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Using Technology to Preserve a Culture: How Implementing  
an E-business Affects a Small, Rural Art Business in  
Northern New Mexico

by

Rodney J. Sanchez, B.S., M.B.A.

Dissertation Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Doctor of Philosophy  
Applied Management and Decision Science

Walden University

November 2003

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DOCTOR OF PHILOSOPHY DISSERTATION  
OF  
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2003

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ABSTRACT

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## Abstract

The effects of implementing an e-business component to the overall business strategy of Tierra Wools, an existing small, rural, art business in New Mexico, were examined. Tierra Wools, a wool-weaving workshop, is part of a community collaborative aimed at sustaining the local agricultural economy. Agriculture has been the center of northern New Mexican culture for centuries.

A customer survey was used to determine the utility of Tierra Wools' Internet site. Waller's Internet Site Checklist tool (2002) was used to evaluate and compare Tierra Wools' Internet site compared to those of its competitors. Tierra Wools' financial records were examined to quantify financial trends before and after implementing the Internet site. The study also was designed to determine if implementing e-business helped preserve the northern New Mexican culture.

This study found that the quality of Tierra Wools' Internet site was superior to its competitors. After the Internet site was established in 1998, Tierra Wools' revenues and profits rose, and operating expenses, including marketing expenses, decreased. The increased profits paid for renovations to a bed-and-breakfast lodge,

designed with traditional New Mexico architecture. Classes in traditional weaving were begun at the lodge, leading to an increase in interest and participation in northern New Mexico culture.

This study could help managers of small, rural businesses better understand how implementing e-business may affect their existing business. Furthermore, this study documents how the use of computer technology can lead to the preservation of a historical culture.

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## CHAPTER 1

### INTRODUCTION TO THE STUDY

#### Introduction

The region of the United States currently occupied by New Mexico has a history and culture that date back over 12,000 years, beginning in the Ice Age (Roberts, 1997). For decades, arts and crafts have played a central role in this region. Archeologists have found evidence that early civilizations as far back as the Anasazi (ancient ones) people, who are thought to have occupied New Mexico from 200 CE to 1300 CE, valued art as a part of their culture and economic sustenance (Torres, 1995). Through the centuries, art has continued to be a core element of New Mexican society, culture, and economy.

In present-day New Mexico, the importance of art is still evident. Not only has New Mexican art maintained its cultural significance to the state, it has maintained its economic importance as well. According to the 2000 U.S. Census Bureau, over 170,000 New Mexicans are employed in the nonagricultural retail business sector. The number of people employed in this sector comprises about 20% of the New Mexico workforce. Tierra Wools, a small art business located in the rural northern New Mexican community of Los Ojos, is a representative of this business sector.



Tierra Wools is a community-owned and operated small business. It is not uncommon, in rural New Mexico, to find either formal or informal co-operatives aimed at supporting the economic health of their community (Case & Taylor, 1979). Many New Mexican communities, including Los Ojos, that have a local economy based in agriculture, will use the sale of art to close the economic gaps in their agricultural cycle. Crops are planted in the spring, cultivated in the summer, and harvested in fall. Revenue generated from the sale of crops is used for basic necessities in the winter. During winter months, arts and crafts are created and sold. The revenue generated from arts and crafts is used for basic necessities between winter and harvest seasons. This basic cycle has comprised the culture and sustained economic vitality in some New Mexico communities for decades. The coexistence of art and agriculture has been documented for centuries in New Mexico (Beck, 1975). Tierra Wools is a prime example of how agriculture and art share a complementary relationship within a local economy.

From a social standpoint, the components of this economic cycle also comprise the core elements of the Spanish American and Native American cultures in New Mexico

(Beck, 1975). Unique aspects of New Mexican culture, such as raising Churro sheep, date back over 300 years and are core elements to this society. Chirot (1994) suggests that economic conditions influence cultural behaviors. If one accepts this postulate, which ties economics and culture into a causal equation, then one component cannot exist without the other. As such, in an effort to preserve New Mexican culture, artists and agriculturalists are attempting to find economic solutions to sustain their historical culture.

Following Chirot's (1994) postulate, businesses in New Mexico, such as Tierra Wools, must find ways of initiating economic development within their local communities. This economic stimulation may act to preserve their social culture. The problem is to find a way to provide such economic stimulation. Tierra Wools has tried one way of using their agricultural resources and artistic traditions to create economic sustenance for the small town of Los Ojos (Figure 1).

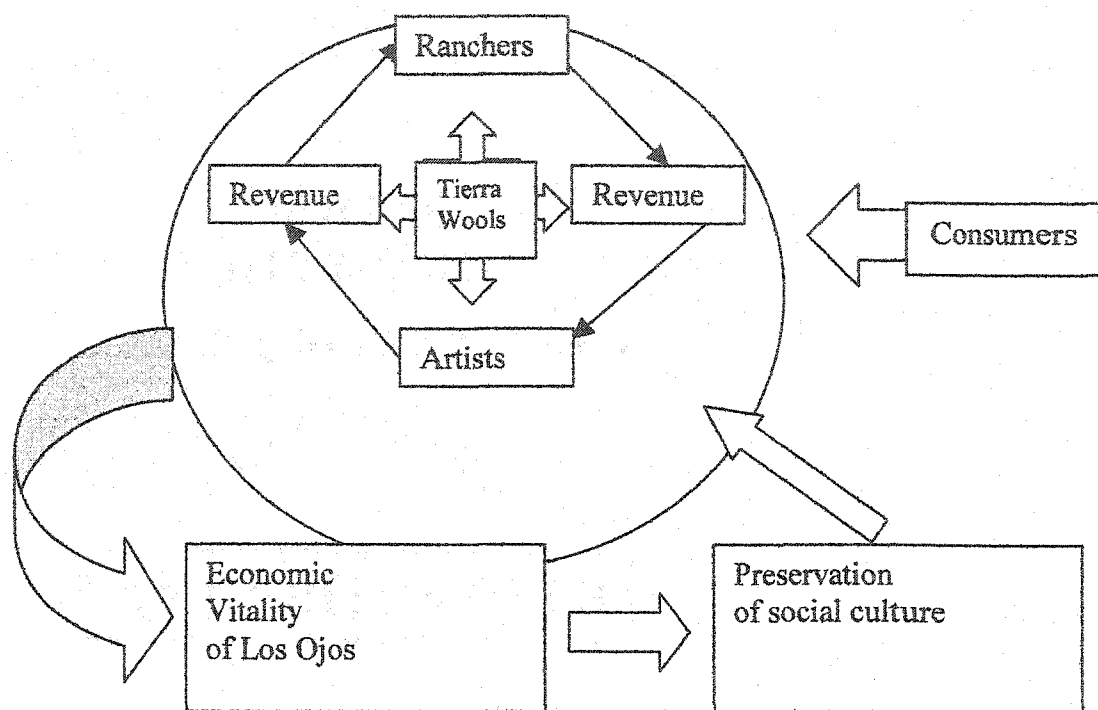


Figure 1. Conceptual model of Tierra Wools community cooperative structure.

If the model above (Figure 1) is successful in sparking economic growth for Tierra Wools, this model could be replicated in other rural communities in New Mexico. However, a lack of a growing consumer base could threaten the conceptual model. It is this author's observation that Tierra Wools, along with other New Mexican artists, considers tourists as their target consumer market.

Because of New Mexico's predominantly rural geography, it is difficult for art businesses to capture the attention of their target consumer audience. Furthermore, there are very few effective methods of marketing New Mexican art outside of New Mexico. Available marketing venues, such as print catalogs, are often expensive and are only moderately effective.

As a representative of the rural art business sector of New Mexico, Tierra Wools is experimenting with the Internet and e-business as a new forum for artists to showcase and sell their art. This study measured the effects of Tierra Wools's e-business strategy on the vitality of its established small business.

#### Background

According to the Qwest online directory of telephone users, there are 1281 formally established art studios, galleries, catalogs, and art specialty shops in New Mexico. Nearly 10%, or 114, of these businesses are located in geographically rural areas of the state. A representative of this business sector is Tierra Wools.

Tierra Wools qualifies as a small business because it employs 30-40 people, depending on the season. The business markets the traditional art, such as hand-woven

tapestries, blankets, and clothing, produced in this region. Tierra Wools is a spinning, hand-dyeing, and hand-weaving workshop. Local wool is bought, washed, spun, and woven into weavings which are sold from the workshop in Los Ojos (Collier, 1998). Tierra Wools was established 16 years ago as part of a community-based, nonprofit organization with the mission of empowering rural people to create sustainable economies by building on cultural and agricultural resources. The business operates as a limited liability company owned by the growers, washers, spinners, and hand weavers who produce the goods, as well as outside investors. Eighteen employees are vested owners of the business (Collier, 1998).

The community of Los Ojos, which is home to Tierra Wools, is the foundation of this economic development initiative. Los Ojos was originally settled in 1860 and currently has a population of approximately 250 residents (Ganados, 1999). The longstanding importance of art in the culture of Los Ojos is evident in several landmarks in the community. For example, a shrine to Our Lady of Lourdes, originally created in 1919, still overlooks the fertile pastures of this farming and ranching community. Many of the original settlements and homes have been passed down

from generation to generation. Casa de Martinez, originally constructed in 1861, is still furnished with original paintings, hand-carved furniture, hand weavings, and decorations created by local artists (Ganados, 1999). In the center of town, a hand-painted mural, which is nearly a century old, depicts life in Los Ojos during the turn of the 20<sup>th</sup> century. This mural has recently been restored and still adorns the exterior wall of a community building.

At the time Los Ojos was settled, 65 families sat along one of the most lucrative, and arguably most important, trading routes in the southwest, the Old Santa Fe Trail. For many years Los Ojos enjoyed the economic prosperity of its geographic association with the Old Santa Fe Trail. In later years, with the modernization of transportation, namely the automobile, and the transformation of trading routes into interstate highways and roads, the Old Santa Fe trail became less and less important to economic prosperity. Thus, the community of Los Ojos, which is now located over 100 miles from the nearest interstate highway, has suffered economic impacts.

Today, the residents of Los Ojos depend on agriculture as their main source of income. Along with raising cattle,

many ranchers in the area rely on the Churro (Spanish sheep) as their product niche. Herds of Churro were originally brought to New Mexico by Spanish conquistadors in the 16<sup>th</sup> century (Lobb, 2002). Churro can be used not only as a food product, but its wool can be used to create art such as hand-woven textiles and tapestries (Collier, 1998).

Tierra Wools takes the durable, yet soft, Churro wool and utilizes it to weave blankets, clothing, and tapestries. Tierra Wools uses natural ingredients, such as plants, to color, or dye, the wool. This process creates unique, which comprise Tierra Wools main product line. What makes Tierra Wools distinctive is that the community is involved in every stage of producing their products, from raising Churro to hand-weaving and sewing the finished works of art.

Residents of Los Ojos have great concerns about sustaining their community. According to one lifetime resident: "The younger generations are forced to move away from the area. There is not enough economic stimulation. We need to find ways to create and sustain jobs in the area" (A. Serrano, personal communication, December 23, 2000).

Given the comments above, the livelihood of this 141-year-old community, with its historic and unique culture, depends on finding innovative ways of sustaining local economic development. In particular, Tierra Wools, which is the economic center of the community, is currently investigating creative approaches to their business. One such approach is the incorporation of e-business into their existing business infrastructure.

#### Statement of the Problem

Because of the geographic isolation of Tierra Wools, business practices can be challenging. Northern New Mexico tourists are Tierra Wools' target consumer market. Attracting the mass attention of target consumers to Tierra Wools has historically proved to be a business challenge. Given the community's small population and lack of industry, economic development opportunities are limited. The problem addressed by this study is whether the establishment of an e-business site provides a positive economic stimulus to small rural communities, such as Los Ojos, that are dependent on art and agriculture to sustain their economy and culture.

The livelihood of the community of Los Ojos is dependent on agriculture, specifically, raising and selling



Churro. The success of Tierra Wools is imperative to this agricultural ring that sustains the local economy. With the challenge of stimulating business growth, Tierra Wools is currently investigating non-traditional business development practices such as e-business.

In 1998, in an attempt to expose their products to a larger number of consumers, Tierra Wools established an e-business Internet site. The Internet site was designed to provide current and potential consumers with information regarding Tierra Wools history and products including (1) the origin of their business, (2) the unique production methods of the products sold, (3) an introductory biography of select weavers and ranchers, (4) a pictorial description of current inventory, (5) an electronic request for a full catalog, and (6) current news regarding Tierra Wools (e.g., grants, certification, product launches, and recognition/awards).

Since establishment of their Internet site in 1998, Tierra Wools has faced the problem of evaluating the effect it has had on their business. Furthermore, in order to remain competitive, Tierra Wools must gauge how their Internet site compares to the Internet sites of other art businesses in New Mexico. Tierra Wools faced the issue of

determining how e-business has impacted both Tierra Wools and the Los Ojos community, in order to understand the larger problem of the New Mexican rural communities. This evaluative process will allow Tierra Wools to identify the successful elements of their e-business strategy while isolating the areas for needed improvement. Such strategies may be applicable to other communities similar to Los Ojos.

#### Purpose of the Study

As suggested by Chirot (1994), industrial cycles will inevitably affect societal cultures. In effect, as a country, region, or the globe transitions to a new industrial cycle, most social customs, traditions, and behaviors are transformed as well. Chirot speculated that the world is currently transitioning to a new sub industrial cycle brought about by the mainstream utilization of high technology. This study examined how the transition to the new sub industrial cycle of high technology, specifically the Internet, affects the culture of a small, rural community in northern New Mexico. In particular, this investigation examined how implementing an e-business impacted the business performance of Tierra Wools, and used this data to illustrate how technology and

culture can complement one another. The intent of this study is to examine the relationships that exist between Tierra Wools e-business strategy and (1) consumer utilization of Tierra Wools's Internet site as an informational tool and (2) Tierra Wools's financial performance as indicated by company financial records.

This study will (1) compare Tierra Wools's Internet site to the Internet sites of its competitors, (2) gauge consumer utilization of their Internet site, (3) illustrate financial performance trends before and after implementing an e-business and (4) consolidate these findings as they relate to preserving the historical culture of Los Ojos (Figure 2).

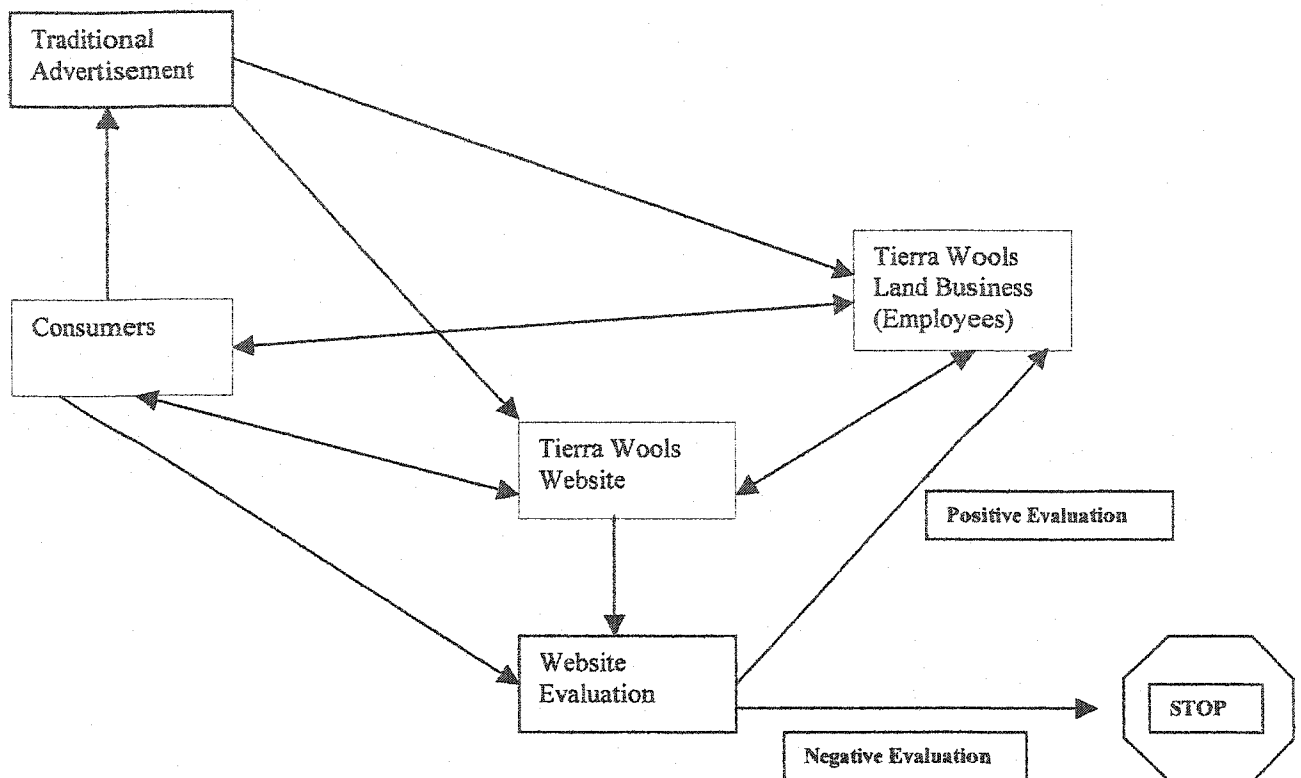


Figure 2. Conceptual model of research.

Tierra Wools created and implemented an Internet site on the World Wide Web in 1998 in order to minimize its geographical isolation and target a larger consumer audience. In order to assess the impact of the Internet site on Tierra Wools business, several variables related to Tierra Wools e-business strategy will be examined: (1) Tierra Wools Internet site will be evaluated using a Waller's (2001) Internet site checklist, (2) consumer usage of Tierra Wools Internet site will be measured using a

customer survey, and (3) a time series analysis focused on Tierra Wools's financial performance will be conducted using historical financial records.

#### Research Questions

This study will attempt to investigate how e-business might help small, rural, established businesses in New Mexico stimulate their economies. In order to understand this issue, Tierra Wools will be used as a business case to study this relationship. The following research questions will guide the study.

1. How does Tierra Wools's Internet site compare to the Internet sites of its direct competitors based on Waller's (2001) Website checklist?
2. What percentage of Tierra Wools's customers use the Internet site for company/product information as compared to other marketing venues?
3. In what way is Tierra Wools's overall business performance impacted by the addition of an Internet site?
4. How does the implementing an e-business complement the historical culture of Los Ojos?

### Delimitations of the Study

In an effort to effectively manage the scope of this project, only businesses that satisfy all of the following criteria will be considered in this study:

1. New Mexico - businesses that are located within the State of New Mexico territorial boundaries.
2. Small businesses - businesses that employ no more than 40 employees.
3. Art Businesses - businesses that consider art as their core competency.
4. Formal businesses - businesses that are licensed to do business by the state of New Mexico.
5. Publicly documented businesses - documented as telephone users in the official New Mexico Qwest DEX Telephone Directory in the category of "Art Galleries, Dealers, or Consultants."

Given the delimitations above, the scope of this project will be an in-depth examination of how the implementing an e-business can affect one small rural art business in New Mexico. It is the intention of this study to use this case to gain an understanding of the larger population of rural art businesses in New Mexico.

### Limitations of the Study

Given the unique history and demographics of New Mexico, the results of this study may not be generalized to small, rural, art businesses in other areas of the world.

Furthermore, since this study will focus on an art business, the results may not be applicable to other small rural non art businesses. According to de Figueiredo (2000), "On the Web, all goods are not equal. Products possess different attributes and different levels of the same attributes." With this in mind, one must take caution when comparing Web businesses with significantly different products. For example, commodity products, such as printer paper, may be a more successful selling product on the Web when compared to products that require consumers to "look and feel," such as art (de Figueiredo, 2000).

## Summary

Los Ojos is a New Mexico community with a long history. Los Ojos's livelihood is dependent on finding innovative ways of sparking economic growth. Tierra Wools is the economic hub of Los Ojos. Thus, the economic vitality of Tierra Wools is crucial for the sustenance of the community. With this in mind, Tierra Wools is faced with the task of finding and evaluating ways to generate new business. This study investigated how implementing an e-business into Tierra Wools's business structure impacted their overall business.

In the chapters to follow, this study will examine how e-business may predicate rural economic development. Chapter 2 will summarize the current academic literature surrounding the Internet and its application to business. This literature review will include a general overview of e-business, e-business as a business marketing tool, e-business as a sales tool, and e-business as it relates to rural economic development.

The research design is described in chapter 3. This design will include details such as the demographics of the population to be studied, data collection and analysis



techniques, and an overview of the expected implications of these results.

## CHAPTER 2

### LITERATURE REVIEW

#### Introduction

The Internet is transforming the way companies around the world do business. Conducting business using the Internet, or e-business, is steadily becoming the norm among corporate leaders around the world (Dandridge & Levenburg, 2000). Furthermore, small and medium sized businesses (SMB) are benefiting from e-business as well, especially SMBs that are located in rural geographic areas (Allen and Johnson, 1993). The Organization of Economic and Cooperative Development estimated that e-business would grow from \$26 billion per year in 1997 to \$1 trillion by 2004 (Weathersby, 1999).

In the United States, 87% of large corporations with revenues of at least \$1 billion use the Internet as a tool within their business operations (Dandridge & Levenburg, 2000). Dandridge and Levenburg (2000) found that the most common use of the Internet was to disseminate information about company and products. Furthermore, 69% of companies surveyed used the Internet as a commerce tool. De Figueiredo (2000) added that companies who sell quasi-commodity products (books, videos, compact discs, toys, new

cars, etc.) are most likely to use the Internet as a method of commerce.

For SMBs, the Internet provides a low-cost opportunity to open new markets, reach a larger consumer audience, and compete with larger competitors. For SMBs in rural areas, the Internet has been characterized as "the great equalizer," allowing an SMB to compete with mega-corporations on a level footing (Hickins, 1999). Allen and Johnson (1993) reported that the Internet is creating an business environment whereby geographic location is no longer the key to economic prosperity.

In the sections to follow, this study will examine several elements of technology being employed in business. This chapter will include a background summary of e-business, aspects of e-business strategy, and an overview of rural economic development activities in New Mexico. This assessment will attempt to create a theoretical framework as to how the Internet, utilized as an e-business tool, can help foster economic development for small rural communities such as Tierra Wools (Figure 3).

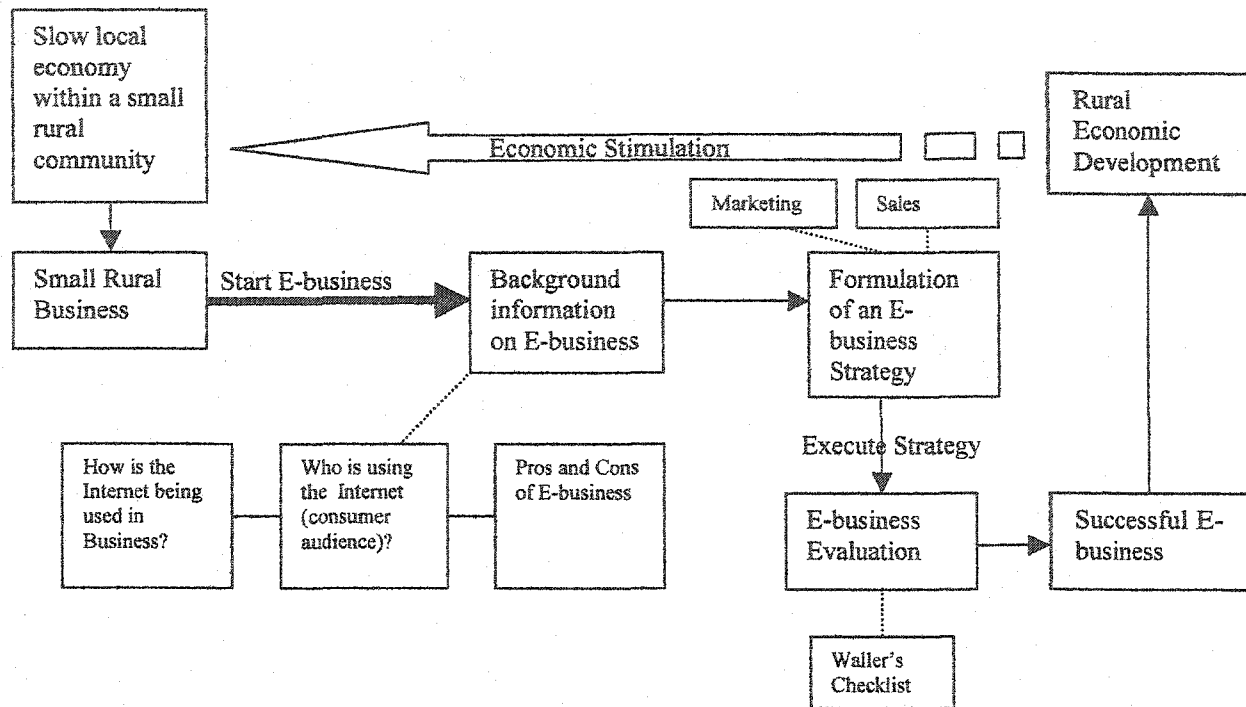


Figure 3. Conceptual model of literature review.

#### Background Information on E-business

According to the Fellenstein and Wood (2000), electronic business can be defined as a transaction performed by buyers and sellers through the Internet, where there is a clear intent to buy and sell. Electronic business plays a major role in the world's economic growth (Phan, 2001). For small businesses in particular, e-business can provide a means for expanding otherwise limited consumer markets. It is projected that in the

United States, over \$1.3 trillion of trade will be done over the Internet annually (Evans, 2001).

#### Internet Usage

In order to establish an effective e-business strategy, it is important for businesses to understand all aspects of their consumer audience, including their Internet audience. Once the demographics of the e-business audience are defined, a business strategy to effectively address this audience can be formulated.

According to the United States Census (2000), over 40% of Americans have at least one computer with Internet access in their home. Furthermore, in a study conducted by the National Telecommunications and Information Association (2002), it was reported that, in the United States, the number of Internet users is growing at the rate of 2 million new users a month. The study went on to state that approximately one third of those accessing the Internet purchased products and services online. Since the population of the United States is so diverse in nature, it is important for e-business managers to understand the ethnic diversity within their Internet audience, and thus tailor their business strategy accordingly (Table 1).

Table 1

*Computer Ownership and Internet Use Based on Ethnic  
Background*

| Ethnicity          | Computer ownership and<br>Internet usage |
|--------------------|--|
| Non-Hispanic White | 77%                                      |
| Asian American     | 72%                                      |
| African American   | 43%                                      |
| Hispanic American  | 36%                                      |

(Adapted from the United States Census, 2000).

Furthermore, the United States Census (2000) found that more than 50% of Internet users, independent of ethnicity, are between the ages of 25 and 44. In addition, the Census also found that the highest concentration of Internet users live outside a major metropolitan area and earn an annual salary in excess of \$75,000. A comprehensive understanding of the characteristics of Internet users is significant because it help e-businesses adapt such things as their product line to meet the needs of their current and future customers.

An estimated 179 million Internet users worldwide accounts for roughly 4.3% of the population (Dandridge,

2000). Although United States citizens comprise the majority of Internet users at 143 million in 2002, strong growth in the number of Internet users has been seen in Asian countries including Japan and Taiwan, the United Kingdom, Canada, and Spain. In 2000, it was estimated that 327 million people around the world had Internet access (Dandridge & Levenburg, 2000). It is important for e-business managers to realize the global nature of doing business over the Internet. An effective e-business takes into account the broad nature of the Internet-based consumer audience. For example, Tierra Wools considered Mexico one of its target consumer markets. As such, they have experimented with adding Spanish excerpts to the content of their Internet site (R. Collier, personal communication, December 22, 2000).

#### How is the Internet being used in business?

The use of technology as a business tool is commonplace in economically developed countries (Baker, 1992). Computer technology is being used to improve communication, efficiency, and effectiveness within a business organization (Kienan, 2000). Over 78% of those firms that use computers have reported increased profits (Baker, 1992). Most small firms utilize technology to

access the Internet (Kienan, 2000). The Internet is most frequently used as a sales and marketing tool among these firms. With the creation and establishment of an e-business Internet site, businesses can use the Internet to add a distribution channel, increase overall sales, expand consumer reach beyond local markets, or increase exposure to existing markets (Mehta and Shah, 2001). In addition, small businesses are using the Internet to communicate with their customers and suppliers. It is estimated that 68% of business-to-business purchases will be done over the Internet in 2003 (United States Small Business Administration, 2000).

Businesses are also using the Internet to improve communication within the organization. E-mail is the most popular form of Internet communication. Sharing information online can improve workflow processes and lead to cost savings (Kienan, 2000). Siebel (1999) reported that the use of technology for the exchange of information can increase productivity within a small business.

Technological innovation has provided the means for small businesses to increase productivity and remain competitive. In this way, the Internet offers firms the ability to track customer needs more efficiently and access



niche markets at the touch of a button. According to Hormozi and Harding (1998), the Internet allows small, home-based businesses to appear as corporate giants and operate internationally in ways that were previously impossible.

Vinnell and Hamilton (1999) identified the factors that work for or against the growth of companies: 1) owner/CEO leadership, 2) product innovation, 3) changes in the market scope, 4) improved methods of sales and distribution, 5) organization structure, 6) availability of capital (internal and external), 7) availability of labor skills, and 8) level of consumer demand. With respect to leadership, Baker (1992) asserted that companies with effective managerial leadership and support for computer usage were more successful. Fullen-Love and Scapens (1997) found that production planning and manufacturing software aided companies in coordinating tasks, ultimately saving time and money. The expediency that computers provide increases product availability, consumer exposure, and influx of funds into a company, while decreasing distribution time. For example, payroll computer applications speed up the calculation of wages and bonus payments for company employees (Fullen-Love & Scapens,

1997). Other advantages of the Internet for small business are listed in Table 2.

TABLE 2  
ADVANTAGES OF THE INTERNET FOR SMALL BUSINESS

Table 2

*Benefits of Internet Strategies in Small Business*

- Collect marketing intelligence of industry, competitors, and potential markets
- Seek information on potential products to offer, new suppliers, resource funds, or basic information on how to do business.
- Expand access to markets to include areas outside immediate geographic area.
- Create immediate awareness of company's products or services through a Website, search engines, discussion groups, mailing lists, and bulletin boards.
- Access key decision makers through bypassing gatekeepers.
- Position small business on equal footing with large established companies.
- Target markets that are often ignored by larger competitors (e.g., small size geographically difficult to access, and unable with which to connect).
- Implement well-conceived Internet marketing strategies in an affordable manner.
- Benefit from services such as e-receptionist that aid in sales, marketing, and other business operations.

Adapted from Dandridge and Levenburg (2000); Greenspan (2000).

Dandridge and Levenburg (2000) analyzed data gathered from 195 small and medium sized firms that were geographically stratified and had less than 25 full-time equivalent (FTE) employees. The authors randomly sampled data twice a year by querying the firms regarding their expected change in employment, sales volume, overall

business confidence level, and use of the Internet. Representatives from these companies were asked the primary purposes for which the Internet was used within their business along with the frequency of use. Dandridge and Levenburg reported that less than 15% of the sample had their own Website. In addition, these small businesses placed greater priority on using the Internet for buying rather than for selling. The authors went on to report that those companies with plans to export their product are more likely to have a Website and to utilize the Internet to find information on competitors.

Websites either can function as a shop downtown or in a mall; or they can allow a business to sell through mass marketing, through direct marketing, or as a wholesaler. Often, the minimal cost of marketing on the Internet is an advantage to retailers. For example, a Hawaiian coffee bean store spent \$1,000 to establish themselves on the Internet when their store rent and overhead expenses exceeded \$12,000. The coffee bean homepage enlisted color photographs and descriptions of their gourmet products and had the capability of processing credit card orders. In a short time, the coffee bean store reported producing \$15,000 a month in orders and, because business was booming

via the Internet, the actual shop was closed (Hormozi & Harding, 1998).

As small businesses become increasingly productive and successful, they may extend their success to the community that surrounds them. The extension of resources between businesses and their surrounding community is dual-directional. Not only do socially responsible businesses help their community, but they help to build a positive company reputation in the community. This positive reputation helps a company influence the sale of its products and/or services (Fombrum, 1996).

Besser (1999) indicated that business prosperity is associated significantly with business operators' support for and commitment to the community. In this way, businesses support for the community will be recognized and rewarded by residents in their roles as customers, voters, bankers, employees, and service providers. Besser found that commitment to the community and providing support for the community is a strategy for business success.

In combining Besser's (1999) and Baker's (1992) views, one can conclude that e-business is a vehicle by which both companies and the surrounding community can become prosperous. In order to maintain this success, it is

important for the business to establish and nurture a collaborative relationship with the community it occupies. According to Besser (1999) and Baker (1992), this will lead to a win-win situation for the business and the community.

Although the literature is rich with studies showing the benefits of e-business, admittedly e-business has its liabilities. For example, retailers must consider what effect retail e-business will have on store sales, how the 24-hour world of the Internet may alter product inventory management, and whether their company is equipped to handle sales in foreign countries (Goldberg & Sifonis, 1998). For example, paperwork is the largest barrier to e-business. Evidence reported by Exchequer Software suggests that companies waste over 700 hours per year manually processing Web-generated orders. In fact, 76% of companies have to re-enter sales and purchase orders raised over the Internet because the information cannot be downloaded directly into their accountancy applications.

MacKenzie (1992) found that rural areas are faced with a number of e-business challenges. According to MacKenzie, access to technological support in rural areas may be limited, especially in situations that require on-site assistance. It was found that the development of e-

business in rural areas is contingent on the availability of appropriate technical support.

Sometimes the components of e-business are misunderstood. Below is a list of some of the most common misconceptions of e-business (Siebel, 1999, p. #22):

1. The Internet is a television. Television broadcasts a single signal to a waiting audience who are tuned to the same channel and share an identical experience. On the other hand, when you use the Internet, the user determines the content being viewed. Thus, Internet experiences are inherently different from user to user.
2. The Internet is a retailer's paradise. "Companies have tried to replicate online the variety and discount possibilities of brick-and-mortar malls, and by and large, have been disappointed in their returns" (p. 26).
3. The Internet will make you rich tomorrow. "The fact is that no technology - not even the Internet - has its own trajectory. Like a hammer or an automobile, the Net is a tool that can be wisely or foolishly deployed. It

will not drive itself, or drive your stock up, any more than a hammer by itself will build you a dream house" (p. 28).

A diligent manager must consider both the pros and cons of e-business when devising an e-business strategy. As observed by Siebel (1999), popular media often focused on the benefits or positive potential of the Internet, ignoring the downfalls and risks. With this in mind, managers must formulate a comprehensive e-business strategy that considers the strengths, weaknesses, opportunities, and threats to implementing e-business.

#### Components of an E-Business Strategy

According to Goldberg and Sifonis (1998), companies that succeed in e-business have innovative leaders who revel in taking risks and who treat e-business as a strategic business decision. The authors identify three key elements essential for the development of e-business in a small business situation: leadership, governance, and technology.

De Figueiredo (2000) contended that in order for retailers to become successful it is necessary to devise an appropriate Internet strategy which will help reveal the crucial roles of product quality, information transmission,



reputation, and risk. De Figueiredo indicated that aspects of economic and management theory, such as the degree to which the seller reputation is important and the extent to which consumers are given product information, determine a market segmentation scheme.

De Figueiredo (2000) proposed a product continuum that assigns characteristics and attributes to different kinds of products. Original art, for example, is a "look-and-feel product with variable quality". This means that each individual product within this group possesses different qualities and characteristics. Customers prefer to see, touch, and feel a product in this group in order to assess its worth. This need to "look and feel" creates an obstacle for e-commerce.

In order to combat the "look and feel" barrier, De Figueiredo (2000) suggested that product brand would dominate as a source of competitive advantage. If consumers place value on brand, this value may carry over to the assessed value of the product, without having to see or touch it. Thus, a robust brand strategy will be paramount to any e-commerce venture involving 'look and feel' products (De Figueiredo, 2000).

With respect to business-level strategies, in general, managers must formulate business plans to compete within their firms' industries and to align effectively their firms' competencies with industry success factors. Covin and Slevin (1998) analyzed the conditions under which adherence to strategic plans promote firm sales growth rate. The authors indicate that adherence to plans is an organizational outcome reflected in whether firms characteristically persist with predetermined and intended business plans or regularly and extensively modify their choice of competitive decisions and tactics in unplanned ways. Covin and Slevin proposed that comprehending the contextual appropriateness of adherence to plans may help clarify why some implementation models and processes are more effective in certain environments than others.

#### E-Business and Marketing

When reduced to its core, e-business is a form of business marketing. The Internet, and a company's e-business site therein, allows a firm to showcase its products and/or services to a worldwide consumer audience. The establishment of a company Internet presence through an e-business site can be thought of as a virtual promotional flyer or product catalog which can be instantaneously

distributed to millions of potential consumers around the world. With this in mind, an appropriate marketing strategy may predicate how many consumers visit an e-business site and consequently are compelled to purchase a product or service.

In order to create a business presence on the Web, the small business must enlist creative, imaginative, and interesting marketing strategies that are restyled constantly. Commonly used methods to create a presence on the Internet are the billboard model, the Yellow Pages approach, and virtual storefronts (Hormozi & Harding, 1998). Similarly, IT personnel can structure a particular Website that links to print advertisements, journal ads, and promotional material. Small companies may also advertise on high-traffic Internet sites in an attempt to draw attention to their Internet site (Goldberg & Sifonis, 1998).

Hormozi and Harding (1998) described the billboard model as a more passive way to direct traffic by posting "come-ons" whose aim is to display a small amount of information without being too obtrusive. For example, a small banner containing colorful and occasionally animated Web page graphics incorporates a marketing message placed

on popular Websites. The billboard method is relatively low cost and is suitable for businesses that are traditionally outside the Internet and do not want to offer actual products or services over the network (Hormozi & Harding, 1998).

As described by Hormozi and Harding (1998), the Yellow Pages approach enlists a business guide to information that usually pertains to similar products. For example, the guide can be set up on an electronic bulletin board system (BBS) to contain advertisements and information about the business's own services or products. With respect to cost, the Yellow Pages approach requires a medium-to-heavy investment of time and money; however, it generates more frequent exposure (e.g., advertisement) to Internet users (Hormozi & Harding, 1998).

The virtual storefront is a full-information service that includes the marketing of services and products as well as on-line purchasing. The virtual storefront provides traditional services including pricing information, customer support, free samples, promotional notices, customer surveys, customer needs assessments, documentation, and manuals. Hormozi and Harding (1998) suggested that the virtual storefront is best done on the

Web, requires heavy investment of time and money, and is well suited for businesses that are information-based.

Formulation of a marketing strategy.

Prior to embarking into e-business, companies must address some issues concerning products and/or services, business alliances, and so on. First, companies attempting e-commerce should decide whether they want to engage in business-to-consumer, business-to-business, or intra business activities (Kienan, 2000). In addition, companies need to determine whether they want to offer a product for sale, market their products and services to consumers, or build brand recognition for those Internet offerings. Small business representatives need to decide if they want to enhance customer service and satisfaction by building an on-line relationship with another business unit, another company, or customers. E-commerce can simplify the processes involved in buying and selling, inventory management, billing, and delivery of products and/or services.

Data generated from e-commerce and direct marketing are increasing to provide wide coverage of an assortment of products. For example, Web-browsing data provide an important source of information about consumer tastes and

preferences that can aid in the development of marketing strategies. In addition, scanning equipment provides the market researcher with a national panel of stores in addition to panels of households, which alters the focus of market research (Rossi, 2000). Although the Internet can provide a plethora of marketing research data, Wah (1998) asserted that demographic information is irrelevant to developing a marketing strategy. In this way, e-commerce customers are distinguished by their needs for convenience, control, and immediate gratification. According to Wah, an effective marketing strategy needs to include fulfilling orders and delivering products and services seamlessly to satisfy the consumers' needs.

Community as a function of marketing strategy. Product innovation and how a product is marketed have a clear effect upon rural economic development (North & Smallbone, 2000). In this way, a particular product could be distinct because it is associated with a particular geographic area and/or used for traditional methods. For these products, effective marketing is vital if the potential benefits of rurality in relation to product characteristics are to be maximized. Despite claims that technology may enhance sales and service to consumers (Goldberg & Sifonis, 1998;

Miller, 2000), North and Smallbone (2000) asserted that product and service innovation in rural areas could be achieved through creative exploitation of the opportunities presented by the rural environment which are not necessarily related to advanced technology. In the case of Tierra Wools, for example, the traditional culture of its local community is an intangible feature of its products. Tierra Wools customers feel like they are purchasing a symbol of the Hispanic culture (R. Collier, personal communication, December 22, 2000).

Online marketing forums. As indicated by Hormozi and Harding (1998), search engines are programs that return a list of Websites that match some user-selected criteria. In order to activate the search, the consumer navigates the search engine's Website and then types in key words to activate the search. Search engines select Web pages for display based on Web crawlers and registration. Web crawlers (e.g., spiders, robots, agents) negotiate the Web automatically compiling index data. Registration requires the business to register its site by submitting a form. According to Hormozi and Harding (1998), most of the popular search engines offer free Website listing services;

however, companies may be required to pay fees and/or fill out lengthy forms.

In addition to the search engines, on-line directories are another avenue through which a business's Internet presence can be manifested. On-line directories require registering with the company providing the directory service. These directories are typically divided into categories and the company has to submit its Website address under the most appropriate heading. With respect to cost, Website promotion services charge a fee (usually \$100/50 search engines and directories) to index companies and register them on the appropriate search engines and directories (Hormozi & Harding, 1998).

#### E-Business and Sales

According to Miller (2000), Internet-based sales may reach 25% to 35% of the total retail market over the next decade, representing a dramatic increase in direct marketing. The cyberspace sales environment changes not only the space but also the measures of productivity from the traditional to the virtual. Traditionally, physical space provides consumers and retailers with certain advantages (Table 3). Greenspan (2000) indicated that, because the Internet has created opportunities for like-



minded individuals to collaborate while miles apart, it may not be economically feasible to have a physical space in which to conduct business. Miller particularly emphasized the collection of consumer data (e.g., consumer's product preferences, height, weight, background, travel interests, purchase patterns, interest in new product lines, etc.) in the physical retail space that may provide clues into how marketing can directly appeal to each shopper. Traditional methods rely on square footage of a physical space to promote their sales or services and subsequent productivity. In the Internet arena, productivity is a function of how a particular site enables a retailer to be more successful in serving customers independent of where and how they are served. Consequently, sales are diverted away from the traditional cash register.

Table 3

*Pros of Retailing in a Physical Space*

## Advantages:

Consumers

- Instant gratification
- Prompt examination and testing of product quality
- Relationship building through trained sales staff acting as

personal shopping advisors

- Information assistance through computer-driven information kiosks placed strategically in the physical space to assist customers with finding merchandise
- Off site product distribution

Retailers

- Introduction of new products expediently
- Virtual presentations that enhance the appeal of the product through context-based marketing which combines products to increase the sale.
- Consumer profile collection of information
- Interviews, forms, observation, and purchase pattern analysis; cross-marketing or retail bundling in which consumers are directed to complimentary merchandise
- Off site product distribution

Table 4

*Cons of Retailing in a Physical Space*

Disadvantages

Consumers

- Inaccessibility
- Inconvenience

Retailers

- Inaccessibility
- Paying rent and other overhead costs
- Manning/operating a cash register

Adapted from Miller, 2000, de Figueirido, 2000 and Greenspan, 2000.

Miller (2000) suggested that some consumers combine the physical and cyberspaces when purchasing items. In this way, consumers may have options: 1) back room or kiosk sales where consumers place orders on an in-house Internet or intranet link with the assistance of a salesperson (may avoid sales tax); 2) carry hand-held merchandise bar code scanners that retailers provide to customers who are compiling shopping wish lists for special occasions; and 3) review the product, try it on or test it out, examine the quality, and then scan the product bar code in order to search for the lowest-priced retailer in either physical or cyberspace. Miller concluded that it is essential for retail owners and managers to integrate the Web into their own marketing plan and develop strategies to capture the value of customer information collected during physical visits as well as sales that are redirected to off-site distribution (Miller, 2000).

#### Evaluating E-business

Mehta and Shah (2001) reported that 17 million people would buy something from an Internet site in 2001. The

growth of e-business has been described as meteoric (Mahadevan, 2000). In order to profit from this growth, managers must find effective ways of evaluating their Internet site(s). In the past, e-business managers relied on Web hits and click-through rates to measure their Internet site success. Many have found that merely measuring Internet site traffic is not very helpful in evaluating and planning an e-business strategy (Siebel, 1999). There are differing opinions as to what constitutes a good Internet site. Bellizzi (2000) contended that the goal of a successful Internet site is to not only draw potential customers to the site, but also optimize their experience once there.

Academic research focused on Internet site evaluation is sparse. There are innumerable variables that could contribute to an effective Internet site. Waller (2001) devised a checklist that evaluates the effectiveness of 60 Internet site elements. Turban (2000) identified several of these variables which correspond with a successful Internet site. To date, there is no research into the validity or reliability of Waller's checklist (Waller, personal communication, February 2001). Moreover, there is no standardized method of Internet site evaluation cited

within the academic literature. With this in mind, this study may be the first source of academic information in this area.

#### Rural Economic Development

Rural economic development is a process by which local government and/or community-based groups manage their resources and enter into new partnership arrangements with the private sector or with each other to create new jobs and stimulate economic activity in a rural area (LeNoir, 1990). Gyulai (1996) reported that government programs attempt to eliminate barriers that hinder effective rural economic development efforts in order to maximize the use of resources and encourage innovative solutions to problems in these small communities.

For example, New Mexico's Rural Economic Assistance Link (REAL) is a university-based partnership whose aim is to provide innovative support and technical assistance to small towns and rural counties. In this way, it creates new ways to promote and reinforce small business growth and strategic community development efforts. REAL's ultimate goal is to help rural communities build the capacity to thrive. Steps taken by REAL to achieve these goals include encouraging leadership, fostering teamwork, and building

consensus within rural communities. With respect to businesses in particular, REAL provides communities with analytic and statistical services (e.g., needs assessment and retail leakage analysis) to identify the types of business markets within a community. Although REAL usually works with whole communities, assistance has been offered to individual small businesses when it is believed that the impact will benefit the economic health of the community. Tierra Wools has benefited from the REAL initiative by offering in-house REAL teamwork seminars to company employees and managers.

Richardson and Coppedge (1995) asserted that government sponsored programs, such as REAL, have had a positive impact on communities where most jobs stem from local, small businesses. As it relates to this study, a partnership between REAL and the Small Business Development Center developed an artisan database of Northern New Mexico to provide up-to-date contacts between local artisans and buyers.

Economic development strategies have recognized telecommunication technology as a potential barrier to economic development in rural areas (Allen and Johnson, 1993). Richardson and Coppedge (1995) asserted that rural

America is influenced increasingly by rapidly emerging technology, including the proliferation of computer technology, advanced telecommunications, video interfaces, and telecommunication systems. In effect, the information superhighway provides distinct opportunities and challenges to rural communities, especially those in rural New Mexico. Allen and Johnson (1993) reported that coalitions between business users and telecommunication providers may increase job creation in rural areas by using telecommunication technologies tied to computers, satellite up-link systems, and fax machines. Tierra Wools is currently working with New Mexico Department of Economic Development to establish a broadband Internet link to its retail store via satellite technology.

Similarly, MacKenzie (1992) confirmed that the introduction of technology to various arenas would redistribute resources to provide individuals from rural communities with a unique set of opportunities. Technology is becoming less site specific and often may be transferred readily from one place to another. In addition, information and knowledge are as easily created and used in a remote site as they are in a downtown office complex. Computer linking to information networks may reduce

significantly the necessity of ready access to a university research library. Technological innovations in terms of electronic banking, video conferencing, and database access make it realistic to provide emerging rural businesses with equal footing in the world economy. MacKenzie concluded that technological opportunity changes the economic paradigm and provides new models for production and the creation of wealth, as it encourages the emergence of new small businesses, and entrepreneurship. Drucker (1998) confirmed that entrepreneurs have been referred to as all small businesses, new businesses, or well-established businesses that engage in highly successful entrepreneurship. Therefore, at the heart of entrepreneurship is not the size of the company but the degree to which it is innovative (Drucker, 1998). By fostering entrepreneurship in rural environments, local economies may be stimulated (MacKenzie, 1992).

Hormozi and Harding (1998) indicated that the Internet enables potential entrepreneurs to seek business opportunities with low entry barriers and potentially large markets. The Internet is not only cost-effective, but it also provides enormous advantages to consumers and entrepreneurs. In this way, the Internet allows small



businesses and entrepreneurs with an opportunity to compete with corporate giants (Hormozi & Harding, 1998).

#### Community Collaborations

Tierra Wools is a community-owned-and-operated small business aimed at stimulating the local economy of Los Ojos. There are both advantages and disadvantages to this business structure. Economic development alternatives for some rural communities have been limited traditionally by their small size and agriculturally dependent economies. In an effort to promote their collective economic and community development, rural communities that are competing for scarce economic resources are exploring the mutual benefits of collaboration (Borich, 1994). Rural, multi-community collaboration is an internally or externally induced process which involves two or more rural communities that jointly plan, implement, and complete a series of tasks over a period of time. Under no circumstances does one community or socioeconomic, ethnic, government, or other group have dominance in the process or output of the task. Wagner's (1996) analysis of multi-community development organizations (MDOs) (n = 15) and Borich's (1994) analysis of 78 MDOs identified economic development activities such as industrial recruitment,

assisting start-up businesses, business retention, and expansion activities. Wagner's and Borich's results as to the economic impact of the MDOs were inconclusive due to insufficient data.

Although the premise by which MDOs were created was based on creating economic development for rural communities, Duke chronicled some failures of MDOs in Georgia, California, and Colorado. According to Duke, some MDOs have failed at economic development because of a lack of equal participation, a non cooperative working relationship, and a lack of leadership. Duke found that the recent involvement of the private sector (e.g., individuals and banks) is a major improvement and a positive factor influencing the group's future.

### Summary

Usage of the Internet for small business operations is increasing. Reports indicate that computerization is essential in the development of new firms and a tool to maintain competitiveness in a particular market (Dandridge, 2000). Hormozi and Harding (1998) confirmed that small businesses most likely to find the Internet useful and profitable include companies that usually advertise by mail order and those that seek to expand their existing services or products to more locations. Moreover, Hormozi and Harding (1998) asserted that the Internet may provide a cost-effective way for a variety of small businesses to reach a larger audience and receive timely feedback (e.g., market research, sales transactions, etc.) relative to new products and services. The small companies that can be prosperous via the Internet are those that cannot afford the vast advertising required to reach potential customers. In this way, they may offer a variety of products and services such as customer support, computer sales, Web page development, training manuals, and homemade jelly, crafts, art work, wedding services (Hormozi & Harding, 1998). With respect to consumers, Dandridge and Levenburg (2000) found that, as individuals become more accustomed to using the

Internet as a source of product information and products themselves, the ability to achieve increased sales as a result of adopting Internet marketing strategies will increase. In this way, the potential for the marketer depends on the increasing sophistication of the consumer (Dandridge & Levenburg, 2000). Ultimately, the Internet provides 24-hour service to advertise products and services via professionally developed pages by which a small business can compete on an equal basis with the larger companies (Hormozi & Harding, 1998).

As expected, the qualifications Baker (1992) described as essential for successful computerization of companies are those that Leaman and Cook (1992) attributed to geographical areas where rural economic development prospers. These characteristics are leadership, cooperation, and commitment of key staff. Baker found that companies which had the support, cooperation, and leadership of management were more advanced in their computer technology.

Similarly, Leaman and Cook (1992) found that, although a key individual can serve as a catalyst for an aggressive economic development program, cooperation of business leaders and elected officials are essential to decide

collectively on a plan of action to improve the local economy. E-business is a means by which rural economic development can be accomplished; however, as Baker (1992) and Leaman and Cook (1992) asserted, e-business is conducive to particular environments that have the leadership, financing, and cooperation of individuals to support them.

#### Tierra Wools

In an ongoing process of developing Tierra Wools's business strategy, both sustaining and new business initiatives must constantly be evaluated. This evaluative information can be used to tailor business practices and plans as necessary. It is persistent evaluation that helps business managers maintain an effective and efficient organization.

This study will help small rural businesses evaluate the efforts laid into their e-business strategy. This information will help Tierra Wools to develop their business more effectively by better understanding their customers, competitors, and employees as a function of their evolving e-business strategy. The following chapter will describe exactly how this researcher evaluated Tierra Wools's e-business strategy. The results of this evaluation

will help Tierra Wools to adapt their current and future business strategies to increase their probability of success. In addition, the results of this study may help business managers who operate small, rural businesses (similar to Tierra Wools) to make more informed and educated decisions regarding initiating or sustaining an e-business strategy of their own.

## CHAPTER 3

### RESEARCH METHOD

#### Approach

##### Case Study Research Approach

The case study, or case history, is a method for conducting social research. This research methodology is common in sociology, psychology, medicine, political science and business (Yin, 1994). According to Hamel (1993), the case study is "driven by the desire to establish a sociological study based on a case". The case study allows the investigator to better understand individuals and/or organizations (Yin, 1994). The understanding generated from the analysis of a single case could be transferred or generalized to other representative cases (Stake, 1995).

In business, the case study can be a valuable tool for making strategic decisions and for understanding how those decisions affect the welfare of the business, community, and society. The case study allows the investigator to understand why decisions were made, how they were implemented, and what resulted from them (Yin, 1994). Because the case study approach can employ various research methods, such as archival research and participant

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observation, it can be thought of as an "all encompassing approach" with the goal of understanding a social phenomenon in depth (Yin 1994).

#### Case Study of Tierra Wools

A case study research design allowed the researcher to develop an understanding of the advantages and disadvantages of geographically isolated businesses that are formulating an e-business strategy. Tierra Wools was the subject of an evaluative case study in this study. Furthermore, the case study approach allowed this investigation to encapsulate some of the broader effects of implementing an e-business system, specifically the preservation of traditional culture. In short, this case analysis provided a broad view on how e-business effects a small rural business, from both a financial and social perspective (Figure 4).

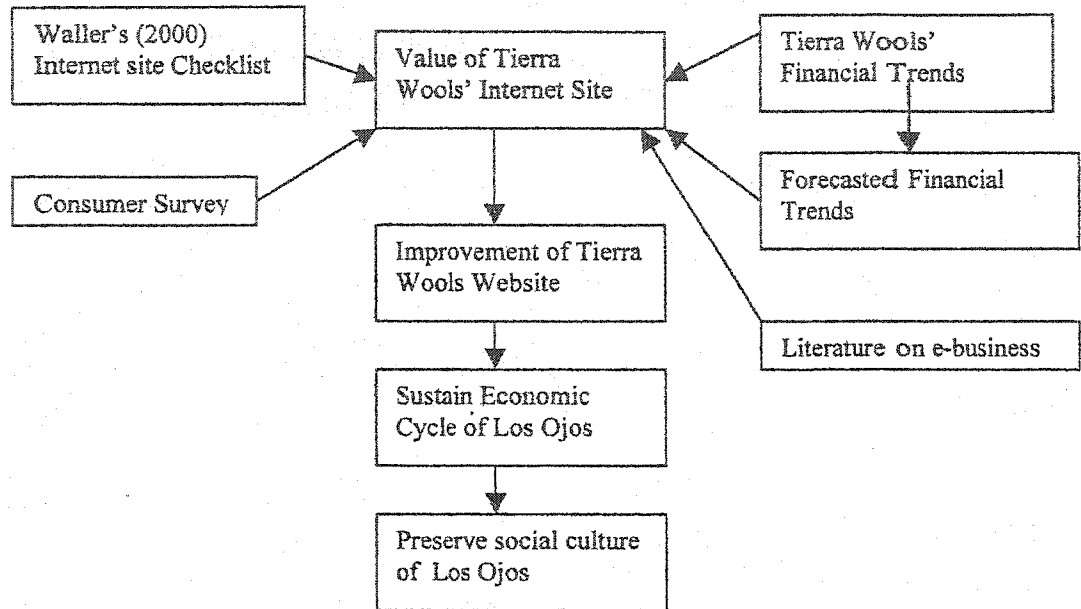


Figure 4. Case analysis research approach.

As stated above, it was the intent of this study to examine how implementing an e-business affects Tierra Wools, a small, rural, established, art business in northern New Mexico. This study was intended to gain insights that may be applicable to small, geographically isolated businesses around the world. In the broadest sense, the objectives of this investigation were twofold: (1) to perform a business case analysis of Tierra Wools e-business strategy, and (2) to use these data to illustrate the complementary relationship between social culture and implementing an e-business.

In support of the research question addressed by this study, this evaluative case analysis helped to better understand the following issues: (1) How did Tierra Wools's Internet site compare to the Internet sites of its direct competitors? (2) What percentage of customers used Tierra Wools's Internet site to gain product/company information? (3) What financial trends existed before and after implementing Tierra Wools Website? (4) Did implementing an e-business influence the preservation of the historical culture of Los Ojos?

#### Methods and Procedures

##### Population and sample

##### Tierra Wools

Tierra Wools was the focus of this evaluative case study. Tierra Wools is a small retail business located in Los Ojos, New Mexico. At the time of this study, annual revenues were between \$350,000 and \$400,000. Tierra Wools was chosen as the focus of this case study not only because of management cooperation, but also as a result of the location's convenience for the investigator.

At the time of this study, Tierra Wools employed 30-40 people, depending on the season. There were 25 female and 5 male employees at the time of this study. Employees

ranged in age from 26 - 70 years. The average employment time among employees at Tierra Wools was 7 years. All employees spoke fluent English.

#### Competitors

The Tierra Wools Internet site was compared to the Internet site of its competitors. In this study, Tierra Wools's competitors were identified using an online artist registry called "New Mexico.com". This study assumed that all businesses listed in the "Art and Artists" section of New Mexico.com were competitors. All businesses listed on New Mexico.com were verified to be small businesses based in New Mexico. Furthermore, all businesses were listed in the New Mexico state public phone directory.

#### Customers

In an attempt to gauge consumer utilization of the Tierra Wools Internet site, consumers were surveyed as to their usage of the Internet site to gain product/company information.

Customers surveyed consisted of Tierra Wools visitors who made a purchase at the Tierra Wools workshop in Los Ojos, New Mexico. For logistical reasons beyond the control of the investigator, and given the high volume of

visitors to the Tierra Wools workshop, it was necessary to limit the survey to consumers who made a purchase.

### Research Instruments

The following is a description of each research instrument used in this investigation.

#### Waller's Internet Site Checklist.

Waller's (2001) Internet site checklist is designed to evaluate 60 elements of an Internet site. Each of these elements is categorized in one of 13 evaluative topics. The evaluation topics are titled (1) impression on first entry; (2) the homepage is exciting, interesting, attention grabbing; (3) the homepage contains the key facts; (4) back office support; (5) links are clear and meaningful; (6) the whole site has a structure; (7) all the pages obey the same rules; (8) long Web pages have their own structure; (9) all Web pages have a reference; (10) useful external links are provided; (11) the Website achieves its purpose; (12) browser compatibility and accessibility; and (13) shopping experience.

Each of Waller's (2001) evaluation topics includes several close-ended statements that call for a yes or no response. For example, a score for the evaluation topic "impression on first entry" is derived from answering yes

or no to the following statements: (1) the URL/domain name is appropriate and meaningful; (2) the surfer sees something meaningful within 8 seconds; (3) the site name and product/purpose come up instantly; (4) the first page is less than 20K and the images are kept small; (5) text is visible while graphics are loaded; (6) if an entrance tunnel, this is avoidable. The number of yes responses were then tallied and overall Website scoring was based on this number (Table 4).

Table 4

*Internet Site Checklist Scoring*

| # of yes responses on Waller's Checklist | Overall evaluation of Website |
|--|-------------------------------|
| 40 - 50                                  | Excellent                     |
| 20 - 40                                  | Average                       |
| Less than 20                             | Poor                          |

Adapted from Waller (2001).

Waller's (2001) Internet site checklist was utilized to compare Tierra Wools's Internet site to the Internet sites of its competitors. This comparison identified the

strengths and weaknesses of the Tierra Wools Internet site compared to the Internet sites of its competitor base.

In addition, the Internet sites of other businesses that were identified as competitors to Tierra Wools were evaluated using Waller's (2001) Internet site checklist. Based on the Internet site evaluation, a score of 1 through 60 was assigned (Table 3) to each site (Waller, 2001). The evaluations of all Websites were done within a 1 month period by two separate independent evaluators not directly associated with this study.

#### Customer survey.

It was a goal of this study to gauge consumer utilization of the Tierra Wools Internet site. A customer survey was utilized to measure the number of Tierra Wools consumers that used the Internet site to gain product and/or company information.

During the past year, the attending cashier at the Tierra Wools workshop in Los Ojos, New Mexico collected customer data. Upon making a purchase at the Tierra Wools workshop, customers were asked in English to complete the Tierra Wools customer survey. This study used archival data collected from this survey.

The Tierra Wools customer survey consisted of a single question calling for a close-ended response. The survey asked the following question: "How did you hear about Tierra Wools?" The exclusive set of possible responses to the question were (1) Website, (2) NM Visitor Guide, (3) Handwoven Magazine, (4) Wingspread Magazine, (5) from a friend, (6) signs or brochures, (7) been here before, or (8) Denver Post article.

#### Data Analysis

Data analysis of the components of this case study proceeded as follows:

##### Waller's Internet Site Checklist

Tierra Wools's Internet site checklist score (Waller, 2001) was compared to the scores of its competitors. This individual comparison was represented in a bar graph, which allowed for the identification of any real or potential competitive threats to Tierra Wools's e-business venture.

Furthermore, Tierra Wools's Internet site checklist (Waller, 2001) score was compared to the average score of its competitors. This compiled comparison was represented in a bar graph. This representation gauged the viability of the Tierra Wools's Internet site compared to the New Mexico art industry. This approach was intended to



address the first research question presented in this study: How did Tierra Wools's Internet site compare to the Internet sites of its direct competitors based on Waller's (2001) Website checklist?

#### Customer survey

Tierra Wools consumer survey responses were tallied according to mode of advertisement. The tallied data for each category were converted to a percentage of the total number of responses among all categories and presented as a pie chart. This representation gauged customer awareness and utilization of the Tierra Wools Internet site. This approach was intended to address the second research question presented in this study: What percentage of Tierra Wools's customers used the Internet site for company/product information as compared to other marketing venues?

#### Financial analysis

This study attempted to address the effects Tierra Wools's Internet site has on company financial performance. Based on historical data, a 4-year growth trend (1998 - 2001) was predicted for Tierra Wools sales revenue, operating costs, and marketing costs using growth trend analysis. This predicted trend was compared to Tierra Wools's actual trend

for sales revenue, operating costs, and marketing costs from 1998 to 2001. This representation allowed Tierra Wools to identify the quantifiable financial effects of implementing their e-business strategy. This approach attempted to address the third research question presented by this study: In what way was Tierra Wools's overall business performance impacted by the addition of an Internet site?

## CHAPTER 4

### RESULTS

The case analysis research approach presented in chapter 3 served as the experimental model used to evaluate the effect of the implementation of the Tierra Wools' Internet site. The following sections will examine several aspects of Tierra Wools that were hypothesized to be influenced by the introduction of the Internet site. These variables include Internet site evaluation, consumer utilization of the Internet site, financial trends, and cultural effects.

#### Internet Site Evaluation

##### Tierra Wools

The first research question asked how Tierra Wools' Internet site compared to the Internet sites of a sample of 69 direct competitors. Tierra Wools' Internet site and the Internet sites of its competitors were evaluated by an independent evaluator. The Internet sites examined in this study were evaluated using Waller's (2000) Internet Site Checklist scoring tool.

Using Waller's Internet Site Checklist, it was determined that Tierra Wools' average overall Internet Site Checklist score was 89. A score of 89 equated to an

"Excellent" Internet site rating based on Waller's (2000) scoring criteria (Table 5).

Table 5

*Internet Site Rating Chart*

| <u>Rating</u> | <u>Score</u> |
|---------------|--------------|
| Excellent     | > <u>66</u>  |
| Average       | > <u>33</u>  |
| Poor          | <33          |

Adapted from Waller (2000).

Waller's Internet Site Checklist overall score comprised 12 individual components. Each component was assigned a subscore. To obtain an overall checklist score, the subscores of all 12 individual components were added and the overall score was obtained. The 12 individual components that made up Waller's checklist and Tierra Wools' respective subscores are listed in table 6.

Table 6

*Internet Site Checklist Subscores For Tierra Wools*

| <u>Individual Components</u>            | <u>Subscore</u><br>(Tierra Wools) |
|---|-----------------------------------|
| Impression on first entry               | 86                                |
| Homepage is exciting                    | 100                               |
| Homepage contains key facts             | 100                               |
| Back Office Support                     | 50                                |
| Links are clear and meaningful          | 67                                |
| The whole site has a structure          | 83                                |
| All pages obey the same rules           | 100                               |
| Long Web pages have their own structure | 50                                |
| All Web pages have a reference          | 100                               |
| Useful links are provided               | 100                               |
| The Website achieves its purpose        | 100                               |
| Browser compatibility and accessibility | 100                               |

Each of the 12 individual Web score components was rated individually. Tierra Wools Internet site merited a rating of "excellent" on 10 out of the 12 components. The rating scale for each component is listed in Table 5. In addition to the Internet Site Checklist score, the number of Web pages and images on Tierra Wools' Website were also recorded. Tierra Wools' Website had 26 individual Web pages and 100 images.

#### Competitors.

The Internet sites of 69 of Tierra Wools direct competitors were also scored using Waller's (2000) Internet Site scoring tool. The average score of the sample of competitors evaluated in this study was 72. This score qualified this sample to assume the rating of "excellent" based on Waller's scoring criteria (Table 5).

Furthermore, each of Waller's (2000) 12 individual Internet Site Checklist components was analyzed. Each component was assigned a subscore. The 12 individual components that make up Waller's checklist and the respective average subscores for the 69 Tierra Wools' competitors sampled in this study are listed in Table 7.

Table 7

*Average Internet Site Checklist Subscores For Tierra Wools' Competitors*

| <u>Internet Checklist Components</u>    | <u>Subscore</u><br>(Tierra Wools<br>Competitors) |
|---|--|
| Impression on first entry               | 72   |
| Homepage is exciting                    | 86   |
| Homepage contains key facts             | 81   |
| Back Office Support                     | 43   |
| Links are clear and meaningful          | 65   |
| The whole site has a structure          | 72   |
| All pages obey the same rules           | 85   |
| Long Web pages have their own structure | 46   |
| All Web pages have a reference          | 59   |
| Useful links are provided               | 60   |
| The Website achieves its purpose        | 68   |
| Browser compatibility and accessibility | 100  |

In addition to the Internet Site Checklist overall score and the Internet Site Checklist components subscores, the average number of Web pages and images on the sample of

Tierra Wools' competitors Websites were also recorded.

Tierra Wools' competitor's Websites had an average of 22 individual Web pages and an average of 123 images.

Comparison of Tierra Wools to its Competitors.

It was important for Tierra Wools to examine how their Internet site compared to the Internet sites of its competition. This comparison provided Tierra Wools with valuable information about the strengths and weaknesses of their Web strategy. First, Figure 5 depicts how Tierra Wools' overall Internet Site Checklist score compared to the average overall Internet Site Checklist score of its competitors.



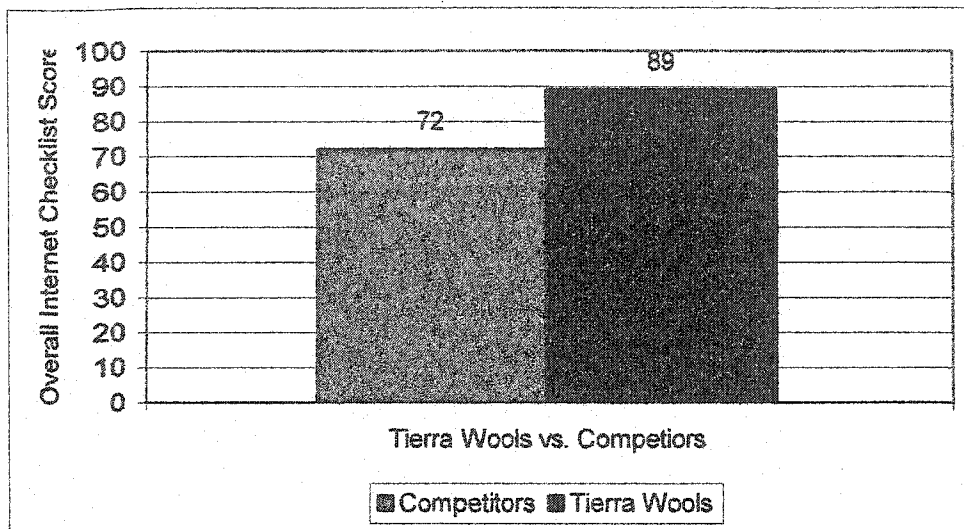


Figure 5. Overall Internet Checklist Score: Tierra Wools vs. competitors.

As illustrated in Figure 5 above, Tierra Wools' average overall Internet Site Checklist score was 17 units higher than the average Internet Site Checklist score of its sample of competitors. Although Tierra Wools' score was higher, both Tierra Wools and its competitors qualified for an "excellent" rating given Waller's (2000) scoring criteria. These results were interpreted to mean that Tierra Wools' Internet Site Checklist score and the checklist score of its competitors were qualitatively equal.

Second, Figure 6 depicts how each of Tierra Wools's Internet Site Checklist subscores compared with the average

subscores of its competitors. Each of Waller's (2000) 12 Internet Site Checklist components comprised the overall Internet Site Checklist score depicted in Figure 5. The subscore comparison allowed Tierra Wools to identify the individual strengths and weaknesses of their Internet site compared to that of its competition.

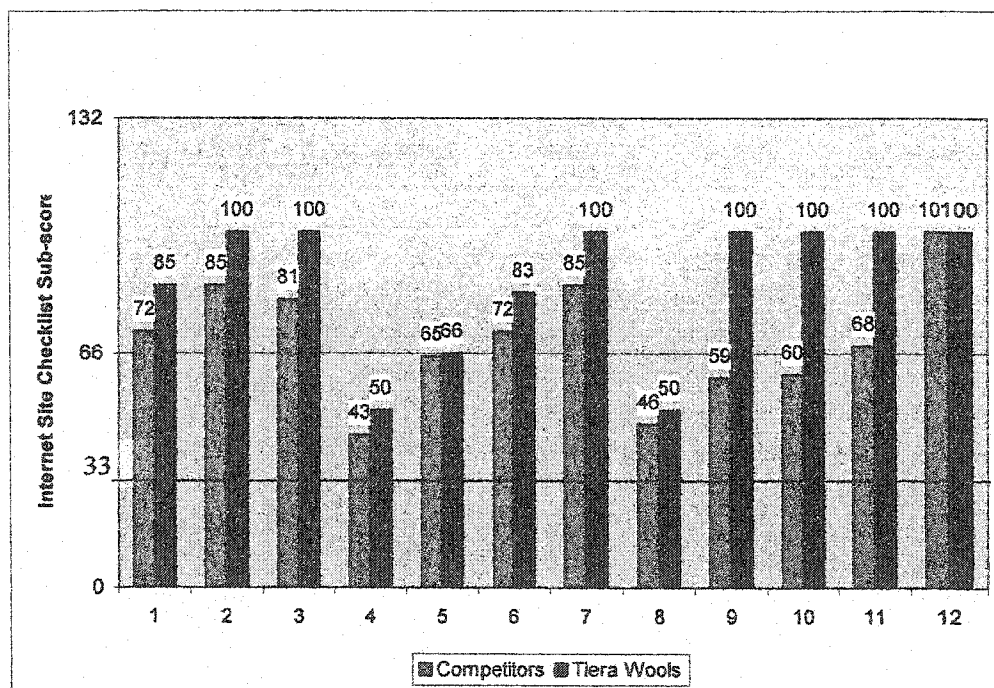


Figure 6. Twelve components of the Internet Site Checklist: Tierra Wools vs. competitors.

According to Figure 6, Tierra Wools and its sample of competitors both rated "excellent" on components 1 (impression on first entry), 2 (Home Page is exciting), 3 (Homepage contains key facts), 6 (Website structure), 7 (All

pages obey the same rules), 11 (The Website achieves its purpose), and 12 (Browser compatibility and accessibility).

Furthermore, Tierra Wools exceeded its competition in components 5 (Links are clear and meaningful), 9 (All Web pages have a reference) and 10 (Useful links are provided). Both Tierra Wools and its competition ranked a score of "average" (Waller, 2000) on components 4 (Back office support), 5 (Links are clear and meaningful) and 8 (Long Web pages have their own structure). Finally, Tierra Wools and its competitors received an equal score on component 12 (Browser compatibility and accessibility).

Tierra Wools Internet Site Checklist score was compared to the individual scores of each of its 69 direct competitors. Tierra Wools had a percentile rank of .83 when compared to each of its individual competitors. This comparison is illustrated in Figure 7.

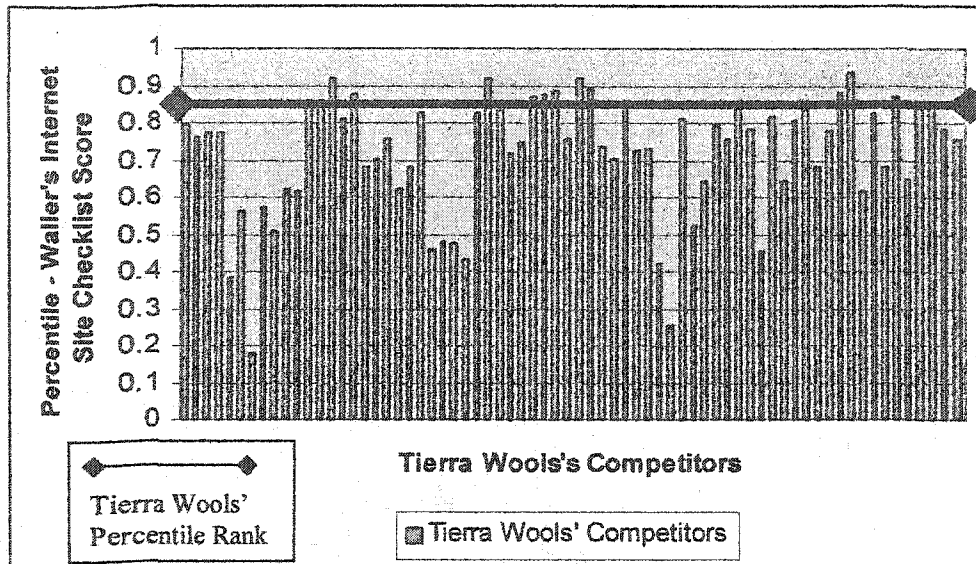


Figure 7. Tierra Wools' percentile rank compared to its competitors.

In addition, the number of Web pages and images displayed on Tierra Wools's Website was compared the average number of Web pages and images displayed by its competitors. There is some evidence that the length of an Internet site may be a predictor of success (Kalakota, 1999). This comparison is illustrated in Figure 8.

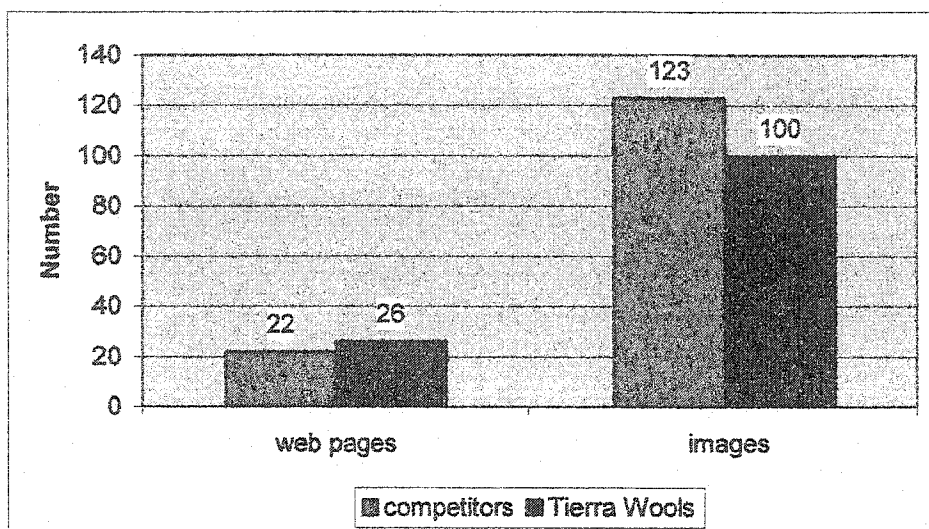


Figure 8. Web Pages and images: Tierra Wools vs. competitors.

As indicated by Figure 8, Tierra Wools' Internet site had four more Web pages than the average number of Web pages displayed by its competitors. Secondly, Tierra Wools's Website had 23 fewer images on their Website compared to the average number of images of its competitors.

#### **Consumer Utilization of the Internet Site**

The second research question gauged consumer utilization of Tierra Wools Internet site. It was important for Tierra Wools to consider whether consumers were utilizing the Internet site compared to other forms of

marketing material. This comparison allowed Tierra Wools to formulate a more effective marketing strategy.

Figure 9 illustrates the percentage of consumers who said they obtained information on Tierra Wools from the Website compared to other forms of marketing communications.

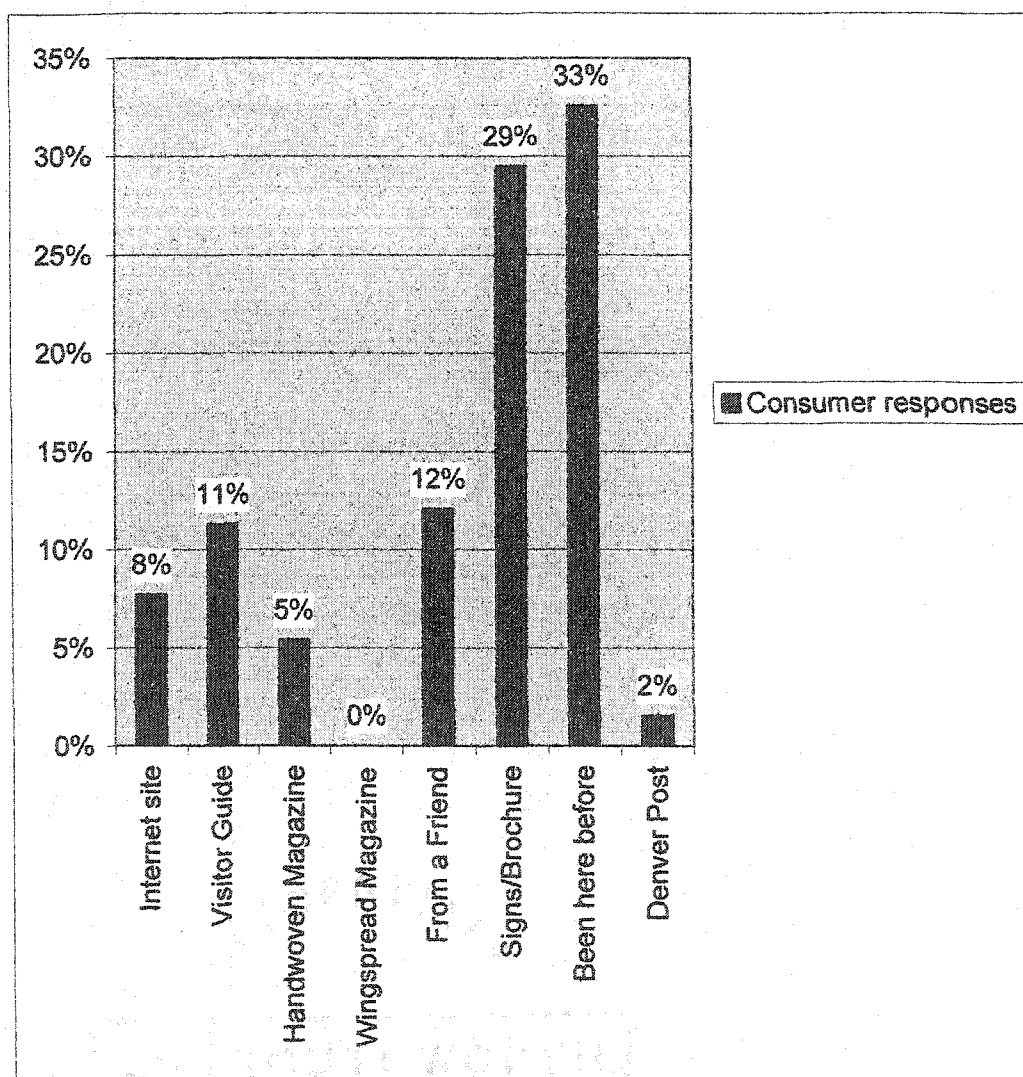


Figure 9. Comparison of Tierra Wools' marketing materials.

As illustrated by Figure 9, 62% of Tierra Wools consumers indicated that they use past visits to Tierra Wools and signs/brochures as the basis for their knowledge of company information. Only 8% of consumers surveyed said that they used Tierra Wools Internet site as a source of gaining company information. Furthermore, the remaining 30% of Tierra Wools consumers surveyed said they used print advertisements and person-to-person communication to gain company information.

### **Financial Trends**

#### Company Revenue

The first financial measure undertaken by this study was to illustrate company financial trends before and after the introduction of the Tierra Wools Internet site in October 1998. Figure 10 depicts Tierra Wools' historical trend for company revenues during the time period 1990 to 2001.

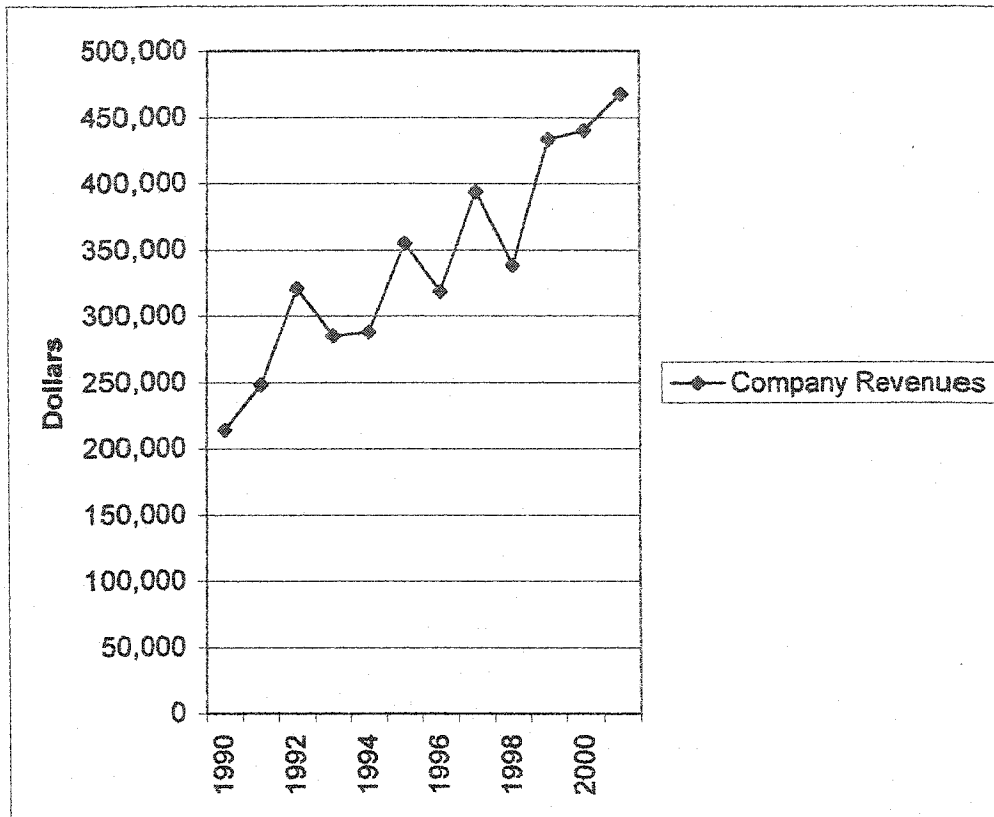


Figure 10. Tierra Wools company revenue 1990 - 2001.

As indicated by Figure 10, Tierra Wools has had a positive historical trend for total company revenues. After the introduction of the Internet site in 1998, total company revenue continued to grow approximately 28% in 1999, 2% in 2000, and 6% in 2001. Thus, according to this case study, Tierra Wools' historical positive revenue trend continued after the introduction of their Internet site.



Although it is impossible to assign a causal relationship to this increase, it is important to note this increase as an element to this evaluative case study.

Using Tierra Wools' historical positive trend for company revenue from 1990 to 1998, a predicted trend was formulated for 1999, 2000, and 2001. The data points that comprised this "predicted" trend were compared to the data points that comprised the "actual" trend. This comparison was made possible by employing the statistical model of growth trend analysis. The statistical formula for growth trend analysis uses the least squares method. In the equation  $y=mx+b$ , known values for  $y$  are plotted toward a linear curve. Once the linear curve is established, subsequent values can be predicted to fit the linear trend. The comparison of Tierra Wools' "predicted" trend for company revenues and their "actual" trend is illustrated in Figure 11.

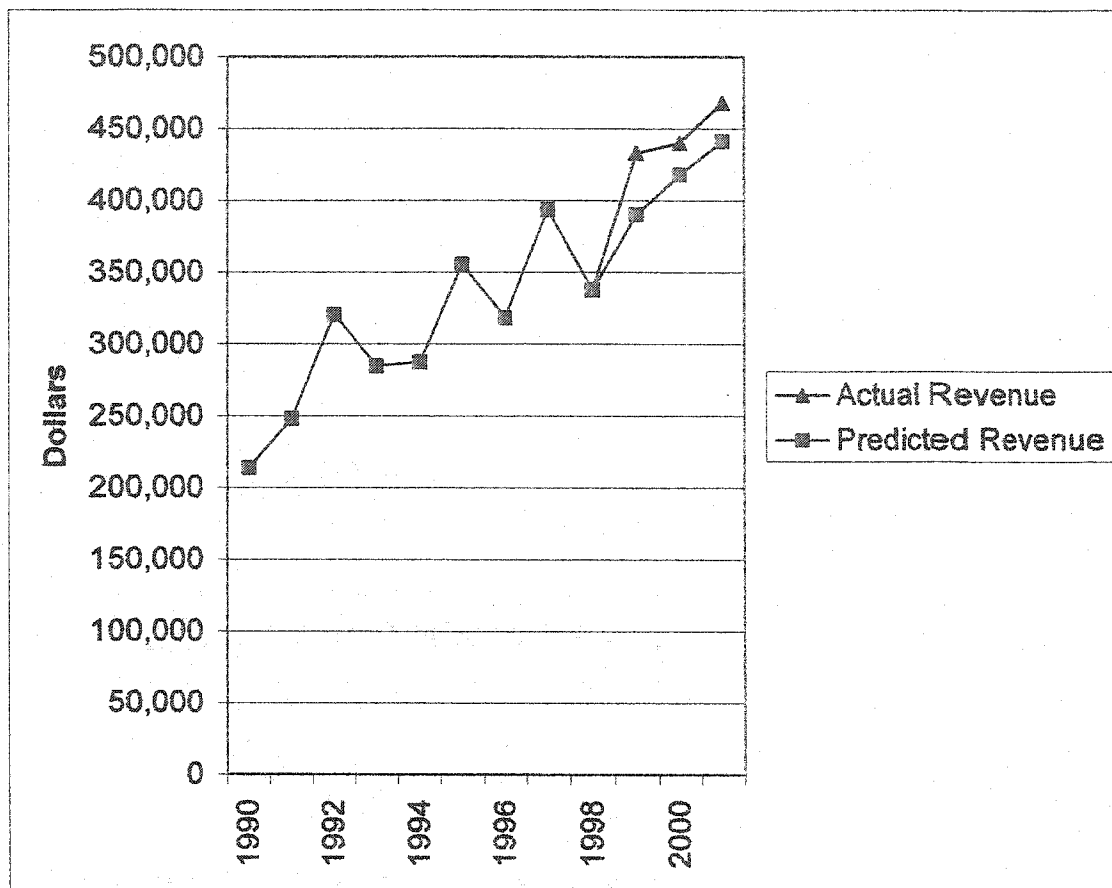


Figure 11. Tierra Wools company revenue: Actual vs. predicted.

As depicted in Figure 11, Tierra Wools generated more revenue in 1999, 2000, and 2001 than predicted. In fact, Tierra Wools generated approximately 11% more total revenue than predicted in 1999, 5% more in 2000, and 6% more in 2001. The "unexpected" increases in company revenue totaled \$92,047.

### Company Operating Expenses

As part of this case study, Tierra Wools' financial trend for company operating expenses was observed from 1990 to 2001. As illustrated in Figure 12, Tierra Wools experienced a positive trend in operating expenditures during the observed time period.

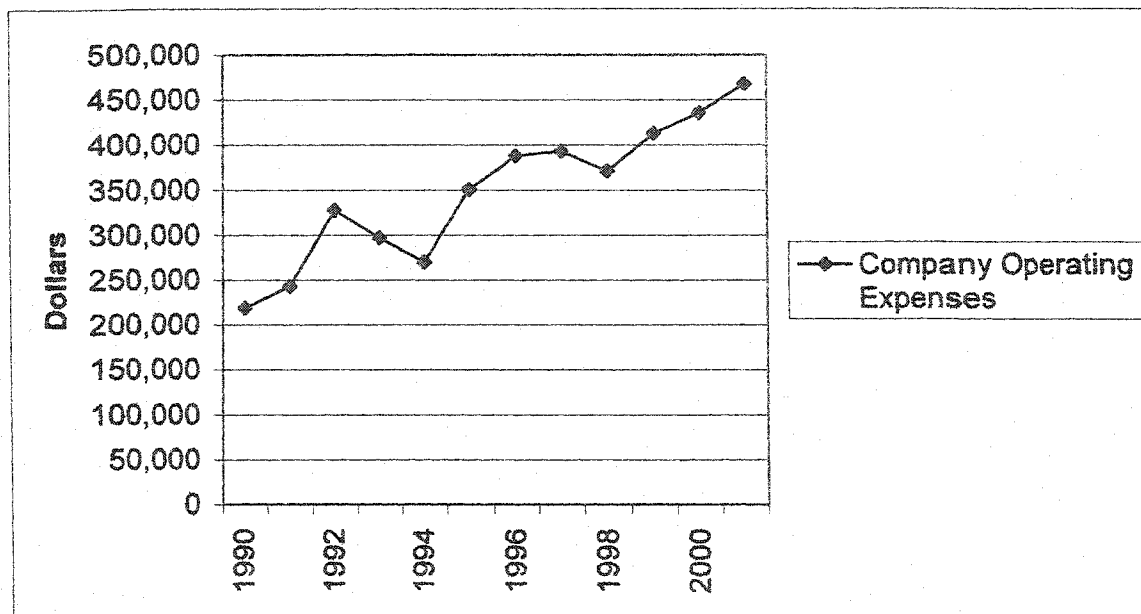


Figure 12. Tierra Wools operating expenses, 1990 - 2001.

During 1990 to 2001, Tierra Wools' operating expenses increased an average of 8% per year. In 2001, Tierra Wools' operating expenses were more than double the operating expenses for 1990. However, it is important to note that throughout the 12-year span observed in this study, Tierra Wools' operating expenses only deviated an

average of 2% from the total company revenues. The relationship between Tierra Wools' operating expenses and total company revenue is illustrated in Figure 13.

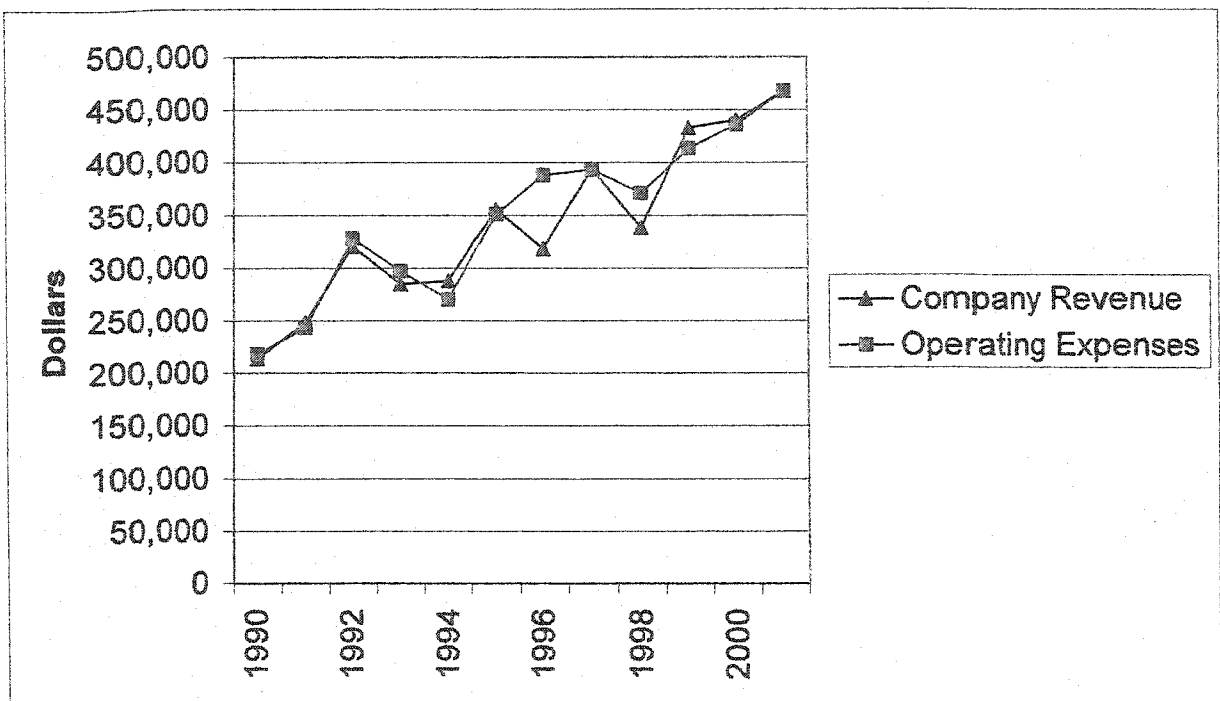


Figure 13. Tierra Wools' company revenues vs. operating expenses, 2000-2001.

Based on Tierra Wools' historical trend for operating expenses from 1990 to 1998, a trend was forecasted using the growth trend analysis statistical model. Growth trend analysis allowed for the prediction of operating expenses

for 1999, 2000, and 2001. These predicted data points comprised the "predicted" trend for Tierra Wools operating expenses during this time. The "predicted" trend for Tierra Wools's operating expenses was compared to the "actual trend" and is illustrated in Figure 14.

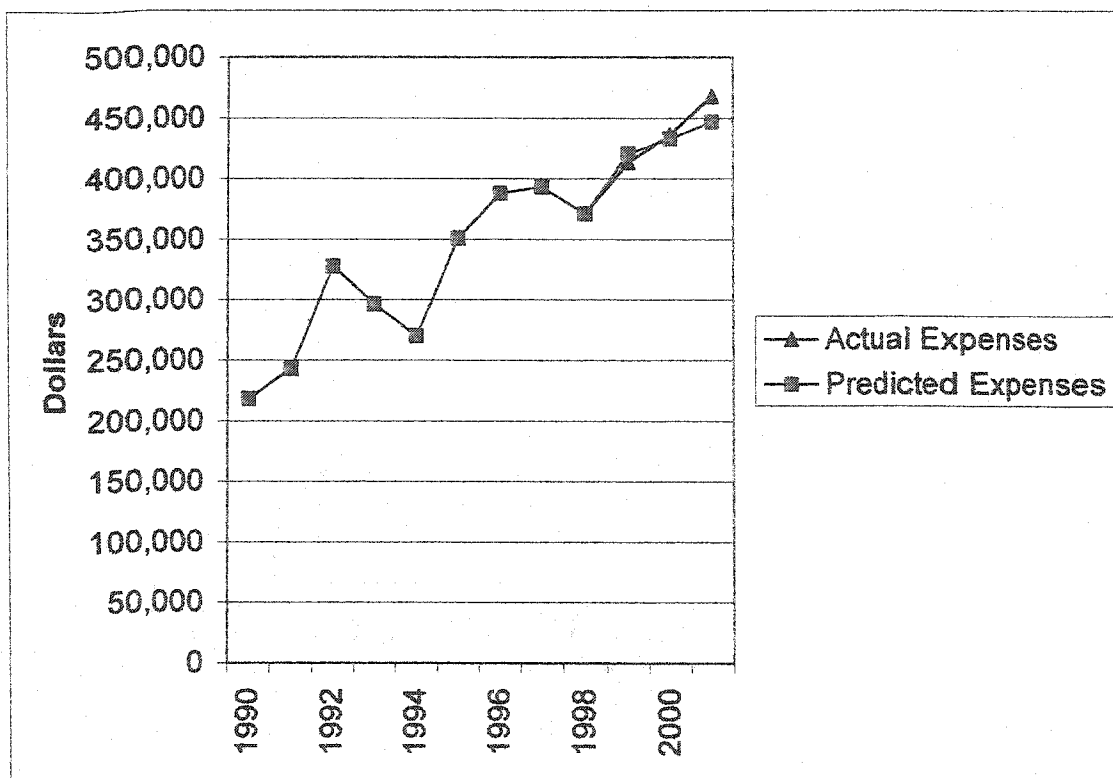


Figure 14. Company operating expenses: Actual vs. forecasted values.

As illustrated in Figure 14, Tierra Wools' "actual" operating expenses were higher every year than the

"predicted" value. Tierra Wools' actual yearly operating expenses deviated an average of 1% point from the predicted values. The average 1% deviation constituted an average of approximately \$4,390.

#### Company Profits

The next financial measure documented in this study is Tierra Wools' profitability trend. From 1990 - 2001, Tierra Wools company profitability varied greatly. During this time, Tierra Wools had an average yearly negative profit of \$6261.41. From 1990 to 2001 Tierra Wools generated a yearly negative profit margin 50% of the time. Tierra Wools's profitability trend is illustrated in Figure 15.

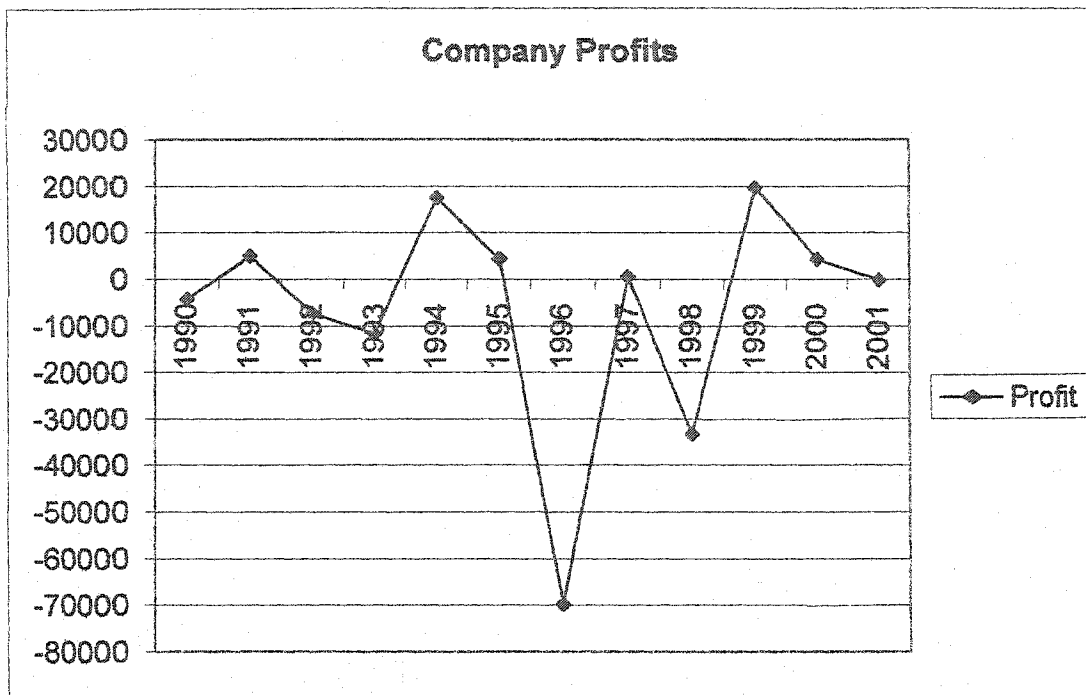


Figure 15. Tierra Wools's profitability trend.

Based on Tierra Wools' profitability trend during 1990 to 1998, profitability was predicted for 1999, 2000, and 2001 using growth trend analysis. The "predicted" values during this time were compared to their corresponding "actual" values. This comparison is illustrated in Figure 16.

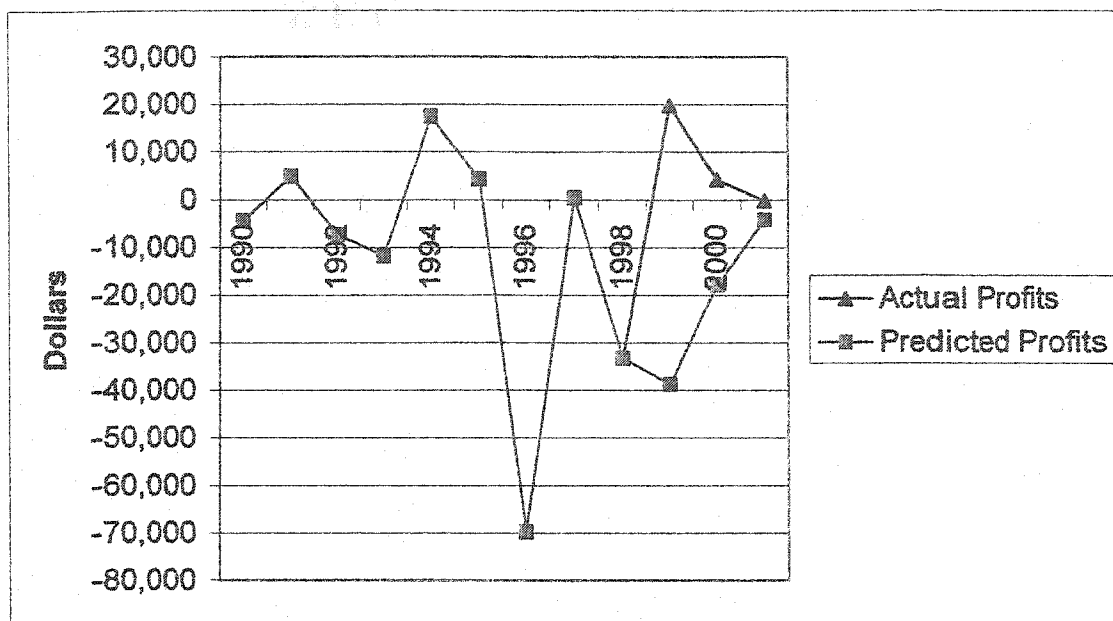


Figure 16. Company profits: Actual vs. expected values.

As illustrated in Figure 16, Tierra Wools exceeded predicted profitability values for 1999, 2000, and 2001. Furthermore, for all years subsequent to 1998, Tierra Wools maintained a positive profitability trend.

#### Company Marketing Costs

The last financial trend described in this case study was Tierra Wools' marketing expenditures. During 1990 to 2001, Tierra Wools' marketing costs rose an average of 0.5% per year. When compared to the company's average yearly revenues, Tierra Wools average yearly marketing costs rose a mere 0.5% compared to a rise in revenues of 8.5%.



By subjecting historical data to the growth trend analysis statistical model, marketing costs were predicted for 1999, 2000, and 2001. These predicted values were then compared to Tierra Wools' actual yearly marketing costs. This comparison is illustrated in Figure 17.

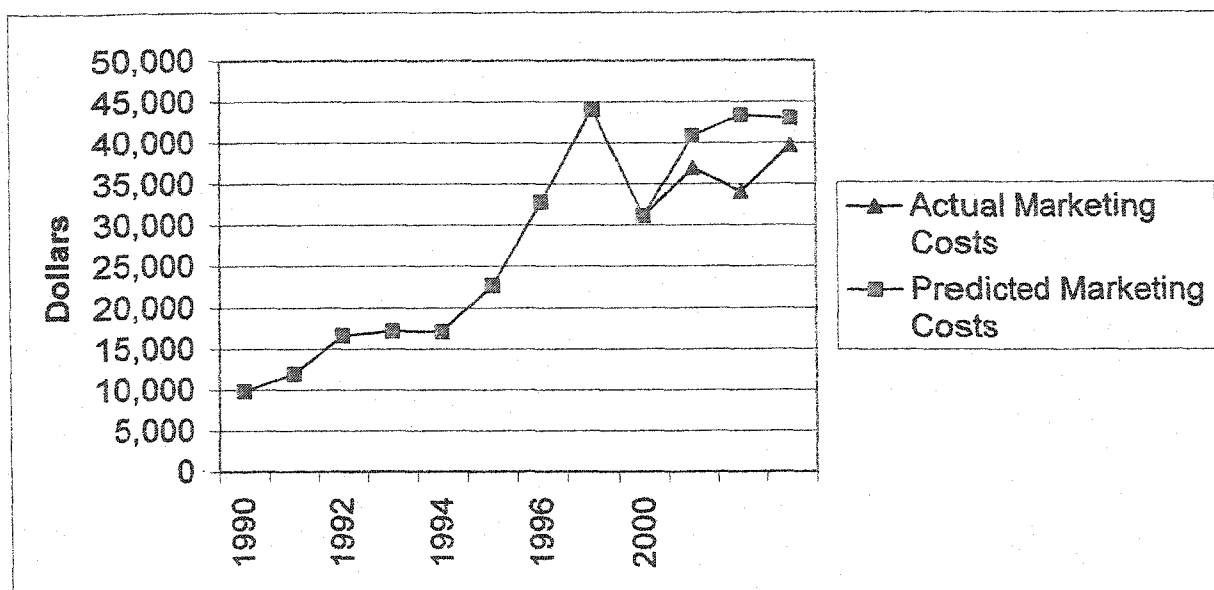


Figure 17. Company marketing expenses: Actual vs. predicted values.

As illustrated in Figure 17, Tierra Wools' "actual" marketing costs were lower than the "predicted" marketing costs in 1999, 2000, and 2001. The actual marketing costs were, on average, 15% lower per year than the predicted values. The difference between Tierra Wools' actual versus

predicted marketing costs translated into an average yearly savings of \$5539.

#### **PRESERVING THE CULTURE**

Between 1998 and 2001, Tierra Wools experienced a positive financial trend. The increase in company revenues, for example, allowed Tierra Wools to increase its employment rate an average of 10% per year. Given that Tierra Wools operates as a community co-operative organization, 100% of the new employment went to local hires. This increase in employment opportunity was a significant financial reward to many local residents (M. Burton, personal communication, June, 2001). In fact, given the new employment opportunities, one Los Ojos native was able to return to the local area after having to move away in an effort to seek employment (A. Serrano, personal communication, December, 2001).

The increase in profitability experienced after the implementation of their Internet site has allowed Tierra Wools to renovate an historic house into a bed and breakfast visitor lodge. Major renovations to the Casita visitor lodge were completed in late 1999. The Casita has four bedrooms which visitors to Los Ojos can rent for the night or week, or lease for an extended period. The Casita

allows a visitors to experience the culture of Los Ojos and Tierra Wools first hand. A significant number of visitors who stay at the Casita come away with an enhanced appreciation for Los Ojos culture and value the community efforts of Tierra Wools (R. Collier, personal communication, December, 2001). Although these records were not made available to this study because of confidentiality reasons, a significant number of Casita patrons have become active investors in Tierra Wools.

Furthermore, many Los Ojos residents participated in the renovation of the Casita. Residents lent their skills to create a traditional yet practical visitor lodge. During the design and renovation process, participants researched traditional New Mexican architectures and designs. One resident who participated in this process noticed a renewed interest among fellow participants regarding the role architecture has played in the Los Ojos culture (Y. Sanchez, personal communication, December, 2001).

Guests who stayed at the Casita were offered weaving classes during their visit. The goal of the weaving classes was to give patrons first hand knowledge of Tierra Wools' economic cycle, including learning the natural

weaving process. As a result, many visitors who subscribed to Tierra Wools' weaving classes went on to become amateur weavers themselves (R. Collier, personal communication, December, 2001). In 2000, Tierra Wools' weaving course gained academic accreditation from the Northern New Mexico Community College in nearby Espanola, New Mexico. So patrons had the opportunity to gain college credit for taking the Tierra Wools weaving course.

Since Tierra Wools completed the Casita's renovations 1999, revenue generated from the Casita has risen 76%.

Given the positive predicted financial trends for Tierra Wools for 2002, and the increased demand for their Casita, they are in the process of increasing guest capacity by the end of the year. This increase is expected to result in increased enrollment in the Tierra Wools weaving course and thus a greater and more widespread appreciation for northern New Mexican culture.

#### Summary

Tierra Wools' Internet site was compared to the Internet sites of a sample of its competitors using Waller's Internet Site Checklist tool (2000). The average score of Tierra Wools competitors was not qualitatively

different than Tierra Wools' score. This non difference implies that Tierra Wools' Web strategy is competitive.

Furthermore, this case study found that only 8% of those consumers surveyed said they gained Tierra Wools company information from their Internet site. It was found that the majority of Tierra Wools consumers gained information from print advertisements and person-to-person communication.

Upon analysis of Tierra Wools financial trends, this case study documented that following the introduction of the Tierra Wools Internet site in 1998 (1) company revenues exceeded expectations in 1999, 2000, and 2001; (2) actual company operating expenses deviated an average of 1% point from expectations in 1999, 2000, and 2001; (3) company profits exceeded expectations in 1999, 2000, and 2001; and (4) company marketing costs were less than expected in 1999, 2000, and 2001.

Because of increased company revenues, profits, and lower than expected marketing costs, Tierra Wools was able to employ an average of 10% more people in 1999, 2000, and 2001. Furthermore, Tierra Wools was able to invest in the renovation of a visitor lodge adjacent to their weaving workshop. The lodge created a revenue stream for Tierra

Wools and has created a demand for their weaving classes.

It has been observed that visitors who stay at the lodge and take the weaving classes come away with a more valued sense of Los Ojos culture and a deeper appreciation for the community co-operative efforts of Tierra Wools.

## CHAPTER 5

### SUMMARY, CONCLUSION, AND RECOMMENDATIONS

#### Summary

This study examined how a small, rural, art business in northern New Mexico was affected by the implementation of e-business. Tierra Wools is a community co-operative business aimed at sustaining vitality of the agricultural economy of Los Ojos, New Mexico. Los Ojos is a small community located over 100 miles from the nearest Interstate highway. For centuries, the people in this area have relied on raising a rare breed of Spanish sheep, called Churro, as the core of their economic structure. The local economy consists of raising Churro, and using its wool to create artful weavings which are sold to tourists. This structure has been sustained throughout the years as the result of the conjoined efforts of the local community. This economic structure is depicted in Figure 1.

Although this economic system has worked well to sustain the local economy for many years, it has led to little or no economic growth in the area. As a result of this lack of growth, the younger generations of Los Ojos natives are forced to move to areas of greater economic activity (A. Kerr, personal communication, November, 2001).

This outflux of the younger native people will eventually lead to the downfall of their economic cycle.

Raising Churro and creating traditional wool-weavings has become a core element to the cultural definition of Los Ojos (R. Collier, personal communication, December, 2001). The significance of art and agriculture is well documented within the Hispanic culture, and in New Mexico, the importance of art and agriculture has been recognized for centuries (Beck, 1975). In some cases, cultural identity can serve as a survival mechanism (Forrest, 1989).

In an attempt to preserve and grow the local economy of Los Ojos, and thus preserve the historic culture, Tierra Wools formulated an e-business strategy. The intent of this strategy was to increase the potential consumer audience who could purchase Tierra Wools' art, an essential element to their economic cycle. It was the intent of this study to document this e-business venture. This documentation allowed Tierra Wools to evaluate their e-business activities, and use this information to shape their future plans. Secondly, this case study contributed to theoretical academic research as an example of how technology and social culture can complement one another. In fact, the results of this case study suggested that the



implementation of technology may act to preserve a historical culture.

According to the Internet Site Checklist evaluation tool developed by Waller (2000), when compared to the Internet sites of its competitors, Tierra Wools' Internet site is competitive and well executed. In addition, Tierra Wools' customers were surveyed regarding their usage of the Tierra Wools Internet site. This case study found that the majority of Tierra Wools' customer base gained company information from print advertisements and person-to-person communication. It was discovered that only 8% of Tierra Wools' customers surveyed said they had accessed the Tierra Wools Internet site.

The second element to this case study documented Tierra Wools' financial performance over time. It was the intent of this study to document any financial differences that correlated with the introduction of their Internet site in 1998. It was noted that between 1998 and 2001 Tierra Wools' sales revenues increased beyond expectations, the company's operating expenses remained within 1% of the historical trend, the company's profits exceeded expectations, and company marketing cost were lower than predicted.

Tierra Wools' enhanced financial performance during 1998-2001 allowed the company to make some capital investments in expanding their business. In 1999, Tierra Wools renovated an old house, adjacent to their weaving workshop, into a visitor lodge called the Casita. The introduction of the Casita created a revenue stream for Tierra Wools, allowed visitors to experience the culture of Los Ojos and Tierra Wools first hand, and helped to spark a renewed cultural vigor among many Los Ojos residents.

#### Conclusion

In general, Tierra Wools Internet site is market competitive. On all measures of Waller's Internet site checklist scoring tool, Tierra Wools met or exceeded their direct competition. Tierra Wools' absolute score on Waller's (2000) checklist clearly indicated that their Internet site was above average. This finding indicated that the design, implementation, and maintenance of Tierra Wools Internet site was well conceived and executed.

Among Tierra Wools consumers surveyed, only 8% indicated that they have used the Tierra Wools's Website. Since the Tierra Wools Internet site contains a section on company information, it is plausible to conclude that the majority of Tierra Wools customers were not aware of the

Tierra Wools Internet site. Thus, it is also plausible to conclude that Tierra Wools does not have an effective marketing plan for their Internet site. Another possible conclusion is that the Tierra Wools Internet site is not encouraging consumers who view it to make a purchase at the Tierra Wools workshop.

Based on the financial data generated by this case study, there is evidence that a correlation exists between the implementation of the Tierra Wools Internet site and a positive deviation from Tierra Wools' historical financial trend. Since it is impossible to eliminate the influence of all extraneous variables, it is not possible to infer a causal relationship between the introduction of e-business and Tierra Wools' improved financial state. There is evidence, however, that the use of an e-business site, especially in the retail business sector, is becoming a minimum requirement from consumers (Vizard, 2000). In this respect, Tierra Wools is fortunate to have taken an early interest in developing and shaping their e-business strategy.

Based on the personal interviews conducted as part of this case study and the author's personal observations, it is clear that the cultural vitality of Los Ojos has

benefited from this e-business venture. In creating and maintaining the content for the Internet site, for example, some Los Ojos residents realized a renewed pride for their unique culture (A. Serrano, personal communication, December, 2001). Furthermore, visitors to Los Ojos, by means of weaving class enrollment and patronage to the local lodge, appear to have an increased interest in Los Ojos' historical culture. For example, since the introduction of their Internet site in 1998, Tierra Wools has received electronic mail messages from as far away as China, Korea, and Africa (R. Collier, personal communication, December, 2001). These mail messages have a common theme regarding the beauty, importance, and fascination with the unique culture of Los Ojos.

Furthermore, the popular media have become aware of Los Ojos' preservation efforts around its economy and culture. This has resulted in several television feature stories in mainstream news programs including "20/20", "Good Morning America", and a PBS documentary titled "Tierra o Muerte". With the implementation of the Tierra Wools's Website, attention surrounding the efforts of the people of Los Ojos is expected to grow. It is this author's observation that as audiences placed value on the

unique cultural economy of Los Ojos, the residents of Los Ojos had an enhanced sense of pride for that culture. More importantly, there were examples of younger generations of Los Ojos natives who returned to their "cultural roots" and recognized the importance of maintaining their historical culture (M. Burton, personal communication, July, 2000). As said by one Los Ojos native living elsewhere because of economic reasons "My dream is to return to Los Ojos and to take over where my parents leave off. I want my children to experience our culture" (R. Serrano, personal communication, November, 2001)

It is clear that the economic state of Los Ojos improved. For example, according to native residents, real estate values have increased 10-fold in the last 10 years (A. Serrano, personal communication, December, 2001). The attractiveness of the area to non natives is the cultural ties that bind Los Ojos residents together. A public unity that seldom seen elsewhere in the world (Y. Sanchez, personal communication, October, 2001).

### Recommendations

It is important for Tierra Wools to periodically evaluate their e-business strategy and the competitiveness of the Internet site. Waller (2000) recommended a yearly evaluation of a business Internet site against the evaluation of a sample of its competitors. It is recommended that Tierra Wools keep abreast of their competition.

It is the recommendation of this study that the reliability and validity of Waller's Internet Site Checklist tool be studied.

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# Sixty Ticks for a Good Website

| Name   | URL   | Pages | Images | Date |  | YES | NO |
|--|---|-------|--------|------|--|-----|----|
|  |   |       |        |      |  |     |    |
| <b>Impression on first entry,</b>                                |   |       |        |      |  |     |    |
|  | The URL/Domain Name is appropriate and meaningful           |       |        |      |  |     |    |
|  | The surfer sees something meaningful within 8 seconds       |       |        |      |  |     |    |
|  | The Site Name and Product/Purpose come up instantly         |       |        |      |  |     |    |
|  | The first page is less than 20K, and images are kept small  |       |        |      |  |     |    |
|  | Text is visible (and held steady) while graphics are loaded |       |        |      |  |     |    |
|  | If an Entrance Tunnel, this is avoidable                    |       |        |      |  |     |    |
| <b>The Homepage is exciting, interesting, attention-grabbing</b> |   |       |        |      |  |     |    |
|  | There is useful information on the Homepage                 |       |        |      |  |     |    |
|  | The Homepage looks good, and has a clean, uncluttered look  |       |        |      |  |     |    |
|  | Important information is 'above the fold' (top 600 x 300)   |       |        |      |  |     |    |
|  | Not distracted by excessive animation or flash              |       |        |      |  |     |    |
| <b>The Homepage contains the key facts</b>                       |   |       |        |      |  |     |    |
|  | Name of Organisation (preferably in H1 text heading)        |       |        |      |  |     |    |
|  | Shows business, products, where based                       |       |        |      |  |     |    |
|  | Style appropriate for target audience                       |       |        |      |  |     |    |
|  | Shows the sort of information available in the site         |       |        |      |  |     |    |
|  | Shows name, address, telephone, fax, Email                  |       |        |      |  |     |    |
|  | TITLE is meaningful   |       |        |      |  |     |    |
|  | META statements are correct                                 |       |        |      |  |     |    |

|                                       |  | YES | NO |
|---------------------------------------|--|-----|----|
| <b>Back Office Support</b>            |  |     |    |
|                                       | Email response address on every page                     |     |    |
|                                       | What to do about faults, comments, suggestions, feedback |     |    |
|                                       | Same day acknowledgement of all Emails                   |     |    |
|                                       | Timely and full answer to Emails                         |     |    |
| <b>Links are clear and meaningful</b> |  |     |    |
|                                       | Not more than 7 options in any menu                      |     |    |
|                                       | Image-links are appropriate and consistent               |     |    |
|                                       | Image-links have ALT words and supported by text-links   |     |    |
| <b>The whole site has a structure</b> |  |     |    |
|                                       | It is clear what the structure of the site is            |     |    |

|  |  |  |  |
|--|--|--|--|
|  | Useful content is not more than three clicks from the homepage     |  |  |
|  | There is a List of Contents or a Site-Map with links to every page |  |  |
|  | Each web-page has links back to the Contents or Site-Map           |  |  |
|  | There are appropriate links on to other useful pages               |  |  |
|  | Search tool is provided if appropriate                             |  |  |
| <b>All the pages obey the same rules</b>       |  |  |  |
|  | Each web-page has a proper title                                   |  |  |
|  | The title shows why users should look at this page                 |  |  |
|  | Titles are consistent with the words used to link to it            |  |  |
|  | META statements are provided on key pages                          |  |  |
|  | Text is shown in centered tables (say 550 pixels wide)             |  |  |
| <b>Long web-pages have their own structure</b> |  |  |  |
|  | Long web-pages are used when it is useful to print as a whole      |  |  |
|  | Avoid long tables, use several short ones                          |  |  |
|  | Users are warned if access time is likely to be long               |  |  |
|  | Each displayed part of the web-page has a heading or colour        |  |  |
|  | There is a list of contents for the page                           |  |  |
|  | At useful intervals there is an escape-link back to the contents   |  |  |
| <b>All Web-Pages have a reference</b>          |  |  |  |
|  | Author and name of organisation on each web-page                   |  |  |
|  | Accreditation or acknowledgement of the source of data shown       |  |  |
|  | Web-Page URL shown for reference if the page is printed            |  |  |
|  | Date created or last updated on each web-page                      |  |  |
|  | Pages that may be printed have company and contact information     |  |  |
|  |  |  |  |

|   |   | YES | NO |
|---|---|-----|----|
| <b>Useful External Links are provided</b> |   |     |    |
|   | Links are provided to relevant sources of information   |     |    |
|   | Links to associated organisations are provided          |     |    |
|   | Information readily available elsewhere is not repeated |     |    |
|   | There is a description of who the link is to, and why   |     |    |
|   | External links are shown with the full URL              |     |    |
| <b>The Website achieves its purpose</b>   |   |     |    |
|   | It is clear what the purpose of this website is         |     |    |
|   | The apparent purpose has been achieved                  |     |    |
|   | There are appropriate images and colour                 |     |    |

|  |   |  |  |
|--|---|--|--|
|  | It has a professional, planned, workmanlike, friendly image |  |  |
|  | There is appropriate user interaction for Key Action Points |  |  |
|  | There is incentive to take action                           |  |  |
|  | The reply forms were easy to use and relevant to the need   |  |  |
|  | There is some humour or light-relief                        |  |  |
|  | I am tempted to return in the future                        |  |  |
|  | Total Number of Yes answers                                 |  |  |
|  |   |  |  |

Score 40-50 is excellent. 20-40 is only average. Less than 20 you have a problem here

## Tierra Wools Customer Survey

Cashier: Read question and possible answers aloud to customer.

“How did you hear about Tierra Wools?”

- Website
- NM Visitor Guide
- Handwoven Magazine
- Wingspread Magazine
- From a Friend
- Signs/Brochure
- Been here before
- Denver Post article