CULTIVATING CONNECTIONS IN 2012 – WEB STRATEGIES USED BY FOREST PRODUCTS BUSINESSES IN THE SOUTHERN U.S.

Iris B. Montague[1] *Jan Wiedenbeck*[2]

ABSTRACT

Twelve years ago, many wood products manufacturing companies were just beginning to gain awareness of the potential of e-commerce and e-business. Most scoffed at the idea that e-strategies would become commonplace in the wood industry during the next decade. The "digital divide" between developed and developing countries, urban and rural areas, types of industries, sizes of enterprises, and generations has eroded faster than any futurist could have predicted. Globalization of markets has accelerated the development of a Web presence by U.S. wood products manufacturers as they understand the potential for e-business to help them reach and service new customers. The degree of development of Web-based communication and commerce within the forest products industry in 2012 was assessed for four southern states: Georgia, Louisiana, Kentucky, and West Virginia. Web page components were evaluated using a checklist developed for this project. Differences in Web usage among industry sectors were analyzed as were differences within sectors for companies of different sizes. While larger businesses, as expected, are more vested in Web-based communications and commerce, many outstanding examples of small business Web communications were identified. This evaluation will be used as a benchmark for future assessments of new developments and expanded use of the Web by companies in the forest products industry.

[1] Research Forester (IBM) and Research Forest Products Technologist (JW), Northern Research Station, USDA Forest Service, 241 Mercer Springs Road, Princeton, WV 24740. IBM is the corresponding author: to contact, call (304)431-2735 or email at imontague@fs.fed.us.

Introduction

During the past two decades, the advancement of technology greatly exceeded imagination. A world that once depended largely on printed material has become heavily digitalized. Technology advances have allowed companies and consumers to be more productive and efficient in everyday activities. Research that once required a trip to the library can now be conducted in the comforts of one's home or office; companies are no longer dependent solely on newspapers, magazines, billboards, or mass mailings to market products or distribute company information; and individuals can gather information about favorite products and keep in touch with friends, family, and colleagues all at the same time. The Internet allows all of this to happen, plus more.

Internet usage has grown exponentially since it was introduced for commercial use in the early 1990's (All About Market Research 2010). Within 5 years of its introduction, the number of users increased from 16 million to 248 million. Today, according to Internet World Stats (2012), there are over 2.2 billion Internet users world-wide; the United States has the second highest number of Internet users (China is first). According to a recent study, 80 percent of Americans 18 years or older use the Internet and they spend an average of 13 hours per week online at home.

The Internet also has had a great impact on companies globally. It is at once a world-wide broadcasting mechanism, a channel for information dissemination, and a medium for collaboration and interaction between individuals and their computers without regard for geographic location (Internet Society 2012). It revolutionized business development and management and leveled the playing field, allowing equal visibility and accessibility for small and large firms alike (Vlosky 2001). The days of relying solely on postal delivery, faxes, or physical visits disappeared with the advent of the Internet.

In recent years, Internet accessibility has brought about a revolutionary trend, social media. Merriam-Webster (2012) defines social media as "forms of electronic communication through which users create online communities to share information, ideas, personal messages, and other content." Social media include message boards, podcasts, blogs, micro blogs, lifestreams, bookmarks, networks, communities, wikis, and vlogs. Currently, there are hundreds of social media network sites available online that cover a wide range of interests (e.g., business, politics, dating, cooking, fashion) and cater to just about every demographic group (Montague 2011).

Social media have grown rapidly within the past few years – today nearly four in five active Internet users visit social networks and blogs (Nielsen 2011). Social networking has rapidly become a part of individuals' personal life. Facebook alone has over 500 million users and Twitter claims to have 175 million users and 95 million tweets a day (Regus Business 2011). Although Facebook and Twitter are newer forms of social media, social media networking has been available for quite some time. However, with these sites attracting so much of the world's attention, commercial use

of social media is becoming a growing trend. The emergence of Facebook, Twitter, and other social media sites has greatly changed companies' communicating tools and strategies used with customers (Mangold and Faulds 2009).

Many companies, including Fortune 500 corporations, have embraced social media, have found it to be an effective way to communicate with the public, and have used it as a vehicle to gain new clients. In fact, research has shown that the incorporation of social media into marketing strategies has increased brand recognition, product purchases, revenues, and profits (Gommans et al. 2001, Patterson 2011, Regus Business 2011, Singh et al. 2008, Weber 2007). It also is estimated that within the next year, organizations will spend $4.6 billion to expand their participation in social media (Young 2008). Because the Internet and social media use seem to be important components in product marketing and business strategies, it is worthwhile to determine the impact the Internet and social media may have on the forest products industry.

Research on Internet utilization in the forest products industry is limited. To fully understand the Internet's impact on the industry, more research is needed. It is important to determine how many forest products companies are using the Internet and what social media strategies are currently being incorporated into company marketing plans. The objectives of this research were to: 1) benchmark current use of social media/Internet usage in the wood products industry to serve as a baseline for future comparisons; 2) evaluate how adoption of social media/Internet usage is related to company size, sector, and state ; and 3) evaluate "best in class" uses of social media as a reference for future dissemination efforts.

Methods

This study focused on forest products producers in two major hardwood producing states, Kentucky and West Virginia, and two major softwood producing states, Georgia and Louisiana. A list of primary and secondary hardwood and softwood manufacturers in these regions and their company information were compiled using listings from state directories and other resources (Georgia Forestry Commission 2012, Kentucky Division of Forestry and University of Kentucky Department of Forestry Extension 2012, Louisiana Forest Products Development Center 2012, West Virginia Division of Forestry 2012). The study population comprised all forest products producers identified in these information sources.

To meet the objectives of the study, research was conducted through online investigation. Forest products manufacturing operations in the four states were identified by accessing on-line state maintained databases. Each of these state directories is updated periodically so the information on company size, type of products produced, and links to company Web pages can be considered to be current (Georgia Forestry Commission 2012, Kentucky Division of Forestry and University of Kentucky Department of Forestry Extension 2012, Louisiana Forest Products Development Center 2012,West Virginia Division of Forestry 2012). Information on

2,509 companies (1394 from Georgia, 721 from Kentucky, 250 from Louisiana, and 144 from West Virginia) was accessed and evaluated using these links. In cases where the state directories did not indicate a Web page address, a Web search was conducted – many additional sites were discovered in this way. These searches and Web site evaluations were conducted from March to June, 2012.

Using this information, companies were separated into groups based on products produced. Companies that produced products mainly for consumer use such as flooring, cabinets, doors, millwork, and crafts were placed into the consumer category. Companies that produced products mainly for industrial use such as lumber, logs, poles, timbers, pallets, and engineered wood products were placed into the industrial category.

Companies were then grouped into size classes (small, medium, and large) and production classes (consumer and industrial). In most cases, the number of employees was used as the determinant for size, where companies with 1-19 employees were classified as small firms, companies with 20-99 employees were classified as medium-size firms, and companies with 100 or more employees were classified as large firms. In some cases, companies were already classified as small, medium, or large in directory listings. Whenever employee numbers were available, size classification was based on this information.

The Web page links listed in the directories were used to explore company Web sites and analyze the type of Internet strategies used by companies. Each company Web site was examined to determine if the company used any type of social media (e.g., Twitter, LinkedIn, RSS feed) and if company sites had e-commerce, photo galleries of products offered, language translation, product literature, software downloads, customer service, and other attributes.

To simplify the analysis and capture additional demographic attributes in our interpretation, the southern states of Georgia and Louisiana were lumped together as were the states of West Virginia and Kentucky into the *"Gulf States"* and *"Mid-South"* regions, respectively. The *Gulf States*, in addition to being regionally proximal to one another, tend to be dominated by southern yellow pine operations while the *Mid-South* states tend to be dominated by hardwood operations.

Descriptive and parametric statistical procedures were used to analyze data. To determine how effective company size (*small, medium, or large)*, product class (*industrial or consumer*), and region (*Gulf States or Mid-South)* were in predicting Web, social media, and e-commerce usage, multiple logistic regression analysis was used to examine the data. In evaluating these three models, the dependent variable (*Web, social media, or e-commerce)* was a binary (yes/no) variable. The Stepwise Selection procedure was invoked to identify significant components for inclusion in the final model. Odds Ratio estimates together with Wald 95% Confidence Limits provided point estimates for the likelihood of occurrence of Web pages, social media, and e-commerce for companies based on their demographic characteristics for those predictor variables

found to be significant. The level of significance for these tests was established as .05.

Results

Demographics

For the purpose of this study, key demographic characteristics for each company were evaluated and recorded. This included information on the manufacturer's location, production, sales, number of employees, products produced, Internet use, and social media use. This information was then used to group companies into size classes (small, medium, and large) and product-type classes (consumer and industrial). For the state of Georgia, size indicators were only available for some of the companies. Product classification was available for all of the listed companies.

Of the 1,212 companies that provided size indicators, 67.5 percent were classified as small firms, 24.2 percent were classified as medium-size firms, and only 8.3 percent were classified as large firms. When grouped into product classes, a substantial majority (73.3 %) of the total companies were classified as consumer-product producers. However, the industrial-product and consumer-product percentages were much different, 51 vs. 49, respectively, for the group of 1,212 companies for which size data was available. For all companies included in this analysis, 865 (34.5%) companies were located in the *Mid-South* states and 1,644 (65.5%) companies were located in the more softwood-dominated *Gulf* Coast states. For those companies for which the size data was available, the percentages were reversed with 69 percent located in the *Mid-South* and 31 percent located in the *Gulf Coast* region. This result reflects the more consistent reporting of company size data in the Kentucky and West Virginia data sets than in the Louisiana and Georgia data sets.

Of the 2,509 companies included in this study, 589 (23.5%) had Web pages (Fig. 1). Seventy percent of the companies with Web pages were classified as consumer-product producers and 30 percent were classified as industrial-product producers. While 30 percent of the companies from the *Mid-South* had Web sites, only 19 percent of the *Gulf Coast* producers had sites.

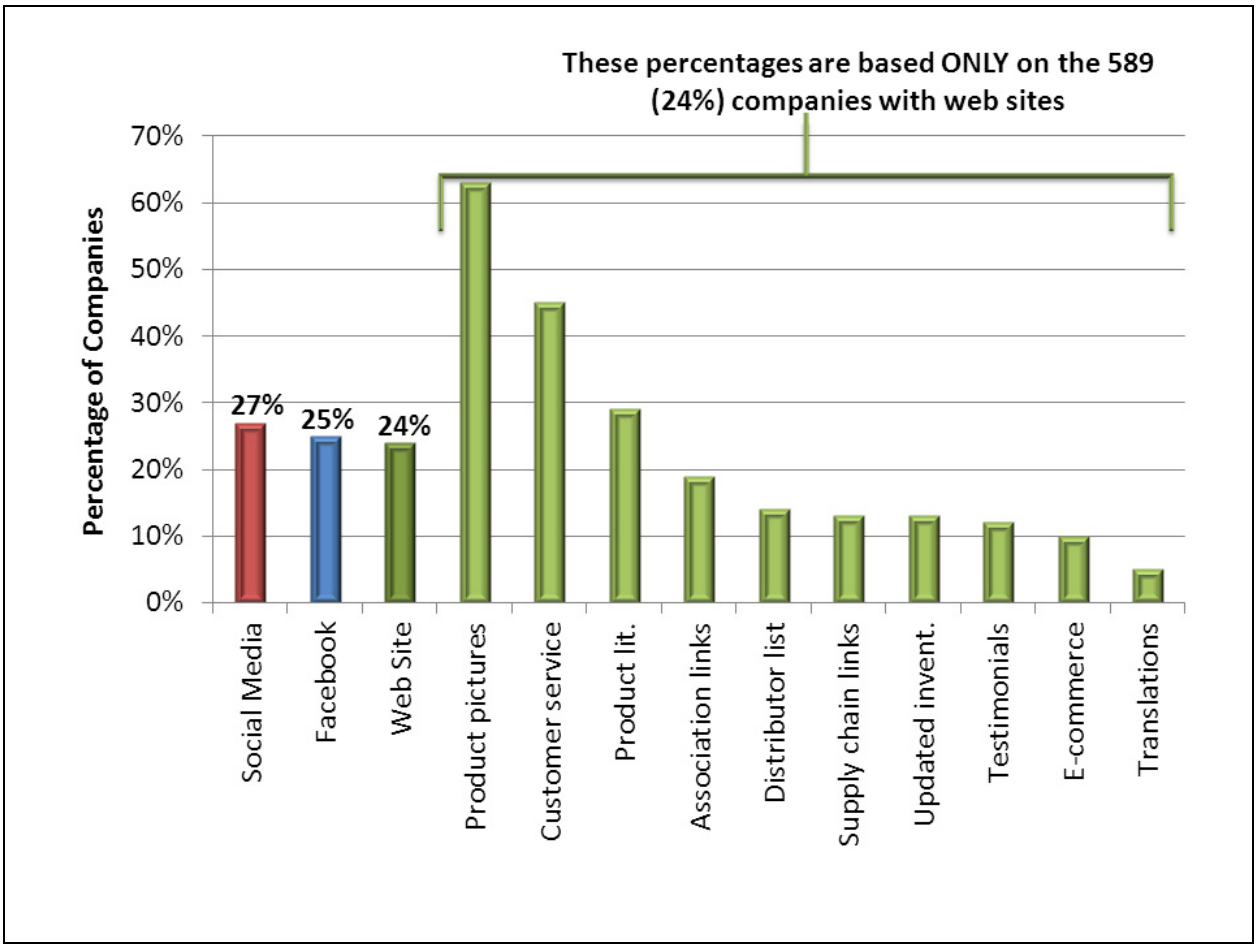

Figure 1. Frequency of use of different social media elements by forest products companies in West Virginia, Kentucky, Louisiana, and Georgia. The 10 light green bars on the right show the percentage of Web sites that included each of these components.

On a state by state basis, West Virginia had the largest percentage (40.3 %) of companies with Internet presence, followed by Louisiana (30. 4%), Kentucky (28.7%), and Georgia (18.1%).

Web Strategies

To determine Web strategies used by forest products producers, it was necessary to personally view available Web sites of each company. If a company had an available Web site, the site was viewed to determine if social media were incorporated into the business strategy, if the company used e-commerce, if a photo gallery of products offered was available, if product literature was provided, if language translation was provided, and if a link for customer service/feedback was provided (Fig. 1). Because Americans spend more time on Facebook than they do on any other U.S. Website (Nielsen 2011), Facebook searches also were conducted for each company listed.

It was interesting to discover that although some companies did not have an active Web site, they had a presence on a social media site. While there were only 589 companies with a Web site, there were 677 companies that used some type of social media. Facebook, Twitter, LinkedIn, You-tube, RSS feeds, and Flickr were some of the social media sites used. An overwhelming 94.1 percent of the companies that used social media used Facebook (25.4% of all companies.) Only 11.5 percent of social media users used Twitter (3.1% of all companies.)

In terms of e-commerce, were very few (2.4%) companies sold their products online. Of the 60 companies that participated in e-commerce, just over half (53.3%) were industrial producers. However, the number of e-commerce sites for industrial producers represented only a very small percentage (4.8 %) of all industrial producers. Twenty-eight consumer producers offered e-commerce, which represented 1.5 percent of the consumer-product producers.

Of the companies that had a presence on the Web, nearly two-thirds (63.3%; Fig. 1) had a dedicated photo album/gallery to showcase products offered, 2.9 percent offered software downloads, and 4.5 percent offered language translation. Languages offered for translation included Spanish, Chinese, Japanese, and Italian. While customer service is an important component of business strategies, only 45.5 percent of companies with Web sites offered customers the option of leaving feedback, requesting information, and/or requesting service or help. Some of the companies that did not provide this customer service option did provide e-mail addresses or contact information.

Predictors of Web Use and Social Media Strategies

Multiple logistic regression results based on the sample of 1,212 companies for which we had company size information, indicated that both *Size* and *Product Type* (industrial vs. consumer) are significant predictors of the existence of a Web site ($p<.0001$) for this sample of companies but *Region* was not. The Odds Ratio for the significant factors in this model indicated that for a given *Product Type* classification, large companies are 18.7 times and 5.2 times more likely to have a Web site than small- and medium-size companies, respectively. For a given company *Size* classification, consumer-product producing companies are 2.8 times more likely to have a Web site than are industrial-product producing companies. These results are evident upon close inspection of the percentages of companies with Web pages, by *Size* and *Product Type*, shown in Table 1.

Prediction, using multiple logistic regression, of the likelihood a company has a social media presence (e.g., Facebook) using the same three predictor variables returned a highly significant model that contained only one main effect, *Region* ($p<.0001$). The predicted odds that a forest products company in one of the Gulf Coast states would be involved in social media were 75 percent higher than the odds for a company from the South Central region (odds ratio = 1.75; Table 1).

The best multiple logistic regression model based on the stepwise procedure for company participation in e-commerce contained only the main effect predictor variable *Size*. The predicted odds for large companies to be involved in e-commerce were 3.4 times greater than for small companies and 2.0 times greater than for medium-size companies. Table 1 displays this trend. The statistical significance of the e-commerce model was not as strong as those for Web pages and social media ($p<.01$ as compared to $p<.0001$ for the other two models).

Table 1. Forest products company participation in Web sites, social media, and Facebook by region, company size, and product classification as a percentage of companies for which size data were available.

Region	Company size	Product classification	Web site	Social media	E-commerce	n=
			-- in percent --			
Gulf Coast	Small	Industrial	18	30	2	60
		Consumer	20	40	1	144
	Small total		**20**	**37**	**1**	204
	Medium	Industrial	37	38	7	76
		Consumer	53	65	9	34
	Medium Total		**42**	**46**	**7**	110
	Large	Industrial	76	34	8	53
		Consumer	100	67	0	3
	Large total		**77**	**36**	**7**	56
Gulf Coast Total			**35**	**39**	**4**	370
Mid-South	Small	Industrial	11	30	5	307
		Consumer	30	21	2	307
	Small total		**21**	**26**	**3**	614
	Medium	Industrial	38	25	3	100
		Consumer	76	30	6	83
	Medium total		**55**	**27**	**4**	183
	Large	Industrial	68	32	14	22
		Consumer	78	52	9	23
	Large total		**73**	**42**	**11**	45
Mid-South Total			**31**	**27**	**4**	842
Grand Total			**32**	**31%**	**4%**	**1212**

Discussion

Although the results show that only 23 percent of the companies examined in these four states have a Web site, the percentage of companies that use some type of social media in their business strategies is slightly higher (27%). One reason companies may choose social media sites over having company Web pages is cost efficiency. While there are a few places available online to create free Web-pages, the lack of experience in Web-site development, the amount of data storage needed, and the time and resources needed to develop and maintain Web sites can be cost prohibitive for smaller companies. In most cases, a company can register on a social media site for free and provide customers with some of the same information that would have been provided on a Web-page. In addition, social media sites allow companies to interact more readily with their consumer base.

Social media, then, should be a cost effective way for small companies to market products and reach consumers. The statistical results for social media involvement, unlike those for Web site presence, did not indicate that size is a factor affecting the likelihood that companies are using social media in their marketing mix. This finding seems to support the idea that smaller companies have considerable

capability to be involved in social media. In contrast, larger companies were much more likely than smaller companies to have implemented Web sites. One of the advantages of being a larger firm is resource availability. Large firms may be better able to allocate the capital and man hours needed to develop and maintain a Web site. Recent studies have shown that some individuals are still apprehensive about Internet and social media use in terms of security and privacy (Montague 2011).

The statistical result indicating that companies manufacturing consumer products (e.g., furniture, flooring, cabinets, novelties) are more likely to have a Web page than companies manufacturing industrial products (lumber, pallets, board products) follows reason. Most industrial products are classified as commodity products – products with minimal differentiation based on manufacture and they may often be sold into a market that is of limited, discrete, and known size. The sale of hardwood crossties to railroad maintenance contractors where all players in the marketplace know one another, is an example of this. For these reasons, the benefits of marketing many types of industrial products through a Web site are expected to be smaller than those reaped by consumer product producers which often have more differentiated products and a much larger and broader potential market.

It is no surprise that an overwhelming majority of the companies that use social media use Facebook. Facebook has over 500 million users world-wide, more than 2.5 million Websites linked to its network, and reaches 70 percent of active U.S. Internet users (Nielsen 2011 and Regus Business2011). In a recent report, researchers found that 68 percent of Facebook users in the United States had shown support for a product, service, or company by becoming "fans" or "friends" of a page or group and 75 percent had "liked" a product, service, company or group on Facebook (Experian 2011). These statistics alone show how powerful a tool Facebook can be in gaining market access, brand recognition, and customer loyalty.

Conclusions

Company size is the dominant factor affecting whether U.S. forest products companies have developed Web sites and are using e-commerce to market their products in 2012; larger companies are more likely to have embraced these tactics. Excellent Web sites and Facebook pages developed by small companies can be found. Some of these sites and pages are particularly unique and personal, effectively engaging the attention of the perspective customer. It appears that companies producing consumer products are recognizing the breath and diversity of markets they can reach with implementation of a Web page.

It is important to note that during the online research phase of the study, several Web and Facebook sites were found that seemed to be abandoned (not updated) or that were very basic and provided little information. Research will be conducted to classify the quality of Web and Facebook sites and to determine how effective it is for U.S. forest products companies to have an Internet presence or incorporate social media into their marketing strategies.

Acknowledgements

Thanks are extended to Betsy Porterfield and Melody Jones for their help in collecting the data for this study.

References

All About Market Research. 2010. Internet Growth and Stats: Today's Road to eCommerce and Global Trade. http://www.allaboutmarketresearch.com/Internet.htm Accessed June 12, 2012.

Experian. 2011. The 2011 Social Media Consumer Trend and Benchmark Report. *http://www.experian.com/assets/simmons-research/brochures/2011-social-media-consumer-report.pdf. Accessed June 15, 2012.*

Georgia Forestry Commission. 2012. Georgia Wood-Using Industries Directory. http://www.gfc.state.ga.us/resources/directories/wood-using-industries/. Accessed June 9, 2012.

Gommans, M., K. Krishan, and K. Scheddold. 2001. From brand loyalty to e-loyalty: A conceptual framework. Journal of Economic and Social Research 3(1):43-58.

Internet Society. 2012. http://www.Internetsociety.org/Internet/Internet-51/history-Internet/brief-history-Internet. Accessed June 26, 2012.

Internet World Stats. 2012. Internet World Stats: Usage and Population Statistics. http://www.Internetworldstats.com/stats.htm. Accessed June 15, 2012.

Kentucky Division of Forestry and University of Kentucky Department of Forestry Extension. 2012. Kentucky Forest Products Directory. http://www.ukwoodcenter.net/KY%20Wood%20Industries%20Database.htm. Accessed March 9, 2012.

Louisiana Forest Products Development Center. 2012. Louisiana's Forest Products Industries. http://www.lsuagcenter.com/en/environment/forestry/forest_products/primary_forest/. Accessed March 9, 2012.

Mangold, W.G. and D. J. Faulds. 2009. Social media: the new hybrid element of the promotion mix. Business Horizons 52:357-365.

Merriam-Webster. 2012. Social media. http://www.merriam-Webster.com/dictionary/social%20media. Accessed June 20, 2012.

Montague, I. 2011. Social networking: Finding ways to incorporate social media into the forest products industry. Hardwood Matters. September 2010:8-10, 15.

Nielsen 2011. State of the Media: The Social Media Report Q3 2011. Assessed June 12, 2012.

Patterson, A. 2011. Social-networkers of the world, unite and take over: A meta-introspective perspective on the Facebook brand. Journal of Business Research 2011. (in press).

Regus Business. 2011. A Social Recovery: A Global Survey of Business Use of Social Networks. http://www.regus.presscentre.com/imagelibrary/downloadMedia.ashx?MediaDetailsID=27654 Accessed June 11, 2012.

Singh, T., L. Veron-Jackson, and J. Cullinane. 2008. Blogging: A new play in your marketing game plan. Business Horizons 51:281–292.

Vlosky, R.P. 2001. eBusiness in the United States Forest Products Industry in the Year 2000. Lousiana Forest products Laboratory Working Paper #52. 13 pp.

Weber, L. 2007. Marketing to the social Web. How digital customer communities build your business. John Wiley & Sons, Inc. Hoboken, NJ. pp. 4-10.

West Virginia Division of Forestry. 2012. Forest Products Directory. http://www.wvcommerce.org/directory/forestproducts/default.aspx. Accessed March 9, 2012.

Young, O. 2008. Global enterprise Web 2.0 market forecast: 2007 to 2013. Forrester Research. http://www.forrester.com/rb/research. Accessed May 26, 2012.