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Chapter 1.2.

Using E-Commerce in the Forest Products Industry

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Abstract

The forest products industry is rapidly adopting e-commerce solutions as it advances in the information age. In this chapter, the unique e-commerce needs of this sector's small businesses are discussed. Current experience and specific examples of e-commerce usage are given. A strategic e-commerce planning methodology is provided and links to support e-commerce education for forest products businesses are given.

Introduction

There are many E-commerce training and extension needs for the forest products industry. Extension staff is faced with a broad array of issues when serving the forest products industry due to the many different types of businesses it has. Because of the diversity of business types, training needs vary widely across the forest products industry.



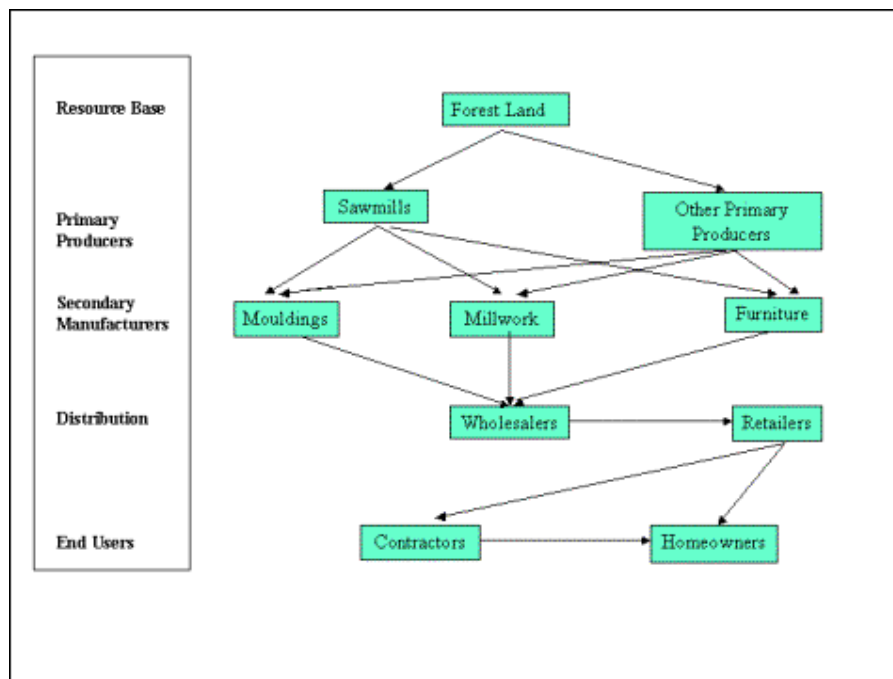
Small business consulting and entrepreneurial training typically focus on the development of a business plan. The broad components of a business plan include operational, marketing and finance elements. E-commerce can support business needs in each of these areas. Studies of training needs for the forest products industry are reviewed and internet applications that can support marketing, operational and finance business functions are discussed. In addition, e-commerce training needs of small businesses in the primary, secondary, wholesale, and retail channels are addressed.

The forest products industry value-added distribution chain

The value-added distribution chain for forest products includes: (see Figure 1)

- Forest landowners
- Sawmill and primary producers
- Secondary manufacturers (wood workers, millwork, furniture makers)
- Wholesale distributors
- Retailers
- Contractors
- Homeowners

Figure 1: Value-Added Distribution Chain for Forest Products



Forest and wood products traditionally fall into three broad categories

- Lumber and building materials (SIC 24, NAICS 321)
- Furniture and fixtures (SIC 25, NAICS 336)
- Paper and allied products (SIC 26, NAICS 322)

SIC refers to the recently retired Standard Industrial Classification codes used by the U.S. Census Bureau. NAICS is the new coding system, the North American Industrial Classification System. Details of the NAICS designators can be found at the U.S. Census Bureau site, <http://www.census.gov/econ/www/mm/naics.html>.

The forest products industry – historically a follower, not an innovator

Extension staff may find that many forest products industry participants have been slow to adopt information and e-commerce technologies. Vlosky (1999) found that only 40% of forest products businesses surveyed were currently using e-business technologies. Larger businesses were also found to be earlier adopters of e-commerce tools when compared with smaller businesses. Both Vlosky (1999) and Damery (1999) conclude that businesses in the forest products and building materials sectors will accelerate their adoption of the new technologies. Vlosky (2001) confirmed this appraisal in a 2000 survey of hardwood lumber manufacturers, where 36% of respondents who did not currently have websites planned to implement one in the next 12 months. Lumber producers who currently have websites reported that 52% were created within the last year (Vlosky 2000c).

Needs Assessment

Smith, Alderman & Hammett (1999) and Jensen & Pompelli (2000) provide insight into some of the unique training needs of forest products industry. In their 1998 study, Smith, et.al., identified these areas of interest in the state of Virginia:

- Information on local forest resources
- New techniques for value-added manufacturing
- Characteristics of local production
- Availability of financial resources

Survey participants were also asked to identify the effectiveness of various training methods. The Internet ranked sixth behind face-to-face, conferences, short courses, workshops and classroom instruction. This result may be consistent with the slow adoption and lack of familiarity with Internet and e-commerce technologies among the survey participants. However, it is important for extension staff to note the well-recognized differences in communication effectiveness for different communications media. Kotler (1984)

breaks down communications channels into personal and impersonal. When a product/service/technology is new or purchased infrequently, personal channels (face-to-face meetings) of communication may be more effective. When routine purchase decisions must be made, impersonal communication forms (Web page, email) may be adequate. The choice of e-commerce solutions to meet small business needs must match the particular business outcomes that are sought.

Vlosky and Chance (2001) ranked 42 different training needs for Louisiana wood products firms. They found the major hurdle to filling available positions was the lack of adequately trained applicants. Specifically they identified safety regulations, dealing with customers, and knowledge of quality and process control as the top three requirements for desired employee knowledge.

Quality, pricing, and safety regulations were ranked as the three most important subject areas by Hansen and Smith (1997) in their study of forest product industry educational needs. They assessed a broad range of educational needs in the areas of marketing, management and wood processing.

Jensen and Pompelli (2000) studied marketing and other business assistance needs for forest products firms in Tennessee. Their conclusions showed the greatest needs in:

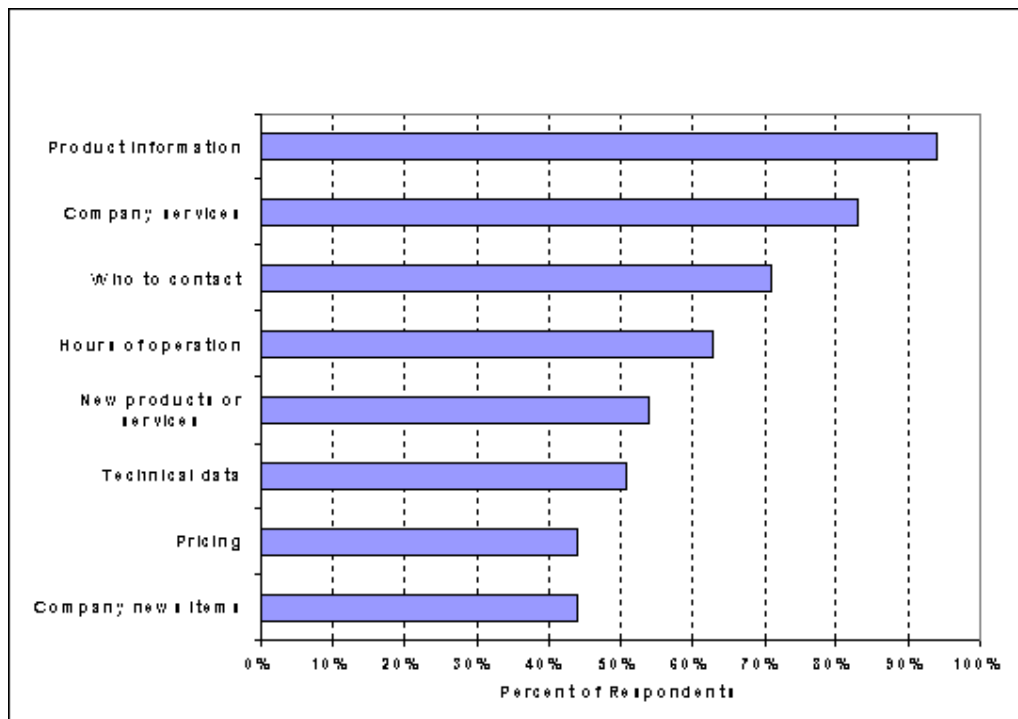
- Locating and identifying potential buyers
- Promoting products/advertising
- Market research

Small firms showed a greater need for marketing assistance than large firms. Furthermore, Jensen and Pompelli found that firms wishing to expand into export markets generated a set of additional specialized needs.

Current Experience and Examples of E-commerce in the Forest Products Industry

Damery (1999) surveyed building materials manufacturers, wholesalers, and retailers with Internet presences. The most frequent website feature was product information. Additional website features included:

Figure 2: Website Information of Building Materials Firms, 1997



Source: Damery (1999)

Vlosky (1999) surveyed 1,300 wood product and paper industry businesses and their top three eBusiness applications included:

- Customer contacts
- Web pages
- Marketing

The most highly ranked perceived benefits from eBusiness from the Vlosky study included: increased access to industry information, timeliness of information exchange, greater exposure to potential customers and greater access to my company by potential customers. Vlosky (2000a), in [eBusiness considerations](#) covers some basic definitions and in addition to information sharing, points to both cost reduction through more efficient order processing and distribution, and customer service as key eBusiness uses.

A study of web usage for forest products firms involved in exporting by Pitis & Vlosky (2000) shows that e-commerce uses are becoming increasingly sophisticated. Promotion ranked highest among the uses found, but advancing the value chain and business processes were accelerating in frequency of use. Pitis & Vlosky also recommend that forest product websites be tailored for increased functionality by providing information on:

- Inventory levels
- Prices
- Delivery terms
- Product specifications

These studies were conducted relatively early in the era of e-commerce adoption. The companies surveyed were generally larger businesses, those most likely to have a solid financial footing. The data suggest that firms were primarily using e-commerce to support marketing and to provide technical information. The results do not indicate a strong usage of e-commerce for meeting firms' financing needs, which is typically a start-up/small firm issue. E-commerce solutions for addressing the finance needs of small forest products businesses are discussed in the links section of this paper.

Planning An E-commerce Strategy

The focus of the paper thus far has been internal to the forest products industry, determining typical e-commerce uses. If the forest products industry is indeed a follower in the e-commerce revolution, it is worth looking outside the industry for assistance in developing a strategy. Hundreds of references exist to assist firms in developing an e-commerce strategy. For illustration purposes, the steps proposed by David Siegel (1999) in [Futurize your Enterprise](#) are outlined below.

Siegel describes a typical business evolution beginning with the old economy "commerce" progressing through a stage incorporating information technologies labeled "e-commerce" and terminating in a fully integrated web-based business strategy that he calls "e-business". He emphasizes the need for businesses to be customer-driven or bottom-up, in contrast to being management-driven or organized in a top-down structure. His six-step process for developing an e-business strategy includes:

1. Generating commitment throughout the entire firm's organization
2. Understanding who customers are and segmenting the customer base
3. Engaging in active listening with target customers and determining the desired scope and quality of a firms' web presence
4. Identifying measurements for determining success of an e-business strategy including both short term and long term business objectives
5. Constructing a model of the desired e-business features for each target customer segment
6. Lastly, prioritizing and planning an implementation strategy and measuring its' success

Vlosky (2000b) reinforces several of these strategic steps in his article, [Some Thoughts on Getting Started in eBusiness](#). For additional detail see Siegel's on-line "boot camp" for helping businesses walk through this planning process, <http://www.futurizebooks.com/bootcamp/>

For specific help in the use of e-commerce for the forest products industry Vlosky (2000c, d) has authored a series of

articles on eBusiness and the forest products industry. [Hardwood Lumber Plays eBusiness Catch-up](#) analyzes current and future uses of internet technologies for hardwood lumber producers. This article includes survey results on cost and age of websites in the hardwood industry. The most recent article in the series discusses the role the internet can play at the customer/manufacturer interface. In [eBusiness Can Improve Relationships Between Wood Products Manufacturers and their Customers](#), Vlosky points out that internet technologies are another tool which firms can use to improve their marketing partnerships.

Forest Products Industry E-commerce Links

Where can the extension educator or small forest products business owner go for e-commerce support? Useful links to assist extension educators and their clients with e-commerce training and education needs, in the areas of marketing, operations, and finance, are provided below.

http://ext.msstate.edu/srdc/e-team/modules/modules.htm#forest
A set of links tailored to marketing forest products on the internet is provided by the National E-team site.
http://www.forestdirectory.com/
Steve Shook's Directory of Forest Products, Wood Science and Marketing is probably the most comprehensive industry marketing-related links page
http://www.leje.com/coolweb.html
Lee Jimerson of The Collins Companies provides a personal web page of forest products industry related sites, including an extensive listing of e-commerce related forest products sites, many of which provide web based marketing solutions (for a fee).
http://www.randomlengths.com/newecommerce.html
Random Lengths, the softwood pricing newsletter publisher provides an extensive listing of forest products e-commerce trading sites and a quick breakdown of their services in matrix form. Many of the linked companies are attempting to provide a market for primary and secondary manufactured wood and forest products.
http://www.forestprod.org/
The Forest Products Society is a 54 year old technical association. It provides a list of publications and the <i>Forest Products Journal</i> which provides cutting edge information on the latest in forest products production and processing.
http://www.library.wisc.edu/libraries/Steenbock/services/forest.htm
Steenbock Memorial Library and the Univ. of Wisconsin's Extension have an excellent set of links to expertise in forest products manufacturing.
http://www.fpl.fs.fed.us/
The U.S. Forest Products laboratory has been conducting extensive research in forest products manufacturing operations since 1910. This site provides links and search capabilities for research in the area of wood, wood products, physical properties, and marketing.
http://www.woodweb.com/
Provides a network of information tailored for the woodworking (secondary manufacturing) industry.
http://www.forestindustry.com/
The forest industry network is a commercial site with links to information on the primary processing end of the industry. This site serves loggers, lumber and wood products processors.
http://www.mep.nist.gov/
The non-profit Manufacturing Extension Partnership provides professional consulting advice to small to medium size manufacturing businesses, including financing of wood products enterprises.
http://www.sba.gov/financing/

The U.S. Small Business administration has a wide array of loan and educational programs regarding financing, including financing of wood products enterprises.

<http://www.piperinfo.com/state/index.cfm>

Most state governments also have offices of "Business Development" or some other finance authority. This page from Piper Resources provides convenient links to state and local government agencies.

<http://www.microenterpriseworks.org/>

Many banks do not particularly relish lending to very small or start-up businesses. The Association for Enterprise Opportunity is devoted to supporting these "micro-enterprises" and provides links to organizations nationwide whose business is to provide financial support and business/finance training to new or start-up businesses.

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