As Digital Divide Narrows, Are There Differences of Wants from Mobile/Online Newspapers?

A Study of Alabama Newspaper Readers

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Because of the increase in the use of mobile devices, the digital divide, the division of those with access to the Internet and its benefits from those without it, seems to be narrowing. People from various economic, racial and regional backgrounds usually had different access and proficiency to and of the Internet (Digital Divide.org, n.d.). However, a recent 2010 study conducted by the Pew Internet & American Life Project shows that the divide is beginning to close, and that could mean a shift for various people. The fact that mobile devices have narrowed that chasm more than anything else ever has before is significant, especially for news outlets seeking to attract mobile advertisers and more digitally savvy readers for those advertisers to reach.

To find out more about these audience members who are using their mobile devices to access news and information, newspapers advertisers and executives should ask: are there differences in the way people interact with their local newspaper and in what they want in mobile delivery based on racial and economic divisions in society? Knowing the answer to this question could help news executives effectively cover their communities as well as pull in new advertisers seeking this specific demographic. In order to answer this question, a survey of Alabama newspaper readers was conducted to examine whether different racial and socioeconomic groups want different things when seeking information in a mobile news environment. To learn more about what mobile and online users want, the author conducted research into the studies showing the narrowing of the gap and into first-hand accounts about the wants of mobile users, such as Amy Gahran.

Literature Review

Gahran, a self-employed media consultant and contributor to Poynter Online, said in a March 2009 column that now that she owns a laptop, iPhone and Kindle, she should be able to get her news no matter what device she is using to access it. "The news and other content I choose to read should *just be there* -- available on whichever of my devices I prefer at the moment, in a format friendly to that device," Gahran wrote (2009, "Instapaper"). She said her threshold for reading news pieces is about 750 words on mobile devices. However, she discovered Instapaper, which allows her to save news stories, which can be sent to her other devices so that she can read the longer news stories in "a more comfortable, user-friendly mobile reading experience." (Gahran, 2009, "Instapaper").The key, which has been mentioned time and again in various news articles, blogs and research studies, "It gives users more control over how they view your content" (Gahran, 2009, "Instapaper").

The Digital Divide: What It Is

However, not everyone has access to these items or to the Internet at all. People of other classes, races and regions may have less access and may have very different wants from Gahran. There is a common misconception that the digital divide solely addresses the division of the "haves" and the "have-nots" in terms of access to the Internet and digital or technological devices granting that access. However, the digital divide is not about the access to Internet, but about the benefits derived from access to the Internet (Digital Divide.org). Because of what is referred to as "the 80/20 factor (in which 80 % of profit is made from serving the most affluent 20%,) " those from lower income levels "are ignored because market forces assume that designing solutions for them will not be profitable." (Digital Divide.org, "The Digital Divide") The digital divide also encompasses the skills and literacy needed to use these devices or

navigate the Internet. According to Digital Divide.org ("The Digital Divide"), just providing access to the Internet or computers to poor or underprivileged people does not close the gap, especially if there are no skills being taught along with the gift of the computers or provision of Internet access.

The digital divide also incorporates the proficiency levels of people from various classes, regions or races. Regardless of how exactly that proficiency is measured, it still matters to the overall issue of whether certain groups are missing out on the benefits of access to knowledge and information of the Internet (Stern, 2010). Besides access and proficiency, there is one more area of the digital divide: digital acceptance or how the information provided, garnered, or gathered through technological tools is perceived (Stern, 2010). However, with the recent growth in Internet access for all people in America as well as the continuing increase in Internet access from cell phones or other mobile devices (Horrigan, 2009; Rainie, 2007), the digital divide may be closing a little in terms of news consumption.

Digital Divide Narrows in Mobile Age

Although he did not specifically identify mobile usage as part of his piece, former *Los Angeles Times* editor Craig Matsuda found in his 2009 research presentation, "Transforming Ethnic News Organizations for the Digital Now," that the Internet access of Asian-Americans and English-speaking Latinos in the United States was equivalent to that of Whites, which narrows the digital divide in one sense. "Don't underestimate the online presence of communities of color," Matsuda said (Matsuda, 2009).

Those most likely to use the Internet are of a younger demographic, and because about a third of African-Americans are over the age of 50, this could contribute to the smaller percentage of Internet usage for this group compared to other racial groups (Matsuda, 2009). However for

both Asian-Americans and Latinos, there is a large younger population, which could account for the higher and disproportionate percentage of Internet users for these groups. About 35% of the general population 35 and younger are Internet users; however, that number jumps to about 50% for Latinos under the age of 35.

About 23% of African-Americans have Wi-Fi or wireless Internet access compared to about 25% of Non-Hispanic Whites, according to a study done in 2007 by the Florida State University's Center for Hispanic Marketing Communication. "African Americans are the most active users of the mobile internet – and their use of it is also growing the fastest. This means the digital divide between African Americans and white Americans diminishes when mobile use is taken into account" (Pew, 2009, "Wireless Internet Use"). In fact, 48% of them have at one time utilized their mobile devices to access the Internet for information-seeking, e-mailing, or instant messaging. The national average is 32% (Pew, 2009, "Wireless Internet Use"). Thirty-two percent of African-Americans access the Internet on their mobile devices daily; the national average is 19%. In just two years, the percentage of African-Americans who access the Internet daily from their mobile devices is up 141% (Pew, 2009, "Wireless Internet Use").

When looking at access to the Internet from mobile devices as well as desktop computers, approximately 61% of White Americans access the Internet compared to 54% of African-Americans. There is still a gap here, but it is definitely beginning to close (Pew, 2009 "Wireless Internet Use"). Technology ownership, which can be tied to technology use, seems to also show a pattern of integration into the country. Ironically, the non-Hispanic whites seem "the least turned on by new technology (Korzenny,F. & Korzenny,B.A., 2008, "Online Technology 2008"). These results could have huge implications for newspapers and other news outlets as well.

Cell phone use

As for the time spent using their cell phones, Non-Hispanic Whites spent the least amount of time with an average of 3.8 hours and the other groups spent an average of at least 7 hours with Spanish-speaking Latinos spending the most time at 9 hours on average. Of everyone surveyed, the group with by far the highest amount of hours spent using their cell phones per week were African-Americans between the ages of 18 and 25. This group spent nearly 15 hours on average using their cell phones with the next highest being African-Americans ages 26 to 35 and Spanish-speaking Latinos ages 36 to 45, both groups spending about an average of 10.2 hours using their cell phones (Korzenny, 2008).

Latinos are more likely to use their phones for Internet usage; Asian-Americans are more likely to use their laptops and Wi-Fi more than any other ethnic minority group. Matsuda did note, however, that Asian-Americans are heavy cell phone users (Matsuda, 2009). According to Rainie of the Pew Internet and American Life Project, in 2007, about 72% of all adults had cell phones and about 52% of adults who have a household income less than $30,000 had cell phones. About 41% of Whites use their cell phones to surf the Internet whereas about 54% of African-Americans do (Rainie, 2007).Those conducting the study found that about 32% of all adults used their cell phones to surf the Internet and about 22% of adults bringing in a household income of less than $30,000 did.

According to the Pew Internet's 2009 survey, 32% of Americans have used a cell phone or Smartphone to access the Internet for e-mailing or information seeking. In December 2007, only 24% of Americans had. Nearly one-fifth of all Americans use a mobile device to access the Internet every day. In December 2007, only about 11% accessed the Internet on a daily basis from a mobile device (Pew, "Wireless Internet Usage," 2009; Rainie, 2007).

Newspaper Readership & Mobile Access to News

A separate study conducted by FSU's Center for Hispanic Marketing Communication, "The Brave New World of an Emerging Diverse Online Majority," showed that on average, Non-Hispanic Whites spent about 3 hours reading newspapers per week, African-Americans spent about 2.9 hours, Asian-Americans spent about 4.6 and English-speaking Latinos spent about 4.2 hours (Korzenny, 2008, "The Brave New World of an Emerging Diverse Online Majority").

The amount of people receiving their news online continues to increase for people of all races. However, what is interesting is that the types of news and information being accessed online vary by race. From November/December 2006 to February/March 2007, there was an increase of 7 percentage points to 43% for the amount of Whites who received their news online and an increase of 9 percentage points to 24 % for African-Americans (Rainie, 2007). According to the Pew Internet Project's December 2007 survey, of those who have ever used those devices to access the Internet for news, weather, sports or information: 18% of Whites, 27% of African-Americans and 22% of Hispanics. For those who do so in a typical day, 7% of whites, 9 % of African-Americans and 10 % of Hispanics (Rainie, 2007).

The epilogue of the FSU Center for Hispanic Marketing Communication's study states, "Patterns of ownership among the five cultural groups studied show fascinating differences ranging from a clear hunger for technology among emerging minorities to a low level interest in the latest technology innovations among NHW (Non-Hispanic whites)… Marketers should take note of the tremendous swell of ownership in the ranks of emerging minorities." (Korzenny, F. & Korzenny, B.A.,2008, p. 32)." The writers of the epilogue also encourage marketers to pay attention the fact that the groups are culturally different and that marketers should keep those

differences in mind as they apply to new technologies when launching new campaigns that are culturally appropriate. This is significant because of what it means for newspapers and how they are launching their mobile news sites, tools and applications.

Now that the digital divide is closing as a result of mobile devices, the issue is what exactly is wanted by these different groups in terms of what they want exactly from their mobile-delivered news and the type of acceptance of the information received now that the proficiency and access are much greater than ever before. "When you introduce the mobile internet, the picture changes and African Americans are the pace setters," said John Horrigan, associate director of the Pew Internet Project and principal author of the report (Marshall, 2009). One of the commenters on the article "African Americans Most Active Users of Mobile Web" was that he or she was not surprised by the findings, but that there is a lack of relevant news for Latino and African-American populations.

In this study, the researchers addressed the specific wants of the respondents and the likelihood they would utilize mobile applications if their local newspapers had one. In a state like Alabama, where African-Americans make up more than a quarter of the entire population (which is more than double the national population of African-Americans) (U. S. Census Bureau, 2008, QuickFacts), this information could serve to help newspapers gain readers and advertisers during a time when gaining either poses many challenges. Also, the digital divide is not only about race, and this study also analyzes household income and region as factors of the digital divide. This, too, is important for Alabama newspaper readers and newspaper editors and publishers because the median income of Alabamians is below the national median income of $52,029 (U. S. Census Bureau, 2008, QuickFacts). With this information, perhaps these newspaper editors and publishers can find ways to gain greater readership from individuals who make less money but

are still connecting to the Internet with mobile devices, and if they are, then this study will help pinpoint what people from these groups want from their newspapers and their newspapers' websites and mobile applications.

Research questions

Overall, the main purpose of this study is to analyze the traditional "digital divide" specifically for Alabama newspaper readers. This was done by using the following research questions to guide the study:

RQ1: Do whites and minorities differ in frequency of use of their local newspapers in various formats and what information they want from local newspapers in digital delivery?

RQ2: Do lower income readers differ from middle income and upper income readers in frequency of use of their local newspapers in various formats and what information they want from local newspapers in digital delivery?

RQ3: Do rural readers differ from those in larger cities in frequency of use of their local newspapers in various formats and what information they want from local newspaper in digital delivery?

Method

There is evidence that with the use of mobile devices, the digital divide is narrowing and in some demographics, no longer exists. However, this may not be the case for the state of Alabama in terms of newspaper readers and their consumption or frequency of online and mobile news. Though mobile usage is increasing, what mobile users want from their mobile-delivered

newspapers has not been studied extensively, so this study sought to examine these questions in the state of Alabama. Also, this study aims to analyze whether people of various ethnicities, income levels or regions want different things from their newspapers and their newspapers' websites.

Defense of Method

An analytical survey using a convenience sample of Alabama newspaper readers was the method used to gather information on how readers of different ethnicities, income groups and regions in Alabama access their local newspapers and what they wanted from their newspapers in online/mobile delivery formats. An analytical survey was the best method because it was cost-effective, not time-consuming and allowed researchers to reach respondents in a realistic setting, at a home or office computer screen.

The advantage of using an analytical survey to learn the behavior patterns and desires of the population being studied is that it does not happen in a laboratory or other artificial setting, but in the survey-taker's own environment (Wimmer & Dominick, 2006). Because of this, survey-takers may feel more comfortable and able to answer truthfully without pressures. (Wright, 2005). This type of survey was chosen because it offers a way to explain the relationships among certain variables or constructs. Analytical surveys can also help with explaining why certain situations exist and provide ways to develop explanatory inferences for the interrelationships of variables (Wimmer & Dominick, 2006, p. 179).

The survey research method was chosen not just because of its convenience for the participants, but for the convenience and ease of those researchers conducting the survey. "Surveys allow researchers to examine many variables (demographic and lifestyle information, attitudes, motives, intentions, and so on) and to use a variety of statistics to analyze the data"

(Wimmer & Dominick, 2006, p. 180). This method was also chosen because it allows for the quick and relatively inexpensive accumulation of responses (Wimmer & Dominick, 2006).

An online survey has many advantages, including the ability to access individuals in several locations and to access to respondents that may have been difficult to reach through other methods. Because of the ability for people of various backgrounds to access the Internet, online surveys allow for researchers to reach very specific audiences. In this case, the online survey allowed the group of researchers to contact Alabama newspaper readers above age 19 and older.

Online surveys also allow for automated data collection, which decreases and often eliminates the time researchers must spend collecting and organizing data (Wright, 2005). The survey program used to collect, store and analyze the data was SurveyMonkey, a Web-based service that allows surveys to be produced and conducted completely online. Because survey research is prevalent when studying the attitudes and habits of populations, using a survey allows for comparison to those past surveys that have been conducted nationwide. An example of this is the "Wireless Internet Usage" study conducted by the Pew Internet & American Life Project, where more than 2,000 adult Americans were interviewed with about 500 of those on their cell phones. Because this study of Alabama newspaper readers was conducted by a group of researchers over the course of approximately three months, cutting down on time spent collecting the data allowed for more time to analyze it. Using the online survey method allowed for the survey to be shared quickly, freely and throughout various media, such as e-mail, listservs, newsgroups and social media communities (Wright, 2005). Because the online survey had a URL, it could be shared through e-mail, Twitter, Facebook, blogs and banner advertisements. These methods were exactly how the researchers marketed the survey to newspaper readers throughout Alabama. Also, another benefit of the online research survey method is that when

utilizing an online survey research tool or program, researchers can conduct preliminary tests and analyze the data collected even as they wait for the accumulation of more responses and participants.

The online survey method is cost-effective for the research being conducted because it eradicates the paper, postage, printing and data entry costs, as well as the costs of recording equipment, travel and telephones. Because online surveys provide automated data collection, transcription costs are eliminated as well (Wright, 2005).

Although survey research including only closed-ended questions and there is no way to show causation between the independent and dependent variables, there is the possibility of being able to make strong arguments about the relationship between and among variables through an analytical survey approach, which is what was used in this study (Lester, 2009).

One of the disadvantages to using a survey of this kind is that it does not leave room for explanation or comments from survey takers, which can be troublesome if some important response choices were left out (Wimmer & Dominick, 2006, p. 182). When the data is self-reported, there is almost no way to verify the truth of the information being collected. Often respondents offer answers that they feel are more socially acceptable or may be what they believe the researcher wants, thus misrepresenting their identity and true feelings to the contents of the survey (Wright, 2005). This can cause prestige bias in certain cases as well, especially for questions that may ask about certain modes of delivery that may be unfamiliar to the survey-taker. Because the survey was conducted online and the URL address was pasted into e-mails, blogs or social media, there was no way for the researchers to have a sampling frame or know just how many people would actually find the survey listed on these sites and take it.

Another disadvantage to online surveys is that although they are able to reach specific communities or segments of the population, other segments may be left out if they do not have consistent Internet access or do not click on the link to the survey. In the case of this study, the research team had the survey link posted on several Alabama newspaper Web sites. However, if the link was not found (perhaps it was part of rotating advertisements on the site) or was ignored, then those newspaper readers were not reached. Alabama newspaper readers who do not view their newspaper online but prefer the print version of the newspaper were also probably not counted because the link was on the newspapers' websites, which they do not visit.

Another disadvantage to online surveys is that making communities and populations aware of the survey can be difficult. Though there are thousands of newspaper readers throughout Alabama, according to the circulation of newspapers in the state, making them aware of a survey and persuading them to participate in it can prove challenging. Self-selection bias can prove to be a major limitation of the online survey method because certain people are more likely to respond to an online survey than others and this can then lead to a systematic bias (Wright, 2005). Because of these sampling issues, researchers could find a lack of external validity, meaning a problem with being able to generalize their findings to the overall population, which in this study consists of all Alabama newspaper readers.

Though this is also an advantage to online surveys, the realistic setting in which online surveys are conducted can also be a disadvantage. Respondents may be doing more than simply taking the online survey if they are at home or at work and may be distracted because of this.

The population and sample

The theoretical populationto which the researchers would like to generalize for the study is all Alabama newspaper readers. There was no sampling frame for this study because there is

no list of all Alabama newspaper readers. Although there are subscriber lists for most Alabama newspapers, these leave out readers who may read the newspaper at work or online or who buy their paper each day.

The researchers used a convenience sample of individuals who may have found the survey through online advertisements on Alabama newspaper websites or through social media sites and advertisements, such as Twitter posts, WordPress blog posts, Facebook groups and Facebook advertisements. Also, the convenience sample included about 90 Alabama university students from the University of Alabama, who received extra credit. This available sample provided participation from younger Alabama newspaper readers, but may also have skewed the data somewhat because the students were most likely enrolled in communications and journalism classes and may have been more likely to read Alabama newspapers and visit Alabama newspaper websites than others in this age group. This added to the inability of the researchers to generalize the data collected from this study to the actual population of Alabama newspaper readers. Using convenience samples most often means there will be no external validity (Wimmer & Dominick, 2006). Also, this non-probability sample, which does not allow for the calculation of sampling error present in a research study (Wimmer & Dominick, 2006), was composed mostly of those who volunteered to complete the survey. Those who willingly participate in surveys or in studies overall differ from those who do not (Wimmer & Dominick, 2006).

There was some bias because those newspaper readers in Alabama without access to the Internet or who do not read their newspapers online would most likely not have access or be aware of the survey. This sampling bias may skew the data because it includes only Alabama newspaper readers who use the Internet or who happened to read their newspaper online during

the time period that the "button" for the survey was placed somewhere (sometimes in revolving ads) on the newspaper's Web site. Also, many respondents learned of the survey after gaining knowledge from Facebook ad or group, meaning that they must have some working knowledge of that social medium, which goes back to the issue of the lack of a sampling frame. Because this was a nonprobability sample, those in the sample were not mathematically chosen, but were volunteers who were able to meet the criteria and have chosen to take the survey.

The available sample was composed of those who had access to the Internet, could read and understand English, were over the age of 19 and were readers of Alabama newspapers.

In order to reach the newspaper editors and publishers, the researchers attended the 2010 Alabama Press Association journalism summit in Birmingham. There are 123 newspapers that are members of the Alabama Press Association, and the researchers found 97 of them have active websites. Each Alabama newspaper with a working website was mailed information regarding the study and the survey, along with a request to include the survey on their website or social media sites. The researchers also then asked newspaper publishers, editors and executives to place the link or "button" to the survey on their newspapers' websites. About 25 newspapers with active websites participated in some way.

The researchers then used a snowball sampling technique to reach more survey takers by sending the survey link to Alabama newspaper readers and asking those individuals to send the link out to others who also were Alabama newspaper readers. The researchers also put the survey link on their personal Facebook and Twitter accounts as well as their blog sites. Snowball sampling alone can create a completely biased research study since it would consist solely of the friends, acquaintances and networks of those conducting the study (Wimmer & Dominick, 2006).

Operationalization of Constructs/Variables

The constructs of this study were: frequency of use of local newspaper in different forms, types of information desired from their online newspaper and demographics (particularly ethnicity, income, region, but also including age and gender.)

Race was broken down into eight different categories: African-American, Asian-American, Hispanic, Latino, Native American, Pacific Islander, White and Other. The "other" category allowed for a write-in option. Age was measured through six main categories: 19-24, 25-29, 30-34, 35-49, 50-64 and 65 and older. The age categories used were also used in a recent Pew Study (Pew, "Key News," 2009). For household economic status, the researchers chose to use categories: lower income, lower-middle income, middle income, upper-middle income, upper income. These were chosen because it was stated that an individual's class is not simply determined from his or her economic income level. By asking people to respond to broad categories, the response rate for income-based questions also is improved. This was done with an eye toward reducing nonresponse bias, which can hamper the findings being generalized to the overall population (Israel, 2009). However, the possible disadvantage to this approach is that what people believe to be lower-middle or middle levels of income, for instance, is undefined and the terms are relative to the individuals' life experiences.

To measure region, respondents were asked to select whether they lived in rural areas, small communities, suburban areas or large, urban areas.

The questions helped determine what people from various racial, economic, and regional backgrounds wanted from their local newspapers and how they interacted with their papers.

In addition to the demographic variables, there were nine importance of information in mobile/online format variables that were measured in the survey and seven frequency of newspaper use variables.

The frequency with which respondents used their newspapers was measured with seven questions that had answers that ranged from 1=never to 5 = multiple times a day . The likelihood of downloading a mobile application for one's local newspaper was measured with questions on a similar scale.

Procedure

Before the study was opened in late March, researchers evaluated the questions to be used on the survey to ensure that they were relevant, properly placed and unambiguous. The researchers conducted a pretest of the survey by each taking it, as well as having a undergraduate students at the University of Alabama provide feedback on the format and questions. The survey took approximately five minutes for participants to complete. Because the researchers chose an online format, Alabama newspaper readers could take the survey at any time and from anywhere with Internet access.

The survey was comprised of 17 questions loaded into the Survey Monkey tool. Most of the questions were rating scales, including Likert scales, and closed-ended clicking responses. However, there were write-in questions, including profession and if respondents chose a newspaper not listed in the drop-down menu provided or if they identified as a race that was not included in the list of choices provided.

In order to inform participants about their rights to ethical research treatment, the survey explained the reason for the study and asked the respondents to agree to voluntary participation by clicking on the "next" button of the introduction page to begin the survey. To maintain the

voluntary participation, respondents were allowed to skip any questions that they did not feel comfortable answering. Also on the introduction page of the survey, respondents were informed that all their answers would be collected anonymously and that no risks are involved in completing the survey. Before "going public" with the survey, it was submitted to the Institutional Review Board of the University of Alabama for approval to conduct research with human subjects.

Because each question of the survey was optional, some respondents did not complete all answers, but the completion rate of those who started to take the survey and those who finished it was 92%.

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Results

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Demographics of the Sample

The final sample included 1,025 people who completed enough of the survey to be included in the analysis. Of that who that participated, approximately 12% were 19-24 years old, 10% were 25-29 years old, 5% were 30-34 years old, 29% were 35-49 years old, 31% were 50-64 years old and 13% were 65 and older. About 47% respondents were female and 53% were male. Respondents were able to check as many of the ethnicity categories as they felt applied to them, so some of these percentages include those who identified as more than one race: 6.7% African-American, 1.2% Asian-American, 1.5% Hispanic or Latino, 0.3 % Pacific Islander and 91.8% White or Caucasian. About 47.3% of respondents said they were from a mid-sized community and that same percentage reported that they were of middle income level.

RQ1: Do whites and minorities differ in frequency of use of their local newspapers in various formats and what information they want from local newspaper in digital delivery?

To test this question, the respondents were grouped into two groups – whites and non-whites or minorities. Of the 941 people who answered the ethnicity question, 851 (90.4%) identified only white under ethnicity. Minorities were the 90 respondents (9.6%) who identified any other ethnicity. Next, whites and minorities were compared using independent sample t-tests on the seven frequency of newspaper use variables and the nine variables looking at importance of information provided by their local newspaper in a mobile or online environment. No significant differences emerged for ethnicity on the frequency of use variables – meaning whites and minorities in the sample did not differ in their use of their local newspaper in various formats. Each used the print paper most often, followed closely the paper's Web site and then significantly dropped off in use of alternate delivery forms (RSS, Twitter, Facebook, e-mail digests, text alerts). However, for what they saw as important to them in mobile/online delivery, whites and non-whites did differ significantly on four types of information. As Table 1 shows, non-white respondents rated interactive mapping tools, traffic updates, weather updates and classified advertising as more important to them in a digital delivery environment than white respondents did. No other differences emerged. One possibility for this difference could be that minorities in the sample were significantly younger (m = 3.92, corresponding to the 30-34 age group) than Whites (m = 4.71, corresponding to 35-49; t = 4.24, df = 927, p < .001). Previous studies have found that younger adults adapt technology like interactive mapping and mobile applications at a higher rate than older adults.

Table 1:

Average importance score for nine types of information broken by Whites and Non-Whites

Information	Whites	Non-Whites	t-value
Weather updates	3.73	4.02	2.07*
Interactive mapping tools	2.43	2.91	3.26***
Traffic updates	2.82	3.28	2.88**
Classified advertising from individuals	2.12	2.39	1.97*

*p < .05, ** p < .01, *** p < .001

RQ2: Do lower income readers differ from middle income and upper income readers in frequency of use of their local newspapers in various formats and what information they want from local newspaper in digital delivery?

The economic status was broken down into three groups. Of those who chose an income category, the 196 (20.9%) who reported being lower or lower middle income were classified as "lower." The 428 (40.9%) who reported being middle income level were classified as "middle," and the 312 (29.8%) who reported being upper middle or upper income level were labeled as "upper." A one way Analysis of Variance was used to compare these three economic level respondent groups on the seven frequency of use variables and on the nine variables measuring the importance of information provided by the newspaper in mobile/online formats. There were three significant differences that emerged by income group in how frequently the groups connected with their local newspaper in different formats. As Table 2 shows, those in the upper incomes reported more frequent use of the print paper, those in the middle income group were higher than the other groups in frequency of use of the Web paper, and those in the lower and middle income groups used the e-mail alerts more frequently than the upper income group. In

short, those in upper incomes connected with the newspaper in more traditional ways than those in the other income groups other than these, no statistically significant differences were found.

Table 2 also shows that the groups also differed in what they found important: local sports and in-depth local news coverage. Upper and middle income readers saw sports information as significantly more important in a digital/mobile environment than did lower income readers, while lower and middle income readers saw in-depth local news as more important than did the upper income readers.

Table 2:

Significant differences in frequency of use and importance scores by income groups

	Lower	Middle	Upper	F value
Frequency of use				
Print	2.56	2.75	2.92	5.62**
Web	3.31	3.55	3.15	9.44***
Email	1.8	1.79	1.54	4.018**
Importance scores for information				
Local sports	2.57	2.94	3	5.58**
In-depth local news	3.35	3.42	3.18	3.10*

$*p < .05, ** p < .01, *** p < .001$

RQ3: Do rural readers differ from those in larger cities in frequency of use of their local newspapers in various formats and what information they want from local newspaper in digital delivery?

Respondents reported what type of living area their own community was by choosing one of the following options: rural area (128, 13.3%), small community (194, 20.2%), mid-sized community (476, 49.5%) or large urban area (164, 17.0%). Again, we ran an ANOVA to test for differences among groups We then ran an ANOVA to measure for statistical significance.

Table 3:

Significant differences in frequency of use and importance scores by region

	Rural	Small	Midsized	Urban	F value
Frequency of use					
Twitter	1.21	1.40	1.45	1.66	3.88**
Facebook	1.38	1.63	1.76	1.84	3.64*
Importance scores for information					
Traffic updates	2.64	2.62	2.96	3.05	4.48**
Classified ads	2.40	2.21	2.14	1.90	4.13*

There was a difference among those from different types of communities in how frequently they received their news from social media outlets, Twitter and Facebook. Those from large urban areas used their newspaper's Twitter feed more frequently than those of mid-sized and small communities and rural areas. This likely is because the papers in the large and midsized communities were more likely to have Twitter feeds than papers in smaller areas. The same was true for Facebook, as Table 3 shows.

Also people from different communities had differences in terms of what they deemed important from their local news on traffic updates and advertisements. As Table 3 shows, traffic updates were seen as more important by people in large urban areas and as less important by

people in smaller communities and rural areas. This is expected because of the role of traffic in daily lives in large metro areas. In contrast, the desire for classified advertisements became less important in the larger areas than it was in small and rural areas. As for ways they connected to the Internet, there was no statistically significant difference by race, though there were by area and income level. For income, those of upper income levels connected in more ways to the Internet (m= 2.38) than the middle (m =2.27) and upper levels (m=2.11; F= 5.18, df = 2, p <.007). Also, the ways people from different regions connect to the Internet also were statistically different with those from large urban (m=2.3) and mid-sized communities (m=2.34) connecting to the Internet in more ways than those from small communities (m=2.19) and rural areas (m=1.94; df=3, F=8.77, p < .001).

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