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Assessing the Digital Presence of Rural Minnesota Businesses: Basic Methods & Findings

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ARE BUSINESSES IN GREATER MINNESOTA USING THE INTERNET TO SELL THEMSELVES?

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Across America, a digital divide exists between rural and metropolitan communities: Rural communities have slower, less consistent Internet service and fewer opportunities for broadband Internet connection[1]. To address this gap and encourage economic growth, the federal government has invested $400 million in rural Minnesota to provide broadband services and infrastructure between 2010 and 2012. Our assessment of almost 14,000 Greater Minnesota businesses reveals that more than half do not have a website easily found on Google. Furthermore 90 percent do not use social media. In short, they are not marketing themselves online and this likely has detrimental economic consequences, both to individual businesses and to their communities as internet use continues to increase[2].

BACKGROUND

This assessment will help to understand the long-term effects of digital-presence, infrastructure investment, and broadband-promoting interventions on businesses and the communities in which they are located. We expand on Geller's 2009 assessment by the EDA Center at the University of Minnesota, Crookston. Geller's study conducted phone interviews with 689 rural Minnesota businesses; 89.7 percent reported they were operating online. Of those, 72 percent said they had a business website.

Our assessment was developed to more thoroughly understand the digital presence of businesses in the 18 communities that participating in the Minnesota Intelligent Rural Communities (MIRC) program[3]. We did this by including data on the use of GoogleMaps and social media alongside website use. Furthermore, instead of asking businesses if they have web presence, this assessment searched for digital presence through Google. Although this technique may not find every business's site, it does discover those most likely to be found by potential customers.

As part of a larger, ongoing research project, this paper discusses the digital presence of rural businesses in 23 communities. We define digital presence as any locally controlled webpages, social media, or GooglePlace pages devoted to an entity, i.e., a private business, nonprofit, or government office, within a community. Overall, the digital presence of 85 townships and cities were assessed.

Two groups of communities were assessed; the first group consists of the 18 MIRC communities, and will be referred to as the intervention group. Intervention communities received technological aid and online business skills training from MIRC partners in a variety of intervention strategies. Communities taking part in the MIRC intervention received a baseline assessment one year into the program[4]. The second group of communities is considered our control group. Controls were chosen by looking for cities with populations under 10,000 people (suitably rural) and in a different county than any intervention communities or major metropolitan regions.

1 See Frenzel, 2007; Grzeskowiak, 2009; Peronard & Just, 2011; and Seelye, 2011 for data on rural Internet connections.

2 Jansen (2010) describe the statistics of Americans who buy online, noting that frequent online purchases are the norm for many Americans. Rosenstiel, Mitchel, Purcell, and Rainie, (2011) note that the Internet is an extremely common avenue by which Americans get information about their community.

3 MIRC is a two year program, funded by a federal grant coordinated by the Blandin Foundation, which focuses on broadband adoption in rural Minnesota. Extension's role in MIRC is to foster greater business use of the Internet.

4 Admittedly, it would have been preferable to do an assessment before any intervention occurred within the MIRC communities. Unfortunately, due to the nature of the original grant, this assessment was not completed until August 2011. Conducting a proper baseline analysis is strongly recommended for future research of this nature. At this point however, we are considering the current assessment to be a baseline for future assessments in three or more years.

The first control group includes three communities with broadband infrastructure but no known assistance to promote business or community broadband use. A second pair of control cities was selected for having limited broadband availability and no known assistance to promote Internet use.

> On average, about 43 percent of businesses had a website, around 10 percent used social media, and roughly 13 percent showed GooglePlace activity.

METHODOLOGY

The digital presence of each community was calculated by surveying the online presence of each business and organization within the communities. To do this, lists of businesses for each area were garnered through InfoUSA, using the North American Industry Classification System (NAICS). Although we refer to this simply as a business list, government offices, community organizations, nonprofits, and educational institutions were also listed (and therefore assessed). The InfoUSA lists were also supplemented with business directory information on the websites of local chambers of commerce and economic development authorities. Overall, 13,931 businesses were searched through Google for this assessment.

Websites

After each community's list of businesses was compiled, each business was searched for by name in Google. If no website could be found for a business based on the business's name alone, the business was then re-searched in Google with the location's city and state after it, e.g., Don's Repair, Windom, MN. If a website was found for the business, it was scored on a seven-point scale for quality. If a website for the business was not found on the first results page[5] of Google for either of these searches, the business was reported to have no website. If a blog appeared, it was counted as a form of social media.

GooglePlaces

After searching for a business's website, we then searched for the same business in GoogleMaps. If a business has a location in GoogleMaps, it automatically receives a GooglePlace page. A GooglePlace page is a very simple webpage that shows a business's address, phone number, website (if one is known), physical location, and Google user reviews. If present for a business, this Place page was scored qualitatively on a five-point scale. Points on this scale mean that activity has occurred on the Place page. GooglePlace activity therefore refers to positive comments about the business, a relevant picture, a description of the business, hours of operation, or verification by the owner.

For our purposes, the most important feature of this Place page is owner-verification. A page is marked as "owner-verified" if the business's owner officially claims and updates information on the Place page. This is considered an important measure because several MIRC workshops instruct business owners how and why to verify their GooglePlace page.

Social Media

The use of social media was also measured. A business was considered as using social media if a controlled form of social media appeared on the first results page of a Google search. The word *controlled* is a critical distinction here since many businesses are automatically given a Facebook page without their knowledge. Such pages are considered *uncontrolled* if they don't

[5] This first page rule followed the logic that the non-committed consumer is unlikely to search past the first results page when other viable options appear on page one. It was also developed to help expedite the searching process. This rule was also used for social media results.

have posts, relevant business information, or "likes." We also measured social media use by checking whether a business's website included links to any form of social media. Forms of social media included blogs, Facebook, Flickr, FourSquare, LinkedIn, Tumblr, Twitter, and YouTube.

RESULTS

For a full set of results, see the table on page 6. Across the 23 communities, an average of 42.6 percent of businesses had a website. On average, 9.9 percent of businesses in each community used social media. More businesses showed activity on their GooglePlace pages. No major difference was found between the control and intervention communities for website and social media use.

However, GooglePlace activity in the intervention communities is slightly higher than the control communities, both with and without factoring in community size or industrial composition. This is an encouraging statistic since working in mapping applications (specifically verifying GooglePlace pages) has been a priority of several MIRC workshops held by Extension in the past year.

DISCUSSION

Overall, the percentage of businesses with digital presence in each community varied widely. As such, we found it prudent to explore factors that may contribute to such differences.

One of these other factors is almost certainly size of the city's business community. A positive relationship is apparent between proportion of businesses with digital presence and the number of businesses in the community (see Figure 1). This trend, while especially clear in larger business communities, is less consistent in smaller business communities.

Another factor that seems to affect digital presence is population growth (see Figure 2). We used the 2000 and 2010 U.S. censuses to identify and compare growing and non-growing communities. Businesses in growing communities have a higher proportion of websites, are more likely to use social media for business, and have a higher proportion of GooglePlaces with owner verification and content. Furthermore, growing communities are less likely to have ineffective websites, i.e., websites garnering a score of 0.

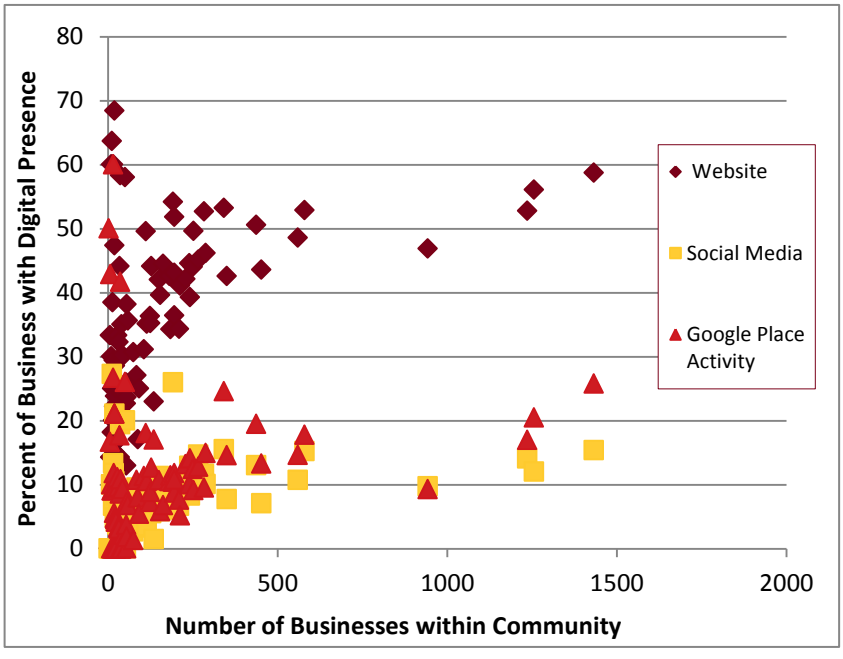

Figure 1. Establishments in towns with many businesses are more likely than those in towns with fewer businesses to have digital presence.

This analysis is based on assessment of all the *known* businesses in the communities instead of using a random sample of businesses. Therefore the differences between communities are *real* differences. While the question of whether this data can be generalized is relevant, the non-random method used for selecting communities in this assessment makes statistical comparison to other communities inappropriate. These results are not intended to represent all of rural Minnesota (although the 14,000 businesses studied represent a considerable portion (roughly 23 percent) of the

estimated 60,000 businesses in Greater Minnesota[6]). This data may be useful to the communities studied in order to target businesses for intervention. However, generalizing these results to other communities cannot be encouraged.

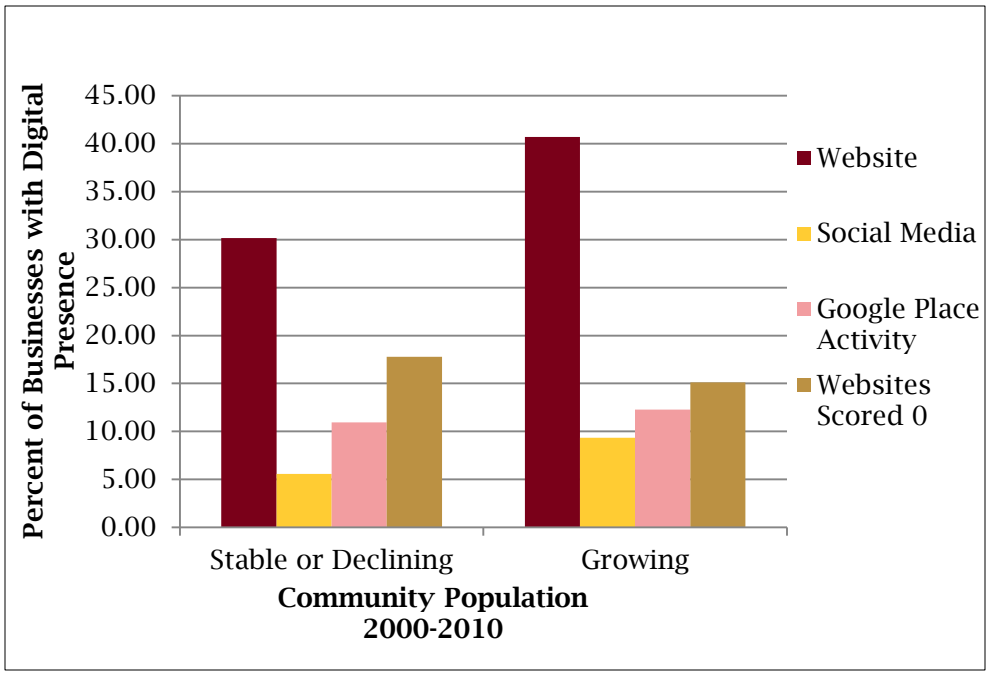

Figure 2. Growing communities have a higher percentage of businesses with websites, social media, and GooglePlace activity. Growing cities also have a smaller percentage of ineffective websites.

IMPLICATIONS

As our world becomes more connected, customers are more likely to search for many products and services online. More than 60 percent of purchase decisions start with research on the Internet; 23 percent of adults use their mobile phones to search for places (business, restaurant, coffee shop, resort or lodging, etc.).[7] As such, most businesses would benefit by at least examining their digital presence options. The many free opportunities, such as Facebook, blogging, Twitter, and Google applications, have made business use of the Internet a possibility for almost any business with an online connection.

Rural businesses may benefit more from effective Internet use than urban ones because online services can remove geographic barriers to reaching customers and supply-chains[8]. Unfortunately, this data suggests that relatively few rural businesses are harnessing the free technological tools available to them.

The plain fact is that *any* business wanting to be found by new customers, locally or globally, needs to be where those customers are looking. Studies like those from the Pew Internet & American Life Project show that more and more customers are looking online. Invisibility to major target markets shopping online may hinder the success of many rural businesses.

6 According to the 2009 U.S. Census Bureau County Business Patterns list, at http://www.census.gov/econ/cbp/index.html, there are 63,041 businesses in the 80 counties outside the seven-county Twin Cities metro area.

7 Pew Internet & American Life Project reports: "Online Product Research," September 29,2010; "28% of American Adults use Mobile and Social Location-based Services," September 6, 2011.

8 See Grzeskowiak, 2009; Peronard & Just, 2011; Ratnesar, 2000; Schwartz, 2006; & Seelye, 2011 for information on the benefit of Internet techonology to rural businesses.

Community	Number of Businesses	% with Website	% Websites Scored 0	% with Social Media	% GooglePlace Activity	Population (2010 Census)
INTERVENTION COMMUNITIES						
AKELEY	84	27.06	17.39	9.52	10.71	432
HOFFMAN	106	31.13	21.21	9.43	11.32	681
STARBUCK	127	44.09	16.07	5.51	12.60	↓1,302
SEBEKA	135	22.96	22.58	1.48	17.04	711
MENAHGA	181	42.54	14.29	6.08	10.50	1,306
NEW YORK MILLS	210	34.29	19.44	6.67	7.62	1,199
JACKSON	288	46.18	13.53	10.07	14.93	↓3,299
WINDOM	350	42.57	14.77	7.71	14.57	4,646
BIG STONE COUNTY*	403	43.18	21.26	9.68	6.20	↓5,269
LAC QUI PARLE COUNTY*	465	37.63	21.71	7.74	5.59	↓7,259
LEECH LAKE	485	47.01	19.30	9.69	11.75	NA
COOK COUNTY	490	53.27	9.20	15.1	24.9	5,176
THIEF RIVER FALLS	560	48.57	20.22	10.71	14.64	8,576
SWIFT COUNTY*	587	40.20	16.53	7.67	7.33	↓9,783
YELLOW MEDICINE COUNTY*	598	37.63	13.78	9.70	7.63	↓10,438
STEVENS COUNTY	620	40.18	14.62	10.48	15.48	↓9,726
CHIPPEWA COUNTY*	677	39.59	17.54	6.79	11.37	↓12,441
WORTHINGTON	914	43.65	21.50	12.04	12.04	12,764
BENTON COUNTY	1073	47.53	12.75	13.79	15.00	38,451
GRAND RAPIDS	1236	52.75	14.57	14.08	16.99	10,869
WINONA	1432	58.73	16.77	15.36	25.77	27,592
KANDIYOHI COUNTY	2173	46.62	15.24	9.57	15.83	↓41,203
INTERVENTION GROUP AVERAGES		42.15	17.01	9.49	13.17	
CONTROLS						
SILVER BAY	111	49.55	14.55	5.41	18.02	↓1,887
OSAKIS	184	34.24	3.17	6.52	11.41	1,740
WARROAD	192	54.17	16.35	25.96	10.42	1,781
SLAYTON	250	44.00	17.27	9.60	12.4	2,153
LAKEFIELD	150	42.00	17.46	11.33	10.67	1,759
CONTROL AVERAGES		44.79	13.76	11.76	12.58	
OVERALL AVERAGES		42.64	16.41	9.91	13.06	

*Counties making up the five-county Upper Minnesota River Valley Development Commission; one of the MIRC communities.

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There is a great deal of truth to the saying that no idea is new. As we developed this approach for assessing the digital presence of rural businesses, we relied on the free exchange of ideas with University of Minnesota Extension colleagues. We need to thank three in particular. Ben Winchester helped Hans puzzle through the concept of objective, externally observable methods for assessing business use of the Internet. Through his earlier work with the Upper Minnesota Valley Regional Development Commission, Neil Linscheid developed an early version of the classification system later used by Tara for data collection. Finally, Adeel Ahmed and his pioneering curriculum related to Internet mappers, "Roadside Advertising in a Digital Age", was a great proponent of the importance of assessing data on GoogleMaps.

RECOMMENDED READINGS

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