

**Wood Products Industry Internet Adoption in the Western United States:
Implications for Business-to-Business Marketplace Exchanges**

Final Report

Presented to:

World Wide Wood Network, Ltd.

Conducted by:

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May 17, 2000

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Executive Summary

1. 57% of respondents are located in Oregon.
2. The primary product manufactured by respondents is softwood lumber (88% of respondents).
3. Mail & Fax are primary mode of business document exchange.
4. Respondents perceive the greatest Internet benefits to be in the areas of image, exposure to potential customers and information.
5. Benefits such as lowering costs, eliminating inefficient phone tag and providing customer value were ranked low.
6. Lowest ranked potential benefits are all competitiveness, cost reduction or customer related. Respondents do not seem ready to embrace the Internet for creating customer value or improving their competitive position.
7. When compared to results from Internet usage by US industry in general, aside from the benefit of being able to increase access industry information, respondents rank significantly lower in all other benefits. This seems to indicate that respondents have not learned from the examples of positive Internet benefits gained from a multitude of companies in other industries.
8. 18% of respondents use the Internet for selling products primarily using email.
9. Ten percent of respondents are very willing to sell products through a third-party exchange (TPE). Although not statistically significant, there is a positive correlation between willingness to use a TPE and respondent company size. Eighteen percent of respondents are somewhat willing to sell using TPEs and 33% are indifferent. The implication is that 61 percent of respondents are potential TPE clients.
10. Top rated features TPEs can provide are credit assurance, market information, price trends and rail car tracking. Features ranked below 3.0, or neutral, included delivery negotiating, eBusiness consulting, international market access, assurances against low-quality products, a private market place, and last, escrow services.
11. For the 32 respondents that indicated that they would potentially pay for TPE services, the most preferred method of payment is a commission on the transaction value. The average commission is 1.04%. Second preferred is a per transaction fee which averaged \$40/transaction. Finally, 16% of respondents said they prefer an annual fixed fee that averaged \$5,240.

12. Major concerns of using a TPE are loss of customer contact, price wars and a lack of web-based buyers.
13. Telephone and fax are by far the preferred method for respondent companies to transmit or receive business documents. This is especially apparent for invoices and purchase orders. A distant third is email followed by Electronic Data Interchange (EDI). This finding has implications for convincing potential clients to transition to an electronic means of process application information entry.
14. The telephone is the preferred method to receive and respond to RFQs. This also has implications for client use of the Internet for doing business.
15. From a list of 12 market exchange entities, TALPX has the highest name recognition and visitation frequency among respondents.
16. World Wide Wood Network, Ltd. ranks last in these categories due primarily to a lack of promotion and advertising.
17. Six percent of respondents said they had heard about and 4% said they visited PLYWOOD.COM, a fictitious name on the list. In addition, 4% and 2% knew about and visited PANELS.COM, which is not an exchange. This infers that there is confusion in the marketplace with regard to the names of existing and new TPEs. TPE differentiation is critical to position World Wide Wood Network, Ltd. in the customers mind.
18. 61% of respondents have a web site.
19. 65% of respondents implemented their web site in the past 2 years.
20. 73% spent less than \$50,000 cumulatively on their web site; 35% spent less than \$5,000.
21. Promotion/Advertising is the only significant web-site function being used by respondents.
22. Web-site establishment and maintenance is nearly evenly split between in-house and outside company.
23. 50% of respondents plan to develop or improve their web site in the next 12 months inferring opportunity for World Wide Wood Network, Ltd.
24. Small companies are willing to pay up to \$10,000 for web development; large companies are willing to pay up to \$200,000.

I. An Overview of eBusiness

Basic Concepts

Introduction

The Internet offers a revolutionary tool for business development and management. As is the case with other corporate sectors in general, the global forest products industry is rapidly expanding its use of the Internet to conduct business. Companies are currently crafting Internet business development and marketing strategies. In the world of business, companies seek products, processes, and technologies that add value to their offerings in an effort to remain competitive. Among the most significant advances in competitive technology are Internet-based communications systems. Through the Internet, many barriers to new markets, resources and competitive positioning can be reduced or eliminated. The Internet levels the playing field as it allows small and large firms alike to be visible and accessible. Firms engaged in Internet-based marketing activities will need to actively maintain and enhance their product offerings and especially keep pace with technological advances as competition between firms increases.

Some Basic Definitions

The Internet, Intranets, and now, Extranets? What exactly is an Extranet? How is it different from an Intranet or the Internet? Why are companies spending valuable resources, in terms of time and money, developing Extranets? What companies are involved in extranet relationships? In order to fully understand and appreciate Extranets, it is necessary to first define the various systems that support this technology. In particular, defining the Internet and Intranets, the two major components of an Extranet, is requisite for this discussion.

The Internet

According to Netdictionary (www.netdictionary.com/html/i.html) the Internet is a worldwide network of networks that use TCP/IP communications protocol (the rules that provide basic Internet functions) and share a common address space. The network connection began as a government experiment in 1969 with four computers connected

together over phone lines. The system was called ARPANET, after the Advanced Research Projects Agency of the U.S. Department of Defense (DARPA). By 1972, universities were granted access to the network, which was by then called the Internet. Commercial use of the Internet was established by 1983. Also known as “The Information Superhighway,” the Internet is open to the *public* and supports services such as email, the World Wide Web, file transfer, and Internet Relay Chat (Metcalfe 1996).

Intranets

An Intranet is a *private* network used exclusively within (hence the term “intra”) a company or organization. It uses Internet technology, but does not necessarily function through the Internet. Access is limited to employees or organization members only. A company may use an Intranet to facilitate communications among its members and deliver information and/or services to employees. This is particularly useful in large, multi-site organizations. (Jade River 1996).

Extranets

The term "Extranet" is credited to Ethernet inventor Bob Metcalf. There is still some confusion over the exact definition of an Extranet, but the most commonly accepted definition seems to be “a network that links business partners to one another over the Internet.” This linkage is usually accomplished by the companies allowing their partners access to certain areas of their company’s Intranet (Anderson 1998). An Extranet could be thought of as an extended Intranet connecting multiple organizations including internal personnel, customers, suppliers, and strategic partners in a seamless closed-user group. Even though a company Extranet is on the Internet, access is not available to the public due to carefully constructed firewalls that limit participation (Radosevich 1997). **Table 1** provides a summary of the similarities and differences between the Internet, Intranets, and Extranets (Baker 1997; SharWest Inc. 1997):

Table 1. Similarities and Differences between the Internet, Intranets, and Extranets

	Internet	Intranets	EXTRANETS
What is it?	The information superhighway.	The use of Internet technology within a company or organization.	A network that uses the Internet to link company Intranets in order to enhance business-to-business relationships.
Access	Open	Private	By agreement only
Users	Public	Organization members	Business partners
Information	General	Proprietary	Selective

Why Companies Use Internet Technologies and Extranets

In order to keep up with the competition, most companies are continually looking for new and better ways to speed communications between trading partners, establish better relationships with customers, suppliers and partners, and reduce expenditures (Franklin 1997). The use of Internet-based technologies can help businesses realize many of these goals. Specifically, Extranets can facilitate the sharing of information, decrease operating costs, save time and resources, improve customer service, and generally improve business-to-business relationships (Anderson 1998).

Information Sharing-The timely and efficient distribution of key information is one of the reasons many companies choose to conduct Internet-facilitated business. Inter-company electronic linkages create a secure environment for the interchange of critical data with business partners, customers and suppliers over the Internet (Business Wire 1998a). An organization may maintain databases with customer information and market research data.

Cost Reduction-Many companies are reaping measurable benefits from eBusiness in terms of dollars saved over operating methods. In a dramatic example, Merisel, a \$3.5

billion wholesale distributor of brand-name computer hardware and software, experienced a 70 percent decrease in order-processing costs (Millman 1997).

Order Processing & Distribution- The Internet can be used to place orders, receive invoices, track shipments, and process payments. Sales representatives are then freed to devote more time to establishing close customer relationships (Millman 1997, Baker 1997) with the means to order products online, and will eventually create a national distribution network of small suppliers (Hoffman 1997). Perhaps one of the best potential uses of the Internet today is enhanced ordering systems.

Customer Service- Many claims are made that the real value of Web-based customer services is not direct sales, but rather improved customer relations that retain customers. In addition to ironing out problems, customers can find information that they need via the Internet (Baker 1997). According to Phil Gibson, Director of Interactive Marketing for National Semiconductor, saving their customers time is the most important function of their Extranet. National's customers reap the rewards of "...getting their products to market faster (Business Wire 1998b)."

Potential Problems

It is easy to see why companies are so excited about the perceived benefits of eBusiness. But, a discussion of this technology would not be complete without a brief look at some of the potential problems that may be encountered by companies doing business in this mode.

- All partners must maintain confidentiality. In addition, the host must verify that information is seen and accessed only by the intended recipients (Bort and Felix 1997). The host company must ensure that data and server resources are available when needed (Bort and Felix 1997).
- The biggest concern of eBusiness is security. Any system that runs over the Internet is vulnerable to encroachment from unauthorized personnel.

Strategic Issues

In order to keep up with the competition, most companies are continually looking for new and better ways to speed communications between trading partners, establish better relationships with customers, suppliers and partners, and reduce expenditures (Franklin 1997). The Internet is an emerging market space that has been shown to accomplish all of these business objectives.

eBusiness is the term given to this new business environment. It is important to keep in mind that eBusiness is first and foremost about business, not technology. Technology simply facilitates eBusiness. The real challenge is managing the changes in business strategies and internal corporate processes that must take place for a company to take advantage of eBusiness. This article discusses some issues that a company should consider before launching an eBusiness initiative.

The first step is to understand the eBusiness planning process (**Figure 1**). Within this process, a company needs to identify a mission for its eBusiness strategy. Many companies fail to accomplish this important step which is the broad guiding rule. Often this results in disappointment and unfulfilled expectations. The second planning step is to set specific objectives within the overall mission. Is the objective to maintain customers? Is it to develop new business? Is it to drive costs associated with inefficiencies out of the distribution system?

Once the objectives have been articulated a structural plan needs to be developed. This plan needs to identify all functional areas in the company that will be impacted and specifically how the plan will affect each function/person.

Finally, under the umbrella of the functional plan, each targeted eBusiness activity is matched to accomplish strategic objectives. There is a multitude of eBusiness activities and applications that support sales/purchases, logistics, order cycle management, etc.

Figure 1.

eBusiness Planning Process

Defining an eBusiness Mission: Statement of purpose.

Setting Company Objectives: Supporting goals and objectives to guide the entire company in its eBusiness efforts.

Designing a Structural Plan: Overall plan including functions impacted.

Planning Functional Strategies: Detailed planning for each eBusiness activity to accomplish strategic objectives.

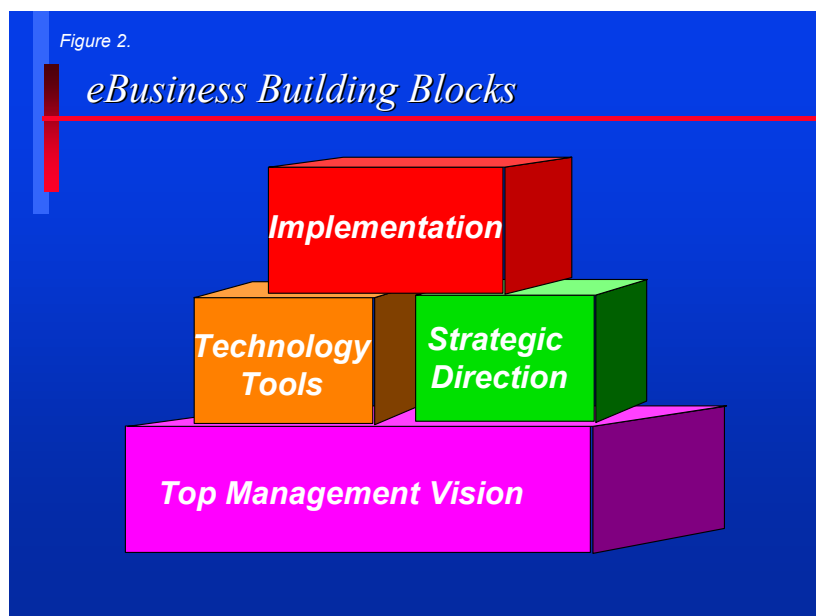
Looking at eBusiness strategic planning another way, **Figure 2** illustrates the key building blocks for successful implementation. As is the case with any major activity that impacts a company, to be successful, eBusiness requires full support from top management. eBusiness impacts the whole company and requires a broad and strong support foundation. A second building block is a clear understanding of the technology tools available to effectively implement the strategy. Technology is not a limiting factor in eBusiness implementation. It is generally the resistance to change in an organization. A third major building block is the strategic considerations discussed earlier and finally is implementation and roll out.

Figure 3.

Getting Started

- *Think strategically*
- *Embrace fundamental changes*
- *Secure top management support*
- *Get educated*
- *Choose technology partners carefully*
- *Sell concept to suppliers and customers*

In order to get started in eBusiness, a company should follow the six steps listed in **Figure 3**. First, think strategically. eBusiness is not an Information Systems “project” or short-term activity. It potentially impacts the way a company does business and can impact every function and person in the company. Although change is difficult to deal with sometimes, management and employees need to understand the concepts of eBusiness and embrace these exciting changes. As mentioned, top management support is a prerequisite for success. Get educated. There is a wealth of information available through the Internet, conferences, books, etc. There is no excuse for being uninformed as to the potential applications and technologies available. Choose technology partners carefully. This is part of the education process. There are so many Internet solutions providers out there that it can be easy to select the wrong technology partner. Finally, an actually concurrently, a company must sell the concept to upstream (suppliers) and downstream (customers) exchange partners. Technology trajectories must advance at a similar path in order to accomplish coordinated supply chain eBusiness activities.



To sum up, eBusiness is an exciting new arena in which to do business. Before jumping in feet first, a company needs to develop a well thought out eBusiness plan and strategy. Those companies that take their time on the front-end will have an improved chance at success.

The Study

Research Context

This study examines current and potential use of Internet-based technologies to conduct business by solid wood products manufacturers in the Western United States. Internet-based technologies were studied in the context of implementation strategies across a number product types including lumber, plywood, particleboard, etc. A census of 225 companies were surveyed. The sample frame was selected from the Random Lengths Big Book, 1999 Edition.

Respondents were asked to discuss their current or planned Internet strategies with particular emphasis on perceived opportunities and concerns regarding Internet-facilitated marketplace exchanges.

Objectives

1. Examine the current and potential uses of the Internet in the solid wood products industry in the Western United States.
2. Discern the general readiness of the industry to do business through Internet based technology.
3. Identify criteria for participation in Internet-facilitated market exchanges.
4. Identify concerns with regard to participation in Internet-facilitated business practices.
5. Identify business opportunities for World Wide Wood Network, Ltd.

Research Methodology

Data Collection

Mail questionnaires were used because they are a cost-effective method of data collection for examining industry structures and business applications. The method affords a high degree of anonymity and is less limited by rigid time constraints that can impede the effectiveness of other survey methods.

Based on client-determined parameters, a list of topics and questions was generated. The questionnaire instrument tested constructs using measures developed by the researcher and adapted from other sources. The survey was reviewed and revised by the researcher and client. An iterative process resulted in the final instrument.

The questionnaire consists of fixed response questions, including fixed alternative and multichotomous questions for responding firm demographic profiles as well as open-ended questions, which allow respondents to express thoughts and ideas not covered in the fixed format questions. Five-point scaling questions, anchored by 1 = strongly agree to 5 = strongly disagree and by 1 = very important to 5 = very unimportant, were employed to measure respondent levels of agreement and concern with various questions addressing Internet issues and implementation.

The questionnaires were mailed to companies selected by the researcher from the Random Lengths Big Book, 1999 Edition. Pre-addressed, postage-paid envelopes and a signed cover letter were included with the questionnaire. The cover letter also promised summary results of the study for completing and returning the questionnaire, a tactic that has been used successfully by the researcher in many previous studies. Pre-notification and reminder postcards were also sent to targeted companies. The study results are based on two mailings. All surveys were sent to upper-level marketing or management individuals by name and title in each company.

Data Analysis

Questionnaire quantitative data were coded and input into Microsoft Excel and transferred to the Statistical Package for the Social Sciences (SPSS) software for subsequent data analysis and interpretation. Univariate statistical analysis techniques were employed to analyze the quantitative and reported with conclusions and recommendations. Univariate inferential summary statistics characterize the populations and examine the differences and similarities of ordinal and interval measured constructs such as industry type, products produced and Internet opportunities and concerns.

Results

Response Rate

Table 2 shows the number of respondents initially sampled, the adjusted sample size after accounting for non-deliverable surveys (due to company closures, change of address or deceased) and adjusted response rate. All industry survey respondents were surveyed at the corporate headquarters level. Given that typical response rates for industrial studies range from 15%-30%, a response rate of 23% in this study is considered to be good. The majority of the population and responses are from Oregon (**Table 3**) with 40% and 57%, respectively. The overall response profile across all states generally follows the population distribution.

Table 2. Response Rate

Initial Sample Size	Inappropriate or Undeliverable	Number of Total Respondent Companies	Adjusted Response Rate
225	10	49	23%

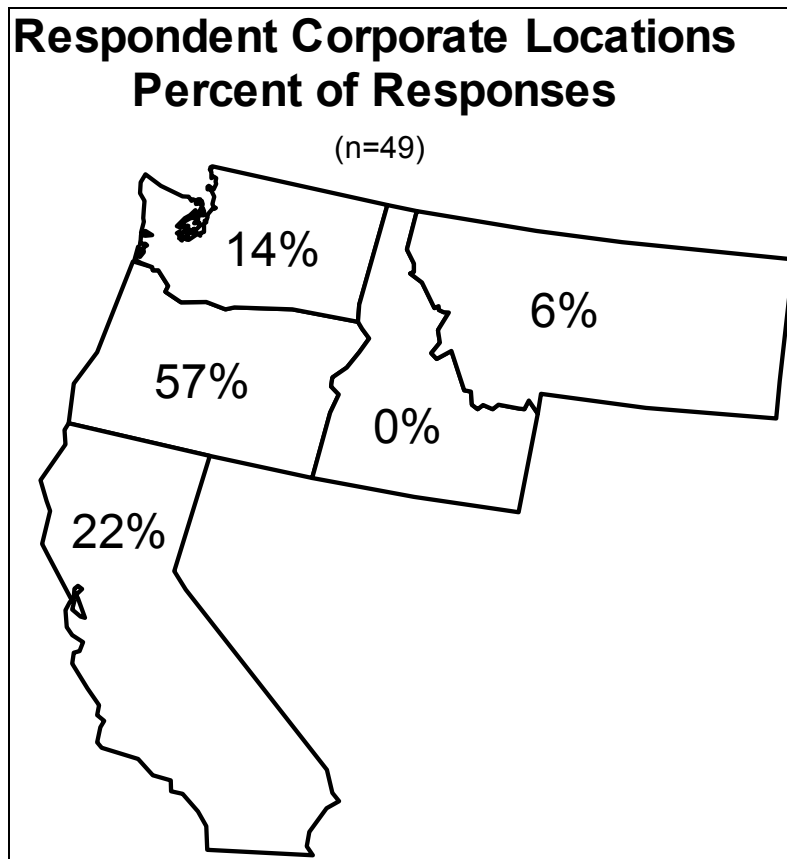
Table 3. Response Rate by State

	Response Frequency	Percent of Total Responses	Percent of Total Population	Response Rate
CA	11	22%	19%	26%
MT	3	6%	9%	16%
ID	0	0%	9%	0%
OR	28	57%	40%	31%
WA	7	14%	23%	14%
Total	49	100%	100%	23%

Geographic Distribution of Study Respondents

Figure 4 shows the geographic distribution of respondent corporate locations. 57 percent of respondents are located in Oregon, followed by California, and Washington. No responses were received from Idaho although it represents 9% of the study population.

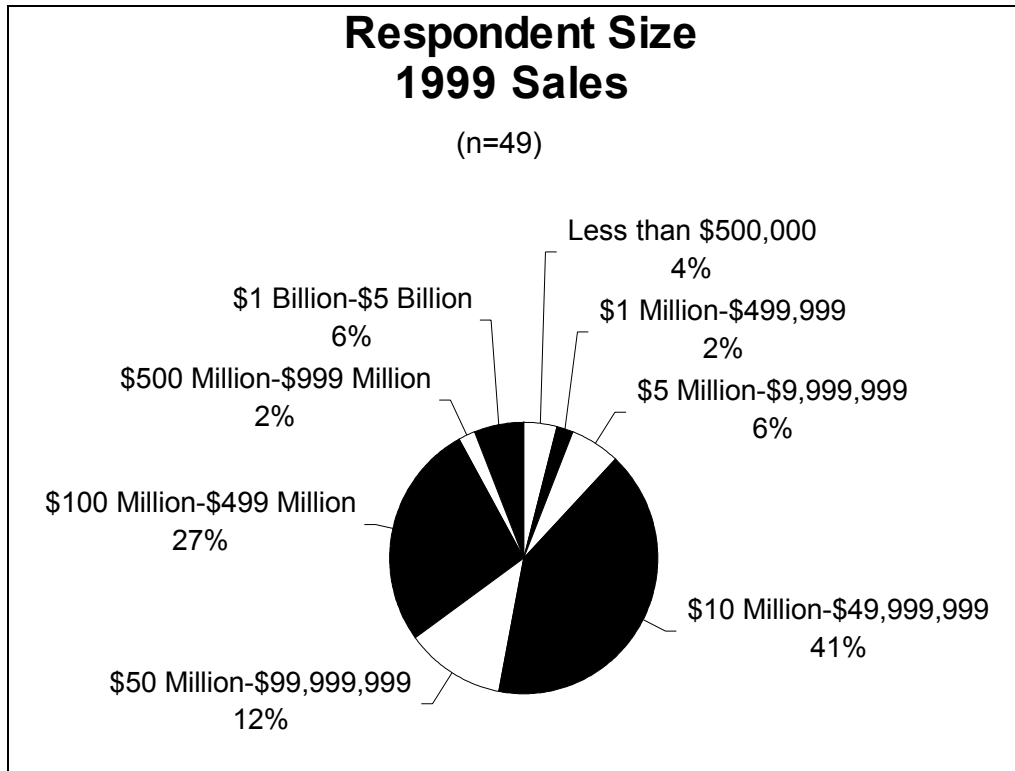
Figure 4. Study Geographic Regions



Company Size Distribution

The majority of respondent companies are small, with over 50% having sales of \$50,000 or less. Eight percent of respondents had sales over \$500 million in 1999. (Figure 5).

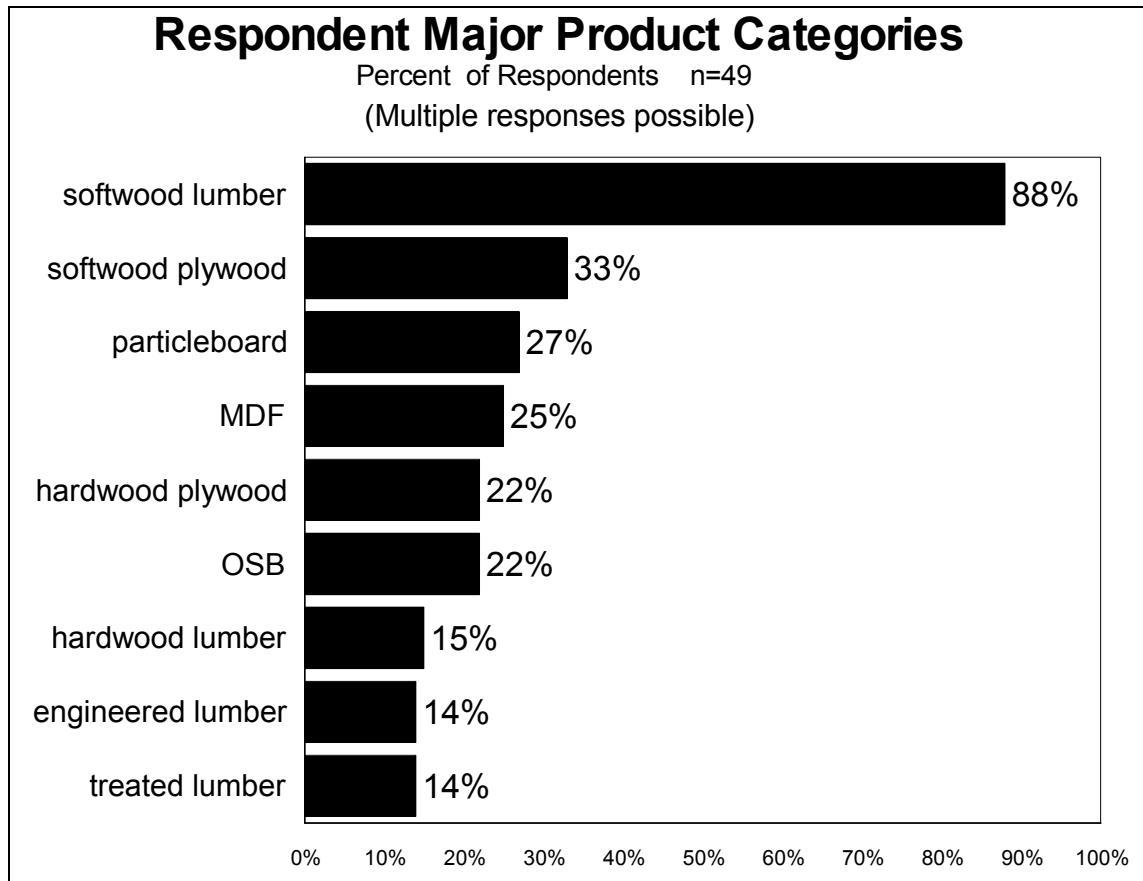
Figure 5.



Major Products Produced

Respondents produce a variety of products (**Figure 6**). Softwood lumber is by far the most represented product being produced by 88% of respondents followed by softwood plywood (33% of respondents). The next grouping of product, produced by between 22% and 27% of respondents, includes particleboard, MDF, hardwood plywood and OSB. The final grouping at between 14% and 15% of respondents includes hardwood lumber, engineered lumber (including LVL and glulam) and treated lumber.

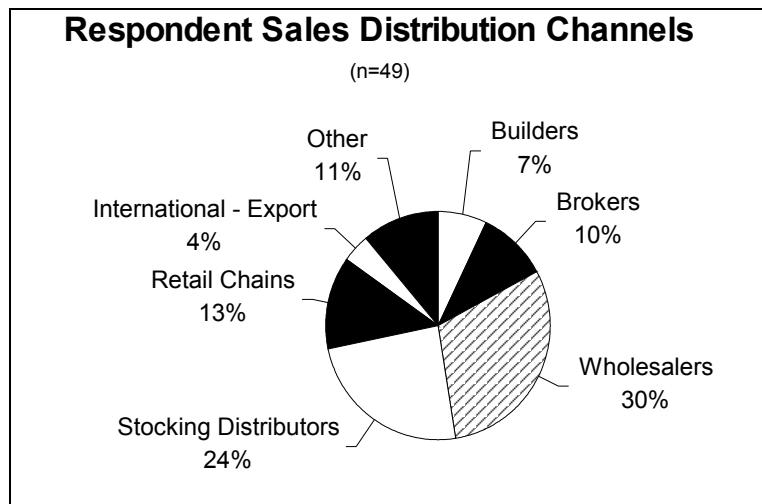
Figure 6.



Distribution/Sales Channels

Respondents sell the majority of their production through some form of distribution intermediary. Thirty percent is sold through wholesalers, 24% through stocking distributors and 10% through brokers. The balance is sold direct either to retail chains (13%), builders (7%) or export (4%). Eleven percent is sold to other channels, primarily to OEM and mill sale customers.

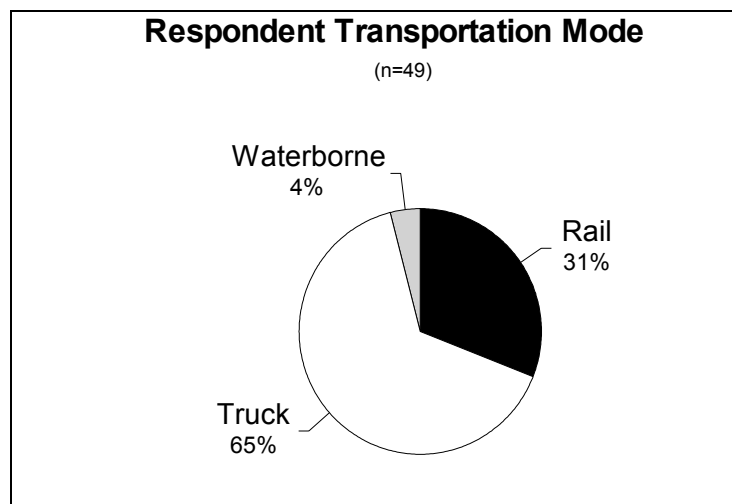
Figure 7.



Transportation Mode

Nearly two-thirds of respondent sales are shipped by truck with 31% and 4% shipped by rail and ship, respectively (**Figure 8**).

Figure 8.



Corporate Business Documents

Respondents indicated that they send or receive approximately 60,000 business documents annually (**Figure 9**). Invoices, order acknowledgement, advance shipping notices and purchase orders account for 94% of the total. Simple extrapolation to the study population translates into a total of 263,000 documents transmitted or received annually (**Figure 10**).

Figure 9.

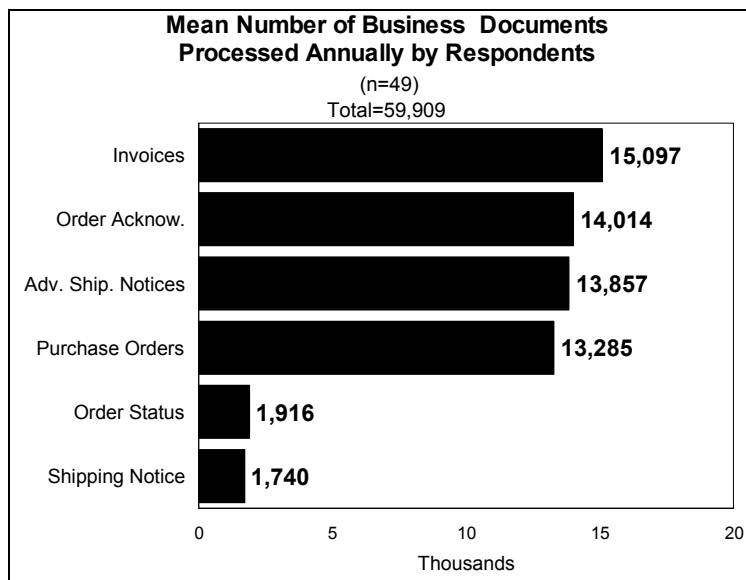
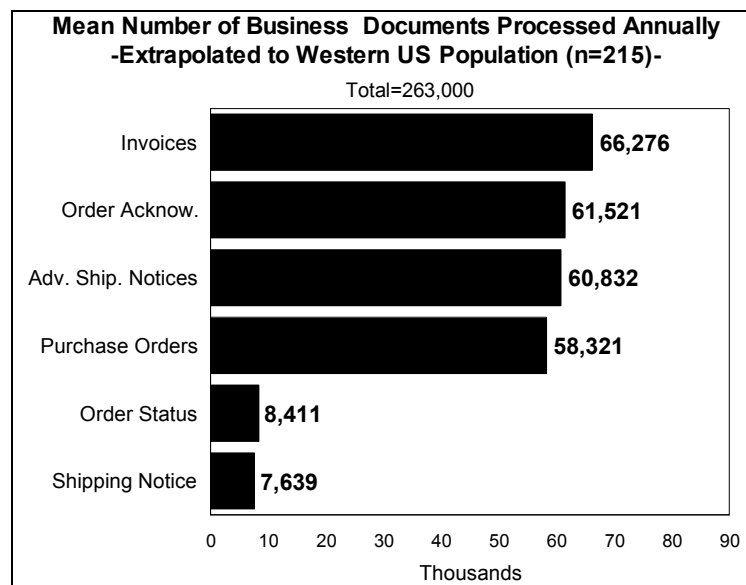
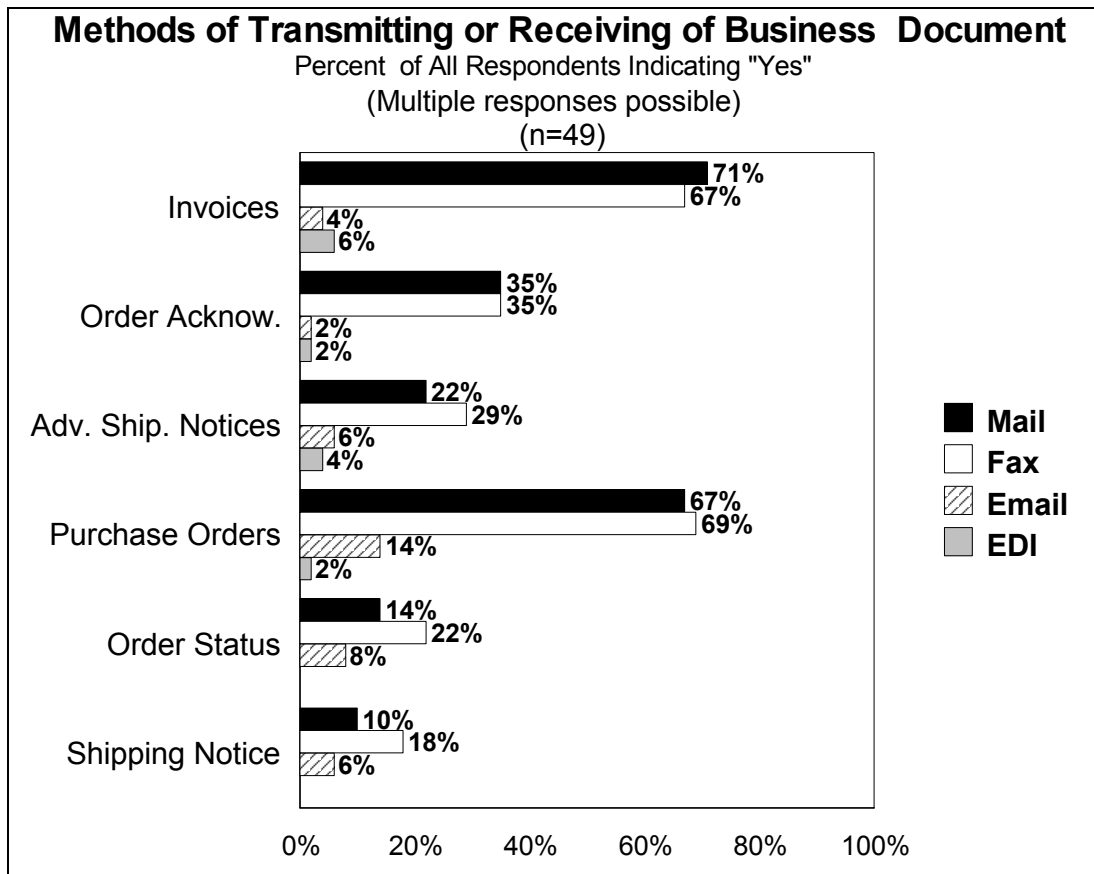


Figure 10.



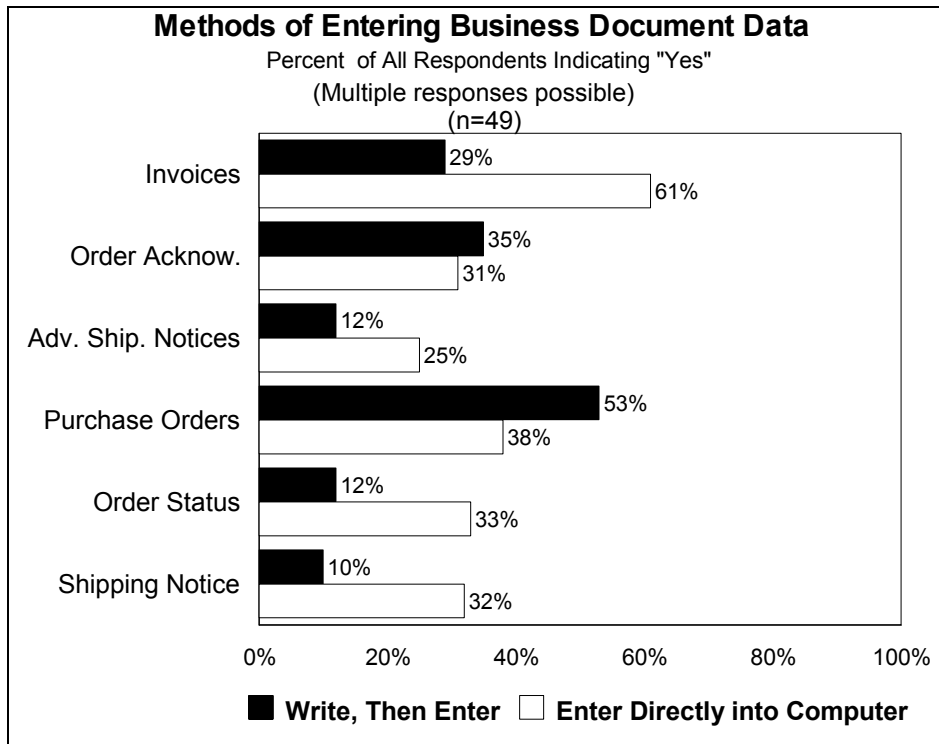
Telephone and fax are by far the preferred method for respondent companies to transmit or receive business documents (**Figure 11**). This is especially apparent for invoices and purchase orders. A distant third is email followed by Electronic Data Interchange (EDI). This finding has implications for convincing potential clients to transition to an electronic means of process application information entry.

Figure 11.



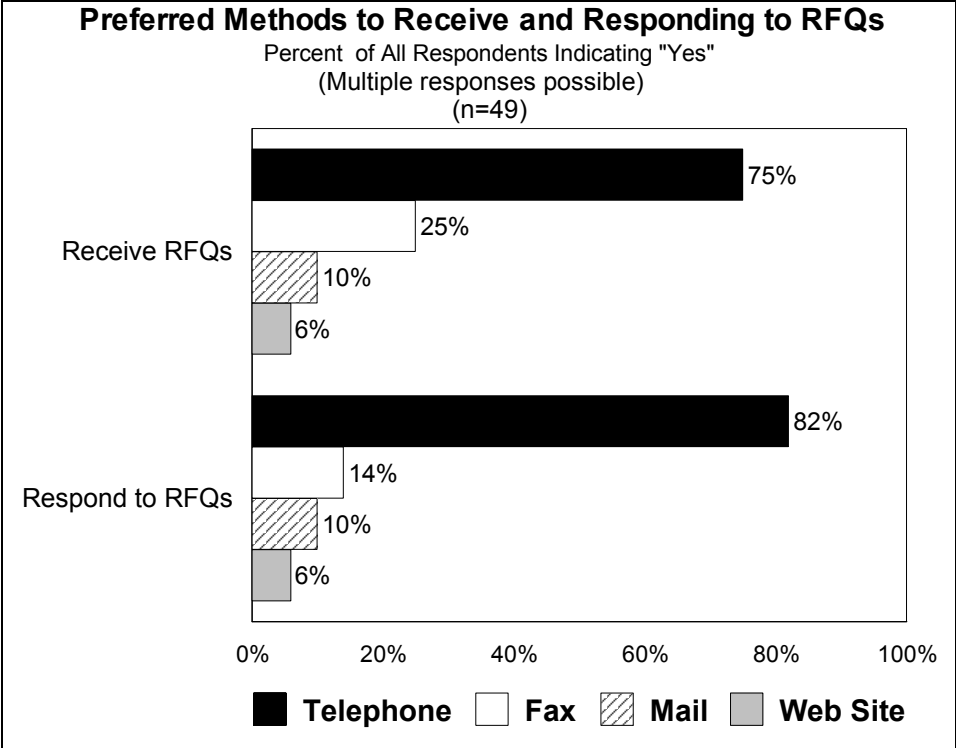
There is evidence of computer usage in business applications in that a number of respondents enter information directly into a computer as opposed to writing it down first and then keying in the data. Sixty-one percent of respondents enter invoices directly while this figure is 38%, 32% and 31% for purchase orders, shipping notices and order acknowledgements, respectively (**Figure 12**).

Figure 12.



An integral component of any e-based market exchange is facilitating the receipt of and responses to requests for quotes (RFQ). By a wide margin, respondents prefer to both receive and respond to RFQs by telephone (**Figure 13**). Faxing is a distant second followed by mail. Only 6% of respondents use their web site for this purpose, probably through email.

Figure 13.



Perceptions of the Internet for Doing Business

Whether or not respondents currently use the Internet to conduct business, it was important to understand what they feel are (current or potential) Internet benefits. This information can be used to tailor offerings to prospective clients. As seen in **Figure 14**, respondents perceive the greatest benefits to be in the areas of image, exposure to potential customers and information. Benefits such as lowering costs, eliminating inefficient phone tag and providing customer value were ranked low, just barely above 3.0, or neutral.

Figure 15 highlights these perceptions by showing the conditions ranked below 3.0 or neutral. These are all competitiveness, cost reduction or customer related.

Respondents do not seem ready to embrace the Internet for creating customer value or improving their competitive position.

Although ranked low, the perception that using the Internet can lower the costs of doing business is positively (and statistically significantly) correlated to respondent company size.

Figure 14.

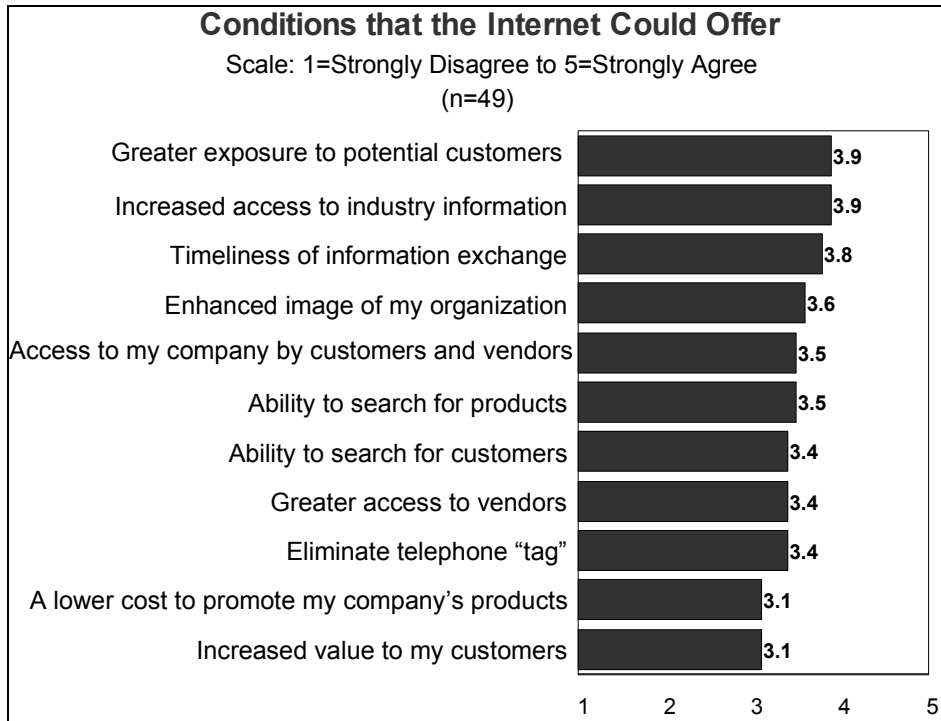
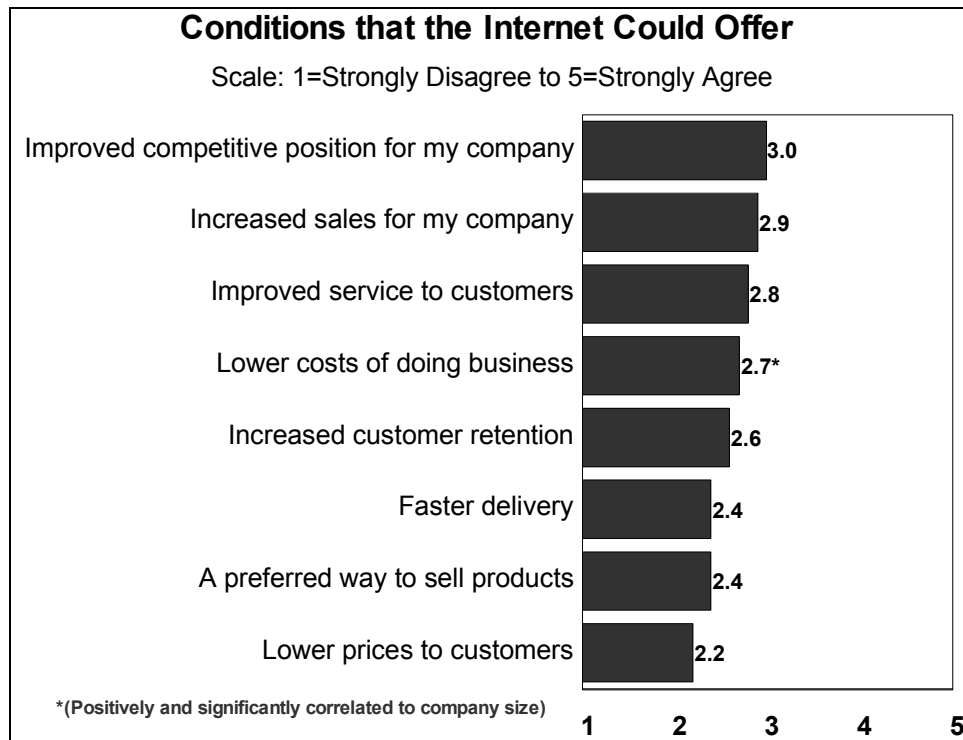
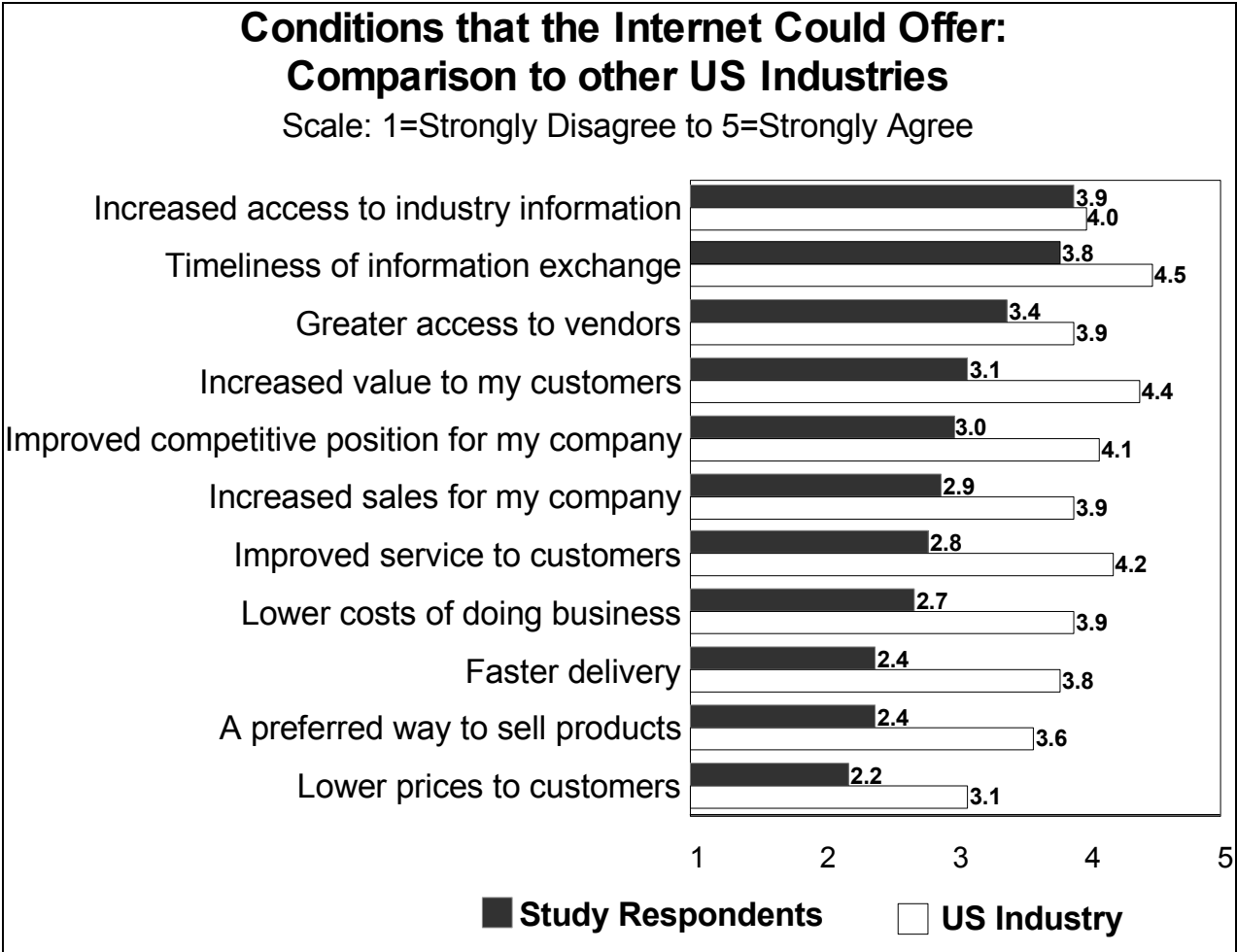


Figure 15.



When compared to results from Internet usage by US industry in general, aside from the Benefit of being able to increase access industry information, respondents rank significantly lower in all other benefits (**Figure 16**). This seems to indicate that respondents have not learned from the examples of positive Internet benefits gained from a multitude of companies in other industries.

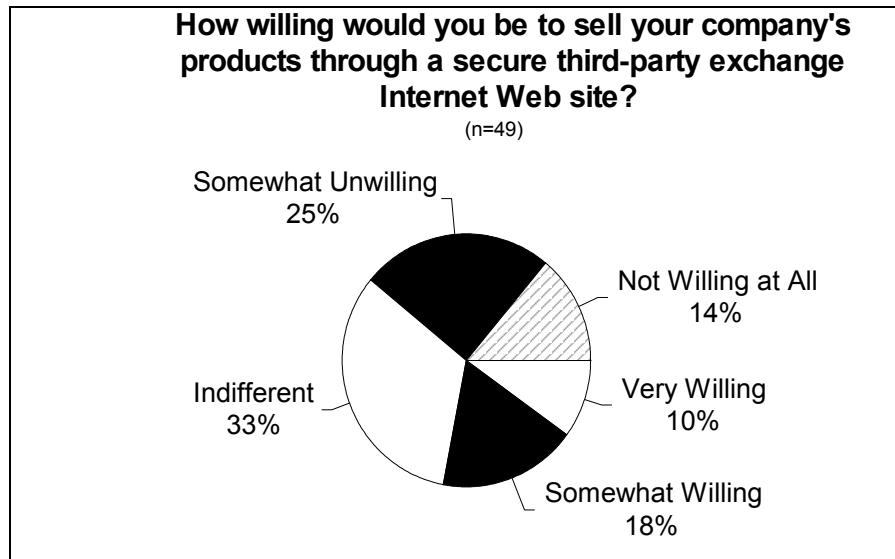
Figure 16.



Third-Party Exchanges

Ten percent of respondents are very willing to sell products through a third-party exchange (TPE) (**Figure 17**). Although not statistically significant, there is a positive correlation between willingness to use a TPE and respondent company size. Eighteen percent of respondents are somewhat willing to sell using TPEs and 33% are indifferent. The implication is that 61 percent of respondents are potential TPE clients.

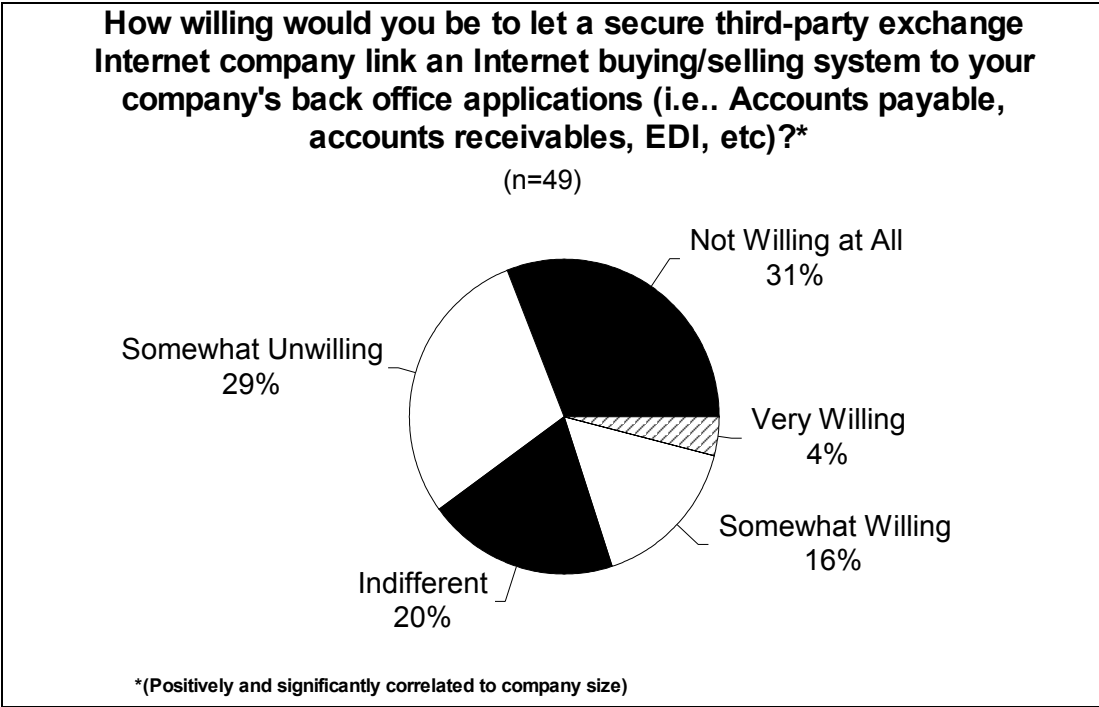
Figure 17.



The most extreme example of using the Internet for conducting business is the linkage to a company's back office applications. Four percent of respondents indicated that they were very willing to let a TPE link to their back office systems (**Figure 18**). An additional 16% are somewhat willing and 20% are indifferent. As would be expected, over 50% of respondents are either somewhat or very unwilling to go to this level of eBusiness.

Willingness to let TPEs link back office systems is significantly and positively correlated to company size.

Figure 18.



One of the most important batteries of questions in the study deals with TPE features and services that respondents find desirable. On a scale of 1=not desirable at all to 5=very desirable, the highest ranking features, customer credit assurance and market size information, had a score of only 3.8 (**Figure 19**). Price trends, both regional and national were ranked next, followed by online rail car tracking.

Next ranked, were, in order, the ability to update product offerings, manage RFQs, receive payment on line (electronic funds transfer), and receive industry news.

Features ranked below 3.0, or neutral, included delivery negotiating, eBusiness consulting, international market access, assurances against low-quality products, a private market place, and last, escrow services.

Rail car tracking, closing deals online and order tracking were statistically and positively correlated to respondent company size.

Figure 19.

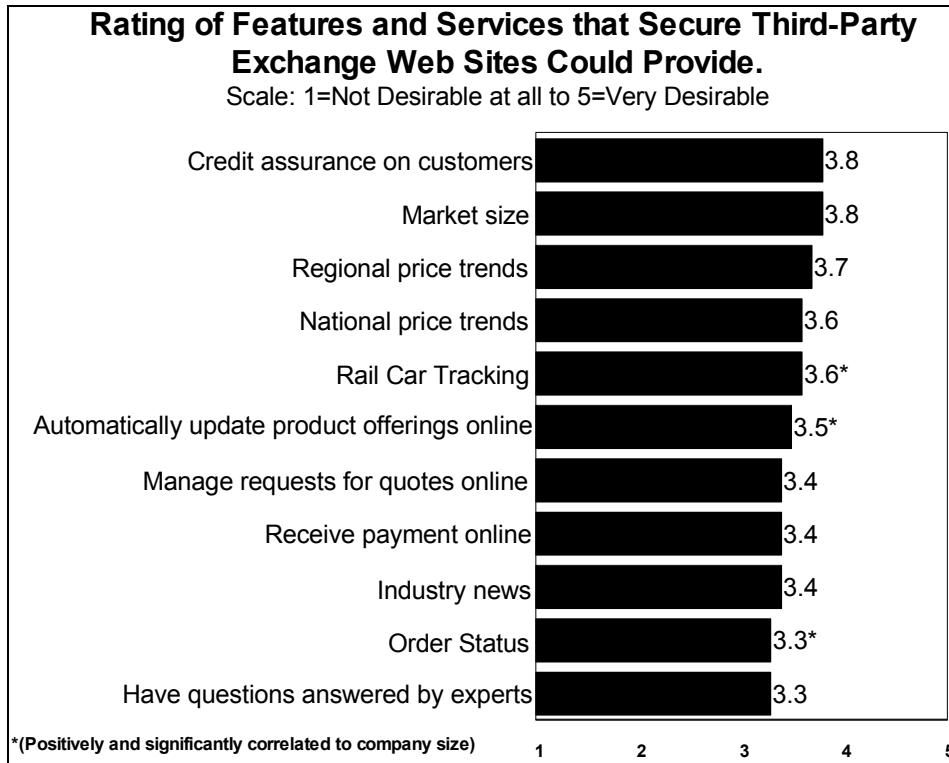
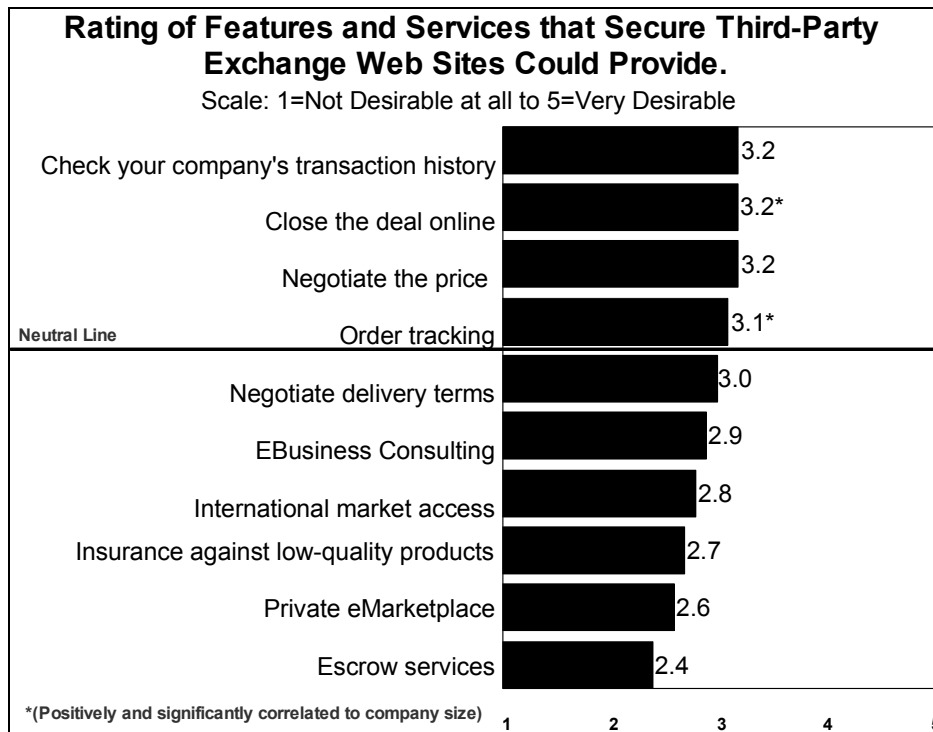


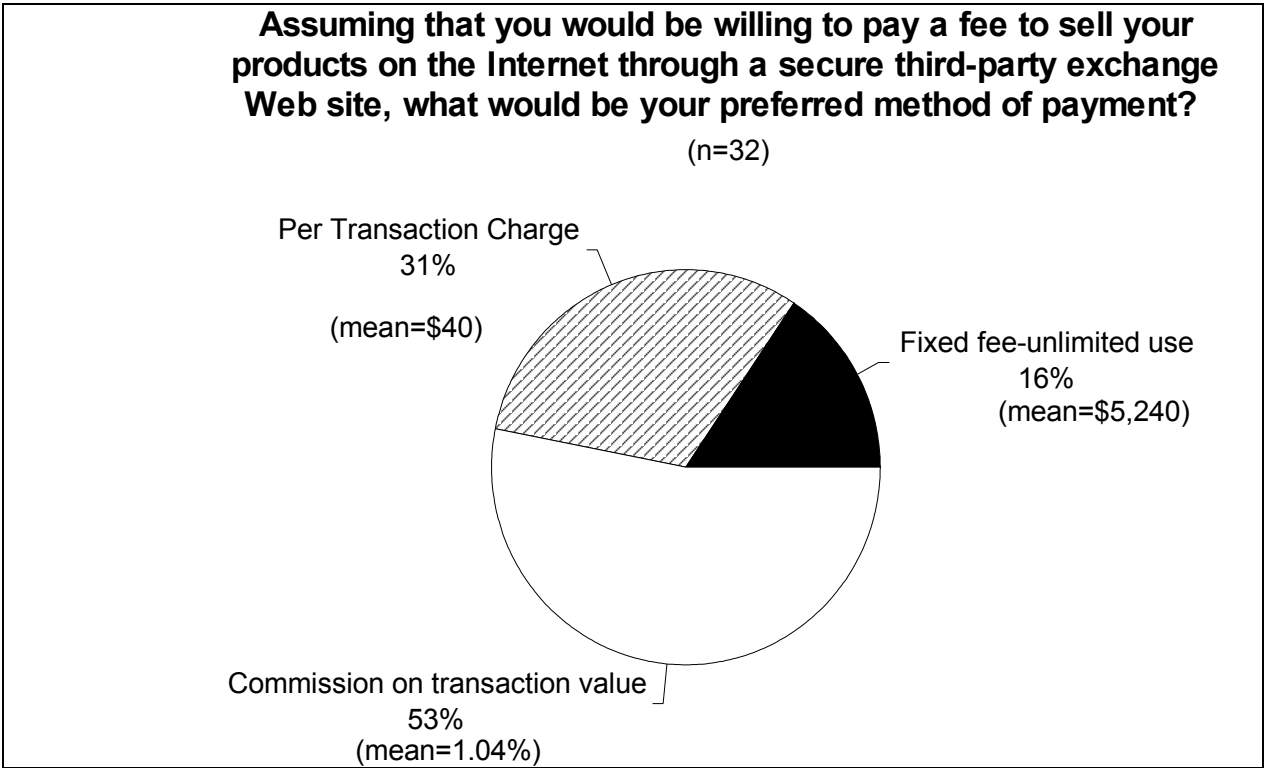
Figure 20.



For the 32 respondents that indicated that they would potentially pay for TPE services, the most preferred method of payment is a commission on the transaction value. The average commission is 1.04% (**Figure 21**).

Second preferred is a per transaction fee which averaged \$40/transaction. Finally, 16% of respondents said they prefer an annual fixed fee which averaged \$5,240.

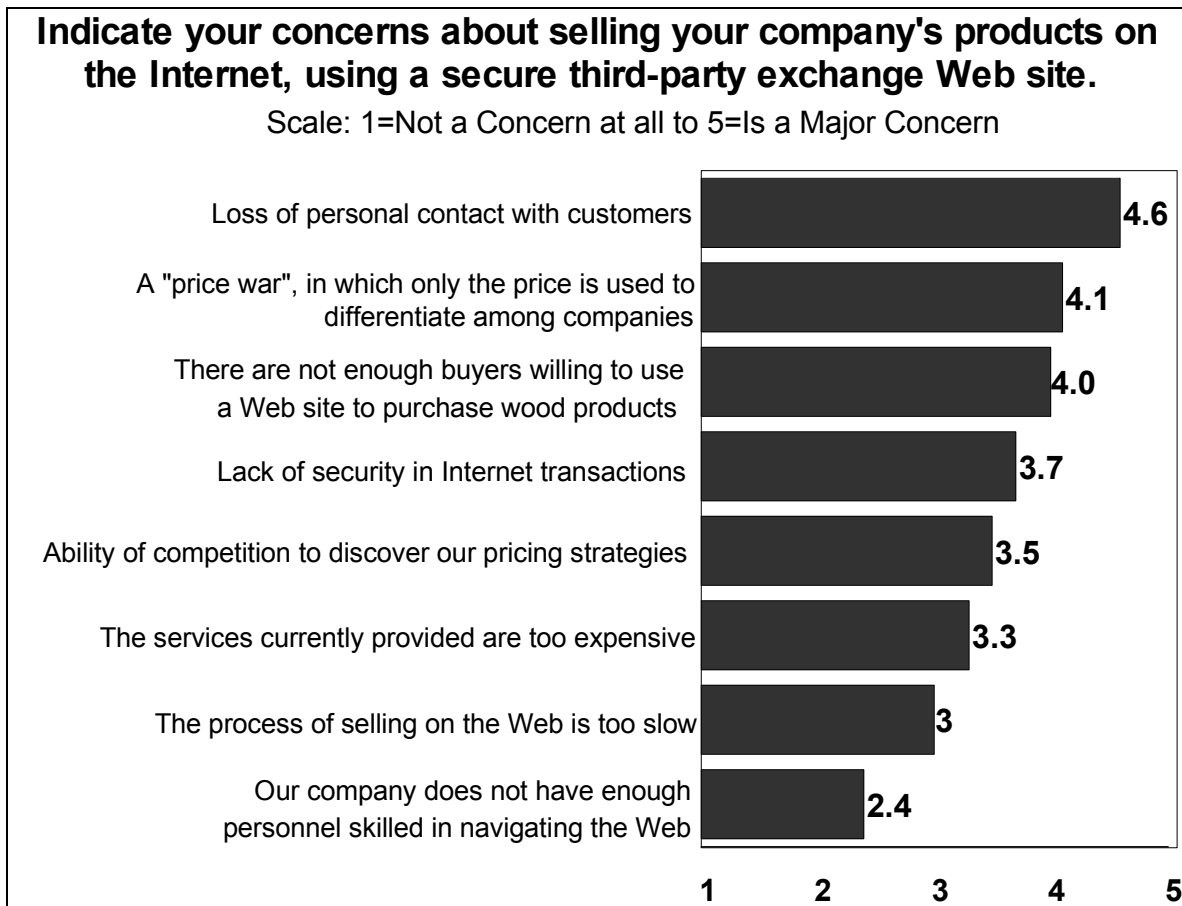
Figure 21.



Major concerns of using a TPE are loss of personal customer contact, a potential price war and a lack of web-based buyers (**Figure 22**). Security issues, which have been highest ranked in past studies conducted by the author, is ranked fourth. Clearly, the relationship issues need to be addressed with potential clients.

Of low concern is the lack of personnel that can navigate the web to conduct transactions as well as the speed of the Internet.

Figure 22.



From a list of 12 real market exchange entities, TALPX has the highest name recognition and visitation frequency among respondents (**Figures 23 and 24**).

World Wide Wood Network, Ltd. ranks last in these categories due primarily to a lack of promotion.

Six percent of respondents said they had heard about and 4% said they visited PLYWOOD.COM, a fictitious name on the list. In addition, 4% and 2% knew about and visited PANELS.COM, which is not an exchange.

This infers that there is confusion in the marketplace with regard to the names of existing and new TPEs. TPE differentiation is critical to position World Wide Wood Network, Ltd. in the customers mind.

Figure 23.

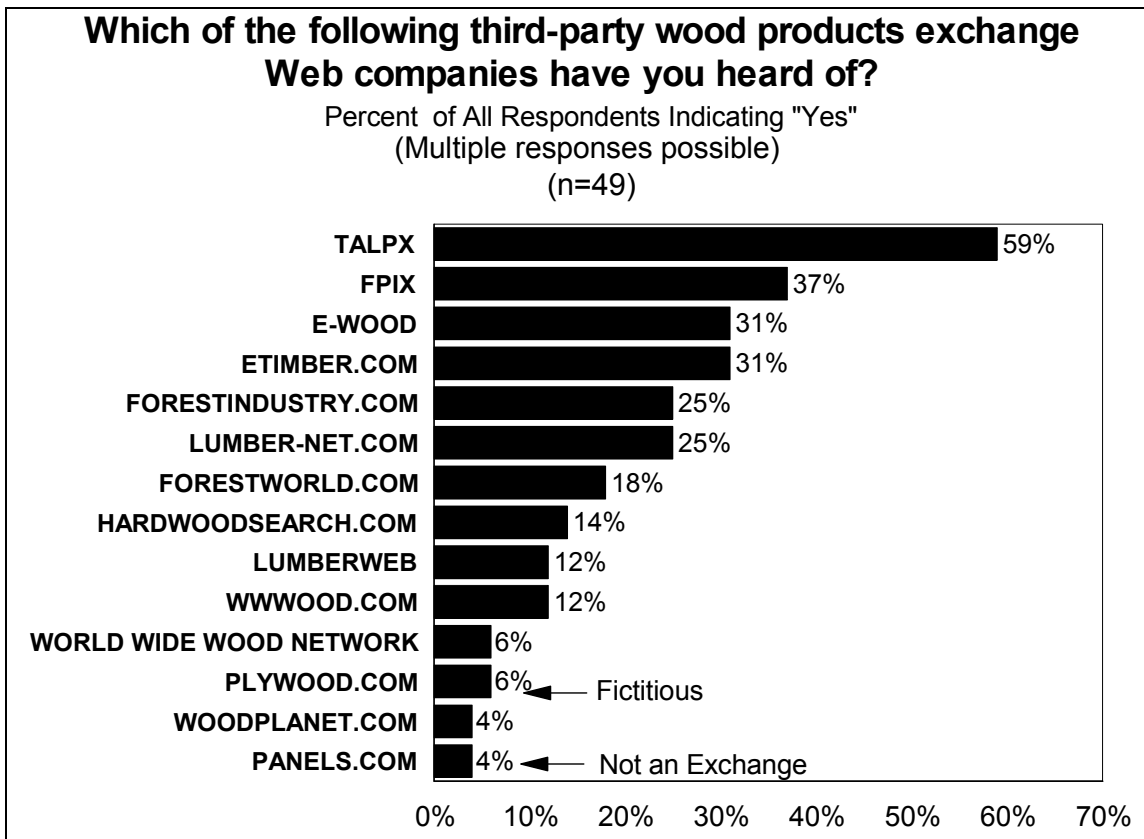


Figure 24.

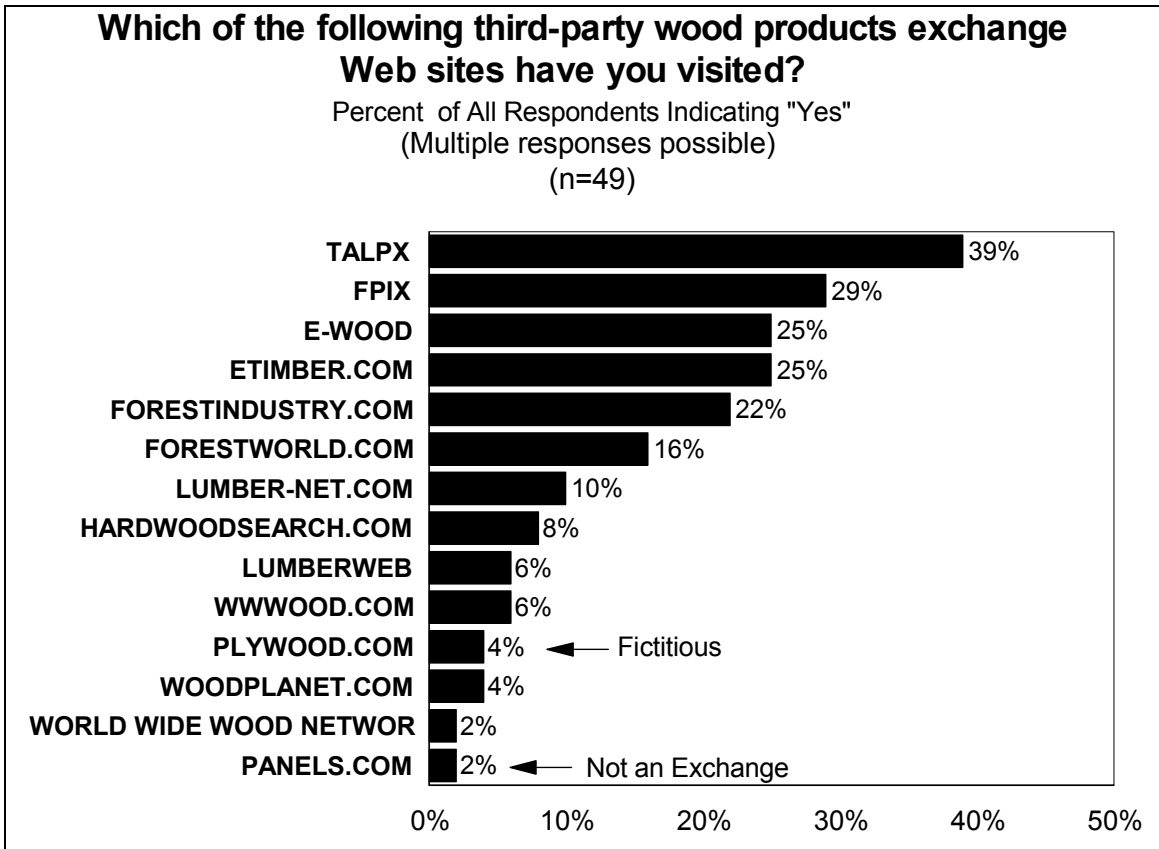


Figure 25.

- Reasons for Visiting Third-Party Wood Products Exchange Web Sites**
- CURIOSITY
 - EVALUATE THEIR SERVICES/GET IDEAS FOR OUR WEBSITE
 - GAIN KNOWLEDGE ON EXCHANGES
 - GATHER INFORMATION
 - CHECK LAYOUT, EASE OF USE, MONITOR INDUSTRY
 - MARKET TRENDS
 - REPRESENTATIVE FROM THE COMPANY VISITED US
 - SEE HOW THESE SYSTEMS WORK
 - SEE WHAT IS AVAILABLE AT THESE TYPES OF SITES
 - SEE WHAT THEY OFFER, HOW SITES ARE STRUCTURED

Respondent Web Site

As seen in **Figure 26**, 61% of respondents have a web site and 100% of these companies have registered web domain names.

Web site development is a fairly recent phenomenon with 65% of respondents developing their sites in the past 2 years (**Figure 27**). Larger companies were found to have developed web sites earlier than small companies.

Figure 26.

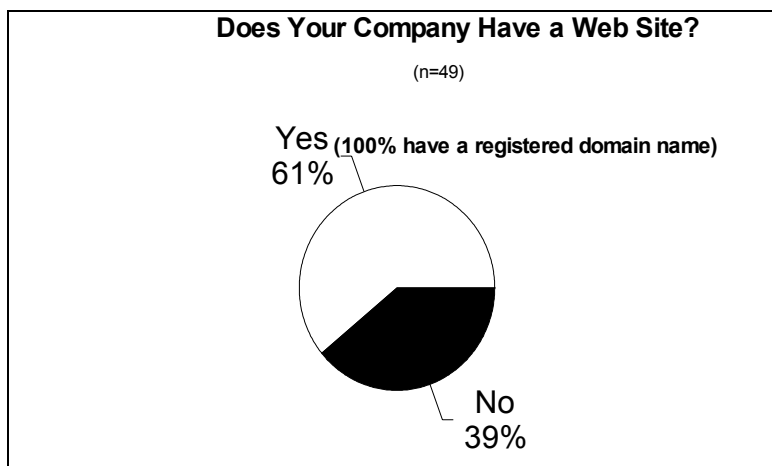
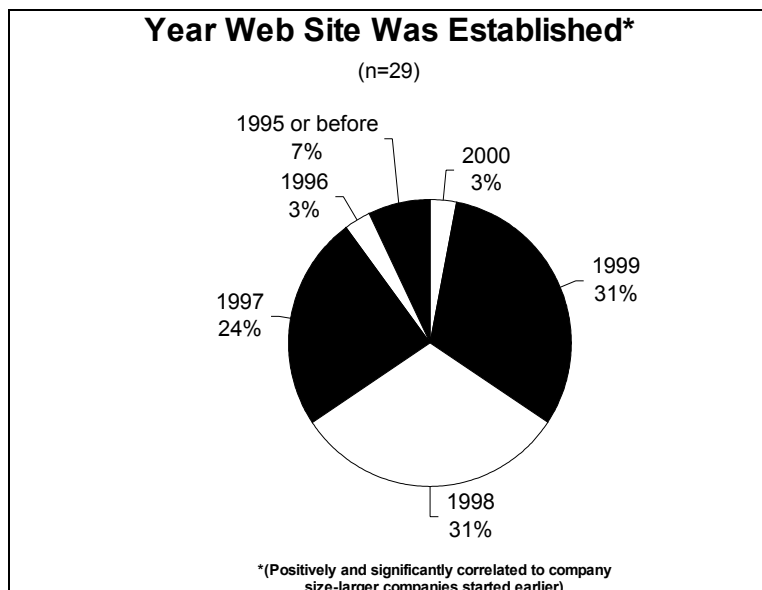


Figure 27.



As would be expected, larger, more complex companies have invested more than small companies to develop and maintain their web sites (**Figure 28**). Over half of respondents with web sites spent less than \$5,000 to date while 6% of respondents spent \$100,000 or more. Only 14% of respondents believe they paid an excessive amount for their web sites with over a third saying that what they spent was a very good value (**Figure 29**).

Figure 28.

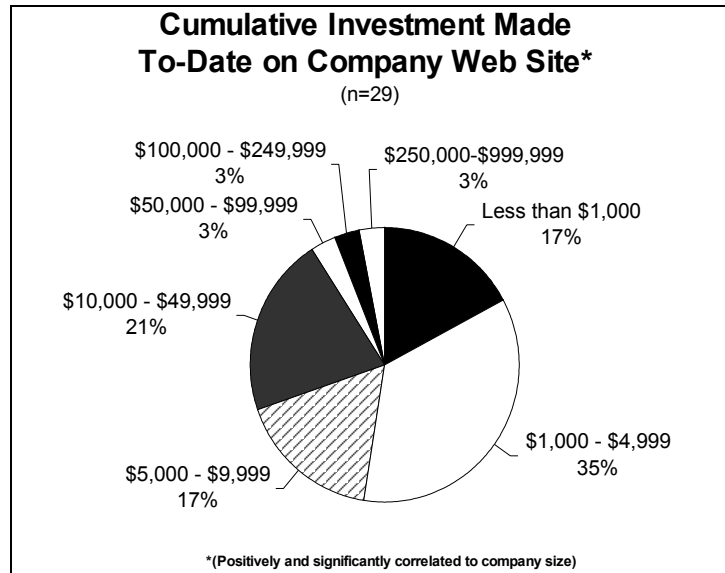
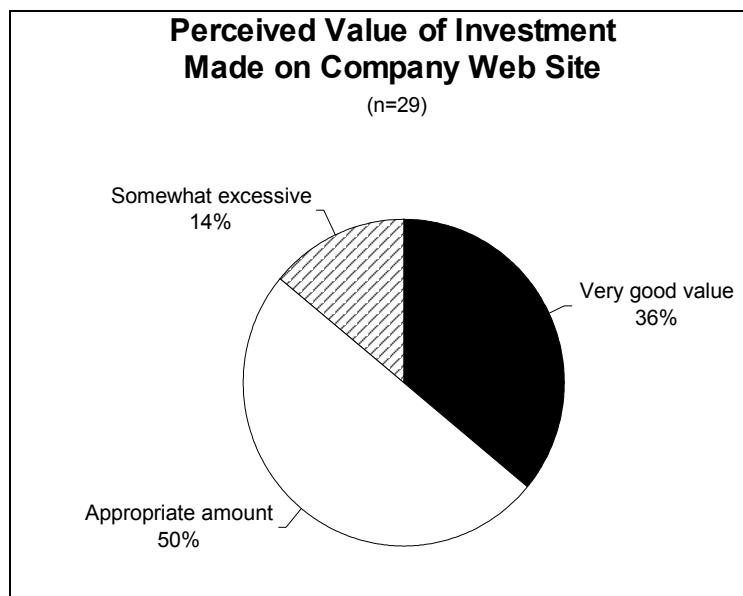


Figure 29.



Respondent web site functionality is rudimentary at this time. Promotion/Advertising is the only significant web-site function (**Figure 30**). Convincing wood products companies to go beyond using the Internet as an electronic advertisement is a challenge.

Although 61% of respondents have a web site, not one said they were using their web site for eCommerce. Only 18% use the Internet to sell products which is currently being conducted using email (**Figure 31**).

Figure 30.

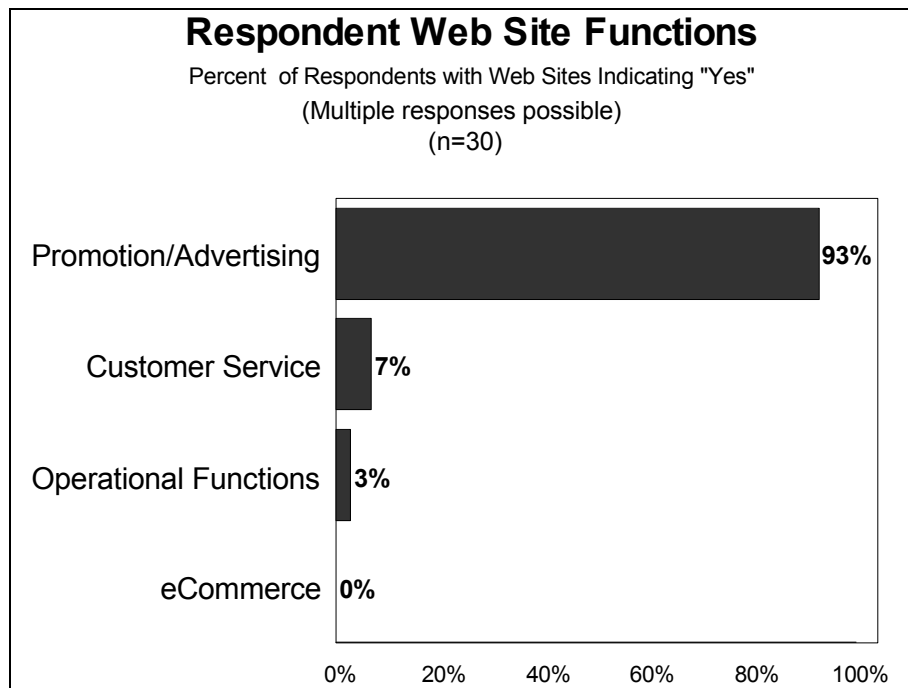
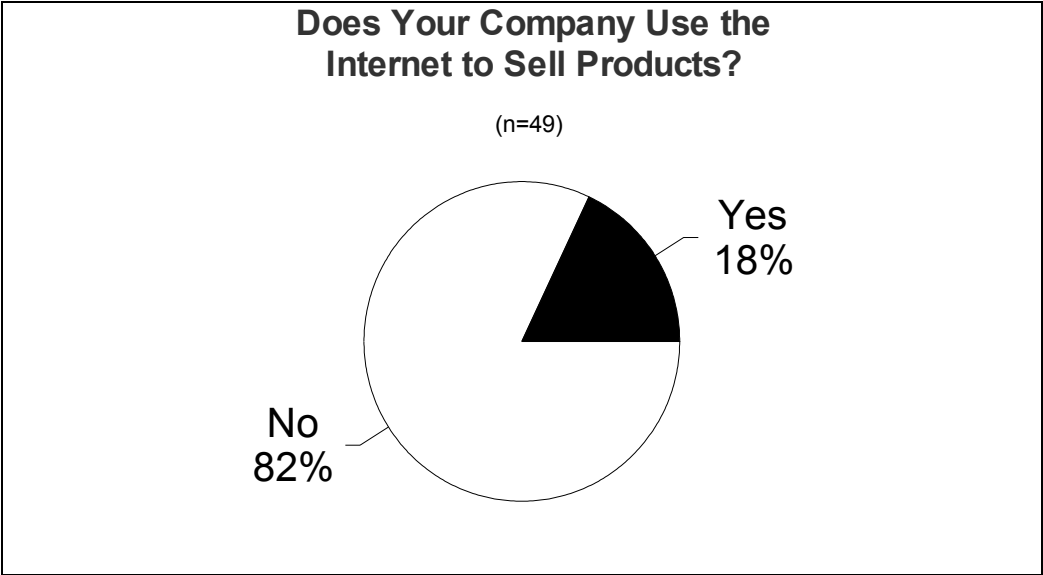
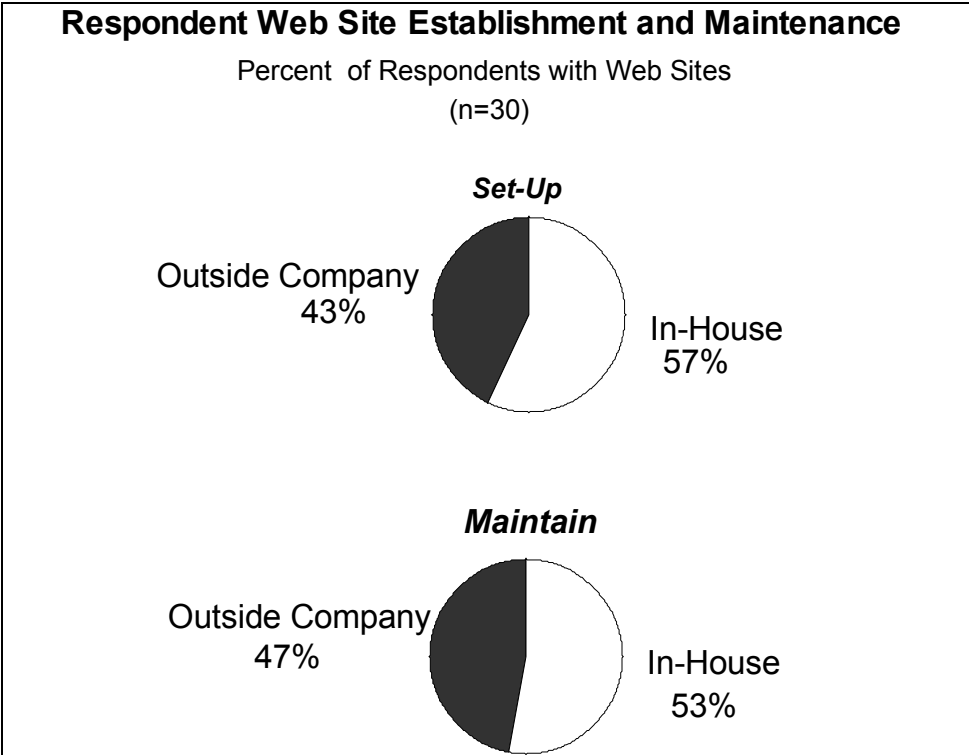


Figure 31.



Web-site establishment and maintenance is nearly evenly split between in-house and outside company (**Figure 32**). This indicates opportunities for independent web developers to service the respondent industry base.

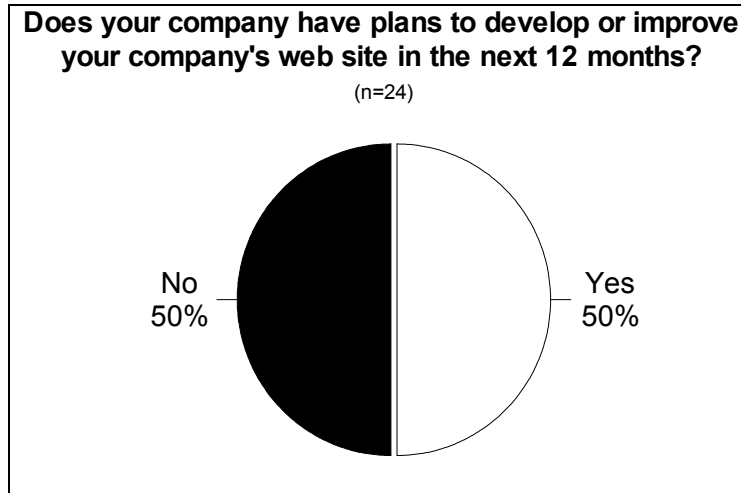
Figure 32.



Desired Web Site Services and Features

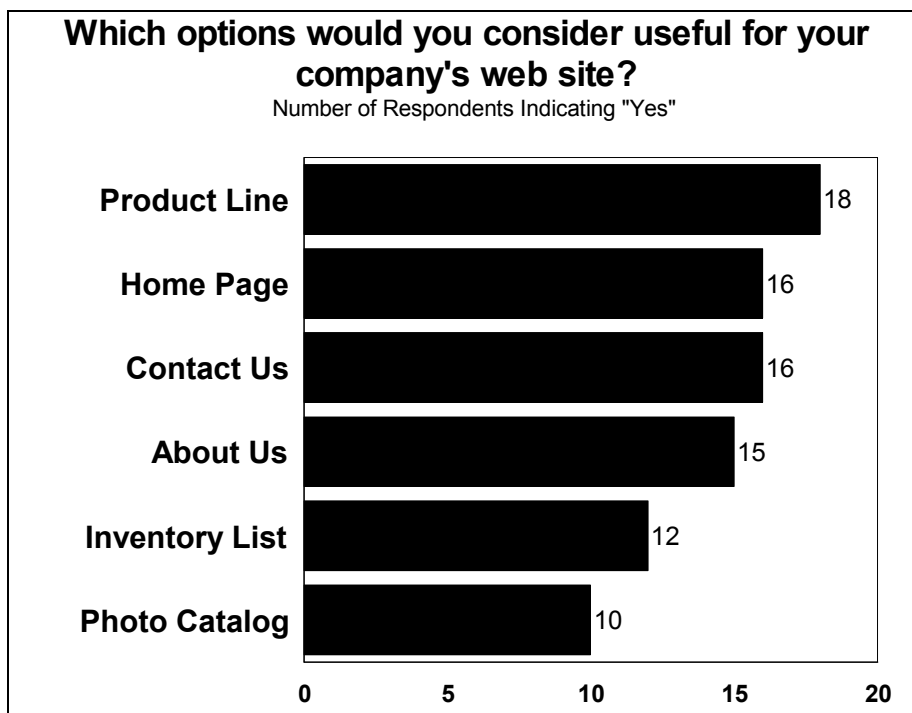
50% of respondents plan to develop or improve their web site in the next 12 months inferring opportunity for World Wide Wood Network, Ltd (**Figure 33**).

Figure 33.



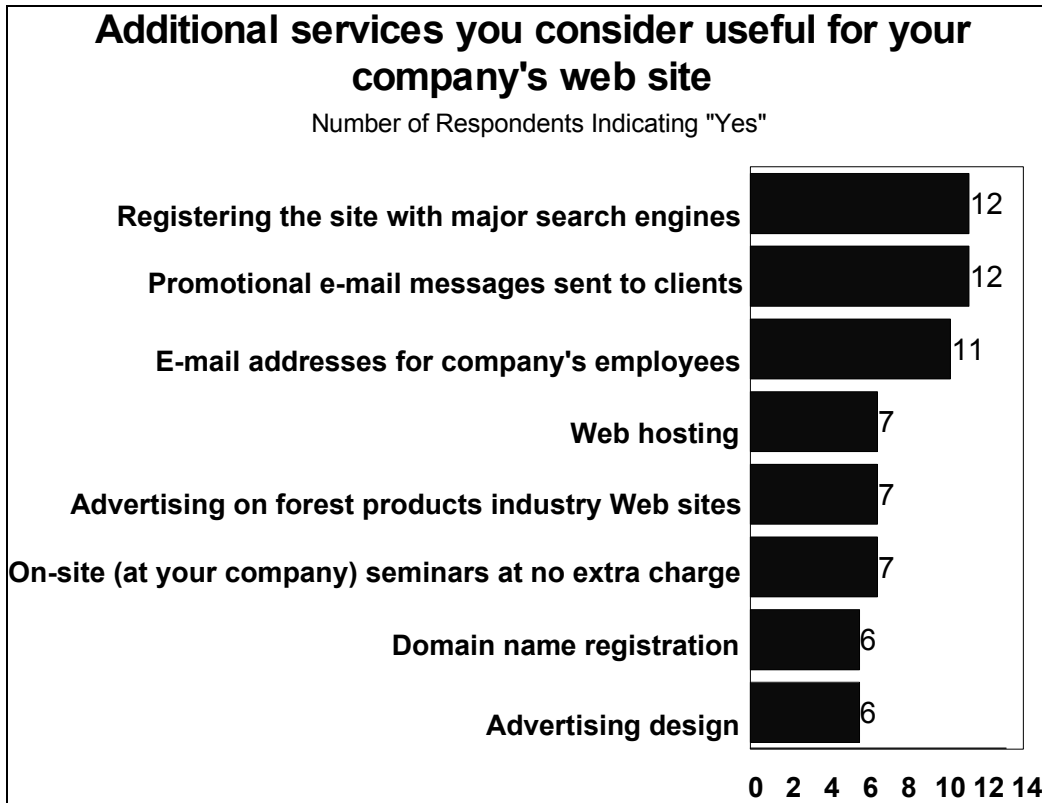
Options that respondents would find useful on their enhanced or to-be-developed web site are listed in **Figure 34**.

Figure 34.



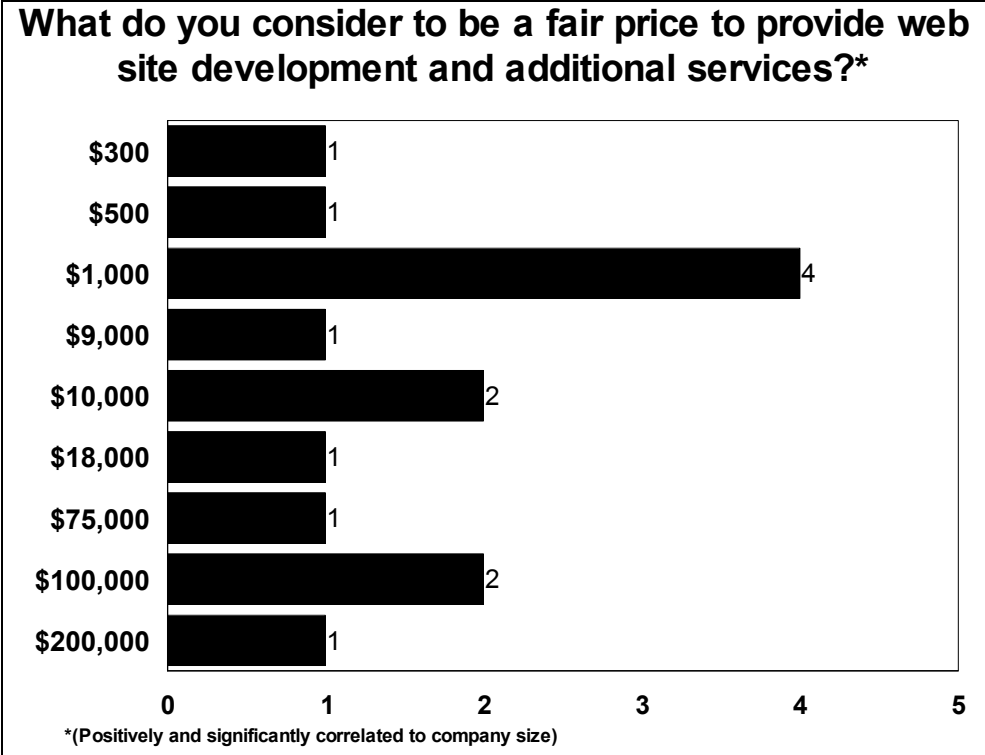
Additional useful services that an outside entity could provide are listed in **Figure 35**. These services are fairly basic and include site registration with search engines, promotional mass-mailings to existing and prospective clients and an email database for employees.

Figure 35.



Fourteen respondents indicated what they would pay for these options and services. Small companies are willing to pay up to \$10,000 for web development while large companies indicated that they are willing to pay up to \$200,000 (Figure 36).

Figure 36.



Summary

This study indicates that there are significant potential opportunities as well as challenges to providing third-party exchange services to forest products companies. On one hand, 61% of respondents have a web page. This is good. On the other hand only 18% are using the Internet to sell products and this is primarily just using email. No respondents are actually doing eCommerce.

The threat of security breaches has abated from previous studies conducted in the forest products industry. The greatest concerns are loss of personal contact and relationships with customers as well as the fear that eBusiness will drive prices down and create a cutthroat business environment.

In order to be successful, a TPE must do the following:

1. Be credible by having expertise and a solid product to offer.
2. Know the business and be able to articulate the product offering in the language of the client.
3. Allay client fears regarding loss of relationship from using the Internet.
4. Clearly show the value that can be gained in the business relationship by both buyers and sellers by transitioning to an eBusiness environment.

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Appendix I Study Survey

******Forest Products Industry Internet Survey******

This survey is designed to gather information about doing business over the Internet. By completing this survey, you will receive competitive information about how the Internet is used in the forest products industry. A copy of the results will be sent to you as a token of our appreciation for completing the survey.

The survey is completely confidential and only summary information will be reported in study results. The number at the top of this survey is an identifier only that allows for tracking of completed surveys, ensuring that you do not receive subsequent surveys or phone calls. When you have completed the survey, please place it in the postage paid envelope and return it.

Thank you.

Richard Vlosky
Forest Products Marketing Program
Louisiana State University

Company Information

1. Please indicate the products that your company sells. (Please check all that apply.)

- | | |
|---|--|
| <input type="checkbox"/> softwood lumber
<input type="checkbox"/> hardwood lumber
<input type="checkbox"/> engineered lumber (such as LVL, Glulam)
<input type="checkbox"/> softwood plywood | <input type="checkbox"/> hardwood plywood
<input type="checkbox"/> treated lumber
<input type="checkbox"/> OSB
<input type="checkbox"/> MDF
<input type="checkbox"/> particleboard |
|---|--|

If your company does not sell ANY of the above products, please check this box: .

Then, please put the survey in the postage paid enclosed envelope and return it. THANK YOU for your participation!

If your company DOES sell any of these products, please continue with Question 2.

2. Please indicate in which state your company headquarters is located.

3. Please estimate the percentage of 1999 annual sales that were sold to the following customer categories. (Total must equal 100%).

Categories of customers	Percent
Builders	%
Brokers	%
Wholesalers	%
Stocking Distributors	%
Retail Chains	%
International - Export	%
Other - please describe:	%
TOTAL	100%

4. Please estimate your company's total 1999 sales revenue in US dollars. (Please circle only one option.)

- | | | |
|----------------------------|--------------------------------|------------------------------|
| 1. Less than \$500,000 | 5. \$10 Million-\$49,999,999 | 9. \$1 Billion-\$5 Billion |
| 2. \$500,000-\$999,999 | 6. \$50 Million-\$99,999,999 | 10. Greater than \$5 Billion |
| 3. \$1 Million-\$499,999 | 7. \$100 Million-\$499 Million | |
| 4. \$5 Million-\$9,999,999 | 8. \$500 Million-\$999 Million | |

5. Please estimate the percentage of 1999 annual sales that were sold using the following methods of shipment. (Total must equal 100%).

Method of Shipment	Percent
Rail	%
Truck	%
Waterborne	%
Other - please describe:	%
TOTAL	100%

6. Please indicate the estimated number of each business document your company transmitted or received in 1999. Then please check (✓) all the **methods (not number)** of sending and receiving that apply.

Document	Total Number Transmitted or Received in 1999	Transmitted or Received by Mail ? please check (✓)	Transmitted or Received by Fax ? please check (✓)	Transmitted or Received by email ? please check (✓)	Transmitted or Received by EDI ? please check (✓)	Transmitted or Received by Internet ? please check (✓)
Purchase Order						
Invoice						
Advance Shipping Notice						
Order Acknowledgement						
Shipping Notification						
Order Status						

7. Please whether the following business documents are hand written or entered (received) directly by a computer in your company.

Document	Written by Hand, then Entered into a Computer? please check (✓)	Entered Directly into a Computer? please check (✓)
Purchase Order		
Invoice		
Advance Shipping Notice		
Order Acknowledgement		
Shipping Notification		
Order Status		

Selling Forest Products on the Internet

1. Does your company currently use the Internet to sell products? (Please circle the appropriate response.)

- 1. NO
- 2. YES

2. How willing would you be to sell your company's products through a secure third-party exchange Internet Web site? (Please circle only one number.)

(Not Willing At All) 1 2 3 4 5 (Very Willing)

3. How willing would you be to let a secure third-party exchange Internet company link an Internet buying/selling system to your company's back office applications (ie. Accounts payable, accounts receivables, EDI, etc)? (Please circle only one number.)

(Not Willing At All) 1 2 3 4 5 (Very Willing)

4. Typically, secure third-party exchange Web sites that facilitate wood products sales offer a range of services. From the list below, on a scale from 1 to 5 (1-not useful at all, 5-very useful), please rate how useful each of the features and services would be for your company.

	not desirable at all				very desirable
	1	2	3	4	5
Regional price trends for the products of your interest	1	2	3	4	5
National price trends for the products of your interest	1	2	3	4	5
Market size for the products of your interest	1	2	3	4	5
Industry news	1	2	3	4	5
Ability to have specific questions answered by industry experts	1	2	3	4	5
Ability to manage requests for quotes online	1	2	3	4	5
Ability to check your company's transaction history	1	2	3	4	5
Credit assurance on customers	1	2	3	4	5
Insurance against low-quality products	1	2	3	4	5
Ability to negotiate the price online	1	2	3	4	5
Ability to negotiate delivery terms online	1	2	3	4	5
Ability to close the deal online	1	2	3	4	5
Ability to receive payment online	1	2	3	4	5
Escrow services	1	2	3	4	5
Order tracking	1	2	3	4	5
Order Status	1	2	3	4	5
Rail Car Tracking	1	2	3	4	5
Ability to automatically update your product offerings online	1	2	3	4	5
EBusiness Consulting	1	2	3	4	5
Private eMarketplace	1	2	3	4	5
International market access	1	2	3	4	5

5. Please list any additional services that would increase your interest in secure third-party exchange Web sites.

6. *Assuming* that you would be willing to pay a fee to sell your products on the Internet through a secure third-party exchange Web site, what would be your preferred method of payment? (Please check only one option, and then fill in the corresponding blank space.)

- A fixed fee of \$_____ per year for unlimited use of the services.
- A commission of _____% of the value of each completed transaction.
- A charge of \$_____ for each completed transaction.
- Other (Please Describe)_____

7. What is your preferred method of receiving, and responding to requests for price quotes from your customers? (Please check only one option in each column.)

	Preferred Method to Receive Requests for Price Quotes	Preferred Method to Respond to Requests for Price Quotes
FAX		
E-mail		
Telephone		
Regular mail		
Your Web Site		

8. On a scale from 1 to 5 (1-not a concern, 5-a major concern), please indicate what are your concerns about selling your company's products on the Internet, using a secure third-party exchange Web site.

	Not a concern at all				Is a major concern
	1	2	3	4	5
Loss of personal contact with customers	1	2	3	4	5
Ability of competition to discover our pricing strategies	1	2	3	4	5
Lack of security in Internet transactions	1	2	3	4	5
A "price war", in which only the price is used to differentiate among companies	1	2	3	4	5
The services currently provided are too expensive	1	2	3	4	5
Our company does not have enough personnel skilled in navigating the Web	1	2	3	4	5
The process of selling on the Web is too slow	1	2	3	4	5
There are not enough buyers willing to use a Web site to purchase wood products	1	2	3	4	5

9. Please indicate your level of agreement for the following conditions that selling products on the Internet might offer.

Selling Products on the Internet Offers:	strongly disagree		neither disagree nor agree		strongly agree
Greater exposure to potential customers	1	2	3	4	5
Increased sales for my company	1	2	3	4	5
Greater access to my company by potential customers and vendors	1	2	3	4	5
Increased value to my customers	1	2	3	4	5
Increased customer retention	1	2	3	4	5
A preferred way to sell products	1	2	3	4	5
Improved competitive position for my company	1	2	3	4	5
Increased access to industry information	1	2	3	4	5
Timeliness of information exchange	1	2	3	4	5
Greater access to vendors	1	2	3	4	5
Enhanced image of my organization	1	2	3	4	5
A lower cost to promote my company's products	1	2	3	4	5
Lower prices to customers	1	2	3	4	5
Improved service to customers	1	2	3	4	5
Faster delivery	1	2	3	4	5
Lower costs of doing business	1	2	3	4	5
Ability to search for products	1	2	3	4	5
Ability to search for customers	1	2	3	4	5
Eliminate telephone "tag"	1	2	3	4	5

10. Which of the following third-party wood products exchange Web companies **have you heard of?** (Please check all that apply.)

- | | |
|---|--|
| <input type="checkbox"/> TALPX | <input type="checkbox"/> WOODPLANET.COM |
| <input type="checkbox"/> FPIX | <input type="checkbox"/> LUMBER-NET.COM |
| <input type="checkbox"/> LUMBERWEB | <input type="checkbox"/> HARDWOODSEARCH.COM |
| <input type="checkbox"/> E-WOOD | <input type="checkbox"/> WORLD WIDE WOOD NETWORK |
| <input type="checkbox"/> WWWOOD.COM | <input type="checkbox"/> PANELS.COM |
| <input type="checkbox"/> FORESTINDUSTRY.COM | <input type="checkbox"/> PLYWOOD.COM |
| <input type="checkbox"/> FORESTWORLD.COM | <input type="checkbox"/> ETIMBER.COM |

11. Which of the following third-party wood products exchange Web companies **have you visited on the Internet?** (Please check all that apply.)

- | | |
|---|--|
| <input type="checkbox"/> TALPX | <input type="checkbox"/> WOODPLANET.COM |
| <input type="checkbox"/> FPIX | <input type="checkbox"/> LUMBER-NET.COM |
| <input type="checkbox"/> LUMBERWEB | <input type="checkbox"/> HARDWOODSEARCH.COM |
| <input type="checkbox"/> E-WOOD | <input type="checkbox"/> WORLD WIDE WOOD NETWORK |
| <input type="checkbox"/> WWWOOD.COM | <input type="checkbox"/> PANELS.COM |
| <input type="checkbox"/> FORESTINDUSTRY.COM | <input type="checkbox"/> PLYWOOD.COM |
| <input type="checkbox"/> FORESTWORLD.COM | <input type="checkbox"/> ETIMBER.COM |

Please indicate the reasons you visit(ed) the third-party wood products Web sites indicated above (if any):

Your Company's Web Site Capabilities

1. Does your company have a Web site? (Please circle the appropriate response).

1. YES → → if "YES", please go to Question 2 and answer ALL the remaining questions.
2. NO → → if "NO", please go to Question 8 on Page 7.

2. Does your company have a registered domain name (i.e. www.mycompany.com)? (Please circle the appropriate response).

1. YES
2. NO

3. Which of the following functions does your Web site currently accomplish? (Please check all that apply.)

- Promotional/Advertising functions
- Operational Functions (i.e. order status information, inventory management)
- E-commerce (selling online to your customers)
- Customer Service
- Other (describe)_____

4. Please indicate if the setting up and maintaining your Web site was done in-house or by an outside entity. (Please check only one option in each column.)

	Setting up	Maintain/update
In house department		
Outside company/agent		

5. In what year was your company's Web site developed? (Please circle only one option.)

- | | |
|---------|-------------------|
| 1. 2000 | 4. 1997 |
| 2. 1999 | 5. 1996 |
| 3. 1998 | 6. 1995 or before |

6. Please estimate the cumulative investment that has been made to date for your company's Web site. (hardware, software, technical support, marketing, etc.) (Please check the number next to the appropriate range.)

- | | |
|------------------------|--------------------------|
| 1. Less than \$1,000 | 5. \$50,000 - \$99,999 |
| 2. \$1,000 - \$4,999 | 6. \$100,000 - \$249,999 |
| 3. \$5,000 - \$9,999 | 7. \$250,000-\$999,999 |
| 4. \$10,000 - \$49,999 | 8. over \$1 Million |

7. In your opinion, the amount indicated above represents: (please choose only one option)

- | | |
|---|----------------------------------|
| 1. a very good value for the investment | 3. a somewhat excessive amount |
| 2. an appropriate amount | 4. an extremely excessive amount |

8. Does your company plan to develop a Web site within the next 12 months?

1. YES → → if "YES", please go to Question 9.
2. NO → → if "NO", please put the survey in the postage paid envelope and return it.

9. Following is a list of possible web design features and services that companies specialized in Web site development services may provide. Please check only those options that you would consider useful for your company Web site.

Web site Design Features (Please check all that apply)

- | | |
|---------------------------------------|---|
| <input type="checkbox"/> "Home Page" | <input type="checkbox"/> "Product Line" |
| <input type="checkbox"/> "About Us" | <input type="checkbox"/> "Photo Catalog" |
| <input type="checkbox"/> "Contact Us" | <input type="checkbox"/> "Inventory List" |

Additional Services (Please check all that apply)

- Web hosting (keeping your Web site on a server belonging to another company)
- E-mail addresses for company's employees
- Domain name registration (registering your www.mycompany.com name)
- Registering the site with major search engines
- Promotional e-mail messages sent to prospective and current clients
- Advertising design
- Advertising on Web sites focused on the forest products industry
- On-site (at your company) workshops/education seminars at no extra charge
- Other (please describe) _____

10. For all the features and services that you selected above, please indicate what you would consider a fair price to pay to an outside consulting company to develop this Web Site: \$_____.

You're Done!!!

THANK YOU!

Please return this survey by placing it in the **postage paid** envelope and dropping it in the nearest mailbox. Your response has insured that this study will be a success. Thank you for your cooperation and time in completing this survey

If you have any further questions about this survey, please contact:

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Louisiana State University
Baton Rouge, LA 70803

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e-mail: vlosky@lsu.edu

Appendix II List of Respondents

- Alder Creek Lumber Company
- Big Creek Lumber Co.
- Blue Mountain Lumber Products
- Caffall Bros. Forest Products Inc.
- Cascade Empire Corp.
- Collins Pine Company
- Davidson Industries
- Eagle Stud Mill Inc.
- East Fork Lumber Co.
- Forest City Trading Group
- Frank Lumber Co. Inc.
- Ganahl Lumber Co.
- Great Western Lumber Co.
- Hampton Affiliates
- Herbert Lumber Co.
- High Cascade L.P.
- Konkolville Lumber Co. Inc.
- Linnton Plywood
- Louisiana-Pacific Corp.
- Lumber Products
- Lumber Products, Inc.
- Medply
- Mendicino Forest Products LLC
- Pacific Lumber Co.
- Pyramid Mountain Lumber Inc.
- Regulus Stud Mills Inc.
- Roseburg Forest Products Co.
- Schmidbauer Lumber Co.
- Seattle-Snohomish Mill Co.
- Seneca Sawmill Co.
- Sequoia Forest Industries
- Sierra Pacific Industries
- States Industries Inc.
- Stone Truss Co. Inc.
- Sun Studs Inc.
- Sundance Lumber Co. Inc.
- Timber Products Co.
- Trinity River Lumber Co.
- U.S. Forest Industries
- Uresco Construction Materials Inc.
- Vaagen Bros. Lumber Co. Inc.
- Vanport Manufacturing Inc.
- Warm Springs Forest Products
- Willamette Industries
- Wisconsin-California Forest Products
- Yankee Forest Products
- Zosel Lumber Co.