Theorizing Online News Consumption:
A Structural Model Linking Preference, Use, and Paying Intent

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Abstract

While media scholars tend to take "media use" as an indicator of popularity or diffusion, media use alone does not fully capture the complexity of online news consumption. For instance, given free online news offerings in most cases, consumers do not always use what they prefer, and most are not willing to pay for what they use. This study identifies three distinct factors -- preference, use, and paying intent -- each helps explain a specific facet of online news consumption.

To date, media research on the economics of online news consumption has uncovered a number of relationships among these factors. Nonetheless, a synthesizing model that weaves different empirical findings together is lacking. To address the interplay among the key factors, this study presents two holistic theoretical models via Structural Equation Modeling. The goal is to clarify the interrelationship among preference, use, and paying intent for online news, which help explain why most newspapers have difficulties monetizing online usage. Applying new conceptual and methodological approaches, this study synthesizes previous studies and advances to the next level research on the economics of online news consumption.

Keywords: online news consumption, online news use, paying intent, format preference

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A long-lasting concern shared by online news publishers centers on the feasibility of digital subscription models (Edmonds, 2009; Rosenstiel, Jurkowitz, & Ji, 2012; Saba, 2009; Shields, 2009). Despite continued growth in online usage (Pew Research Center for the People and the Press, 2010), most newspapers find the translation of *use* into *revenue* difficult.

This pressing reality facing the online news industry illustrates two problems. First, after 16 years of experimentation, the underlying factors behind online readers' not-so-enthusiastic response to digital subscription models[1] largely remain unknown. This points to the second quandary at the theoretical level -- while media scholars tend to take "media use" as an indicator of popularity or diffusion, media use alone does not fully reveal the complexity of online news consumption -- for example, given free online news offerings in most cases, use may not reflect preference, and neither does it translate into willingness to pay.

This study identifies three distinct factors -- preference,[2] use,[3] and paying intent[4] -- each helps explain a specific facet of online news consumption. To date, research has uncovered a number of relationships among these factors. For example, despite a dwindling print newspaper readership and the rise of online news use, preference for newspapers in print remains robust (Chyi, 2012; Smith, 2010). Moreover, online news use, among a multitude of factors, has been found to predict paying intent -- despite the lackluster inclination to pay overall among Internet users (Chyi, 2012).

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[1] Only a handful of newspapers rely on the subscription model. On the other hand, despite circulation declines, almost 50 million U.S. readers are still paying for a print newspaper (Farhi, 2008).
[2] Preference for either the print or Web edition of the newspaper, other things being equal.
[3] Reading the print or Web edition of the newspaper.
[4] Likelihood of paying for the print or Web edition of the newspaper.

Collectively, these studies hint at the intricate relationships among format preference, use, and paying intent. Nonetheless, existing literature lacks a synthesizing model that weaves different empirical findings together as to offer a theoretical understanding of online news consumption. To address the interplay among the key factors, this study presents two holistic models using structural equation modeling (SEM) -- a class of advanced statistical techniques that enables simultaneous analyses of recursive structural models and a variety of model fit tests to assess the statistical soundness of theoretical models. The goal is to clarify the interrelationship among preference, use, and paying intent for online news, which offers an explanation as to why most newspapers have difficulties monetizing online usage. Applying new conceptual and methodological approaches, this study advances to the next level research on the economics of online news consumption.

Literature Review

With the proliferation of media choices today through traditional as well as digital channels, users are constantly making consumption choices among a mix of media products that are imperfect substitutes (Lacy, 2004). From the audience's perspective, some products are less satisfactory than others. From the media industry's perspective, understanding determinants of media consumption is crucial to the functioning and sustainability of its operations in this era of information surplus (Chyi, 2009). In the case of online news economics, scholarly research has identified three key factors -- preference, use, and paying intent -- each accounts for specific aspects of online news consumption.

Format Preference

Research on users' preference for digital vs. traditional news formats has yielded fairly consistent findings over the past decade -- users prefer news delivered in print format. For example, an exploratory study conducted in the early days of online news assessed college students' perception of the electronic version of *The San Jose Mercury News,* suggesting that the online newspaper was "unappealing to browse leisurely, inappropriate for all news material, uncomfortable to travel through, not preferable over traditional newspaper, and more difficult to read than a traditional newspaper" (Mueller & Kamerer, 1995, p. 11). Additionally, an experimental study exploring the attitudes of potential readers toward portable document viewers (PDV), the Web, and print newspapers found the Web format to be the least preferable (Schierhorn, Wearden, Schierhorn, Tabar, & Andrews, 1999). Moreover, a series of surveys examining user preference for the print newspaper vs. its online edition reported that the majority of people would prefer the print format over the online edition given the same content and the same price (Chyi & Chang, 2009; Chyi & Lasorsa, 1999, 2002; Chyi & Lee, 2012). Furthermore, a survey of Dutch newspaper readers comparing the usefulness of newspapers in print, online and with other media reported that respondents found print newspapers and television more useful than online newspapers in every content domain examined (De Waal, Schoenbach, & Lauf, 2005). Similar evidence also arose from market research -- a large-scale survey of 25,852 visitors to 41 major U.S. news sites[5] conducted by the Online Publishers Association in 2008 revealed that online media were deemed less satisfying, less likeable, and less enjoyable than offline media by a 2-to-1 margin (Online Publishers Association, 2004).[6] In 2010, a survey of

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[5] Including NYTimes.com, WSJ.com, and USAToday.com.

[6] Specifically, 31% of respondents who used both online and offline media said they found the offline media to be more satisfying, while only 16% said so about online media. Similarly, 31% found offline media more likeable, while 15% said so about online media. In terms of enjoyment, 37% found offline media more enjoyable; only14% said so about online media.

700+ U.S. Internet users found that 58% of the respondents considered the print edition their favorite newspaper format (Chyi, 2012).

These studies point to the same conclusion -- online news is perceived as a less-than-desirable alternative to print newspapers. However, such a message has not received substantial attention, probably because online news use has been growing (Pew Research Center for the People and the Press, 2010). Yet, people do not always use what they prefer, and are even less inclined to pay for something that they deem less valuable. Recent research has documented the perceived inferiority of online media (Chyi & Lee, 2012; Chyi & Yang, 2009, 2012). This study seeks to clarify further the interrelationship among preference, use, and paying intent.

Online News Use

Many news *use* studies are classified under the uses and gratifications paradigm, an audience-centric theoretical framework that presupposes rational and proactive uses of media to fulfill certain needs or gratifications. Such literature has uncovered a common set of motivations for news use -- for example, Berelson (1949) found that newspapers are often used to ease boredom, satisfy the need to read, and for social purposes; whereas Rubin & Perse (1987) found that television news is often used to meet ritualized (e.g., to pass time or for relaxation) and instrumental (e.g., to be informed) purposes. Drawing on the uses and gratifications paradigm, a number of studies examined the motivations for online news use. An exploratory factor analysis found online newspaper use serves entertainment, interpersonal communication, information skimming, and information scanning purposes (Lin, Salwen, & Abdulla, 2005). Another study identified a connection between surveillance gratifications and ritualistic media use on attitudes toward CNN, a multiplatform news provider (Vishwanath, 2008).

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Nonetheless, uses and gratifications has often been criticized for its descriptive nature --

in other words, that it often "describes" post hoc more than it "predicts" news use (Bracken &

Lombard, 2001; McQuail, 1994), which eventually leads to a wide suspicion of its role, or

adequacy, as a theoretical construct.

Another group of studies on the use of online news measured the displacement effect of

Internet on the use of traditional media -- whether people spend less time on the traditional media

because of new media. The results are mixed, depending on the methodology (De Waal &

Schoenbach, 2010; Dimmick, Chen, & Li, 2004; Lee & Leung, 2008; Nguyen, 2010; Tewksbury,

2003). Some other studies examined the effect of online news use on cognitive factors such as

news selection and recall (Tewksbury, 2003; Tewksbury & Althaus, 2000).

Overall, news use has been a central concern in media research. Yet, given the existing

business model of online news, most newspapers give their online content away for free. As a

result, use (or usage) alone accounts for only one specific condition of online news consumption

-- i.e., demand for online news at the price of zero. Therefore, online news use should not be the

be-all and end-all in news consumption studies. A holistic understanding of online news

consumption must extend beyond news use to include preference as well as intention to pay.

Paying Intent

Charging for online content has proven difficult. "It is impossible to charge for general

news content" (Herbert & Thurman, 2007, p. 215) was once the industry consensus, and the

inability to establish viable revenue structures remains a problem for many in the news industry

(Rosenstiel et al., 2012). Yet, the dramatic declines in print advertising revenue during the recent

recession have renewed the news industry's interest in the subscription model (Jenner &

Fleming, 2011). Despite this rekindled attempt, an international survey reported that almost 80% of the global consumers would no longer use a fee-based news site (Nielsen, 2010). Moreover, a survey on U.S. newspaper publishers reported that the number of online subscriptions is typically 1% to 3% of print circulation regardless of price (American Press Institute & ITZBelden, 2009). Furthermore, a study examining Internet users' paying intent for multiplatform newspapers found weak paying intent for the online formats and lukewarm response to a variety of payment models (e.g., micropayment, metered system, day pass, etc.) being considered by the newspaper industry (Chyi, 2012). To date, factors underlying the lack of paying intent, which results in the industry's difficulties in monetizing online readers (Adams, 2012), have not received sufficient scholarly attention.

In sum, given free online news offerings in most cases, consumers do not always *use* what they *prefer*. And they are not always willing to *pay* for what they *use*. Therefore, the interrelationship among paying intent, use, and format preference needs clarification.

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Proposing Theoretical Models

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To address the interplay among format preference, use, and intention to pay for online news, this study proposes a holistic, theoretical model through confirmatory factor analysis under the structural equation modeling framework. In a structural regression model, the pure effect of each causal path is calculated while holding others constant.

Model 1

Figure 1 presents the first conceptual model, which estimates recursive relationships among three major news consumption variables (i.e., format preference, use, and paying intent)

as well as three antecedents (i.e., age, gender, and news interest) that are identified in the literature to influence online news consumption. The rationale behind each causal relationship is specified in the following 11 hypotheses.

Figure 1

Structural Model for Online News Consumption (Model 1)
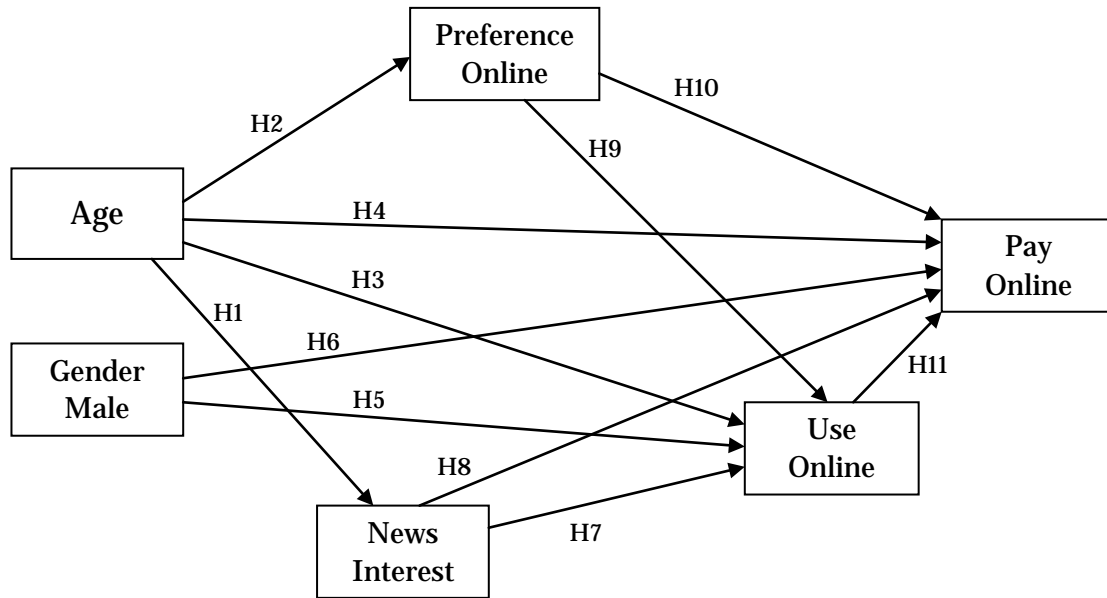
Research found younger adults are less likely to engage themselves in news, regardless of the format (Mindich, 2005; Prior, 2007). Research examining online news use also identified demographic variables as predictors of online news use (De Waal et al., 2005). Age, in particular, is a major predictor of news interest (Pew Research Center for the People and the Press, 2010), format preference (Chyi & Lasorsa, 1999; Chyi & Lee, 2012), online news use (Pew Research Center for the People and the Press, 2010), perception of usefulness of online

information (Riffe, Lacy, & Varouhakis, 2008), and paying intent (Chyi, 2012). Therefore, this study hypothesizes that:

H1: Age positively predicts news interest, controlling for everything else.

H2: Age negatively predicts preference for the online format, controlling for everything else.

H3: Age negatively predicts online news use, controlling for everything else.

H4: Age negatively predicts intention to pay for news online, controlling for everything else.

Gender also is known for affecting online news consumption. For example, based on Pew survey data, males were found more likely to be online news readers compared with females (Poindexter, 2008). Males also are more likely to use interactive features of online news sites (Chung, 2008) and to pay for the Web edition of the newspaper (Chyi, 2012). Therefore, this study hypothesizes that:

H5: Gender (being male) positively predicts online news use, controlling for everything else.

H6: Gender (being male) positively predicts intention to pay for news online, controlling for everything else.

News interest (i.e., the degree to which people enjoy keeping up with the news) was found to have a strong influence on time spent getting news online (Chyi & Yang, 2009) and on likelihood of paying for online news (Chyi, 2012). In addition, young adults who have positive perception of news were found more likely to anticipate becoming regular users of online news in the future (Lewis, 2008). Therefore, this study hypothesizes that:

H7: News interest positively predicts online news use, controlling for everything else.

H8: News interest positively predicts intention to pay for news online, controlling for everything else.

Consistent with a large body of literature in social psychological theory and research, the Reasoned Action Model developed by Fishbein and Ajzen (2009) suggests attitude to be a major determinant of behavior (also see Theory of Planned Behavior or Theory of Reasoned Action). Attitudes, defined as "latent disposition or tendency to respond with some degree of favorableness or unfavorableness to a psychological object" (Fishbein & Azjen, 2009, p. 76), is comparable to our conception of preferences. Moreover, people are more likely to have the inclination to pay for what they find favorable. It is thus reasonable to argue that preference predicts online news use as well as paying intent. Therefore, this study hypothesizes that:

H9: Preference for the online format positively predicts online news use, controlling for everything else.

H10: Preference for the online format positively predicts intention to pay for news online, controlling for everything else.

Finally, use of online news was found to have an influence on paying intent (Chyi, 2012). Thus, this study hypothesizes that:

H11: Use of online news positively predicts intention to pay for news online, controlling for everything else.

Model 2

Because most newspapers now manage a cross-media product portfolio (Picard, 2005), their online and print editions share similar content (Quandt, 2008) and constitute related goods with certain degrees of substitutability (Chyi, Yang, Lewis, & Zheng, 2010). To explore how online news' print counterpart interacts with different aspects of online consumption, this study proposes a second model that takes into account the use of the print edition (See Figure 2).

Figure 2

Structural Model for Online News Consumption Taking into Account Cross-Platform Effect of Print News Use (Model 2)
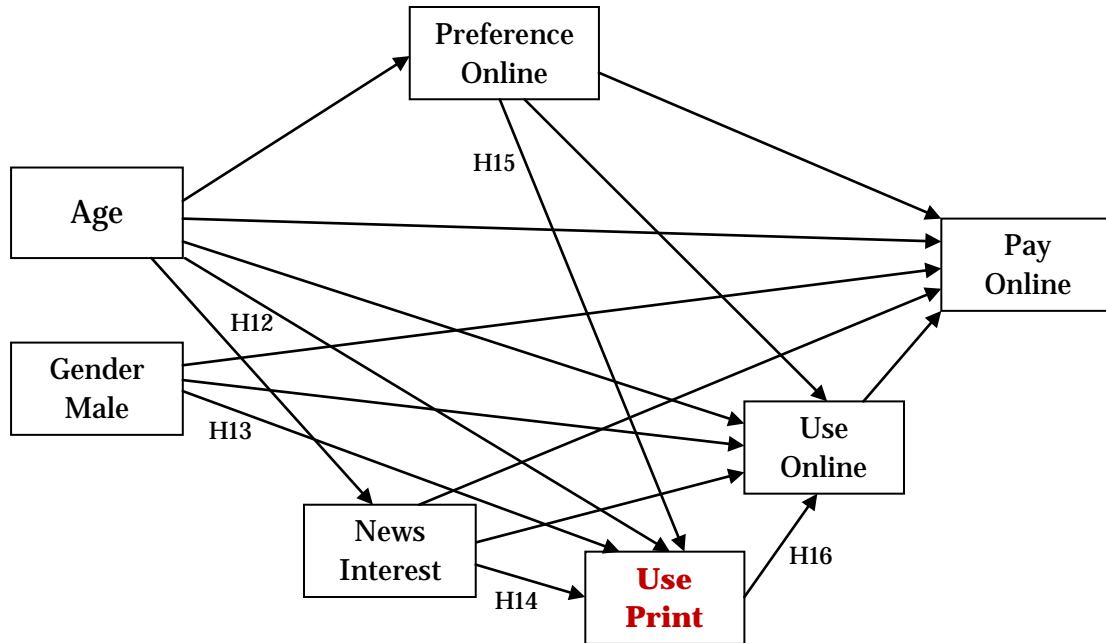
Specifically, age, gender, and news interest have long been identified as predictors of print newspaper use (Burgoon & Burgoon, 1980; Schoenbach, Lauf, McLeod, & Scheufele, 1999). Thus this study hypothesizes that:

H12: Age positively predicts print news use, controlling for everything else.

H13: Gender (being male) positively predicts print news use, controlling for everything else.

H14: News interest positively predicts print news use, controlling for everything else.

Because format preference was measured as a dichotomous variable (i.e., either print or Web format), preference for the online format denotes relative unfavorableness for the print format. Thus, this study hypothesizes that:

H15: Preference for the online format negatively predicts print news use, controlling for everything else.

Finally, as previous research has identified simultaneous use of online and print products (Chyi & Huang, 2011; Chyi & Lasorsa, 2002; Chyi et al., 2010; Gentzkow, 2007), this study hypothesizes that:

H16: Print news use positively predicts online news use, controlling for everything else.

Method

This study uses a Web-based survey that was conducted between August 3-6, 2010. The survey examined U.S. Internet users' news preferences, use, and paying intent in print and online formats.

Sample

Survey Sampling International (SSI), a research firm with more than thirty years of survey experience, provided the sample -- its North American online panel consists of more than 1.4 million active households, and it actively seeks to reach both highly visible and hard-to-reach groups on the Internet to ensure that its sample is representative of the U.S. online population (Survey Sampling International, 2008). The surveys, with participation incentives, were sent to SSI's panelists via email notifications.

For strengths such as efficiency, minimization of interviewer bias, and reduction of costs, online panel surveys have increased dramatically in popularity over the last decade (Fisher, 2005). Although online surveys tend to have lower response rates when compared to Random Digit Dialing (RDD), its forte lies in offering respondents the flexibility to choose when and where to complete the survey. Moreover, online surveys are less intrusive than telephone

surveys, which minimize the threat of social desirability effects that often comes with telephone surveys (Fisher, 2005).

A total of 767 respondents (18+ years old) completed the survey. The response rate was four percent. While this would seem low for surveys conducted via telephone or mail, response rate of this range is not unusual in online surveys (Baker, 2010). In addressing the issue of low response rate in online surveys, empirical studies have found no statistically significant differences when comparing results from online surveys with varying response rates among a variety of variables, suggesting that low response rates do not seriously threaten the quality of statistical estimates, contrary to conventional expectation (Keeter, Kennedy, Dimock, Best, & Craighill, 2006; Keeter, Miller, Kohut, Groves, & Presser, 2000). In terms of statistical power, the sample size of this survey (N=767) contributes to the stability of statistical analyses, and enables relatively reliable sample estimates (Shih & Fan, 2009).

When compared with the U.S. Internet population at large in terms of gender, age, income, and education, our survey sample over-represents females and those with lower income. To ensure that the demographic characteristics of our sample are generalizable to that of the U.S. Internet population, we weighted the data to gender and income. Table 1 compares weighted and unweighted sample distributions to population parameters on key demographic variables. The weighted sample (weighted N = 776) is reasonably representative of the U.S. Internet population.

Table 1

A Comparison of the Sample and the U.S. Internet Population

	Internet population[a] (%)	Sample unweighted (%)	Sample weighted (%)
Gender			
Male	48.4	35.7	50.7
Female	51.6	64.3	49.3
Age			
18-34	33.0	29.9	28.8
35-54	41.2	45.2	44.6
55+	25.8	24.9	26.6
Income			
Less than $50,000	36.6	64.3	35.8
$50,000 to $74,999	21.0	18.0	20.9
$75,000 to $149,999	30.7	14.7	31.0
$150,000 +	11.7	3.0	12.4
Education			
Did not attend college	40.2	35.3	28.0
Attended college	29.8	33.4	31.3
Graduated college plus	30.0	31.3	40.7
N	223,672,000	767	776

[a]Source: Mediamark Research & Intelligence data published by the U.S. Census Bureau, based on adults 18+ years old with Internet access as of fall 2008.

Survey Instrument

The survey, which on average took 10 minutes to complete, measured news interest, preference, use and paying intent both in online and traditional formats. The questionnaire was first developed based on results from a focus group of college students and was further revised after a number of pretests.

Age was measured by this question: What is your age? ____ years

News interest was measured by this question: *In general, how much do you enjoy keeping up with the news? (1 is "Not at all" and 5 is "A lot")*

Format preference was measured by this question: *Imagine that you are provided with a newspaper in both print and Web formats with the same content and at the same price. Which would you prefer? 1) Print, 2) Web*

Online/print newspaper use was measured by this question: *Do you access the print/website edition of your local newspaper(s) regularly? 1) Yes*

Paying intent for online newspapers was measured by this question: *Some newspapers are considering charging users for content online in the near future. How likely is it that you personally would pay for news and information on its Website? (1 is "Very unlikely" and 5 is "Very likely")*

Data Analysis

Using MPlus 6.1, this study estimates the proposed model using simultaneous maximum likelihood regression analyses, also known as the full information estimation approach, under the structural equation modeling (SEM) framework. This approach allows for holistic regression analyses of all parts of the model simultaneously, which offers a more accurate portrayal of the interrelationships among key variables by taking into account the structural model as a whole.

Results

The weighted sample is representative of the U.S. Internet population in terms of age and gender. Regarding news interest, 37% of the respondents indicated they enjoyed keeping up with the news a lot, while 7% said they did not enjoy it at all. In terms of format preference, 30% of

the respondents indicated they would prefer the Web edition, and 70% would prefer the print format, given the same content and the same price. In terms of online news use, 32% reported they accessed the Web edition of their local newspaper regularly. In terms of print news use, 64% accessed the print edition of their local paper regularly. Paying intent for online news was low -- 60% indicated that they are very unlikely to pay for online news; only 6% said they are very likely to do so.

Before testing the hypotheses, Spearman correlation analysis explored the relationship among the variables in both models. Table 2 summarizes the results.

Table 2

Correlations between Key Variables

	Gender (male)	Age	News interest	Preference (online)	Use print	Use online	Pay online
Gender (male)	—	.145***	.044	-.019	-.053	-.085*	.111**
Age		—	.195***	-.220***	.148***	-.210***	-.252***
News interest			—	-.068	.247***	.199***	.145***
Preference (online)				—	-.406***	.250***	.171***
Use Print					—	-.072	-.041
Use Online						—	.274***
Pay Online							—

Note. Cell entries are Spearman's *rho*. *Correlation is significant at the .05 level (2-tailed). **Correlation is significant at the .01 level (2-tailed). ***Correlation is significant at the .001 level (2-tailed).

Model 1

Goodness of fit tests for model 1. The fit of the first theoretical model that examines online news consumption was assessed using a maximum likelihood algorithm. The model is statistically over-identified, which is desirable for theory-driven Confirmatory Factor Analysis (CFA). Assessment of a variety of indices of model fit offers convergent evidence that the proposed theoretical model is a good fit for the data: The overall chi-square test of model fit was statistically non-significant, χ^2 (3) = 4.86, *n.s.* The Root Mean Square Error of Approximation (RMSEA) was .03. The p-value for the test of close fit was non-significant. The Comparative Fit Index (CFI) was .99. The Tucker-Lewis Fit Index (TLI) was .97. The Standardized Root Mean Square Residual (SRMR) was .02. Moreover, inspection of the modification indices revealed no sizeable, theoretically meaningful points of ill fit in the model.

Hypotheses testing. Simultaneous multiple regression analyses using maximum likelihood estimates under the structural equation modeling framework were performed to assess H1 through H11. As Figure 3 indicates, all hypotheses except for H6 were supported.

Specifically, age is a key factor influencing every aspect of online news consumption. Gender, in comparison, only affects paying intent. Paying intent for online news is influenced by five factors (age, gender, news interest, preference, and online news use), with age and news interest being the strongest predictors.

Indirect effects. In addition to direct effects, indirect effects on paying intent were also calculated. Nonetheless, such indirect effects were so minimal in relation to the direct effects reported in Figure 3 that they are not discussed separately.[7]

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[7] For example, total indirect effect of age on paying intent is b = -.01, *n.s.,* which is the sum of 1) Age to News Interest to Paying Intent, 2) Age to Preference for the Online Format to Paying Intent, 3) Age to Online News Use to

Figure 3

ML Estimation of Simultaneous Multiple Regression Analyses for Model 1
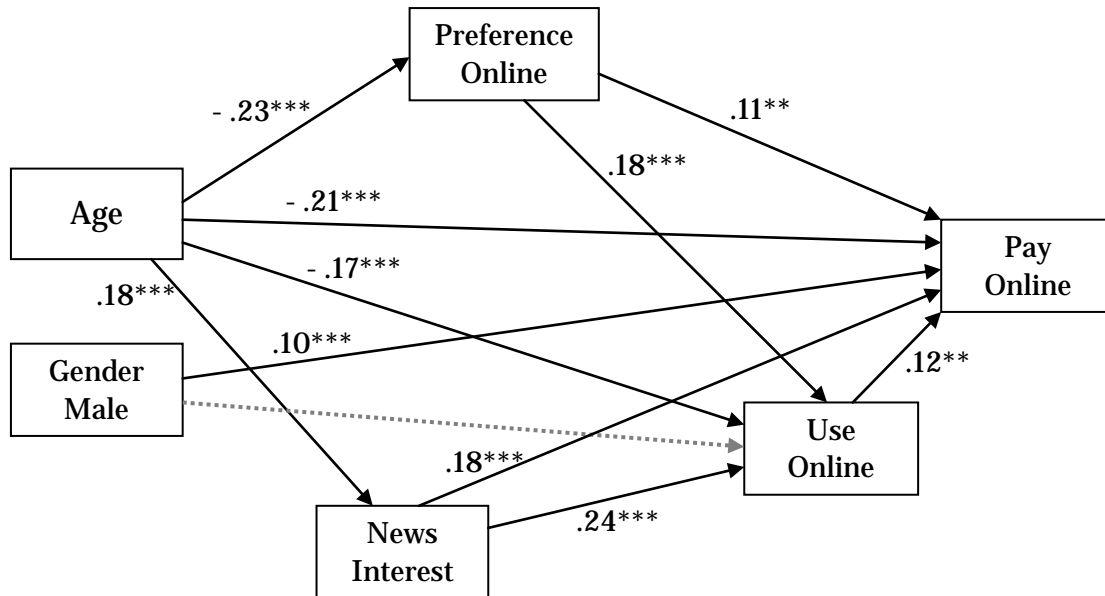
*Note: *p < .05, **p <.01, *** p < .001. χ^2 (3) = 4.86, *n.s.* RMSEA = .03. CFI = .99. TLI = .97. SRMR = .02.*

Model 2

Goodness of fit tests for model 2. The fit of the second theoretical model assessing the

role of print news use in online news consumption (H12 through H16) was evaluated using a

maximum likelihood algorithm. The model is statistically over-identified, which is desirable for

theory-driven Confirmatory Factor Analysis (CFA). A variety of indices of model fit was

evaluated, and these indices uniformly point toward a good model fit: The overall chi-square test

of model fit was statistically non-significant, χ^2 (3) = 4.86, *n.s.* The Root Mean Square Error of

Approximation (RMSEA) was .03. The p-value for the test of close fit was non-significant. The

Paying Intent, 4) Age to News Interest to Online News Use to Paying Intent, 5) Age to Preference for the Online
Format to Online News Use to Paying Intent.

Comparative Fit Index (CFI) was 1.0. The Tucker-Lewis Fit Index (TLI) was .97. The Standardized Root Mean Square Residual (SRMR) was .02. Moreover, inspection of the modification indices revealed no sizeable, theoretically meaningful points of ill fit in the model.

Hypotheses testing. Simultaneous multiple regression analyses using maximum likelihood estimates under the structural equation modeling framework were performed to estimate Model 2. As Figure 4 indicates, all of the results for H1 through H11 in Model 2 are qualitatively the same when compared to those in Model 1. With the inclusion of print news use, five more hypotheses were tested in relation to the entire online news consumption model. Whereas H12, H13, and H16 are not supported by the data, H14 and H15 are supported (see Figure 4).

Specifically, this model tested the role of print news use and its relationship with other news consumption factors. It is surprising that neither age nor gender directly influences print news use after controlling for all other structural components, and instead only news interest and format preference do. Additionally, print news use does not predict online news use or paying intent for online news.

Indirect effects. In addition to direct effects, indirect effects on paying intent were also calculated. Nevertheless, indirect effects are not reported separately for their minimal effects in relation to the reported direct effects in Figure 4.

Figure 4

ML Estimation of Simultaneous Multiple Regression Analyses for Model 2
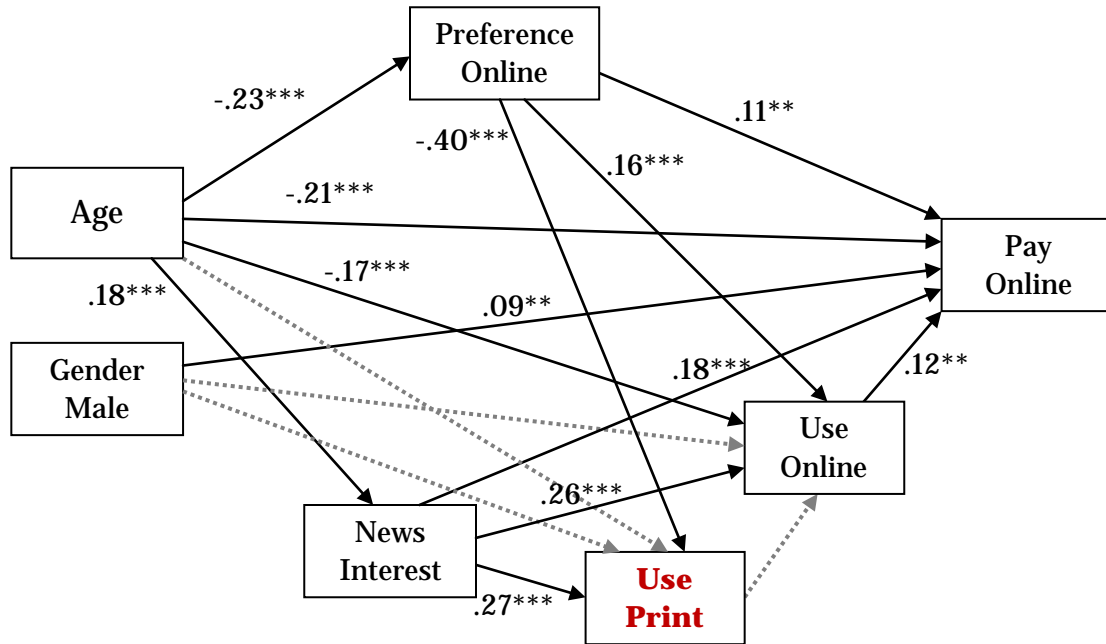
Note: *p < .05, **p <.01, *** p < .001. χ^2 (3) = 4.86, *n.s.* RMSEA = .03. CFI = 1.0. TLI = .97. SRMR = .02.

Discussion

This study advances media research by proposing two holistic theoretical models that account for the interrelationship among key variables relevant to online news consumption identified in previous studies. Theoretically, this approach is unique in that, for the very first time, key predictors of online news consumption and their recursive relationships are mapped out, revealing the complexity of online news consumption. Online news use, for example, is in reality both an independent variable and a dependent variable in relation to the larger picture, and this model accounts for its intricacy by conceptualizing news use as an endogenous variable so as to examine its role in the network of multiple structural components.

Methodologically, the strength of this study lies in its use of structural equation modeling as analytical tools. In addition to the theoretical soundness of our proposed models based on existing literature in this area of research, SEM estimates the fitness of theoretical models through an advanced statistical lens. Convergent evidence from a variety of goodness of fit tests suggests that both proposed models are not only theoretically but also empirically desirable. Moreover, the SEM techniques also enable the examination of each variable's net effects on multiple endogenous variables on the other things being equal basis, the benefit of which is made evident in this study. For example, certain bivariate relationships (e.g., correlation between age and print news use, or correlation between gender and online news use) disappeared after controlling for other key variables in the model, suggesting the SEM approach effectively accounts for previously unexamined spurious relationships among variables that have mistakenly been taken for granted, and offers clarifications on some of the confusions about news consumption.

The results carry important implications for media scholars as well as news professionals in their attempt to understand audience behavior. Specifically, the following findings warrant further discussion:

First, the results distinguished *preference* from *use* -- format preference only has a minor influence on online news use ($b = .16$ to $.18$, $p < .001$). Second, *use* does not translate automatically to *paying intent* ($b = .12$ in both models, $p < .01$), which may explain the low subscription rate encountered by newspapers when erecting paywalls around their online content. Third, as to what determines paying intent, the results presented a fairly complicated picture -- as many as five factors (age, gender, news interest, preference, and online news use) have direct impacts on paying intent. Among them, however, age ($b = -.21$ in both models, $p < .001$) and

news interest (b = .18 in both models, *p* < .001) are the strongest predictors. Such findings present a dilemma -- while younger people are more likely to pay for online news, they tend to have lower interest in news compared with other age groups (Mindich, 2005; Prior, 2007). Indeed, in this era of information surplus, how to compete with the endless stream of entertainment-oriented content and to maintain news interest among the general public has become one of the biggest challenges facing the news industry (Chyi, 2009). Future research on potential intervention measures to promote news interest among young adults may explore the progression from interest, use, to paying intent, as proposed by this study.

While this study focuses on the consumption of online news, results from Model 2 revealed findings about print newspaper use unseen in previous research. That is, after controlling for all key determinants of online news consumption, format preference (b = -.40, *p* < .001) and news interest (b = .27, *p* < .001) turned out to be the real predictors of print news use, while age and gender (both have been considered major drivers of newspaper use in the literature) have no net effects at all. Such counter-intuitive findings illustrate the superiority of a holistic theoretical approach to news consumption studies, as well as the effectiveness of SEM techniques in estimating net effects of key variables while taking simultaneous regression analyses and model fit into consideration. Most importantly, this implies that the long-lasting print business model is supported not by particular demographic groups, contrary to popular misconception, but by attitudinal factors such as format preference as well as news interest.

Limitations and Future Studies

This study is based on an online survey. As a result, only Internet users were included in the analysis, which may raise questions about the generalizability of the findings. Yet, because

this study focuses on online news consumption, it is reasonable to assume the exclusion of non-users of the Internet has little impact on the generalizability of the results.

Second, while the proposed theoretical model includes most key factors identified by existing research, since online news consumption is still a relatively new area of research, the proposed models are by no means definitive (despite their statistical soundness). Nonetheless, the proposed models serve as starting points for future reassessments or explorations in online news consumption studies.

Overall, as news media's online experiments go on, a better understanding of consumer behavior should rely on rational analysis as opposed to guesswork or wishful thinking. By theorizing online news consumption, this study summarizes previous studies and provides a plausible framework for future studies to address more fully the complexity of online news consumption.

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