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**E-COMMERCE AS A BUSINESS STRATEGY:  
LESSONS LEARNED FROM CASE STUDIES OF  
RURAL AND SMALL TOWN BUSINESSES**

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## INTRODUCTION

The spread of high-speed Internet among communities and the proliferation of electronic commerce (e-commerce) among businesses create both opportunities and challenges for businesses in small towns and rural areas. On the one hand, e-commerce may reduce many of the disadvantages associated with an isolated location by decreasing marketing, communication, and information costs and increasing access to lower cost suppliers and services. On the other hand, geographically isolated businesses may find increased competition for their "local" or "traditional" customers from nonlocal Internet businesses.

Many rural businesses have adapted to the "opportunities" and "threats" created by advances in information and communications technologies (ICT) by developing an e-commerce strategy. E-Commerce often is defined narrowly to refer to using the Internet to market and sell goods and services. E-Commerce is, however, much broader and includes "the electronic exchange of information, goods, services, and payments and ... the creation and maintenance of web-based relations" (Fruhling and Digman, 2000, p. 13). E-Commerce may be involved in the design, finance, production, marketing, inventory, distribution, and service aspects of a business' activities (OECD, 2001). As such, the use of e-commerce by a firm has the potential to both increase revenues from sales as well as significantly decrease costs through greater efficiencies of operation.

E-Commerce activities generally are classified as business-to-business (B2B) or business-to-consumer (B2C). Business-to-business e-commerce involves using the Internet to facilitate supply-chain operations and include electronic data interchange (EDI), electronic funds transfer, electronic forms and messaging, and shared databases. Business-to-consumer e-commerce uses the Internet as a retail market channel and in the case of information (e.g., a Carfax report or a product service manual), as a product or service delivery channel. B2B e-commerce dominates B2C e-commerce in terms of value of sales and percent of total sales (Table 1). Total value of B2B shipments, sales, or revenue for 2005 was \$2,211 billion or 22.3% of all business-to-business sales. Alternatively, B2C e-commerce totaled \$189 billion or approximately 2.0% of total business-to-consumer sales. Both B2B and B2C e-commerce are increasing rapidly, with the 2004 to 2005 rate of growth of B2C (18.9%) slightly above that of B2B e-commerce (16.9%).

The rapid growth of B2B and B2C e-commerce reflects their potential benefits to businesses in terms of increased sales, lower costs, and enhanced sustainability. Yet many businesses are reluctant to develop e-commerce or they are disenchanted with e-commerce because their experiences have fallen short of their expectations. The goal of this paper is to help businesses decide if e-commerce is "right" for them by reviewing the experiences of twenty-five small-town businesses that are using e-commerce to enhance their business performance. These case study firms include manufacturers, service providers, and retailers; storefront and virtual businesses; B2B and B2C e-commerce activities. The lessons learned from these firms provide insights into the varied ways in which e-commerce may be incorporated into a business plan, internal and external resources used by firms to establish their e-commerce capabilities, perceived benefits of e-commerce to the firms, and problems encountered in implementing or sustaining an e-commerce business.

The paper is organized as follows. First, we provide an overview of the firms included in the case studies. Second, we review the potential benefits available to users of e-commerce and provide examples of realized benefits from the case study firms. Third, we summarize the lessons learned from the case study businesses and suggest how these lessons may benefit other firms that are considering e-commerce.

**Table 1. U.S. Shipments, Sales, Revenues and E-Commerce: 2005 and 2004**

Description	Value of Shipments, Sales, or Revenues (Measured in Billions of Dollars)				Year to Year Percent Change	
	2005		2004			
	Total	E-Commerce	Total	E-Commerce	Total	E-Commerce
Total*	19,589	2,400	18,123	2,051	8.1	17.0
B-to-B*	9,912	2,211	9,109	1,892	8.8	16.9
Manufacturing	4,735	1,266	4,309	996	9.9	27.1
Merchant	5,177	945	4,800	896	7.9	5.5
Wholesale						
B-to-C	9,677	189	9,014	159	7.4	18.9
Retail	3,693	93	3,474	76	6.3	22.2
Selected Service	5,984	96	5,540	83	8.0	14.9

Source: U.S. Census Bureau, 2007

\* The Census Bureau estimates business-to-business (B2B) and business-to-consumer (B2C) e-commerce by making several simplifying assumptions: manufacturing and wholesale e-commerce is entirely B2B, and retail and service e-commerce is entirely B2C. The Census ignores definitional differences among shipments, sales, and revenues. The resulting B2B and B2C estimates show that almost all the dollar volume of e-commerce activity involves transactions between businesses.

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## OVERVIEW OF CASE STUDY FIRMS

In-depth case studies were conducted of 25 rural and small town businesses and three small business service providers. The businesses were selected to provide diversity with respect to industry (manufacturing, wholesale, retail, services); business size (2 to 200 employees); application of e-commerce (e.g., marketing and sales, networking and information exchange, inventory and distribution management); reliance on e-commerce (virtual or storefront); and location (region and city size). The names, locations, and principal products of the 28 case-study businesses and service providers are presented in Table 2, and characteristics of the firms' e-commerce activities (B2B vs. B2C, industry, virtual vs. storefront) are summarized in Table 3. On-site interviews were conducted with founders, owners, or managers of each business in 2006 and 2007. The comprehensive case studies of the firms interviewed are provided in the

companion publication, "Case Studies of E-Commerce Activity in Rural and Small Town Businesses" (Markley, Barkley, and Lamie, 2007).

The reader will note that many of the case study firms are clustered geographically (e.g., four firms in Iowa, four in Minnesota, six in Maine, and three in Kansas). This clustering of case study businesses resulted from the attempt to maximize the number of on-site interviews for a limited travel budget. The firms were chosen because they provided varied examples of e-commerce activities in terms of business type, geographic location, e-commerce application, and success of e-commerce venture. The goals of the case studies are to provide instructional and motivational examples of the application of e-commerce to the business strategies of rural and small town firms. The case study firms likely are not a cross-section of rural and small town businesses that use e-commerce, and thus, the findings do not necessarily represent the typical experience with e-commerce.

The case study businesses are primarily manufacturers (nine) and retailers (nine). The manufacturers include home furnishings, pottery, and metal works produced locally by artisans and craftsmen, value added agriculture ranging from llama fibers to salsa to bio-based skin care products. The retailers are both virtual and storefront. Retail markets include art, art supplies, antiques, car top carriers, power tools, and appliances and consumer electronics. Finally, eight of the case studies are classified as merchant wholesalers or service providers. The two wholesalers include one firm that provides equipment for crop input dealers and another that sells supplies for making dolls. The services represented are advertising, real estate sales, outdoor recreation, and tourism promotion. In summary, the case study firms support the perception that e-commerce is a viable strategy for a wide variety of businesses in terms of products, sizes, history, and location.

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## **BENEFITS OF E-COMMERCE TO COMPANY**

Many businesses adopt an e-commerce business plan because it provides the owner greater flexibility in terms of operating location and hours. That is, e-commerce may present an individual with the opportunity to be a "lifestyle entrepreneur" and locate the business where the entrepreneur wants to live. For some individuals this enhanced flexibility might result in a move, but in many cases e-commerce permits entrepreneurs to remain in place and benefit from proximity to family or other local assets. Our case study businesses include examples of lifestyle entrepreneurs in David Schaefer (Owner/Founder of Lakeland Enterprises), April Adams (Owner and Artist of Columbia Falls Pottery), Bernard Sund (Owner/Founder of Nautical Antiques), and Robin Hildebrand (Owner/Founder of Blue Smoke Salsa). Lakeland Enterprises designs and markets car top carriers and vacation gear. The business has two employees (the owner and his

**Table 2. E-Commerce Case Studies for Rural Areas and Small Towns**

Business Name	Location	Product or Service
Black Magic Kennels	Grand Marais, MN	provides sled dog adventure weekends
Blue Smoke Salsa	Ansted, WV	manufactures and markets salsa
Boreal Access	Grand Marais, MN	provides Internet service
Brush Art	Downs, KS	runs full-service advertising agency
Columbia Falls Pottery	Columbia Falls, MA	manufactures and markets pottery and tiles
Dessin Fournir	Plainville, KS	designs and manufactures home furnishings
Eolian Farms	Newcastle MA	produces and sells fibers from llamas and Shetland sheep
Farmchem	Floyd, IA	serves as equipment and service provider for crop input dealers
Gail Golden Jewelry	Arroyo Seco, NM	sells handmade silver, gold, and gem jewelry
Grown Locally	Northeast, IA	markets and distributes locally grown farm products
Lakeland Enterprises	Seneca, SC	designs and markets car top carriers and vacation gear
Louis Williams & Sons	Henderson, NC	operates a multi-purpose home improvement store
Mainely Metals	Gardiner, MA	manufactures metal mailboxes; metal fabrication
Mid West eServices	Salina, KS	uses Internet for real estate advertising and sales
Mountain One	Leland, IA	manufactures and distributes supplies for making dolls and bears
Nautical Antiques	Jonesport, MA	retails nautical antiques and gifts
Silverston Gallery	Grand Marais, MN	sells regional and Inuit art work
Songer Whitewater	Fayetteville, WV	offers and outfits whitewater rafting and adventure trips
Stained Glass Express	Waterville, MA	provides stained glass products, supplies, and repairs
Sterling Biotech	Sterling, CO	manufactures bio-based skin care products
Taos Architectural Copper	Taos, NM	manufactures copper sinks and lighting fixtures
The Missoula Artists' Shop	Missoula, MT	sports retail gallery for local artists' cooperative
Vann's, Inc.	Missoula, MT	retails appliances and home electronics
Villages of Van Buren	Keosauqua, IA	is a nonprofit regional economic development organization
Voyageur Outfitters	Gun Flint Trail, MN	acts as a full-service outfitter for Boundary Waters Canoe Area
WESST Corp	Albuquerque, NM	offers services for start-up and existing businesses
Wintergreen Herbs and Vegetables	Winslow, MA	sells herbs and vegetables, community supported agriculture initiative
Women's Business Center, Coastal Enterprises	Wiscasset, MA	extends services for start-up businesses, targeted at use of Internet

**Table 3. Characteristics of Case Study Businesses Focus of E-Commerce Activity**

Industry	Primarily B2B	Primarily B2C	B2B and B2C
A. <u>Manufacturing</u>	<ul style="list-style-type: none"> <li>• Dessin Fournir</li> <li>• Sterling Biotech</li> </ul>	<ul style="list-style-type: none"> <li>• Columbia Falls Pottery</li> <li>• Eolian Farms</li> <li>• Grown Locally</li> <li>• Wintergreen Herbs and Vegetables</li> </ul>	<ul style="list-style-type: none"> <li>• Blue Smoke Salsa</li> <li>• Mainely Metals</li> <li>• Taos Architectural Copper</li> </ul>
B. <u>Merchant Wholesalers</u>	<ul style="list-style-type: none"> <li>• Farmchem</li> </ul>		<ul style="list-style-type: none"> <li>• Mountain One</li> </ul>
C. <u>Selective Services</u>	<ul style="list-style-type: none"> <li>• Brush Art</li> <li>• Midwest eServices</li> </ul>	<ul style="list-style-type: none"> <li>• Songer Whitewater</li> <li>• Voyageur Outfitters</li> <li>• Black Magic Kennels</li> </ul>	<ul style="list-style-type: none"> <li>• The Villages of Van Buren</li> </ul>
D. <u>Retailers</u>			
1. Virtual		<ul style="list-style-type: none"> <li>• Lakeland Enterprises</li> <li>• Nautical Antiques</li> </ul>	<ul style="list-style-type: none"> <li>• Gail Golden Jewelry</li> </ul>
2. Bricks-and-mortar		<ul style="list-style-type: none"> <li>• Columbia Falls Pottery</li> <li>• Missoula Artists' Shop</li> <li>• Stained Glass Express</li> <li>• Vann's Inc.</li> <li>• Silverston Gallery</li> </ul>	<ul style="list-style-type: none"> <li>• Louis Williams &amp; Sons</li> </ul>
E. <u>Small Business Service Provider</u>	<ul style="list-style-type: none"> <li>• Boreal Access</li> <li>• WESST Corp</li> <li>• Women's Business Center at Coastal Enterprises</li> </ul>		

wife) and almost all sales are online. Lakeland Enterprises was moved from California to South Carolina so that the owner and his wife could live closer to family. Similarly, Bernard Sund moved his online antiques business from Massachusetts to rural Maine, a place that had been a vacation destination for his family in the past. Alternatively, April Adams owned and operated a retail pottery store in Columbia Falls, Maine since 1990. Retail sales at Columbia Falls Pottery declined significantly after 9/11, but an increase in e-commerce sales enabled April to remain in Columbia Falls by substituting online sales for storefront sales. The founding proprietor of Blue Smoke Salsa, Robin Hildebrand, developed a thriving business in tiny Ansted, West Virginia from a treasured recipe for salsa. The use of e-commerce permitted Robin to grow her business and remain close to home while she raised her family.

Most businesses use e-commerce because it provides the opportunity for increased profits (through higher sales or lower costs) and thus enhanced sustainability of the firm. E-Commerce has the potential to significantly improve the efficiency of operations in all phases of the business' supply chain. As shown in Table 4, e-commerce may benefit a firm in product design, supply and inventory management, production, marketing, sales and distribution, and customer service. Examples of the application of e-commerce to the various supply chain stages are documented in the case studies and highlighted below.

### **Product Development**

The availability of e-commerce and supportive computer software systems and services enabled Brush Art, Farmchem, and Mid West eServices to investigate new areas of business (products and customers). Brush Art, a Downs, Kansas advertising agency, now offers interactive websites for their clients that are designed so that a dealer for a company (e.g., retailer of lawn tractors) can download company approved marketing information yet customize the materials for the dealer's specific needs (e.g., items on sale and location and date of sale). Thus each dealer can have easy access to professionally designed marketing materials with dealer specific details. Farmchem Corporation of Floyd, Iowa (equipment and service provider for crop input dealers) developed an electronic monitoring system for liquid levels in the bulk tanks of dealers and suppliers. Data on tank levels is transferred to a central server, and an Internet-based data management system provides the data in the desired form to the client. Mid West eServices (Salina, Kansas) evolved from an eBay seller of salvage and repossessions for banks and insurance companies to a leading Internet real estate marketer. Mid West eService's product niche is the marketing of rural properties using a quality of online information not available elsewhere. Songer Whitewater's (Fayetteville, West Virginia) website allows clients to customize their adventure packages in terms of selecting from a variety of recreational activities and lodging options. Many of the available options are provided through sub-contracts by other area businesses. E-Commerce assisted Songer Whitewater in transitioning from a whitewater rafting company to a full service outdoor recreation business.

### **Supply and Inventory Management**

Grown Locally, a northeast Iowa grower's cooperative, uses the Internet to maintain daily contact with members of the cooperative (farmers) to coordinate the farmers' production with the consumers' demands. Mountain One (Leland, Iowa) is a mail order facility with 7000 items for making and accessorizing dolls and bears. The company uses an integrated software system for mail order businesses that manages the inventory and warehouse (including location of items in



the warehouse) based on information from online sales. The software system also determines the preferred distribution system (e.g. postal service, UPS, FedEx) and shipping costs based on the number, size, and weight of the items ordered online. These increases in operational efficiencies reduced the company's employment requirements from 15 to 5 full-time employees.

**Table 4. E-Commerce Opportunities Along the Supply Chain**

Product/Service Development	Supply Management	Manufacturing and Assembly	Marketing	Sales and Distribution	Customer Service
Improve product development by capturing customer input more effectively	Reduce sourcing costs through increased price transparency and competition	Lower transaction costs by reducing double handling of information	Strengthen customer relationships and improve cost effectiveness through targeting	Reduce sales and distribution costs through automation - e.g. sales tools, and printed material costs	Improve customer service
Enable collaborative development across companies and geographies	Reduce inventory costs through shorter procurement process and delivery times	Lower work in progress costs through improved forecasting	Research new user segments and geographies	Promote new products and services - e.g. cross-selling	Lower customer interaction costs

Source: McKinsey & Company, 2001 as presented in OECD, 2001.

### **Reduce Manufacturing or Production Costs**

Dessin Fournir of Plainville, Kansas designs and manufactures fine home furnishings. Many of the furniture pieces and fabric patterns are designed in Plainville, but the furniture is manufactured in California and the fabrics are produced in 13 fabric mills in 9 countries. The Internet permits Dessin Fournir to communicate directly with its production facilities thus reducing the need and expense for travel to the manufacturing facilities and for external agents to oversee production in the mills. Production costs also were reduced for the Brush Art advertising agency (Downs, Kansas) after the switch to e-commerce by cutting the average "cycle time" required to bring a marketing project to completion from four months to two weeks.

### **Expand Marketing Efforts**

E-Commerce offers cost effective opportunities for expanding and targeting markets, and all of the case study businesses maintain websites designed to promote the companies' products or services. For example, Blue Smoke Salsa (Ansted, West Virginia) has an attractive website for their (and their affiliates) sauces, salsas, and jellies that focus on the small town, homemade origin of its products. The Villages of Van Buren (Keosauqua, Iowa) and Songer Whitewater (Fayetteville, West Virginia) are tourism-related businesses that rely on the Internet to attract visitors to their area and businesses. The Villages was honored with an award at the 2004 Iowa Tourism Conference for the best website for areas with population less than 10,000. Songer Whitewater moved from 12th largest outfitter in the state to 4th largest, and much of this improvement is attributed to its website and accompanying focus on an e-commerce strategy. Finally, Mainely Metals and Eolian Farms are two Maine companies with historically limited market areas. Mainely Metals produces a snowplow-resistant mailbox for Maine residents and Eolian Farms raises llamas and Shetland sheep and sells the fiber at fairs throughout Maine. The use of websites enables the two companies to expand their markets geographically, and currently online purchases account for at least 40 percent of the companies' sales. In summary, a well-designed website can provide potential customers with an image of a business that exceeds the business' actual physical presence. This advantage is more important for rural businesses than urban companies because consumers may have the perception that the rural business is too small and isolated to provide quality products and good service. A "good" website places the rural firm on a more even footing for competing with urban business.

### **Increase Sales and Reduce Selling Costs**

Business profits can be increased by increasing revenue through stronger sales and/ or by decreasing the costs associated with constant sales. Gail Golden Jewelry of Arroyo Seco, New Mexico attributes about 25% of company sales to online customers, and Vann's of Missoula, Montana (appliances and consumer electronics) reports that approximately 55% of the firm's sales come from e-commerce. The use of e-commerce also helped to cut selling costs among case study firms by reducing the need for paper catalogs and sales flyers. The home furnishings manufacturer Dessin Fournir (Plainville, Kansas) spends approximately \$250,000 a year on catalogs, thus the conversion to an e-catalog offers the potential for significant savings. Similarly, Mountain One of Leland, Iowa (distributor of supplies for making dolls and stuffed animals) traditionally mailed 15,000 to 20,000 catalogs a year at an annual cost of \$30,000 to \$35,000. Catalog mailings were changed to every other year because of the availability of a website with a shopping cart. Finally, both Lakeland Enterprises (Seneca, South Carolina) and Blue Smoke Salsa (Anstead, West Virginia) noted that profit margins were higher on items sold

online than goods sold through merchant wholesalers. E-Commerce may permit retail businesses to "cut out the middle man costs."

### **Improve Customer Service**

Customer service can be provided before the sale by making it easy for the shopper to find what they want or after the sale in terms of addressing order returns, repairs, or operational questions. The company website can be helpful in providing both before- and after-sale service. Both Vann's of Missoula, Montana (appliances and consumer electronics) and Louis Williams and Sons of Hendersonville, North Carolina (Makita power tools) are retailers in highly competitive Internet markets in which they hope to distinguish themselves through consumer service. Vann's website provides services to potential customers in the form of extensive information on product features, product details and specifications, reviews by Vann's consumers, comparisons to alternative products available at Vann's, and accessories for the product. Louis Williams and Sons niche in the power tool market is service after the sale. The company elected not to compete on the Internet as the low cost provider of Makita tools. Instead, Louis Williams and Sons focuses on carrying the complete inventory of Makita tools (unlike their low cost competitors) along with providing parts and accessories and repair services for Makita tools. The company's website contains thousands of pictures of tools and parts and accessories to assist the customer after the sale.

### **Strengthen Customer Relationships**

For many businesses dependent upon the tourism industry, an e-commerce site provides a way to maintain and even strengthen customer relationships. Through targeted marketing push strategies, businesses can reach out to customers even when they are no longer in the area. For example, Sivertson Gallery (Grand Marais, Minnesota) e-mails notices to customers who have purchased artwork by particular artists whenever new work by them is featured in the gallery. Linked with the shopping cart feature of the site, this direct marketing touch allows customers to purchase products beyond the tourist season and outside the region. Businesses can also use the e-commerce features of their sites to emphasize customer service and develop an edge over their competitors. Voyageur Outfitters (Gun Flint Trail, Minnesota) features an online chat and daily blog to keep customers, old and new, up-to-date on conditions in the region. Customers can plan every aspect of their trip online, from routes to menus, and pre- and post-trip e-mails provide customers with information about their trip and the business owners with information about customer needs and experiences.

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## **LESSONS LEARNED**

The cases in this study are a diverse collection of businesses with varied experiences in e-commerce. They provide, interesting insights into the development of e-commerce activities and exhibit common experiences with respect to the lessons learned from their endeavors. A summary of these lessons follows.

### **Focus on Niche Markets**

Marketing and selling products through a designed website on the Internet places companies in competition with a large number of firms and provides consumers with easy access

to comparisons of competitors' products and prices. Head-to-head competition with large Internet stores will occur on standardized, high-volume items such as books, shoes, sporting goods, and consumer electronics. Smaller businesses generally do not have the ability to compete in these e-markets because the firms do not have (1) the volume or scale economies to match the low price, or (2) the marketing budget to get an early listing on web searches. Thus, it is recommended that smaller businesses concentrate on a niche market in order to reduce online competition. Numerous examples of product specialization and market niches are provided in the case studies. Sterling Bio-Technologies (Sterling, Colorado) manufactures bio-based skin care products and focuses on the "natural" product market. Stained Glass Express (Waterville, Maine) targets its e-commerce activity at selling glass and supplies to hobbyists. Mid West eServices (Salina, Kansas) identified an underserved market in helping rural communities find buyers for surplus schools and other public buildings.

A narrow market focus also may enhance a business' visibility on search engine rankings. The more specific the information provided on the firm's website (e.g., nautical antiques vs. antiques) the more likely the website will be found by shoppers conducting highly targeted searches. A focus on a market niche provides the opportunity for placing the firm's website higher on the search list of buyers with well defined purchasing interests. In addition, the firm may be able to obtain a higher listing on Google or pay a lower bid if it is bidding against fewer businesses for more detailed product descriptions.

### **Effectively Use Service Providers**

A wide variety of programs and services are available locally and on the Internet to assist companies with their e-commerce. Services available include website design and hosting; software systems for integrating e-commerce with accounting, shipping, and inventory management; and business analytics software to provide data and statistical analysis on the company's e-commerce activity. These services can be valuable in identifying a niche market, reaching customers in that market, and developing an efficient production and distribution system for serving customers. Examples of the use of e-commerce support services are provided in the case studies of Vann's, Mountain One, Stained Glass Express, Gail Golden Jewelry, Blue Smoke Salsa, and Songer Whitewater.

Rural businesses, in particular, face challenges in using support services. In many cases, the services offered by private sector firms may be costly and the benefits to the business may not justify the expense. In addition, the market for these services and software is extensive and rapidly evolving, and a significant time commitment may be required of the rural business owner to keep up-to-date. In many rural areas, there are few alternatives to private sector service providers and even these may be hard to find. The three case studies completed about business service providers (Boreal Access in Gran Marais, Minnesota; WESST Corp in Albuquerque, New Mexico; the Women's Business Center of Coastal Enterprises, Inc. in Wiscasset, Maine) show the role that non-profit organizations may play in providing e-commerce support services to rural businesses at reduced cost. These organizations provide training in the basics of e-commerce, and even offer improved Internet access (Boreal Access) and a collective website (WESST Corp's [www.wesstartisans.com](http://www.wesstartisans.com)). Business owners who were clients of these service providers acknowledged the importance and usefulness of their support. As an alternative, rural businesses might come together to share e-commerce experiences and expertise. The owner of

Lakeland Enterprises (Seneca, South Carolina) suggested the need for networks or organizations of area e-commerce businesses to share information. Support may also come from the local Chamber of Commerce or the area community college as was noted in the case studies of Louis Williams & Sons and Farmchem.

### **Creating a Website is the Beginning, not the End of an E-Commerce Strategy**

Almost all of the case study businesses struggled with website optimization, i.e., getting the business to appear on the first page of a search engine. Strategies for optimizing a website are different from those needed to create an initial site and make it fully e-commerce capable, e.g., creating a shopping cart to handle online transactions. Many of the case study businesses did not initially plan or budget for the expenses associated with optimization. These costs include purchasing ad words from Google and pay per click ads on search engines, and redesigning the website to focus on keywords often used in searches. For example, the original website developed for Columbia Falls Pottery (Columbia Falls, Maine) featured beautiful images and few words. While this balance helped customers better experience the pottery, the site failed to show up on searches because search technology uses words not images. A revamping of the site with attention to text was necessary.

Deciding how much to invest in site optimization is difficult. A key question is whether sales will increase enough to cover the costs associated with optimization. Taos Architectural Copper (Taos, New Mexico) experimented with the purchase of Google ad words, sharing the cost of this strategy with the regional service provider, WESST Corp. Sales of copper sinks went from one per month to one per week during this time, and the company appeared on the first search page. However, when faced with bearing the full costs of purchasing ad words, the business owner decided that the costs exceeded expected revenues and abandoned the strategy. The result was that the business dropped off the first page. The purchase of key words is akin to purchasing television commercials or large Yellow Page ads. Each business owner must determine the relative costs and benefits of site optimization and should make this a consideration when developing an e-commerce strategy.

### **Be Prepared for Growth**

The initiation of e-commerce may result in a significant increase in sales, and the business must be prepared to meet this demand or the e-commerce "window of opportunity" may be lost. The typical Internet customer expects quick and accurate responses to their online orders. The timely delivery of goods and services consistent with the quality perceptions of customers is critical to cultivating repeat customers, word-of-mouth advertising, and favorable online reviews. The Director of Multi-channel Marketing at Vann's, Inc. recommended that a company needs to plan "a couple of steps ahead" in terms of hiring people, available production capacity, adequate warehouse space, inventory management capabilities, and customer service delivery as it transitions to e-commerce. In addition, the business can somewhat manage the pace of increasing product sales by limiting web-based promotions to targeted geographic areas or specific customer profiles.

### **Integrate E-Commerce into Overall Business Operations**

E-Commerce is broadly defined as "using online resources and tools to do business better — more efficiently and productively" (Montgomery, 2007). As such, e-commerce holds the

promise and challenge of affecting every aspect of a business' operation from product design and production to distribution and service delivery. Businesses using or considering e-commerce should investigate the potential roles for e-commerce in all aspects of the businesses' operations. The case studies provide examples of e-commerce applications in product development (Farmchem, MidWest e-Services), marketing (Nautical Antiques, Villages of Van Buren), inventory and warehouse management (Louis Williams & Sons, Mountain One), distribution and sales (Sterling Biotech, Blue Smoke Salsa), and service after the sale (Vanns). Businesses with e-commerce activities (B2B or B2C) may benefit by using the information provided through e-commerce (e.g. customer characteristics, location, and order size and regularity) to enhance efficiencies in other areas of operation. For example, online sales may create the opportunity for direct delivery to customers and reduce reliance on wholesalers. In addition, Internet marketing may attract customers from parts of the world not previously served by the company. Cultural differences between buyers and sellers might present unforeseen challenges; thus, understanding and planning for transactions with foreign customers will enhance the benefits from these opportunities.

### **E-Commerce is Not for All Businesses**

In our opinion, most rural and small town businesses would benefit from having a website. Consumers increasingly rely on the Internet for information, and a website is a relatively inexpensive way to present information on a business' products, hours, location, phone number, and sales. E-Commerce is, however, much more than maintaining an informational website, and the e-commerce related components and services (e.g., shopping carts, fraud protection, SEO, EDI, analytics software) may add more to the firm's costs than they contribute to profits. That is, e-commerce may not be a profit maximizing business strategy for a firm if the cost of implementing e-commerce exceeds the increase in net revenues or decrease in operating and marketing costs attributable to e-commerce. There are two general situations where e-commerce provides only limited potential in enhancing sales and net revenues. First, businesses that sell "commodities" such as books, shoes, clothing, consumer electronics, and sporting goods will find the Internet markets extremely crowded. Online competition from big box stores and Internet retailers will be intense, and these larger companies likely have a competitive advantage in terms of volume buying and early listings on search engines. As noted previously, small town businesses are encouraged to find a niche market to minimize competition and increase market share. Second, some products require personal inspection by the customer (e.g., antique furniture) while other products may not "show" well on a webpage (e.g., fine art). The website may be helpful for getting the potential customer into the store or gallery for further inspection of the product, but an online sale is unlikely to occur. The Missoula Artists' Shop has received only a handful of online orders in the two years that it has maintained a shopping cart. The gallery is considering returning to an "information only" website if online sales do not increase significantly in the near future.

In the final analysis, what is important to the firm is that e-commerce produces an acceptable return on investment. It is good business practice to forecast and monitor the resources (time, money, and other) devoted to implementing and conducting e-commerce and the benefits (increased sales and reduced costs) attributed to e-commerce strategies. If a business forecasts insufficient long-term return on investment, broadly defined to include financial and time commitments, then e-commerce as currently used is not a good fit for the company. In this

situation, the business may elect to revise the scale and scope of its e-commerce program or it may decide to withdraw from e-commerce altogether.

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## CONCLUSION

The 25 case studies of e-commerce in rural and small town businesses provide varied experiences in (1) the application of e-commerce to business operations and (2) the benefits of e-commerce to the firms. E-Commerce is used by the case study firms for new product development, reducing marketing costs, increasing sales, enhancing efficiencies in inventory management and distribution, and improving service delivery. In most cases, e-commerce is considered beneficial to the firm's profitability and sustainability. In general, the benefits of e-commerce to the business are enhanced if the firm serves a niche market, takes advantage of service providers (public and private) to maintain an efficient and up-to-date e-commerce program, and integrates e-commerce into multiple aspects of the business operation. Most importantly, however, e-commerce must be viewed as an integral part of the firm's business plan. E-Commerce is not an "add on" activity like a Christmas advertising campaign. E-Commerce has the potential to significantly impact business operations, and the firm should plan ahead regarding resources needed (financing, labor, production capacity, warehouse space) to serve new markets and customers.

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## OTHER REPORTS IN THIS SERIES

This report is one of four produced as part of this project. Others in the series include:

- David L. Barkley, R. David Lamie and Deborah M. Markley, *CASE STUDIES OF E-COMMERCE IN SMALL AND MEDIUM-SIZED ENTERPRISES: A REVIEW OF THE LITERATURE*, October 2007.
- Deborah M. Markley, David L. Barkley and R. David Lamie, *CASE STUDIES OF E-COMMERCE ACTIVITY IN RURAL AND SMALL TOWN BUSINESSES*, October 2007.
- R. David Lamie, Deborah M. Markley and David L. Barkley, *E-COMMERCE CASE STUDIES GUIDEBOOK AND PROGRAM DELIVERY MANUAL*, October 2007.

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