. Threat of Substitutes

Threat of substitutes is high. Data warehouse and data mining tools are also changing the business. New data warehouse analytical tools from vendors such as Oracle, Cognos, Business Objects and Microsoft Analysis allow companies not only to analyse their own data to get insights, but to also get data directly from information suppliers and to use the analytical tools to do integrated

analysis. These analytical tools provide customers with more control on how they want to view the reports and at the same time provide this at a higher speed and lower cost.

The information suppliers are also a substitute for the industry. They can use a number of analytical tools on their databases and to allow clients to analyse and extract information from the data.

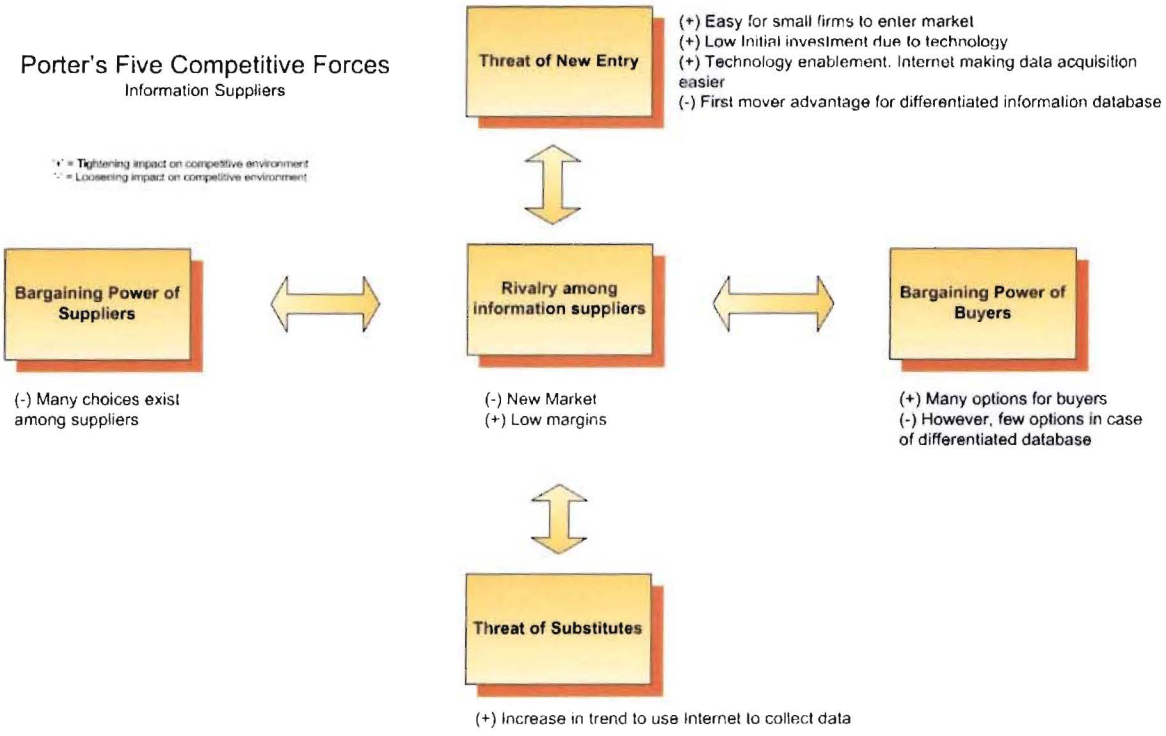
3.2.6. Attractiveness of the Information Consultant Industry

Based on the above analysis the attractiveness of the Information Consultant Industry is low. The high rivalry among the existing firms in the industry and high barriers to entry make it difficult for new firms to establish themselves in this market. The high threat of substitutes further erodes the attractiveness of this market.

3.3. Five-Force Analysis: Information Supplier Industry

The forces influencing the Information Suppliers in the market research industry are different from the Information Consultants. Therefore, a separate Five-Forces analysis is performed for the Information Suppliers. The Five-Forces model is shown in *Figure 7.*

Figure 7: Porter's Five Competitive Forces – Information Suppliers



3.3.1. Rivalry among Information Suppliers

Rivalry among the information suppliers is moderate. Technology has lowered the cost of collecting surveys and the low barrier to entry has increased competition among the information suppliers. Many new online data collection companies have emerged in recent years such as YouGov, Ciao and Virtual Surveys. However, this competition is also tempered by the fact that the industry is still in growth stage. In the UK, the online information supplier segment is predicted to become the number one data collection method by 2010 (Furness, 2007). In, India, where a considerable number of companies are outsourcing the data collection business, the information supplier sector grew by 16% in 2006. This is significantly high growth when compared with the global market industry growth of 5% ('Market research firms must offer insights too'.2007).

3.3.2. Bargaining Power of Suppliers

The primary suppliers to this industry are the consumers who contribute to surveys, polls and focus groups as well as the various businesses that provide user traffic and sale information to the information suppliers. For a company conducting a survey, there are a large number of consumers from which it can choose. However, as the survey market segment becomes more specific (customer survey for a particular town, for instance) the number of available suppliers reduces and their bargaining power increases. Although survey companies are facing some difficulty in getting telephone surveys due to

consumer frustration with using this medium, the bargaining power of suppliers remains low.

3.3.3. Bargaining Power of Buyers

Bargaining power of buyers is moderate to high. The buyers for the information are the information consultants and research departments of companies that conduct in-house research. The information consultants have many choices among information suppliers. The advances in technology and Internet have lowered the barriers to entry for the information suppliers, which has enabled new entrants to establish the information supplier business. The few exceptions are companies like ComScore and Hitwise (discussed in 3.2.2) that have a differentiated offering. The bargaining power of buyers is lower for these companies.

3.3.4. Threat of New Entrants

For the information suppliers in the market research industry the threat of new entrants is moderate to high. Conducting online surveys is significantly cheaper than either face-to-face or phone survey. According to Andy Gallacher, head of Client Services at Tickbox, an online market research company, online surveys cost half as much and take one-fifth of the time than face-to-face surveys (Furness, 2007).

There are a few exceptions where the threat of new entrants is considerably lower. Companies such as ComScore and Hitwise (discussed in

3.2.2), through a differentiated offering have raised the barriers to entry for their business. The threat of new entrants for such companies is considerably lower.

3.3.5. Threat of Substitutes

Threat of substitutes is moderate. Data collection over the Internet is replacing the current survey techniques that use telephone calls and face-to-face interviews. In the United States, 30% of data collection is now carried out over the Internet (Chadwick, 2006). Many companies are performing online surveys on their own rather than contacting a research company. Tools such as SurveyMonkey allow even small businesses to conduct online surveys. However, the quality of the results obtained for do-it-yourself online surveys is still doubtful. Online surveys still require a target consumer database, unbiased questions, and knowledge to spot and correct statistical errors in the results (Clegg, 2002).

Another potential substitute is companies analysing their own POS data, loyalty cards and online customer feedbacks to obtain information. Analytical software discussed in Section 3.2.5 allow companies to extract information from their vast databases. However, according to Alnoor Samji, research director at market research company MORI, these companies would still need external information such as competitive analysis to get the whole picture (Clegg, 2002).

3.3.6. Attractiveness of the Information Supplier Industry

Based on the above analysis the attractiveness of this industry is moderate to high. The low barriers to entry the and fact that the industry is in initial stages of growth allow companies to enter this market easily. For companies with differentiated databases, the market is specially attractive because once they enter the market, the first mover advantage allows them to raise the barriers to entry for their particular product.

4. INTERNAL ANALYSIS

The internal analysis examines the current characteristics of the firm and then analyzes current resources of the firm based on the resource-based theory discussed in Section 2.3. In addition, the internal analysis examines Vivonet's position with respect to competitive technologies theory discussed in Section 2.2.

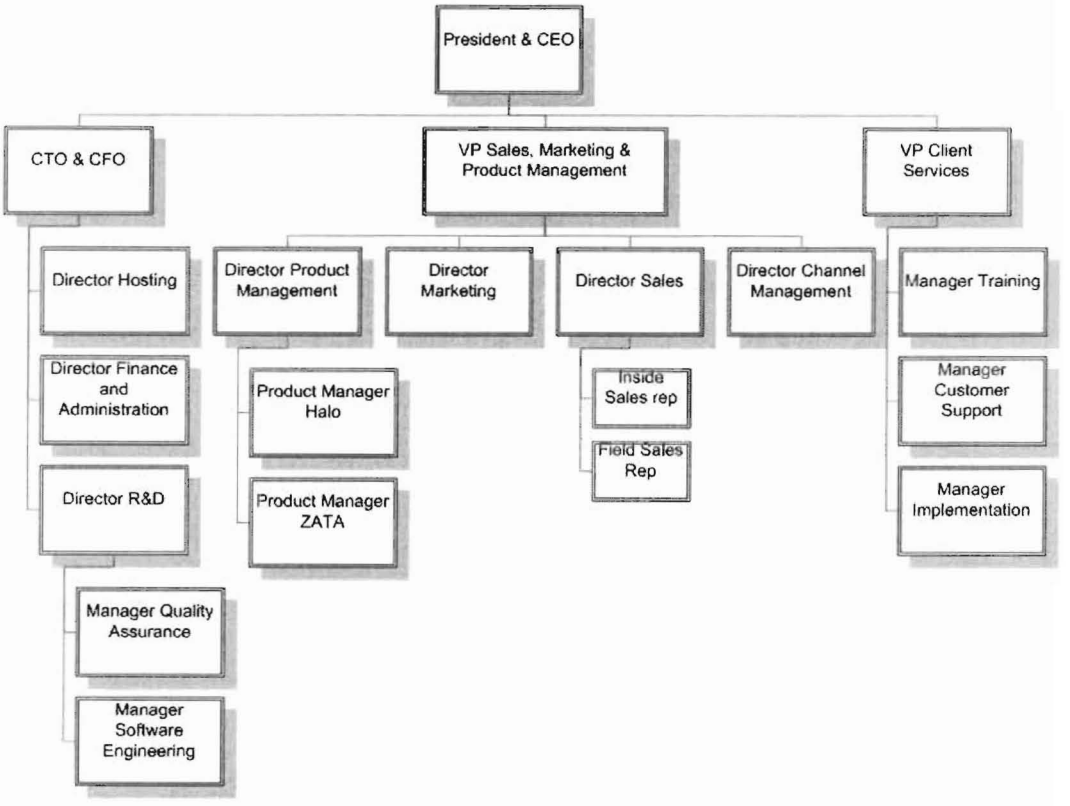
4.1. People

Vivonet has a functional organization structure, as shown in the organization chart in *Figure 8*. The firm is organized around three functions- Technology and Finance, Sales, Marketing and Product Management, and Client Services- and each function is lead by a Vice President. The sales force consists of 11 sales consultants. Due to the small size of the firm, a number of positions normally held by separate people are held by one person. For instance, the positions of CTO (Chief Technology Officer) and CFO (Chief Financial Officer) are usually occupied by separate people. At Vivonet, however, one person is responsible for both the positions. The VP (Vice President) of Client Services reports directly to the President, which is indicative of Vivonet's focus on customer service and product quality.

Vivonet has gained significant insight into the restaurant industry. Through its core product, Halo, Vivonet now has contacts with key stakeholders

in the industry including the British Columbia and Alberta restaurant associations. Vivonet understands the pain points and gaps in the restaurant industry, such as infrastructure costs and poor customer service and has addressed those gaps in its Halo product. Vivonet's promotions highlight these key features of its Halo and ZATA product and Vivonet is using this knowledge to expand to other market segments such as the retail segment.

Figure 8: Vivonet Organization Chart



4.2. Current Information Strategy

A major aspect of Vivonet's overall strategy is its data strategy. The purpose of the data strategy, according to Dean Prelazzi (Product Manager, ZATA), is to build one of the largest restaurant and retail databases in the world. Achievement of this goal requires Vivonet to increase the size of ZATA's membership and the firm is undertaking a number of initiatives to reduce barriers to adoption. First, Vivonet is taking advantage of ZATA's increasing returns character by making entry of the restaurants sales information as a pre-requisite to membership. This means that the ZATA data warehouse will become more comprehensive as the membership increases and in turn, a more comprehensive membership will attract more members looking for benchmarking information.

Second ZATA 2.0, the next version of ZATA, has public APIs (Application Programming Interfaces) that will allow POS applications to directly feed transaction information into the ZATA data warehouse. Third, for Halo and the two largest POS competitors Micros and Squirrel, Vivonet is creating special modules to allow those systems to feed data into the ZATA data warehouse. Vivonet predicts that targeting the two largest competitors will create enough ZATA customers to create a pull demand for other POS providers to modify their software to feed data into ZATA. Finally, as opposed to ZATA, which only contained weekly information, ZATA 2.0 will contain information at the transaction level.

4.3. Technology

Both Halo and ZATA reside on computer servers managed by an external company. All the data stores are maintained using the Oracle RDBMS. The Halo terminals at different locations connect to the main server using ASP technology. The ASP technology allows an application code to exist on a remotely located computer server and execute with only a web browser on the local computer. Since the software operates at a central location, any bug fixes or upgrades can be quickly rolled out at a much lower cost and at a much higher frequency than having a separate installation of the software at each location.

A new version of ZATA called ZATA 2.0 is currently under development. ZATA 2.0 will contain detailed transaction level information that will be collected directly from POS systems. The information will be stored at transaction level i.e. details of each order placed will be recorded. The information contained in ZATA is shown in Table 9.

Table 9: ZATA 2.0 Information

Category	Data Item
Product Information	• Name of the product • Product category • Menu price

	• Product cost
Labour Information	• Anonymous employee identifier • Employee title • Wage rates : regular and overtime • Regular hours worked • Overtime hours worked
Tender Information	• Menu items ordered with quantity • Actual price charged for each item • Location where order was placed • Tips paid • Discounts applied • Taxes paid • Method of payment (Cash, Credit Card, Debit Card, etc) • Date and Time of order.

4.3.1. ASP Based Systems

Vivonet has gained considerable experience in ASP systems and has expertise in dealing with the challenges that come with being an ASP provider. A

major challenge for an ASP provider is associated with accepting a certain amount of risk that client-server type software do not incur, which is mainly managing the infrastructure to host the application. An ASP model has provided Vivonet with certain advantages such as, being able to provide a low cost solution as ASP eliminates a number of initial set up costs. An ASP model also has disadvantages as it restricts Vivonet from providing a customized solution to large clients and limits its customer base to small and medium sized restaurants. Vivonet used the knowledge it gained in ASP model to implement its ZATA product.

4.3.2. Data Collection

Vivonet has set up a data collection model to capture transaction level POS data into its data warehouse. This data collection model has three important characteristics. First the data collection has been enabled by the license agreement that Vivonet has signed with all the restaurant customers to capture their anonymous transaction information. Second, due to the ASP model, all transactions are processed centrally, making capturing the data into the data warehouse very simple. For a major competitor to copy this capability would require renegotiating the licenses with all its existing customers, setting up a data warehouse, putting data transfer features in its software, and, most importantly, requiring each customer to map their custom menu items to the generic data warehouse specific menu category. Third, the ASP model enables Vivonet to capture data with much less cost than an existing information collector

that polls different restaurants for sales information. Hence, Vivonet's data collection model is gives it a competitive advantage that is difficult for a competitor to imitate.

4.4. ZATA Contingencies

Based on the competitive strategies theory for winner-take-all industries discussed in Section 2.2. ZATA is faced with the following contingencies:

- **Barriers to imitation:** As mentioned in Section 4.3.2, Vivonet's ASP based model is a difficult to imitate resource as a competitor will need to set up menu mappings, data transfer and license renegotiation to imitate Vivonet's model. Vivonet also has a first mover advantage due to the increasing returns nature of the model. A customer looking for benchmarking information will prefer the larger data warehouse of ZATA than go for a late-entrant competitor with a smaller data warehouse. Hence, the first mover advantage is also a barrier to imitation.
- **Complementary resources**: There are a number of complementary resources, described below, that ZATA will need in order to enter the information consultant industry:
    - **Multi-source data integration:** Information consultants have processes and knowledge to integrate data from multiple sources and create insights from the data.

- **Business insight:** Information consultants companies have researchers with expertise in different market segments and a relatively detailed understanding of the industry segment of their customer. This enables the information consultant to understand the business needs, identify the gaps in information and provide insight such as areas of opportunity or prediction of future trends.

- **Customer proximity:** Information consultants have established close relations with their clients. They have account managers in each industry segment who have knowledge of the key stakeholders in the client companies. The large companies also have multiple branch offices that are in geographical proximity of their customers. This relationship building requires time and resources.

Vivonet does not have access to these complementary resources and will need to develop capabilities to acquire them and extract information from them. The complementary resources are however available with the current market research consultants that have the knowledge and capabilities to acquire and integrate information from multiple sources and generate useful customer insight from those information sources. The research consultants have experts who understand the different segments in the foodservice industry and have established relationship with their clients in that industry.

- **Capability of competitors:** Although the barriers to imitation are high, the largest POS systems providers are capable of creating systems similar to ZATA. Micros systems has a product called mymicros.net that allows

restaurants to access their POS systems through a web browser (Section 3.1.1). Extending the capability of mymicros.net to create a ZATA like product may only require renegotiating licenses with the customers as the data transfer and data warehouse capabilities already exist with mymicros.net.

5. STRATEGIC ALTERNATIVES

Based on the above external and internal analyses three strategic alternatives for Vivonet are identified:

- Focus on the POS industry and use ZATA as a differentiating feature for Halo
- Focus on information consultant industry
- Focus on information supplier industry.

Each of these alternatives is discussed below:

5.1. POS Systems Provider Strategy

Under this strategy, Vivonet will continue to focus on the POS systems business and use ZATA as a differentiating feature of their Halo POS system. ZATA will be an exclusive feature of Halo and will not contain sales transaction information from other competing POS systems. With its benchmarking feature, Halo will appeal to restaurants that are looking for a new POS system. Vivonet's ASP based model will be difficult to imitate by the existing large competition and will ensure that the benchmarking feature largely remain an exclusive feature of Halo.

There are limitations with this strategy: First, ZATA quality of information is driven, in part, by the size of its installed base. If it is an exclusive feature of

Halo and excludes information from other POS systems, then ZATA will grow at a slower pace and may not have a large enough base to be an effective benchmarking tool. Second, as discussed in Section 4.3.1, Vivonet's ASP based model makes it difficult to market to large restaurant chains that require integrated POS systems. With Halo being limited to small to medium sized restaurants, ZATA will be limited to that market segment as well. Finally, there may be opportunity costs involved with this strategy because with ZATA, Vivonet has the opportunity to be a provider of a differentiated database, which may have significant revenue potential. If Vivonet decides on the POS provider strategy, it will not have the chance to take advantage of this revenue potential.

5.2. Information Consultant Strategy

Under this strategy, Vivonet will enter the market research industry as an information consultant. Vivonet will continue creating modules to allow competing POS software to feed sales transaction information into the ZATA data store. As an information consultant, Vivonet will need to provide business insight to its clients, which will require the firm to integrate non-POS information such as customer demographics and customer satisfaction with its POS data and establish a research department consisting of foodservice industry experts.

There are two risks associated with this strategy: First, the barriers to entry are high in the information consultants segment as discussed in *Section 3.2.4*. Vivonet will require initial investments in establishing a research department that can integrate data from multiple sources, provide business

insight from its data, and cultivate close relationship with its clients. As a small company in the market, Vivonet may not be able to obtain the necessary investment. Second, the success of this strategy depends on restaurants submitting information into ZATA and there is a risk that restaurants may not find the information contained in ZATA to be of value to them. The installed base will only grow if more restaurants consider the information provided in ZATA to be valuable and feed their POS transaction information in ZATA using either Halo or a competing POS solutions provider. Vivonet may be earning revenue from the foodservice supplier industry with its ZATA information but it will need to focus on the needs of the restaurant industry in order to ensure the growth of ZATA data warehouse.

5.3. Information Supplier Strategy

Under this strategy, Vivonet will enter the market research industry as an information supplier. Like the information consultant strategy, Vivonet will continue creating modules to feed POS transaction data from competing POS providers into the ZATA data warehouse. However, instead of investing in research capabilities, Vivonet will sell the data directly to information consultants who in turn will integrate this data with other information and provide insight to their clients. The analysis shows a number of factors supporting this alternative. First, the external analysis of the information supplier industry shows that this is an attractive industry, especially for companies that own differentiated databases. Like ComScore and Hitwise (discussed in Section 3.2.2), Vivonet

owns a differentiated database in ZATA and can have high bargaining power as an information supplier.

Second, analysis of the contingencies based on the economics of technology standards theory shows that ZATA requires presence of complementary resources, which are data integration services, business insight services and customer proximity, in order to provide value. However, Vivonet does not have these complementary resources and will either need to acquire them or market its product to the information consultants who posses these resources. Acquiring these resources will require initial investment and time to develop. As a relatively small company in the market, Vivonet may not be able to obtain the initial investment and may also not have time because although the ZATA data warehouse has high barriers to imitation, there are capable competitors in the market (Section 4.4.) that can develop a competing ZATA product. Therefore, Vivonet should utilize the first mover advantage and market the ZATA data warehouse to the companies in the information consultant industry in order to make ZATA the dominant standard in the market.

Finally, this alternative will require considerably less investment, and consequently less risk than the information consultant strategy. Analysis of the possible customer base (*APPENDIX A)* shows the foodservice supplier industry as the most promising segment for ZATA. However, the analysis did not show any specific gaps that ZATA can address. There is a risk that ZATA may not a large enough market even in the supplier sector to be a viable product and

hence, in such a situation the information supplier strategy that carries less risk is preferable.

This strategy shares the installed base limitation with the information consultant strategy (Section 5.2.) and Vivonet will need to focus on increasing the installed base in this strategy as well.

6. RECOMMENDATIONS

6.1. Focus on Information Supplier Industry

Vivonet's capabilities are more suited as an information supplier to the market research industry as Vivonet lacks the complementary resources required for information consultancy. The external and internal analysis shows that the differentiated database, ZATA, can give them a competitive advantage in the information supplier industry. The information supplier strategy also requires Vivonet to change its focus from just serving restaurants to acting as an enabler of information that is collected from restaurants and provided to different stakeholders such as information consultants. The success of the information supplier strategy may make it the primary business of Vivonet where the company earns significantly more revenue than the POS business. This strategy also carries less risk as the initial investment required is much less than the information consultant strategy. Vivonet should channel IT resources towards streamlining the data gathering activity as gathering the POS transactional data efficiently and cost effectively is important for ZATA's strategy. Keeping the data gathering cost low will give Vivonet flexibility in competitively pricing the product and maximizing its profit.

6.2. Increase ZATA Installed Base

Vivonet should increase the ZATA installed base by focusing on the needs of the restaurant segment. Increasing the installed base of restaurant is key to the success of the ZATA data warehouse and one of the ways to achieve that is to provide information that is valuable to restaurants. Analysis should be performed on the market information needs of the restaurant industry and what information can be added to ZATA to make it valuable for the restaurant industry. Some areas of market information needs for the restaurant industry are shown in *APPENDIX A, Restaurants.*

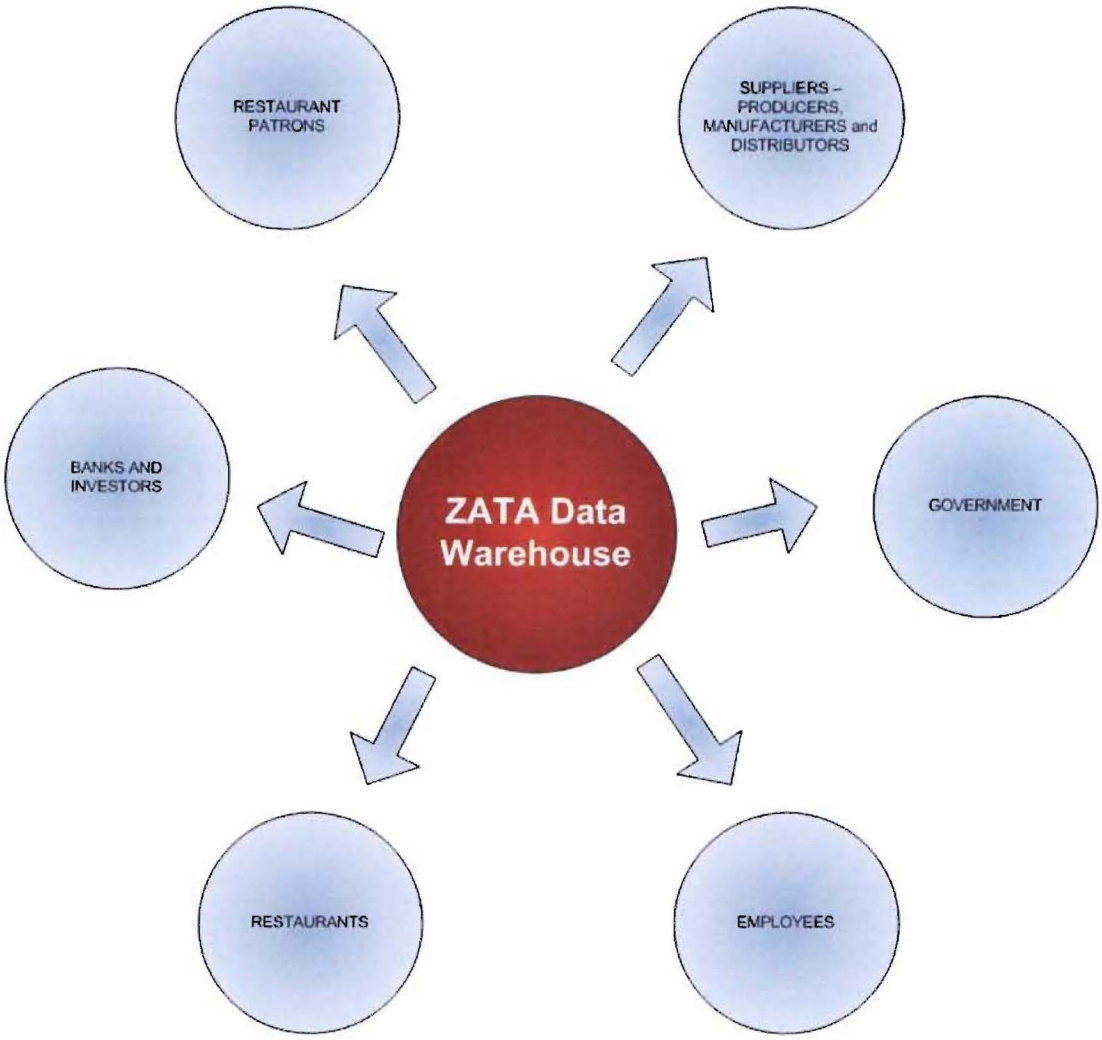
LIMITATIONS

There are a number of opportunities where further research can be performed in areas not covered by this report. The report only looks at the restaurant POS sector and does not analyse Halo Retail or ZATA retail. Analysis of the retail environment may produce similar or different recommendations from this report. For the industry analysis of the market research industry, the general market research industry was analysed rather than the foodservice market research. This was mainly done due to lack of available data on the foodservice market research industry. Further research into the foodservice market research may provide a better picture of market size and consequently market potential. Finally, in some sections of the market research industry analysis, the global market research perspective was used instead of the North American perspective. Further research into the North American market research industry may give additional insight into the market potential for ZATA.

APPENDIX A: POSSIBLE REVENUE SOURCES FOR ZATA 2.0

Vivonet has identified a number of potential customers in the foodservice market segments that could benefit from the information the ZATA 2.0 data warehouse (as shown in *Figure 9*).

Figure 9: Restaurant Industry Stakeholders



Restaurant Patrons

Restaurant patrons could use the data to find which restaurants have high sales of foods of their interest. A ZAGAT type database could be maintained that would show customer interest measures aggregated from the ZATA data warehouse. The ZATA data warehouse contains sales information for each menu item and can show a customer, for instance, which restaurants are the top sellers of the customers preferred menu item. There are possible channels to earn revenue from the restaurant patrons sector. Vivonet could publish the information on a web site and earn revenue by selling advertisement on its web page. Vivonet could also create a paid subscription based site, which would provide the ZAGAT type information to customers. However, it is unlikely that there would be enough customers for this to be a viable business model. First, restaurant patrons look at expert opinions, user ratings and word of mouth to make decisions, which this database lacks. Second, ZAGAT includes information such as customer satisfaction with the quality of food, décor and price, which is missing from ZATA 2.0.

Suppliers

The foodservice supplier industry consists of two types of companies: manufacturers and distributors. As discussed in Section 1.2.3 the foodservice suppliers regularly use research information bought from the market research companies and the government. The type of research bought by the foodservice

suppliers is shown in *Table 3.* ZATA's data warehouse contains information about which menu items were ordered for each transaction and can be used to show trending information of menu items that a foodservice supplier manufactures. According to the Vice President Operations of a major supplier of soup pastes to restaurants, ZATA data warehouse can show a number of trends that would be useful to the supplier:

- Percent growth in soup sales per region
- Dollar growth in soup sales per region
- Number of soup items sold per region
- Market Basket: what items is soup most sold with

The information would then be used to better target the suppliers sales resources. The Vice President Sales of a major alcoholic beverage manufacturer also indicated the ability to analyse what other items are purchased with the supplier's beverage as very useful for the company in identifying market opportunities. Based on the information contained in ZATA and the gaps in the research for the foodservice suppliers, there is a high revenue potential for Vivonet in this segment.

The foodservice supplier sector is a significant user of market research information and uses research provided by research consultants and government departments. According to a National Account Manager for a major coffee and tea company, her company regularly uses Neilson and NPD research to get market information such as sales broken down by day, by customer

demographics (sex and income level) and by restaurant classification (quick service, full size, family). A key piece of research that company receives is the market basket information of what items are regularly purchased with coffee. The market basket information helps the company understand which food items increase coffee sales and work with the restaurants to include such food items. According to Vice President of Operations of a leading provider of prepared soup to restaurants, his company is interested in information such as percent of growth in soup sales per region, dollar growth in soup sales and number of items sold. The company would use this information to detect trends and identify new opportunities.

The foodservice sector is not only interested in sales trends but also interested in combining them with other research information. According to Vice President Sales of a major foodservice supplier, the sales representative of the company require POS information integrated with demographic data in order to get a better understanding of who is ultimately purchasing their product.

Government

According to Datamonitor (*Market research in Canada, 2004*) the public sector accounted for 16% of the CDN$ 668 million earned by the Canadian market research industry. A ZATA report could be used by the economic development departments at the federal, provincial and municipal level and complement the existing government research with daily level information. However, the current foodservice market research bought by the government may not be very significant. The research budget by the public sector (identified

above) reflects the total spending by the government of which the foodservice budget may be a relatively small amount. The revenue potential is small and further research into the government research spending for the foodservice sector is recommended.

Restaurant Employees

The acute labour shortages in North America have allowed employees to be selective on their choice of restaurant employers. A ZATA report that, for instance, shows segments with high per-table order amounts could be used by employees to choose an employer. A revenue model for this would be an advertisement-based web site, similar to the model for restaurant patrons. However, it is uncertain that this kind of information will have enough customers to be a viable business model. A restaurant employee will be looking at information about benefits, salary level and open positions (such as the information provided by online job search engines like workopolis.com) that are not included in the ZATA data warehouse. The restaurant employees may not have a high revenue potential.

Restaurants

The current version of ZATA is being used by restaurants to benchmark their performance with various market segments and there is a demand for ZATA among restaurants evidenced by the fact that Vivonet currently has 3,400 registered ZATA members. ZATA 2.0 will utilize the Google AdSense service that delivers targeted ads to websites based on content, as a source of revenue.

However, this is not going to be a significant source of revenue for Vivonet. Instead, the restaurant sector is an indirect, rather than a direct source of revenue, in two ways. First ZATA can be used to complement the Halo POS and marketed as a differentiating feature of Halo and, in this way, enable revenue generation for Halo. Second ZATA can be made freely available to restaurants to increase the installed base. The revenue in this case will be earned by selling the ZATA information to other non-restaurant market segments.

In order to increase the installed base of restaurants Vivonet can use ZATA to provide information to improve restaurant performance in a number of areas. These questions are shown in *Table 10*.

Table 10: Market research questions that can be answered with ZATA 2.0

Subject Area	Market research question
Menu Engineering (Kwong, Leo Y. L., 2005)	Which are the most sold menu items. Which menu items are the most profitable.
Market Basket Analysis	Which menu items are most bought together Which items are most sold with a particular product
Financial Analysis	Which are the most profitable restaurants. Which town has the highest revenue per restaurant What are the high traffic days for a particular area/ restaurant type. What are high traffic times for a particular area / restaurant type. What are the average sales per square foot for a particular restaurant type.
Customer Satisfaction (Andaleeb & Conway, 2006)	Responsiveness of servers Courteousness of servers Speed of service Restaurant appearance Satisfaction with price

Banks and Investors

Banks and other investors put a high interest rate on loans and investments to restaurants due to the high failure rate in the restaurant industry. ZATA information can be used by banks to get more information about a particular segment and adjust their risk factor to accurately reflect the actual situation. For instance, in areas with higher than average survival rate for restaurants, banks can complete by offering lower rates. Vivonet can create market reports for banks and investors and generate revenue from the sale of those reports. However, the revenue potential for this may be limited because the banks currently use sophisticated risk analysis models to measure risk and the ZATA information may not add any value to the risk calculation.

BIBLIOGRAPHY

Alexander, R. (2007). In Medina A. H. (Ed.), *Interview with Robb Alexander, Product Manager, Vivonet*

Andaleeb, S. S., & Conway, C. (2006). Customer satisfaction in the restaurant industry: An examination of the transaction-specific model. *Journal of Services Marketing, 20*(1), 3-11.

Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99-120.

Chadwick, S. (2006). Client-driven change: The impact of changes in client needs on the research industry. *International Journal of Market Research, 48*(4), 391.

Clegg, A. (2002). Professional help has its benefits. *Marketing Week,* , 55.

Furness, V. (2007). Research comes of age. *Revolution (Staten Island, N.Y.),* , 53.

Harris, R. (2004). Go big or stay small. *Marketing, 109*(31), 19.

Hill, C. W. L. (1997). Establishing a standard: Competitive strategy and technological standards in winner-take-all industries. *The Academy of Management Executive, 11*(2), 7.

Kwong, Leo Y. L. (2005). The application of menu engineering and design in asian restaurants. *Hospitality Management, 24*, 91-106.

Manfield, L. (2006). Small business by the numbers. *Backbone : the Strength of Ebusiness,* , 28.

Market research firms must offer insights too.(2007). *Businessline,* , 1.

Market research in Canada (2004). Datamonitor Plc.

Market research in the United States (2004). Datamonitor Plc.

"Market Research Data Wars".(1995, Jul 22). *The Economist, 336*(7924) 60.

NPD group corporate web page. Retrieved Feb 25, 2007. http://www.npd.com

Porter, M. E. (1998). *Competitive strategy. techniques for analyzing industries and competitors* (Hardcover ed.)Free Press.

Prelazzi, D. (2006). In Medina A. H. (Ed.), *Email correspondence from Dean Prelazzi, Product Manager, Vivonet*

Ravinchandran, T., and Lertwongsatien, C. (2005). Effect of information systems resources and capabilities on firm performance: A resource-based perspective. *Journal of Management Information Systems, 21*, 237-276.

Sanson, M. (2003). The 90% restaurant first-year failure rate is a myth. *Restaurant Hospitality, 87*(1), 8-8.

A taxonomy of client needs. (2002). Paper presented at the *NOP World*