Internet Marketing the News:
Same players, different playground

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Abstract

In 450 years of existence, the written press has never faced a change with the intensity of the Internet. The present study examines to what extent consumption patterns of digital news differ from those of printed news. Both a cross-sectional and a time-series analysis are applied to daily data of 15 Spanish newspapers. On the one hand, we find that the awareness and strength of the brand in the marketplace can be leveraged into the marketspace. On the other hand, the vastly different usage patterns and demographics of the Internet audience require newspapers to adapt to the new medium.

1. Purpose

The number of newspapers available on the Internet has been steadily growing over the past two years. In most developed countries, almost all of the major newspapers either have an online presence or are currently in the process of implementing projects for doing so. One important reason for this phenomenon is the exponential growth of Internet availability to consumers. Second, reading the news online is becoming more and more of a habit. Editors are afraid that if they do not go online as soon as possible, they will lose their readers to the competition. In emerging markets such as digital news, market shares are more likely to be in evolution than in equilibrium. Third, most newspapers can afford the initial investment required to set up an digital edition, since most of the cost has already been invested to create the printed version. Finally, the Internet offers a variety of revenue opportunities such as pay-per-use and advertising-per-exposure and the interactivity of this medium promises to revolutionize classified advertising, a major source of revenue for many newspapers. However, the Internet also poses a major challenge, as the needs and consumption patterns of digital news consumers may differ from the typical readership in the physical world. Both editors and advertisers have a keen interest in the question that is the focus of our paper: to what extent can newspapers leverage their print popularity into Internet success and to what extent do they have to adapt to the specific characteristics of this medium?

2. Theoretical framework:

Recent marketing literature considers the Internet both as a major opportunity and as a major challenge for newspapers. A theoretic rationale is provided by Peterson et al. (1997), who develop a classification of products and services in the context of the Internet. A product such as a newspaper is classified as a low outlay, frequently purchased good, with a value proposition of intangible or informational nature, and a high differentiation potential, attributes that ensure a great advantage in using the Internet as a channel. The challenge for newspapers is twofold: satisfying consumer demand and ensuring revenues in a new medium characterized by different consumption patterns and intensified competition (Palmer et al, 1999). This paper first analyzes how daily readership patterns in the physical world translate to the Internet. Thereafter, overall popularity of the digital version is explained by the existing reputation of the printed newspaper and its fit with the readership profile on the Net. Finally, we examine patterns of growth and

evolution in readership and usage depth. These issues have profound implications for the newspaper's struggle to obtain funds for its digital version from advertisers and consumers.

Watters et al (1998) apply two behavioral theories to news reading: *uses and gratification* (Dozier and Rice, 1984) and *ludenic* or *play* (Stephenson, 1967). The first theory considers a user with some specific goal. The second theory suggests an intrinsically pleasurable, spontaneous process. Bogart (1992) demonstrates that people read the weekend paper in a more detailed and relaxed way. We expect a similar pattern on the Internet, reflected in deeper usage.

Hypothesis 1: *The number of pages per visit is higher during weekends than during weekdays.*

Printed newspapers usually increase their circulation approximately 50% on weekends. In contrast, we expect Internet newspapers to show the exact opposite. Two different effects may cause this phenomenon. First, general Internet usage decreases in the weekend, because some users can only access the Net from their workplace. Second, consumers may substitute the digital version with the appealing weekend print edition, even when they have a connection at home.

Hypothesis 2a: *Weekend readership will be lower than weekday readership.*

Hypothesis 2b: *The decline in weekend readership will be more pronounced than the weekend decline in general Internet usage.*

A common view on Internet marketing claims that the reduction of consumer search costs will lead to dwindling product differentiation and vanishing brand loyalty (Kuttner, 1998). Brynjolfsson and Smith (1999) find strong evidence against this assertion, and conclude that heterogeneity in consumer awareness and trust are at least as important in the digital as in the physical world. In absence of direct data on awareness and trust, the audience of the print version acts as a proxy for the brand strength of the newspaper.

Hypothesis 3: *The larger the audience of the printed newspaper, the more readers will be attracted to its Internet edition.*

Although popularity in the real world may establish a baseline for awareness on the Net, newspapers know that Internet access is not universal yet. In fact, the demographic profile[1] of the typical Internet user could be vastly different from the typical print customer. Consistent with the marketing concept, we expect newspapers with a closer profile to that of the Internet to get a higher number of readers in its Internet edition, controlling for the effect of size.

Hypothesis 4: *The higher the degree of similarity in demographic profile between newspaper's readers and Internet users, the more readers will be attracted to its Internet edition.*

Finally, digital news is an emerging market, and thus offers more opportunity for evolution than mature markets (Dekimpe et al., 1999; Bronnenberg et al., 2000). Therefore, we expect to find more evolution in consumer numbers for digital news than for print news. Moreover, behavioral patterns of existing digital consumers are likely to change as they are getting more used to the Internet as a news medium. In particular, the goal-oriented focus of the first digital steps, will gradually give way to a more ludenic or play approach. Therefore, we also expect that the usage depth (pages per visit) will experience positive evolution over time.

Hypothesis 5a: *Digital news readership experiences more evolution than print news readership.*

Hypothesis 5b: *Usage depth of the digital newspaper experiences evolution over time.*

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[1] Global proximities of demographic profiles are calculated by a Euclidean dissimilarity coefficient matrix.

3. Data and method

The present study analyzes data from 15 Spanish Internet newspapers audited by the OJD (the Spanish equivalent of the Audit Bureau of Circulations), in periods ranging from 10 to 28 months. The examined newspapers include six national, six regional and three provincial papers. Twelve newspapers have a general scope, whereas two focus on economy and one on sports.

Variables include the number of daily visits and pages read. Additionally, we characterize general Internet activity in Spain with data from Olé, the most popular Spanish search engine. Moreover, consumption of the paper edition is described by circulation (copies sold), audience (actual readership), and by demographic profile. This last variable is measured along four dimensions: age, gender, socioeconomic status (SES) and level of education, and is available both for the printed newspapers as for the general Internet audience.

The first step in our analysis consists of unit root tests for all daily and weekly series. This procedure allows a direct assessment of hypothesis 5, and addresses the problem of spurious correlation for series with different levels of integration (Granger and Newbold, 1977). The Augmented Dickey-Fuller test is performed for each series in several different versions, allowing for multiple lags and for a deterministic time trend (Dekimpe et al, 1999). In each case, Schwartz's Bayesian Information Criterion (BIC) guides our choice for the appropriate version of the test. This criterion consistently estimates the lag structure by minimizing the sum of squared errors and model complexity. For the daily series, the ADF-test rejects the unit root for all visitor series, all but two of the pages series and all but 4 of the usage depth series. For the weekly series, one newspaper experiences evolution in visitors but not in pages, six in pages but not in visitors, two in both visitors and pages, and six in neither series. Finally, the weekly number of pages per visitor evolves for 60% of the newspapers.

A panel data model was used to combine cross-section and time series data. Two panels are generated. The first panel is designed to test Hypotheses 1, 2a and 2b, by analyzing daily data for all 15 newspapers in order to measure day-of-week effects. The second panel tests Hypotheses 3 and 4 with weekly data and uses only the 12 newspapers for which audience data are available. Estimation by Seemingly Unrelated Regression (SUR) is preferred due to the presence of both heteroskedasticity and contemporaneous correlation. The model for the first panel is:

$$Log\ (Vis_{it}) = a_i + b_1\ Vac_t + b_2\ Gr_{it} + \sum_{j=1}^{6} d_j\ Wd_{jt} + r\ Log\ (Vis_{t-1}) + e_{it} \qquad (1)$$

The fifteen digital newspapers are the observational units. The log of the number of weekly visits (Vis_{it}) is the dependent variable. As independent variables, we use a dummy variable for each day of the week (Wd_{jt}), a dummy for vacation periods (Vac_t), a linear trend to reflect growth (Gr_{it}) and a first-order auto-regressive coefficient (Vis_{t-1}), as suggested by the Durbin-Watson and the Schwarz criterion test. The intercepts (a_i) are unit-specific (fixed effects), due to large magnitude differences. Finally, the error term (e_{it}) allows for heteroskedasticity and contemporaneous correlation.

SUR estimation of this model for visitors yields a high fit (R^2 =.99). The coefficients for the days of the week are all significant at .05 level. In relation to Friday, the weekdays Monday (.08), Tuesday (.07), Wednesday (.05) and Thursday (.03) show positive coefficients, while Saturday and Sunday display negative ones (-.46 and -.40 respectively). The effect of vacation periods is negative and significant.

The same analysis is performed with log of pages per visit as the dependent variable. In this case, SUR estimation yields an R^2 of .83. In relation to Friday, coefficients are negative for Monday (-.06) and Thursday (-.08), but positive for Saturday (.16) and Sunday (.28).

Finally, we compare our panel analysis with an individual OLS regression on Internet activity, using the same parameters. In relation to Friday figures, Olé visits are slightly higher for Tuesdays, and lower for Saturdays and Sundays (-.28 and -.31), although the size of this weekend effect is significantly smaller than that for newspapers. Regarding pages per visit, only Sunday shows a significant difference with the rest of the week (-.12).

For Hypotheses 3 (size) and 4 (demographic profile), the model is:

$$Log\ (Vis_{it}) = \textbf{\textit{a}} + \textbf{\textit{b}}_1\ Log\ (Aud_i) + \textbf{\textit{b}}_2\ Dem_i + \textbf{\textit{b}}_3\ Vac_t + \textbf{\textit{g}}_i\ Gr_{it} + \textbf{\textit{r}}\ Log\ (Vis_{t-1}) + \textbf{\textit{e}}_{it} \quad (2)$$

Twelve digital newspapers are the observational units. Independent variables are: the log of the printed newspapers' audience (Aud_i), proximity in demographic profile (Dem_i), a linear trend for growth (Gr_{it}), a dummy variable for vacation periods (Vac_t) and the auto-regressive coefficient (Vis_{t-1}). Except for Growth, coefficients are restricted to be common across units. The intercept is common ($\textbf{\textit{a}}$) since the audience variable controls for size differences.

SUR-estimation of this model yields an R^2 of .97. Significant effects are present for Audience, similarity in demographic profile, and vacation periods.

4. Discussion of Results

The findings support the proposed hypotheses. Our first hypothesis predicts similar readings patterns for digital and print news. Our results show indeed that consumers read more pages per visit in the weekend versus weekdays. This finding replicates the conclusions made by Bogart (1992) for printed newspapers. Thus, weekday consumption displays the *uses and gratification* approach (conscious search for useful information), while weekends represent the *ludenic* or *play* approach (more leisure-oriented and driven by plain curiosity).

Hypothesis 2a is also supported by our results. In contrast to the relatively stable intra-week pattern, visits drop to about a half during weekends. It is highly improbable that this decline is entirely due to lack of Internet connection at home. First, the weekend plunge is significantly smaller for Internet activity than for newspapers. Second, during the observation period, the number of Internet users in Spain almost doubled (3.9% to 7.1% over the adult population) and the number of homes equipped with a computer grew from 19% to 24% (Asociación para la Investigación en Medios de Comunicación, 1999). If home connection alone were responsible for the weekend plunge, this drop would gradually fade over the time period. We replicated our analysis separately on the first and second half of the observation period. Our results show that the weekend effect is at least as pronounced in the later than in the former half of the data. Therefore, the size of the Internet weekend effect is amplified for digital newspapers.

Hypothesis 3 links the audience for the printed newspaper with digital readership. We find substantial support: the elasticity of the visits with respect to audience is .75. Moreover, the fixed effects obtained in the daily data model, show a .70 correlation with newspaper audience. However, the introduction of profile similarity yields a significantly higher fit for the weekly model. Newspapers with demographic profiles close to that of the Internet consistently get a higher number of visits than expected in view of their audience. The strongest results are obtained for the two economic and the sports newspaper. The economic newspapers strongly benefit from their fit with the Internet public in all four measures: gender, SES, age and education level. The sports newspaper represents the other extreme: its printed version has the largest audience in Spain, whereas its digital version gets four times less visits than El País Digital. In summary, hypothesis 4 is supported.

Finally, the emerging digital news market shows higher readership growth than the market for printed news. A deterministic trend is significant for 2 out of 3 newspapers, and a stochastic trend (evolution) in is observed for 20% of the newspapers. In contrast, growth is virtually absent for printed newspapers. As for pages per visit, 60% of all digital newspapers show evolution. As readers are getting used to the Internet medium, the usage depth for the digital newspaper increases. Hypotheses 5a and 5b are supported.

5. Implications

The present study offers new evidence and insight into the digital news market. First, readership numbers on the Net strongly differ from those in the physical world: the business importance of the weekend versus weekdays is reversed. Similar to printed news however, those readers who do choose the Internet edition tend to read more pages on the weekend. Second, the popularity of the digital newspaper is influenced both by the audience size of its printed edition, and by its profile fit with that of the typical Internet user. Third, the market for digital news shows more evolution than the market for printed news, but several newspapers do not share in the growth of consumers and/or usage depth. Depending on the source of the (advertising) revenue for the digital version, newspapers may have to concentrate on either increasing the number of visitors, or the number of pages (and thus banner ads) read. Finally, the usage depth of the digital newspaper evolves over time: the typical reader visits more pages. Most likely, digital newspapers are originally visited in a goal-oriented mode, whereas the hedonic playing mode develops later. Given that most newspapers get funding from advertising (Palmer and Eriksen, 1999), these companies should focus advertisers on the number of pages read (and thus opportunity to see the specific ad) instead of simple subscriber numbers.

Implications for managers are multifold. First, take into account the way the existing brand image and the expected Internet audience fit. A good image fit, together with high brand awareness, greatly increases the potential digital readership. Otherwise, digital versions may want to display and advertise a different image than their printed counterparts. It is up to the manager to decide whether this differentiation is beneficial or detrimental for brand name consistency. The second implication is related to weekly patterns of consumption, and to the way the pre-existing patterns from the physical world interact with those of the Internet. A careful study of these patterns is essential for demand analysis and prediction: editors could use such studies to decide upon where to place advertising and how to price it, when to increase featured articles or series to improve readership in specific days, and how to design marketing strategies without compromising the quality of service. Our findings also have strong relevance for advertisers. First, they need to know the size and profile of the audience that visits the specific newspapers. Second, the growth differences for visitors and pages per visit provide insights into the future developments of their newspaper of choice. Finally, our findings have implications for the placement and pricing of advertising. At the moment, the standard contract involves a fixed fee for the placement of a banner ad during a certain period. In contrast, printed newspapers maintain vastly different prices for different days of the week. Our analysis suggests a translation of this price structure to the Internet, based on the intra-week readership dynamics.

Our study is limited to market level data for one country, and future research should tap into individual consumer behavior in different regions of the world. The future of the Internet as a new media for newspapers is still unknown. Multimedia applications and interactive approaches (news-on-demand) are under full development. From this perspective, our study attempts to capture the moment in which newspapers first enter this new medium, and the way consumers react to Internet marketing the news.

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Table 1: Descriptive data of the newspapers in the sample

Nameplate	Code	Geographic Ambit	Type	Circulation*	Audience**	Controlled period
La Vanguardia	LVA	Regional	General	210,012	640	May 97-Aug 99
El Correo Gallego	ECG	Provincial	General	16,507	N/A	May 97-Aug 99
Canarias 7	CA7	Provincial	General	36,796	166	Jun 97-Aug 99
El Diario Vasco	DVA	Provincial	General	93,553	344	Jul 97-Aug 99
El Mundo	EMU	National	General	284,519	926	Sep 97-Aug 99
ABC	ABC	National	General	301,054	952	Dec 97-Aug 99
El Pais	EPA	National	General	440,628	1,572	Jan 98-Aug 99
La Rioja	LRI	Provincial	General	16,064	N/A	Feb 98-Aug 99
El Periódico de Catalunya	EPC	Regional	General	207,772	912	Mar 98-Aug 99
Expansión	XPA	National	Economic	48,170	133	Jun 98-Aug 99
Marca	MAR	National	Sports	458,441	2,440	Jun 98-Aug 99
Levante	LEV	Regional	General	53,676	349	Jul 98-Aug 99
Cinco Días	CIN	National	Economic	26,655	N/A	Nov 98-Aug 99
Diario de Navarra	NAV	Provincial	General	63,212	228	Aug 99-Aug 99
Avui	AVU	Regional	General	34,156	138	Nov 98-Aug 99

* In number of copies sold, data from OJD
** In thousands of daily readers, data from AIMC

Table 2: Selected descriptive statistics

Nameplate	Observations	Visits*		Pages*		Pages Visits	Demographic Profile**
		Average	St. Dev.	Average	St. Dev.		
La Vanguardia	836	3,799	1,509	22,632	12,148	5.96	61.68
El Correo Gallego	843	207	68	872	274	4.21	N/A
Canarias 7	789	582	153	2,214	731	3.80	90.36
El Diario Vasco	766	967	451	6,983	2,853	7.22	84.5
El Mundo	711	20,360	7,249	128,498	50,752	6.31	53.33
ABC	631	8,951	2,835	38,200	11,326	4.27	62.1
El Pais	582	42,109	14,438	300,320	97,358	7.13	55.7
La Rioja	577	229	97	2,166	962	9.46	N/A
El Periódico de Catalunya	525	4,089	1,312	56,575	17,209	13.84	76.81
Expansión	450	7,116	3,509	36,277	15,831	5.10	53.58
Marca	452	11,428	4,485	87,274	57,568	7.64	81.77
Levante	409	878	430	13,851	7,580	15.78	76.05
Cinco Días	291	6,405	4,215	38,858	21,118	6.07	N/A
Diario de Navarra	274	715	279	4,403	1,906	6.16	89.33
Avui	304	1,752	487	24,825	7,730	14.17	63.84

* Data from OJD
** Data from AIMC, transformed