ANALYSIS

Tracking the Web Visibility of North Country Communities

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Abstract

In an age of increasing reliance on the World Wide Web for researching destination information, geographic communities that once relied on conventional mass media for self-promotion now find themselves obligated to maintain a virtual presence. Our North Country-Adirondack communities have the tools to make their defining regional features known to Web navigators around the world. But are community stakeholders indeed working toward a virtual identity that is commensurate with the region's physical reality, ensuring they are sufficiently present, visible, and represented online?

This article reports the outcomes of Phase I of a long-term Community Web Visibility project, focusing on one fundamental component of community virtual identity - Visibility. Visibility is an important indication of the comparative virtual area that any community inhabits on the Web. The discussion of results reveals a connection between Web visibility, online identity, and a community's potential for self-promotion and economic development.

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Online Gateways of Opportunity

Today, in the era of the Internet, people and organizations can communicate about themselves in an environment where computer users around the globe and around the clock can access more than 38 million Web sites (Netcraft, 2002b). Not surprisingly, travel and tourism information has become a sizeable slice of that virtual pie. The travel and tourism industry "already boasts over 2.5 million websites worldwide and is radically reshaping how we choose our travel options... It is virtually impossible to find any North American or Western European travel organization, airline, cruise ship, hotel or resort that doesn't have a web presence" (Ford, n.d.).

The supply of destination information does not come without corresponding demand. Of the estimated 122 million adult, active Internet users in the U.S., about 60 million of them used the Net to make travel plans in the year 2001-02, with more than three-quarters of them utilizing search engines to get the job done (TIAA, 2002). Likewise in Canada, although only a small (but increasing) percentage of vacation travel is actually being booked online, over 45 percent of all vacation travel is now researched on the Net (Ford, n.d.). The travel industry's own research has uncovered that adult travelers who investigate destinations on the Web are more likely to be first time visitors, have a higher annual household income, stay longer, and spend more per trip (SCCCVC, 2002). As a result, geographic communities that once relied solely on conventional mass media (print, radio, and television) to extend their visibility and convey their identities beyond local limits now find themselves obligated to have a virtual presence if they are to remain visible and perhaps even physically sustainable.

This is exactly the status of, and a key concern for, communities in the Adirondack-North Country region right now. Existing information about the region is swimming in a 21st century pool of available online data, with an ease of access that far surpasses the traditional distribution media of the 20th century. In a national and state economy that depends so heavily on the travel and tourism industry, neither the supply of nor the demand for available community information is showing signs of slowing. Despite the overall decline in national tourism in the aftermath of 2001 events, "American travelers are choosing more rural and out-of-the-way destinations, focusing in part on cultural, historic and natural resources. Domestic travelers are taking more trips closer to home..." (NASAA, 2002). Such travelers include a growing segment of higher-income and higher-educated adults considered to be eco-savvy, in search of destinations with an environmental and cultural consciousness (NASAA, 2002). Given the present day socio-eco-political climate in which travel is taking place, these trends combine to poise the Adirondack-North Country region as perhaps an even more prime travel destination than before.

However, the same digital medium that offers seemingly endless promotion opportunities also poses some

obstacles of which communities must be aware. In the mounting clutter of competing messages all demanding audience attention, the Web neither offers a guarantee that any community entity will be virtually conspicuous, nor does it guarantee that the presence of such information about a community will contribute positively to its identity. Further, collections of Web sites related to a community that are pulled by a Web user may not be organized in a fashion that accurately represents the community. Since online navigators are using search engines as their destination portals, it becomes imperative for the region that communities look carefully at how they appear to Web users from around the globe. In other words, communities must be ultimately concerned about their *digital identities* and the role they play in local economic development and sustainability.

The Community Web Visibility Research Project

Adirondack communities need to be collectively concerned with Web visibility and identity, because without concerted mindfulness and concomitant effort, a community's identity in the physical world may not be re-presented as such in the virtual world. Mediated identity is not a presupposed mirror image of a community's *core identity* – a local mosaic of people, places and events, and other key attributes. To a Web user with no prior experience in a community, interpretations about the community's identity are formed from exclusively online portrayals of that mosaic. Adirondack-North Country communities have the tools at their disposal to make their defining regional features available to the world around them. But are they indeed using these tools to their advantage? And are community stakeholders working together to ensure a virtual identity that is commensurate with the region's physical reality, ensuring they are sufficiently present, visible, and represented in the virtual world?

To fully optimize the Web as a promotional tool – one that adequately recognizes the media landscape as essential to economic sustainability – communities must contemplate some important changes to the way they think about themselves. These contemplations compel communities to adopt a new framework and consequent agenda as they position themselves for survival in the digital age. Foremost, a community is comprised of multiple agents, stakeholders, and participants who all desire systemic economic growth but who often work uncooperatively when it comes to establishing Web presence. Individual self-interests have driven businesses to compete for audience attention, unintentionally leaving whole communities with ill-defined virtual identities that are tending to stand increasingly for these communities' physical identities.

The disparity between physical and virtual re-presentations poses a challenge for communities as they attempt to attract *economic input*. Community sustainability at its core depends on a keen awareness of a community's *communication outputs* – its re-presentations in the various media used to communicate its identity. Communities have indeed exercised high degrees of mindfulness concerning the traditional mass media. Now they must incorporate the reality that online depictions of their communities operate under a different paradigm than traditional mass media. First, online information communicates on a scale that is orders of magnitude above other media (keeping in mind, of course, that the content relating to a specific community will neither necessarily be entirely the product of local community efforts nor intentionally posted by sources internal to the community). Second, the volume of information about a community may change substantially and frequently within a short period of time.

To address these issues, a team of communication researchers at Plattsburgh State University of New York initiated a longitudinal study of the Web visibility of communities in New York State's Adirondack-North Country region. Beginning in mid-2000, the Community Web Visibility (hereafter, CWV) Project was created with two primary, long-term objectives: (1) to develop and empirically test a measure of visibility (to benchmark and monitor a community's online presence and growth in upstate New York), and (2) to explore the connection between Web visibility, online identity, and a community's potential to foster communication that contributes to a sustainable economic future. Taken together, these objectives reflect the belief that a community's economic development efforts via the Web depend on careful and routine scrutiny of the community's digital identity as a whole.

This article describes the outcomes of Phase I of the CWV Project, focusing on one fundamental component of community virtual identity – *Visibility*. Phase II of the CWV Project, to be presented in a subsequent article, will address the other components of community identity. The present report provides the framework for the research agenda, including the formulation of the conceptual distinctions among presence, visibility, and identity. The article also describes the results of empirical inquiry into community Web visibility growth over a multi-year period.

Conceptualizing Presence, Visibility, and Identity

Any person, organization, or community grouping today has nearly unfettered access to *presence* on the Web. All it takes is the creation of a Web page and the ability to post it, with little or no editorial restrictions. Web

presence merely indicates that an entity exists somewhere online. Self-authored sites are not the only means by which an online presence can be developed. A listing on someone else's site can create an indirect reference that unintentionally sparks an online existence. Web presence – whether self-generated or furnished by another source – is the first prerequisite to establishing a digital identity; however, having a Web presence does not guarantee that any Web page will be seen, or be made visible to Web users.

When navigators use search engines to look for information on the Web, the process by which a Web page becomes *visible* is actually a rather complex and fortuitous problem-solving activity, to borrow from Wertheimer's discourse on Gestalt theory (see Luchins & Luchins, 1970). The process involves a blend of the user's search patterns and the search engine's organizing principles. From a universal domain of nearly 40 million Web sites, users enter a combination of search words that allow them to pull reduced constellations of sites before their eyes. Thus, visibility is affected by common user logic and query patterns.

Simultaneously, the user's behaviors intersect with the cybernetic organizing processes of the search engines themselves, as spiders, robots, and indexes are used to retrieve collections of sites presumed to be related. What appears on the user's monitor, then, is a certain number of sites that gives the searcher an indication as to the scope of information about the desired subject. In the case of communities, the number of pages available on a particular search engine gives the searcher a baseline indication of the breadth and depth – the visibility – of the community's offerings, regardless of the accuracy, intentionality, or slant of the information. The search results become significant in that they coalesce to form the first impressions of the locale upon the navigator and can also intimate the potential for further search success through extended key word searches.

However, any Web site producer knows that users do not cull through all the pages returned in a search, especially if hundreds or thousands of pages are visible. Recent Internet research (e.g., Xu, 1999) revealed that the typical threshold for searchers is about the first 30 pages. Thirty pages are probably sufficient to give a Web navigator a substantial impression of a community and to convey something of the community's *identity*. Community identity is a process by which Web users derive meaning from a holistic depiction of real things within a community, all based on the assemblage of images and text that appear online before the user. In the physical world, real people, attractions, and features contribute to a community's identity, but the elements of the community that are assembled and depicted online become interpreted by users as the community's *virtual identity*, from which a user may infer about the community's identity in the physical world.

Thus, awareness among civic leaders of how their communities position themselves on the Internet is critical. Despite the two-dimensional representation of a community on the Web, Web navigators forge impressions about a community's four-dimensional physical reality from that representation. Their impressions contribute to the likelihood of pursuing the community with actual visits, and therefore actual dollars. In an age of increasing Web access and reliance, users (especially from great distances away) are going to make important determinations about a community's appeal solely based on their interaction with the community's online identity.

Based on the above rationale for inquiry into the virtual identities of Adirondack-North Country communities, the CWV team began an empirical study by investigating Web visibility and set forth the following research questions:

- RQ_1: How do Adirondack-North Country communities compare to each other in terms of online visibility?
- RQ_2: Does higher visibility correspond with higher community population?
- RQ_3: Do communities within geographic proximity grow in Web visibility at about the same rate?

Methods

To explore the Web visibility of communities in the Adirondack-North Country, the researchers took the perspective of a user who, as previously described, commonly queries community information using search engines and common search words. Visibility data collection commenced in June of 2000, and was repeated at regular six-month intervals, until the last collection to date in February 2003.

Community Sample

The research, which began as a pilot study of four communities and one county in 2000, grew to include almost fifty communities[1] (cities, towns, villages) and 10 counties in New York's upstate (North Country-Adirondack) region. Communities were drawn from the following adjacent counties: Clinton, Essex, Franklin, Fulton, Hamilton, Herkimer, St. Lawrence, Lewis, Warren, and Washington. From each of these counties, generally the five cities, towns, and villages largest in population were selected.

Search Words

To measure baseline visibility for each community, the community's name and state abbreviation were

entered into various search engines, for instance, *speculator ny* or *"long lake" ny*. These search terms were entered into a search engine to access available pages, and the number of pages available for the community was recorded. This procedure was performed for each of the communities on each of the search engines.

Search Engines

Though the pilot study involved the use of four search engines, an eventual total of 10 search engines (not indexes) were utilized in order to obtain a more valid sense of visibility and to more reliably reflect Web users' behaviors and preferences. The search engines were determined according to database size, common usage, and the availability of quantified numbers of returns. The 10 search engines are: Lycos, Netscape, WiseNut, AOL, MSN, iWon, Teoma, AlltheWeb, AltaVista, and Google. Taken together, the 60 locales (50 communities + 10 counties), using 10 search engines, produced 600 cells of data related to overall community visibility at each regular data collection period.

Results

Online Visibility of North Country Communities

The first research question sought a comparison among the communities in terms of baseline Web visibility as of the February 2003 data collection period, based on the 10-search engine profile. The first three columns in Table 1 (See page 33.) display the 46 valid community names, followed by the mean[2] number of Web pages available for each community and the respective ordinal ranking (out of 46) according to the mean number of Web pages available. For comparison, the overall mean pages available was 48,491 (*Mdn* = 23,658; *sd* = 82,178) in a positively skewed distribution of scores. The five communities currently ranking highest in baseline Web visibility are Canton, Peru, Malone, Johnstown, and Plattsburgh. The five ranking lowest are White Creek, North Elba, Schuyler Falls, German Flatts, and Harrietstown. As can be gleaned from Table 1, there is extreme variation in Web visibility among the communities, ranging from just over 500 to more than 400,000 Web pages available.

Community Visibility and Population

Communities with higher populations may have an inherent visibility advantage due to the number of people and organizations native to those locales that can publish on the Web; therefore community population was considered to be a mediating variable. To neutralize the effect of population, the mean number of available Web pages per capita, based on 2000 census statistics (U.S. Census, 2002), was computed for each community. The fourth and fifth columns of Table 1, respectively, display the mean number of Web pages available per capita, followed by each community's pages per capita ordinal ranking. Pages per capita ranged from approximately .05 to 48 pages, with an overall mean of 7.01 (*Mdn* = 3.15; *sd* = 9.91) in a positively skewed distribution of scores. The five communities ranking highest are Peru, Lake Placid, Speculator, Canton, and Turin. Those ranking lowest in pages per capita, similar to the baseline Web visibility rankings, are White Creek, Schuyler Falls, North Elba, Harrietstown, and German Flatts.

For the majority of communities, the two side-by-side rankings are quite comparable; however, certain pronounced discrepancies between the pages and pages per capita rankings should be noted. Once population was factored in, the communities whose ordinal rankings increased the most are Speculator (+29), Lake Pleasant (+23), Long Lake (+22), Indian Lake (+20), Northville (+15), and Moira (+12). Those dropping in ranking, once population was considered, are Plattsburgh (-19), Massena (-16), Queensbury (-16), Glens Falls (-14), Potsdam (-14), and Malone (-14). At a glance, it appears that those communities that are some of the North Country's population centers might have a larger base visibility but drop in their visibility per capita. This phenomenon forms the basis of the second research question, which queries whether population itself contributes to higher Web visibility. The sixth and seventh columns of Table 1 display actual populations and population rankings that can be compared with the visibility and visibility per capita rankings.

To test for correlation between community population and Web visibility, a Spearman rank-order correlation coefficient for the bivariate set of paired rankings was computed.[3] The relationship between population ranking and baseline visibility ranking is positively and significantly correlated, r_s (46) = .418, p = .004, whereas the correlation between population ranking and visibility per capita ranking is approaching a significantly inverse relationship, r_s (46) = -.274, p = .066. These correlations show that Web page availability *does* generally increase with population, but *not at a proportionate level.* There are some smaller communities that are represented online at higher levels per capita.

Community Web Visibility Growth Rate

The final analysis addressed research question three – the extent of visibility growth in short-term and longer-term cycles. The baseline and per capita community visibility calculations were used as benchmarks against which subsequent data collections could be compared and by which communities may monitor their own virtual growth. The rightmost column of Table 1 lists the percentage growth in baseline visibility between July 2002 and February 2003. Clearly, all North

Country communities recently grew in visibility to some extent, though the magnitude of change varies greatly. The mean percentage growth is almost 80% (*sd* = 41%) in just a six-month period of time. The five communities with the highest recent growth are Lake Pleasant, Moira, Ticonderoga, Dannemora, and Warrensburg. Those with the smallest growth include White Creek, Schuyler Falls, German Flatts, Harrietstown, and New Bremen.

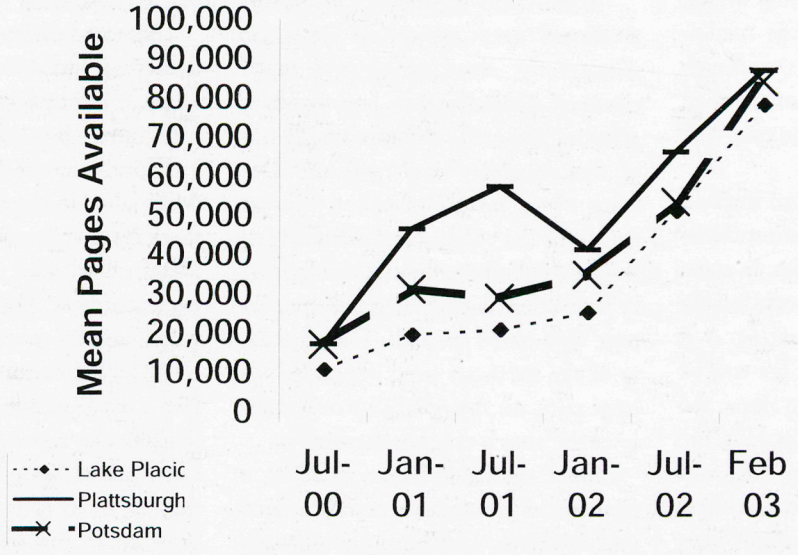
Changes in search engine protocols and new search engine emergence precluded a three-year trend analysis of all 46 communities. However, Figure 1 depicts visibility trends in three of the pilot communities between 2000 and 2003,[4] according to the mean pages available. The graph reveals three important phenomena. Foremost, the lines illustrate that a community (e.g., Lake Placid) of significantly smaller population size than the others can, in fact, achieve high and comparable visibility on the Web. Second, communities may take varied paths toward growth, yet still end at relatively the same position in a given timeframe. Finally, even though the health of national economies may occasionally induce a net decrease in total Web sites hosted in a given year (down 11% in 2002, according to Netcraft, 2002a), the medium (and communities) can still anticipate experiencing long-term growth following Internet recessions. Parallel growth among communities, however, is not an automatic function of Internet trends, as certain communities in the Table 1 exhibited higher orders of visibility and induced, by default, higher orders of invisibility among others. Individual communities must remain aware of troubling patterns of visibility growth that consistently recedes relative to others, leaving them behind in the mediated momentum of their rivals. Given the exponential growth in the World Wide Web over time, communities should view stasis or retrograde growth as a telltale sign of invisibility.

Discussion and Implications

Presence is the means for a community, of any size, to achieve Web visibility, and visibility is the critical prerequisite to the establishment of a virtual identity. When one reviews the communities in Table 1, one can comfortably conclude that they all have surpassed this characteristic first hurdle – to some degree they all have a Web *presence*. To be visible on the Internet, then, communities must exhibit virtual conspicuousness when a user's and search engine's logic come into contact with each other. Therefore, it can be said that all the communities in Table 1 also possess some degree of Web *visibility*.

Visibility is a very important indication of the comparative *virtual area* that any community inhabits on the World

Figure 1.



Community Web visibility growth for three pilot communities over three-year period, at six-month intervals, from June 2000 to February 2003. Mean pages available reflect query results from four search engines: AlltheWeb, AltaVista, Google, and Northern Light.

Wide Web. Virtual area (or cyber-real-estate, so to speak) is not an innate or inherent function of a community's actual/physical area, but rather a systematic function of the information published by, for, and about a community. Therefore, regardless of a community's size and features in the physical world, mediated visibility and identity have the potential to cast a community in a different light (for better or for worse).

The Web visibility data presented here communicate to communities several important messages that, to this point, have gone under-appreciated. The Web visibility data provide communities with a holistic account of typical navigators' first introductions to Adirondack-North Country communities. The data reflect that higher population does not guarantee higher visibility and, to achieve higher community visibility, cooperative effort is necessary to keep a community's virtual presence in pace with the growth of the World Wide Web. Most importantly, visibility calculations provide an indication of the collective, pluralistic strength of a given community on the Web. Visibility data provide media-ecological assessments of a community's overall online health more so than do traffic counts delivered to one Web site or another.

Though Table 1 seems to imply a competition among Adirondack-North Country communities, in actuality, the entire region is (intentionally or unintentionally) cooperating as it vies with all other regions for tourist attention. In New York State alone, the region competes with the Catskills, the Finger Lakes, the Southern Tier, and so on. Travelers interested in a destination like the Adirondacks might likewise find allure in the Smokies, the Everglades, the California Redwoods, and many other spots with natural wonder and charm. This reality should beckon inter-community collaboration so that the region overall is highly present and visible when a user casts a wider net during search queries. That is, when Web navigators are *not* already aware of specific community names, and consequently enter search terms such as *Adirondack Mountains* or *New York State camping*, inter-community collaborations on Web presence can become apparent as collective visibility. For narrower queries like the ones used in the present study, community stakeholders and agents must demonstrate awareness of how visible their communities are on the World Wide Web, and how they appear to potential travelers, so that promotional communication efforts are well planned and managed. All of these are a function of civic leaders' and other community stakeholders' combined willingness to recognize the community as an interdependent system and their combined desires to translate the community's physical reality into a virtual one for ultimate consumption by millions of Web users in search of information.

Limitations

Researchers exploring computer-mediated communication must be particularly sensitive to the rapid changes, advancements, and variables affecting the environments arising out of this relatively new medium. Despite every safeguard taken against threats to the validity and reliability of the data collected, there is one primary limitation that challenged the present Web-based research. The reliability of the methods used depended, in large part, on the reliability or stability of the search engines themselves.

Since the study began in 2000, a number of changes to search engine protocols (e.g., Northern Light changing to an exclusively fee-based arrangement), the fragmentation and/or growing interdependence among search engines (e.g., numerous engines powered or enhanced by Google), and the emergence of regional and national Web site conglomerations that appear only tangentially related to communities (e.g., rootsweb.com, expedia.com, and discounthotels.com), have combined to necessitate repeated adjustments to the research methods. Further, anomalies in search results due to temporary blips in one or more search engines required occasional follow-up data collection between the routine intervals to ensure accuracy. In all cases of a change in research methods, such modifications were noted, justified, and accommodated in order to provide community data that could be reasonably compared at each interval. Nonetheless, through searchenginewatch.com, among other information sources, future research efforts must continue to exercise awareness of the intricate, backstage workings of search engines – including the increasing gatekeeping role they are playing beyond the Web user's consciousness, but that are at the absolute forefront of the researchers' methodological considerations.

Questions of Economic Development and Sustainability

As stated earlier, visibility is a fundamental indication of the relative scope of information about a community, and it gives the Web user the first inclinations about the community – its personality, its depth, its contents. But there is much more to a community's identity than what could be reasonably presented here. The visibility data provided answers to the question of "how much" information that is present online is made visible to Web navigators. Subsequent research will address the questions of "what" community information is, in fact, present and "what impression" that information leaves on searchers.

For a community, the Web acts a lot like a main street, where virtual visitors are able to stroll – or rather, "scroll" – through a town or village and form a collection of multiple

Table 1.

Web Visibility Comparison among Communities[a]

Community Name (with ny)	Mean pages available	Pages avail. rank	Pages per capita	Per capita rank	Year 2000 popu.	2000 popu rank	6-month[b] percentage growth
broadalbin	7,138.3	35	1.102	37	6,477	27	82.10
canton	420,755.6	1	25.947	4	16,216	8	68.66
croghan	6,933.2	36	1.812	28	3,826	36	111.31
dannemora	5,517.7	39	0.595	40	9,278	15	130.29
"fort ann"	5,826.2	37	0.846	39	6,888	25	106.60
"fort edward"	10,602.6	33	1.174	36	9,033	17	102.57
frankfort	85,351.1	7	8.522	11	10,015	14	111.99
"german flatts"	662.5	45	0.049	46	13,629	11	15.02
"glens falls"	72,984.6	9	3.256	23	22,415	5	21.39
gloversville	22,080.8	24	1.433	34	15,413	10	79.71
gouverneur	17,348.1	25	1.485	31	11,681	13	95.67
granville	64,054.2	11	7.039	13	9,100	16	56.99
harrietstown	517.1	46	0.093	45	5,575	28	15.94
herkimer	50,077.1	13	2.868	25	17,460	7	60.52
"hudson falls"	12,203.3	30	1.762	30	6,927	24	94.47
ilion	12,632.1	29	1.467	32	8,610	19	98.84
"indian lake"	10,094.0	34	6.862	14	1,471	43	119.82
johnstown	105,722.4	4	6.744	15	15,677	9	56.76
"lake george"	61,611.4	12	13.502	7	4,563	34	30.20
"lake luzerne"	5,554.5	38	1.018	38	5,456	29	85.89
"lake placid"	88,407.9	6	33.513	2	2,638	41	47.88
"lake pleasant"	5,312.4	40	6.064	16	876	44	156.64
"little falls"	36,299.3	16	5.392	19	6,732	26	91.29
"long lake"	13,770.7	28	16.163	6	852	45	117.86
lowville	14,271.4	27	1.779	29	8,024	20	93.30
malone	122,104.9	3	5.799	17	21,056	6	58.12
massena	35,564.3	17	1.462	33	24,330	4	92.26
mayfield	70,296.9	10	9.720	10	7,232	23	109.63
moira	28,756.6	21	10.065	9	2,857	38	148.67
moriah	12,061.3	31	2.472	27	4,879	33	82.83
"new bremen"	1,319.6	41	0.485	41	2,722	40	18.88
"north elba"	1,131.5	43	0.131	44	8,661	18	27.13
northville	25,235.5	23	13.008	8	1,940	42	80.81
ogdensburg	34,203.6	18	2.766	26	12,364	12	84.63
peru	377,745.4	2	47.913	1	7,884	21	46.74
plattsburgh	94,998.5	5	3.036	24	31,295	1	34.05
potsdam	85,081.9	8	3.352	22	25,382	3	47.78
queensbury	31,730.4	19	1.247	35	25,441	2	86.22

Community Name (with ny)	Mean pages available	Pages avail. rank	Pages per capita	Per capita rank	Year 2000 popu.	2000 popu rank	6-month [b] percentage growth
"saranac lake"	42,377.8	15	8.407	12	5,041	32	49.87
"schuyler falls"	1,094.8	44	0.213	43	5,128	31	12.98
speculator	10,786.5	32	30.996	3	348	46	107.99
ticonderoga	29,798.2	20	5.767	18	5,167	30	142.22
"tupper lake"	14,608.6	26	3.712	20	3,935	35	104.83
turin	46,632.7	14	17.082	5	2,730	39	101.55
warrensburg	26,226.3	22	3.514	21	7,463	22	120.44
"white creek"	1,275.6	42	0.374	42	3,411	37	1.24
MEAN	48,490.53		7.010		9,306		79.69
MEDIAN	23,658.15		3.146		7,080		85.26
ST DEV	82,178.43		9.907		7,500		40.87

[a] Visibility data has also been accumulated for the community "Beekmantown." However, Beekmantown data were excluded from the table due to a search engine glitch at the time of data collection. Search engines returned an extraordinarily large number of web pages (reflecting 1063% growth in six months) – a figure that was soon after found to be in error.

[b] Percentage growth reflects changes in the mean number of pages available from the period July 2002 to February 2003.

impressions from what is visible. All a user has to do is type in the name of a region or community on a search engine, and in seconds a compilation of the community's virtual presence will appear on-screen. What, in fact, will the online visitor see? Given that users pay particular attention to the first several pages of listings, it becomes imperative to investigate what these first glimpses of online identity convey and whether they contribute productively to, or otherwise play a role in, the economic development of a region.

The next phase of the Community Web Visibility project will further explore the answers to the above question and reveal insights gathered from an in-depth analysis of the virtual identities of various Adirondack-North Country communities. Specifically, the findings will address four real issues communities will encounter as they contemplate their online identity. (1) To what extent are the Web pages retrieved about Adirondack-North Country communities actually related to the community itself versus irrelevant or tangential? (2) To what extent is each community's online identity owed to a diverse range of agents, participants and other stakeholders versus dominance of a small handful of enterprises? (3) To what extent does a community's Web presence relate to functions of economic development, that is, the ability to attract capital and retain it locally? And (4) To what extent is a community's Web presence the result of local, grass roots origin, versus regional or national sources that reflect little connection to the community itself. In other words, increasing commercialization on the Web has made it more imperative to assess whether online identity is fashioned locally or manufactured by outside parties who are not actual stakeholders of the community and who do not have local or even regional interests at heart. These latter and ongoing issues challenge communities in the Adirondack-North Country region to question whether they are recognizing the Internet as part of the regional infrastructure and actively using the Web as a community building block, or passively allowing extramurally produced representations to stand for who they are.

Conclusion

Renowned mass media scholar Marshall McLuhan believed that all electronic media are extensions of our human existence, not just mere technological appendages. He asserted that media are as much a part of our physiology as the nervous system with which we are born. But each of us is not alone in this mediated universe. As John Donne so aptly phrased it in 1624, "No man [sic] is an island, entire of itself; every man is a piece of the continent, a part of the main" (1968, p. 528). Almost four hundred years after Donne penned these words, the continent has, in fact, become a lattice of electronic interconnectedness, and the mainland is as much virtual as it is physical. McLuhan referred to this interconnectedness as the "global village," where electronic media would break

down traditional barriers to communication and bring the pieces of each continent into virtual collision with each other.

We already bear witness to this virtual collision. Communities that inhabit separate phenomenological worlds in a geographic sense do not experience such separation in the virtual world, and vice versa. Community stakeholders can no longer afford to function in this new communication landscape without concern for the broader implications of their worldwide presence and interconnections. Web sites that are commercial successes for the individual organizations behind them, but which contribute nothing vital to the physical or virtual communities in which they are embedded, must be considered rhetorical failures. Alternatively, cooperative collections of stakeholders' sites that are rhetorically sensitive to their effects on the whole community system will undoubtedly facilitate graceful transitions to the digital age of communication.

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Author Notes

The authors wish to thank our 2001-2003 Research Assistant, Jessica Atkinson, for her assistance with data collection, analysis, and community outreach activities. At the time of her association with the CWV Project, Jessica was a Communication major at Plattsburgh State University who since graduated from their Mass Media program in May 2003.

In addition, the authors thank Robert Christopherson, Chairman of the Economics Department of the School of Business and Economics at Plattsburgh State University of New York, for his assistance in identifying population centers and elucidating the economic development concerns of communities in the Adirondack-North Country region.

The authors also wish to thank Plattsburgh State University of New York, the Office of Sponsored Research, and the United University Professions for their support of our research program through a Presidential Research Award, an In-House Mini-Grant, and a PDIAP Grant that provided the funds necessary to complete the initial phases of this project.

Footnotes

[1] Initially there were 65 communities under study. However 15 locales were omitted after a content analysis the Web pages available rendered the communities invalid. Of the first 100 Web pages available, if lower than 80% related meaningfully to the community, the locale was deleted from further study. Most often, the omitted communities shared a name identity with another person, object, or city (e.g., Wells, Denmark, Northampton) which consequently inflated visibility calculations.

[2] Search engines occasionally experience temporary glitches that affect the number of returns [e.g., an extremely low number of pages available (*18*) for an expectedly visible subject (*plattsburgh ny*)]. Thusly, with a sample of 10 search engines, an extreme score would severely pull the arithmetic mean in the direction of the outlier. To guard against such occurrences of spurious findings (high or low outliers), a more robust measure of central tendency – the Winsorized mean – was determined to be most appropriate. A Winsorized mean is computed by aligning scores in ascending order, and replacing the lowest score in a series with the second lowest score, and likewise replacing the highest score with the second highest score.

[3] Spearman's r on the ordinal rankings was used as a non-parametric alternative to Pearson's product-moment correlation coefficient, given that the original ratio data concerning visibility contained egregious outliers and were non-normally distributed.

[4] There were originally 5 pilot communities, but only three are graphed here. One community was a county and thus cannot be reasonably compared, and the other was a control community from an adjacent state. The graph is based on the mean of four search engines instead of the 10 currently used, because certain search engines did not emerge until mid-way through the study.

PAT WILLIS

Ski trail in the town of Brighton.