U.S. Newspapers and the Development of Online Editions

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Abstract

Media managers in the 21st century will need to constantly assess and respond to emerging technologies that have the potential to disrupt the industry. This project examined the innovation-management processes that the newspaper industry used to respond to the Internet as an emerging technology and to decide how their organizations were going to respond to it.

One of the primary challenges facing media managers in the early 21st century is the constant influx of emerging, potentially disruptive technologies into the marketplace. Disruptive technologies are defined as “science-based innovations that have the potential to create a new industry or transform an existing one” (Day & Schoemaker, 2000). In the media industry, these can take the form of a technology that changes how existing media are produced or promoted – such as High Definition Television (HDTV) – or they can be a wholly new technology-based information product that threatens the very existence of current media. The problem for media managers is to identify those technologies that are potentially disruptive and to respond to them in an appropriate and timely manner.

Doing so is no easy task. Management research shows that firms usually must decide whether and how to engage an emerging technology before its future role and likely impact on an industry are clear (Day & Schoemaker, 2000). However, organizational research has identified some processes that firms can use to minimize the risks of new technology adoption and maximize the likelihood that the firm will have a positive outcome from the process (Wheelwright & Clark, 1992).

This study sought to examine the degree to which newspaper managers were using the types of systematic technology-evaluation and adoption processes recommended by management experts as the newspaper industry faced emerging and potentially disruptive technologies. The study examined the processes daily newspaper managers in a Southeastern state in the United States used over the past decade to evaluate the Internet as an emerging technology and to decide how their organizations were going to respond to it.

Literature Review

As the pace of global innovation increases, the study of innovation management is rapidly growing in importance. While some industries are more affected than others by the gale force of new technologies, few organizations in the 21st century will completely escape the impact of innovation. Thus, being able to manage emerging technologies is becoming essential to organizational success (Day & Schoemaker, 2000).

The study of innovation management is, of course, not new. Management research has long focused on the issues and processes of new product development, and the literature in that area is robust. In traditional management re-
search, an industry’s approach to innovation management is considered an element of market conduct and is seen as key to helping industries and organizations maintain their competitive edge (Abernathy & Dunlop, 1995). Industrial/organizational research has argued that firms need to conceptualize innovations as fully as possible so that the design reflects customer needs, market structure, technological capability and the firm’s unique competencies (Dougherty, 1996). How a firm approaches organizing for, and managing, emerging technologies affects subsequent organizational performance. Rogers (1995) noted that in organizations, the implementation of new technologies or processes amounts to mutual adoption in which both the innovation and the organization change in important ways. Thus, management scholars have been concerned with finding the appropriate adoption and development strategies for firms. However, innovation management research has tended to focus on individual projects, small organizations and best practices (Dougherty, 1996), and has remained largely prescriptive and atheoretical.

Within the media management and mass communication literatures there has been even less focus on innovation management as an area of study, despite the rapid changes that have overtaken media production and distribution technologies in recent years. Indeed, Day and Schoemaker (2000) identified the media industry as one of those that was most affected by technological innovation in the 1990s. However, most research on media organizations’ responses to emerging technologies has focused on the effects of those technologies on employee job satisfaction (Daniels & Hollifield, in press; Russial, 1994; Stamm, Underwood & Giffard, 1995). This gap in understanding of innovation management exists in the media management literature despite the industry’s negative experience with Videotext in the 1980s, a spectacular failure that made newspaper executives wary of investing in similar new technologies (Day & Schoemaker, 2000).1

One of the factors driving current interest in innovation management research is the recognition that many emerging technologies are, in fact, potentially ‘disruptive’ to organizations and industries. Disruptive technologies force industries and organizations to continuously adjust to a changing environment and threaten their very existence. In 1994, Day and Schoemaker of the Wharton School of Business launched a comparative study of innovation management across multiple industries that had been confronted with potentially disruptive technologies during the late 20th century (Day & Schoemaker, 2000). The purpose of the study, which looked at the media, biotechnology, retailing, pharmaceuticals, and computer industries among others, was to identify common issues managers and industries face during periods of significant technological change.

Among the issues the study found to be critical for managers to successfully deal with when faced with emerging and potentially disruptive technologies were: 1) evaluating the technology; 2) deciding whether, when and how aggressively to commit to it; 3) deciding how to develop a new technology-based product for an entirely new market; and 4) deciding how to design the organization to accomplish these tasks in such a way as to ensure that the organization would stay competitive in the new environment created by the technology.

Studies of innovation management and new product development, in general, have identified steps in the organizational- adoption process that appear related to improved likelihood of success when a company engages a new technology. These steps include: 1) conducting a pre-adoption technology-assessment-and-forecasting investigation; 2) conducting a market-assessment-and-forecasting investigation, and; 3) developing specific organizational objectives for the innovation development or adoption process (Wheelwright & Clark, 1992). Following these three steps, the research suggests that organizations should then develop an aggregate project plan and translate it into a defined strategy for project management and execution. The final step in successful innovation management is a post-project assessment and learning process.

Also key to the success of the innovation process is the use of multi-functional, cross-departmental teams that tap the full range of knowledge in the organization (Atuahene-Gima & Li, 2000; Bonner, 1999; Wheelwright & Clark, 1992). Karlsson and Ahlstrom (1997) found that when an organization’s product development strategies closely matched needs in the marketplace, innovation became a formidable competitive weapon. Other research has shown that new product development was improved when customer input was sought (Bonner; 1999; Souder, Sherman & Davies-Cooper, 1998; Song & Xie, 1995), when marketing and technical teams had equal influence on the development process (Atuahene-Gima & Li, 2000; Bonner, 1999), when there were good interdepartmental relationships among those on the development team (Bonner, 1999), and when senior management was involved in the development effort (Karlsson & Ahlstrom, 1997; Ruekert & Walker, 1995). Senior management’s success in setting specific and realistic guidelines for development also was found to be strongly related to the development team’s ability to meet both budget and deadlines.

Within the innovation management literature, however, ‘emerging technology’ has generally been considered a monolithic concept. Scholars have not examined whether organizational innovation-management responses are shaped by the nature of the technology.
its role – that is, by whether the technology is disruptive or perceived to be potentially disruptive by the organization. This study seeks to fill part of that gap in the literature by examining media organizations’ responses to the emergence of the Internet.

The Internet as a Potentially Disruptive Technology for Media Companies

For media firms, the Internet as an emerging technology posed a particular dilemma because of the industry’s experience with Videotext in the 1980s (Day & Schoemaker, 2000). When the Internet emerged as a publicly accessible communication system in the early 1990s, newspaper executives had to decide whether it was simply a new production technology, a new product that eventually might replace traditional media, some combination of the two, or the next Videotext sinkhole.

Unlike Videotext, however, the Internet was not a proprietary technology. And, as a public access, text-based communication technology, it posed specific dangers to the newspaper industry’s classified advertising revenue by providing a vehicle through which non-newspaper companies could sell and distribute classified ads. No other form of media had ever mounted a serious competitive threat for classified advertising (Schoemaker & Mavaddat, 2000). The Internet also created new competition for local banner advertising sales (Fratrik, 2001), and attacked the editorial side of newspapers’ markets by providing a vehicle for TV and radio stations, cable systems and independent journalists to provide on-demand news stories in print. Industry experts predicted that eventually national online news providers such as cnn.com and yahoo.com would begin providing local news online (Schafer, 2001).

Despite these potential threats, most media firms were optimistic about the Internet. Nine out of 10 newspaper publishers believed that online newspapers would not replace print dailies, but rather would open new avenues for the newspaper industry (Peng, Naphtali & Xiaoming, 1999). Publishers said they started online editions in order to reach new readers, gain an advantage over the competition, and stay on the cutting edge of technological development. Other research showed that traffic for local online dailies came from their existing readers, while the national newspapers reached mutually exclusive readers in their online and print editions (Chyi & Lasorsa, 1999).

Research Problem

This study examined the innovation management processes used by daily newspaper managers when faced with the emergence of a potentially disruptive technology in the 1990s: the Internet. The study sought to fill the conceptual gap in the innovation-management literature by examining whether newspaper executives’ views of the Internet as either potentially disruptive or non-disruptive were related to the innovation-management process that the organization used. Specifically, the project looked at the relationship between the publisher’s conception of the technology as potentially disruptive or non-disruptive and the resources the newspaper put into new media, the way the newspaper organized its online development project, and the degree to which the organization perceived those efforts were successful in meeting organizational goals.

Additionally, the study sought to assess the degree to which executives in the newspaper industry had used the innovation management strategies that previous research has suggested lead to more successful outcomes in technology adoption. The study used the Wheelwright and Clark model (1992) to assess the technology development strategy used by newspapers. The following hypotheses were tested:

H1: Newspaper publishers who viewed the Internet as potentially disruptive will
a) have invested more resources in the development of online operations
b) have been more likely to have used audience feedback during development of their online operations
c) have been more likely to have used cross-functional teams in the development of their online operations
d) have been more likely to have created a comprehensive new product as measured by the number of features they had on the Web site than will have newspapers with publishers who viewed the Internet as a less-significant, non-disruptive innovation from the standpoint of the newspaper industry.

H2: Newspapers that used a model similar to the one recommended by Wheelwright and Clark (1992) for developing their online operations have been more likely to describe their online operations as successful, according to internal company standards.

Method

To answer the question and hypotheses, a comparative analysis of the development processes that daily newspapers had used in creating their online editions was undertaken. The study was based on a telephone survey of publishers of daily newspapers in a single state in the Southeastern United States. The state is one of the largest in the region. It contains a major urban area that is considered a regional economic center and several mid-sized cities. Large areas of the state remain rural and are populated with small towns, some of which have their own newspapers. The state’s population is highly diverse in terms of both ethnic makeup and socioeconomic characteristics. During the 1990s, the state saw a period of rapid economic expansion and sharp population growth.

The newspaper industry in the state at the time of the project consisted of 34 daily newspapers of which 24 were morning papers and 10 were evening...
papers at the time of the study (Editor and Publisher International Yearbook, 2000). Newspaper circulation sizes in the state ranged from just over 4,000 to more than 300,000 on an audited basis. Only 18 per cent of the newspapers in the state were independently owned, with the majority being owned by either newspaper chains or media groups.

Using the newspaper as the unit of analysis, a census of the 34 dailies in the state was attempted. A total of 23 newspapers agreed to participate, for a response rate of 68 per cent. The papers that responded were mostly small and medium-sized: 44 per cent had a circulation of less than 10,000, 35 per cent had a circulation between 10,000 and 25,000. Only 9 per cent had a circulation between 25,001 and 50,000. Only 9 per cent had a circulation of less than 10,000, 35 per cent had a circulation between 25,001 and 50,000, while 13 per cent had a circulation between 50,001 and 100,000.

A standardized survey instrument was used to conduct the interviews. The researchers interviewed the newspaper publisher in all but three cases. In those cases, the publisher referred the researchers to an individual in the newspaper who was better able to respond to the specific questions asked in survey. Generally, those referrals were made because the publisher had not been with the newspaper at the time that the online edition was developed.

In all, 13 publishers who oversaw 20 daily newspapers in the state were interviewed. Additionally, at three newspapers, the editor was surveyed instead of the publisher on the publishers’ recommendations. Where a publisher was responsible for more than one daily newspaper, the respondent was asked to address the development processes used at the different newspapers as individual cases. The interviews were conducted in spring 2001.

The main independent variable for the study was newspaper executives’ perceptions of the Internet as either a potentially disruptive or non-disruptive technology for the local daily newspaper industry. The variable was operationalized as newspaper executives’ responses to questions about whether they thought the Internet eventually would be more popular, as popular, less popular or generally a completely secondary medium for consumers as compared to traditional media. Publishers who thought the Internet would eventually be as popular or more popular than local daily newspapers with consumers were coded as considering the Internet to be a potentially disruptive technology for the local daily newspaper industry.

The dependent variables included resource allocation by a firm for the development of the online edition, use of audience feedback and cross-functional teams in the development process, creation of a comprehensive new online product, the use of a model similar to the Wheelwright and Clark model (1992), and the publishers’ perceptions of the success of the organization’s Internet edition.

Resource allocation was operationalized as the number of personnel assigned to the development of the online edition. The study also asked the publishers about the size of the financial commitment they had made to their online editions. However, the measure proved to be flawed and the data are not reported. Audience feedback was measured as whether newspapers had sought input from readers in developing their Web presence. Use of cross-functional teams in the development of the site was measured by the formal roles played by the editorial, marketing and technical department in the creation of the online edition. The site as a comprehensive new product was operationalized as the number of interactive and other features that the Web site provided. Each newspaper’s Web site was visited to independently confirm the information provided in the survey interviews about site content.

Because the study used a census as opposed to a random sample, tests of significance could not be used to determine whether or not the hypotheses had been supported. Therefore, prior to data analysis, it was determined that a moderate correlation would be the benchmark for determining support for the hypotheses. The study used the scale developed by Elifson, Runyon and Haber (1990, p. 280), for correlation testing. According to that scale, a correlation between .01 and .3 is classified as 'weak,' a correlation between .31 and .7 is 'moderate,' and a correlation between .71 and 1.0 is 'strong.'

To test hypothesis 2, open-ended responses to the dependent variables of perception of success were coded by three coders. Inter-coder reliability was measured using Holsti’s (1969, p. 137) composite coefficient of reliability and was higher than .80 for all the questions. Thus, intercoder reliability levels were satisfactory.

Findings

Analysis of the data suggested that the innovation-management process used by newspapers as they adopted the Internet was relatively haphazard, involving low-levels of research, resource commitment, involvement by the editorial department, or use of cross-functional teams. Moreover, the data showed that few of the responding newspapers were attempting to fully utilize the unique properties of the Internet. In short, few of the newspaper executives surveyed had used the types of processes identified by innovation management research as being related to successful organizational adoption of emerging technologies.

At the time of the survey, all the respondents had online editions except two, both of which were in the process of launching such operations. One newspaper had been an early adopter of the Internet, having started planning its online edition in 1993 before the
Internet was widely available to the public. However, 67 per cent of the newspapers had launched their online editions in 1998 or later.

Slightly more than half of the respondents, 58 per cent (N=14), said that at the time they launched their online edition, they had viewed the Internet as a potentially disruptive technology—that is, that they had believed that it might become at least as popular a medium with consumers as printed newspapers, television or radio. The remaining 42 per cent (N=9), said they had launched their online editions feeling that the Internet’s popularity would remain confined to only a limited segment of the population or that it would remain a secondary medium altogether.

Based upon the number of executives citing a reason as either ‘very important’ or ‘important’ to their decision to go online, the need to protect classified advertising revenue was the driving force behind decisions to develop online editions, followed by the desire to reach new readers, to sell banner advertisements, and to help existing readers get information more quickly. The study also found that newspapers’ parent companies had influenced the decision to launch an online edition in almost half the papers. Interestingly, 80 per cent of the executives who responded saw the Internet’s potential to attract new readers as being far more important than its potential to improve service to existing readers. Only 28 per cent of the executives said they went online to gain a competitive advantage over other local media.

The majority of respondents (63 per cent) reported that their online editions had initially been designed and developed in-house (not shown in tables). Only 5 per cent had had their online editions developed for them by their parent company, while almost one-third (30 per cent) had outsourced the development of their online editions to professional Web design companies. However, after the initial in-house development of the Web site, more newspapers turned to their parent company or an outside design firm for further changes. By the time of the survey, fewer than half of the sites (47 per cent) were being managed in-house, and a

<table>
<thead>
<tr>
<th>Table 1: Correlations Between Executives’ Initial Perceptions of the Internet as a Potentially Disruptive Technology and the Use of Systematic Innovation-Management Processes in Developing their Online Editions</th>
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<tbody>
<tr>
<td><strong>Perception of Internet as a Disruptive Technology</strong></td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>Perception of Internet as a Disruptive Technology</td>
</tr>
<tr>
<td>Initial No. of Employees</td>
</tr>
<tr>
<td>Audience Feedback</td>
</tr>
<tr>
<td>Consumer Research</td>
</tr>
<tr>
<td>Market Research</td>
</tr>
<tr>
<td>Multi-Functional Develop. Team</td>
</tr>
<tr>
<td>Number of Features on Web Site</td>
</tr>
<tr>
<td>Goals</td>
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</table>

number of the executives at those newspapers expressed concern both about the loss of local control of those operations and, in some cases, the loss of the online editions' uniquely local look and feel as the result of the use of parent company or external design templates.

H1a: The hypothesis was supported. A moderate correlation (.631) was found between executives' feeling that the Internet was a potentially disruptive new technology and the number of employees they had initially assigned to work on the development of the online edition (Table 1). Closer examination of the data showed that nearly half of the newspapers (45 per cent) had not assigned any employees full-time to developing the online edition during startup, although nearly one-third had had up to two full-time employees working on the edition (Table 2). At the time of the survey, 43 per cent of respondents still did not have a single full-time employee exclusively assigned to the online edition, but as many newspapers had one or two full-time employees working on the electronic operations. Some papers reported having as many as 20 full-time employees working on the online editions, which may reflect more centralized management of electronic operations by the parent company.

H1b: This hypothesis also was supported (Table 1). A moderate correlation (.430) was found between executives' perceptions of the Internet as a potentially disruptive technology and their use of audience feedback during the design process for their online editions. Although not hypothesized, moderate correlations also were found between the respondents' views of the Internet as potentially disruptive and their use of audience feedback, use of such feedback was still relatively rare. Only slightly more than one-third (37 per cent) of newspapers consulted their readers during the development process (Table 3), despite research that shows customer feedback is a crucial element of successful new development of new technology-based products (Bonner, 1999; Souder, Sherman & Davies-Cooper, 1998; Wheelwright & Clark, 1992; Song & Xie, 1995). More than half of the newspaper executives interviewed (55 per cent) had engaged in some form of market forecasting during their planning process by seeking out projections on general consumer adoption patterns for the Internet. However, less than one-third (29 per cent) had researched their specific target markets. This finding is particularly interesting given that many of the daily newspapers in the study were small and serving relatively rural areas where previous research has shown that Internet adoption among consumers significantly lagged adoption among urban consumers through most of the 1990s (U.S. Department of Commerce, 1999). Similarly, only about one-third of the respondents (32 per cent) had invested in technology forecasting (Table 3).

Further examination of the data showed that while there was a moderate correlation between executives' views of the Internet and their use of technology forecasting, that is, research on how Internet technology might develop or change in the near and mid-terms (not shown).

Most executives (73 per cent) reported that they had set goals for their online editions before launch. However, the majority also said their goals were non-specific and non-measurable such as 'to

### Table 2: Percentage of Newspapers by Number of Full-Time Employees Working on Online Edition at Startup and Time Survey

<table>
<thead>
<tr>
<th>Number of Employees</th>
<th>At Startup (%)</th>
<th>During Survey (%)</th>
</tr>
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<tbody>
<tr>
<td>0</td>
<td>45</td>
<td>42.9</td>
</tr>
<tr>
<td>1</td>
<td>15</td>
<td>14.3</td>
</tr>
<tr>
<td>2</td>
<td>35</td>
<td>28.6</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
<td>4.8</td>
</tr>
<tr>
<td>10</td>
<td>0</td>
<td>4.8</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>4.8</td>
</tr>
<tr>
<td>N</td>
<td>20</td>
<td>21</td>
</tr>
</tbody>
</table>

### Table 3: Newspapers' Use of Recommended Technology-Development Processes (in %)

<table>
<thead>
<tr>
<th>Use of Audience Feedback</th>
<th>Research on Consumer Adoption of Internet</th>
<th>Research on Technology Forecasting</th>
<th>Research on Target Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>37.0</td>
<td>54.5</td>
<td>28.6</td>
</tr>
<tr>
<td>No</td>
<td>63.0</td>
<td>45.5</td>
<td>71.4</td>
</tr>
<tr>
<td>N</td>
<td>19</td>
<td>22</td>
<td>21</td>
</tr>
</tbody>
</table>
be the site for the local community as well as for those outside (the state) who want news about the town.

Following the initial analysis, newspaper circulation size was controlled in a reanalysis because larger newspapers would be expected to have more personnel and financial resources and, therefore, to be better able to undertake pre-development assessment and research. However, only weak negative relationships were found between circulation size and use of audience feedback (-.178), research on consumer adoption of the Internet (.285) and the use of target market research (.128) during the online development process (not shown in tables). It seems that large papers were less likely to undertake pre-development assessment. However, a moderate correlation (.510) was found between circulation size and use of technology forecasting research. H1c: H1c also was supported. Newspapers run by executives who believed that the Internet might, in fact, become a disruptive media technology were more likely to have used cross-functional, multi-departmental teams when developing their online editions, as recommended by the innovation management literature (.614) (Table 1).

Forty-one per cent of executives responding to the survey said they had involved representatives of all of the newspapers’ key departments on the team that developed the online edition (not shown). The executive of one other newspaper said he had had formal meetings with all of the key departments, even though they were not included on the team. Another 14 per cent had formally included only selected departments in the development process, either as part of the development team or through formal meetings, while the remaining 41 per cent had either not involved any of the newspapers’ departments in the process or only through informal meetings. Of the departments that executives reported had formally served on the online edition development team, fewer than half (45.5 per cent) named the editorial department (Table 4), although another 9 per cent reported that the editorial department had been involved through ‘formal’ meetings and 32 per cent had consulted them in informal discussions. Executives were just as likely to say that they had formally (50 per cent) or informally (23 per cent and 27 per cent, respectively) involved the marketing and graphics departments in the process.

No correlation was found between circulation size and use of multifunctional teams (-.020). H1d: Hypothesis 1d was not supported. The relationship between executives’ attitudes towards the potential of the Internet as a replacement media product and the number of features or interactive services provided online was in the direction hypothesized but did not meet the pre-set standard of significance established for this study (Table 1). Only a weak correlation (.213) was found between respondents’ views of the Internet and the total number of different features that were offered through their online editions. Similarly, a weak correlation (.236) also was found between executives’ views and the number of interactive services available on the site (not shown).

<table>
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<tr>
<th>Table 4: Percentage of Newspapers that Included Different Departments in the Development Team for Their Online Editions (in %)</th>
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</thead>
<tbody>
<tr>
<td><strong>Editorial</strong></td>
</tr>
<tr>
<td>Part of Team</td>
</tr>
<tr>
<td>Formal Meetings</td>
</tr>
<tr>
<td>Informal Meetings</td>
</tr>
<tr>
<td>Not Involved</td>
</tr>
<tr>
<td><strong>N</strong></td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Table 5: Percentage of Newspapers by Percentage of Stories and Pictures from the Print Edition that were Uploaded (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stories Uploaded</strong></td>
</tr>
<tr>
<td>Less Than 25 Per Cent</td>
</tr>
<tr>
<td>Between 26 and 50 Per Cent</td>
</tr>
<tr>
<td>Between 51 and 75 Per Cent</td>
</tr>
<tr>
<td>Between 76 and 100 Per Cent</td>
</tr>
<tr>
<td><strong>All</strong></td>
</tr>
<tr>
<td><strong>N</strong></td>
</tr>
</tbody>
</table>
One possible explanation for the fact that the relationship was in the direction hypothesized but not strong enough to be judged significant is that some newspapers may initially have launched limited Web sites and added features over time. It was not possible to measure the number and types of features that had been available when the sites were first launched. It can be speculated that differences among the Web sites may have been greater at the time of initial development.

In general, executives reported that they were uploading relatively little of their newspapers’ content to the Web. Two-thirds of respondents reported that their newspapers made less than 25 per cent of the day’s news stories available online, while only 24 per cent reported that they were uploading more than half of the paper’s daily news content (Table 5). The trend was similar for pictures. This suggests that newspapers feared that if they made available their content from the print edition to the online edition, it might lead to a drop in circulation.

The study found, however, that newspapers were using the Internet to provide some new forms of content not normally provided in their traditional format (not shown in tables). More than three-quarters (76 per cent) were providing weather updates or links to sites that would give current information about the weather in the town/county, and almost all of the sites (90 per cent) provided information about the town/county for visitors and local job listings.

Use of the interactive and real-time capabilities of the Internet was more mixed among respondents. Less than one-quarter (24 per cent) were providing online news updates, while none provided traffic updates. More than three-quarters of the sites had a search engine and more than half (57 per cent) provided a feedback forum for readers’ queries and comments. However, only 14 per cent provided a message board for readers and only 14 per cent provided chat sites. None of the sites provided links to related stories, while only about 10 per cent provided links to related sites. Few newspapers seemed to have tapped the revenue potential of their archives, with only 19 per cent providing public access to news archives.

In summary, the study found that more than 70 per cent of the newspapers with online editions offered readers four or fewer of the types of interactive features or instant information services made possible through Internet technologies.

H2: Hypothesis 2 also was not supported. No correlation (.048) was found between newspapers that used an innovation management process similar to the one recommended by previous research (Wheelwright & Clark, 1992) and their assessment that their Web sites were successful (not shown). All of the executives reported that they viewed their Web sites as being at least somewhat successful as measured against their initial goals for an online edition. Consequently, there was little variance on the measure of Web-site success.

There are a number of possible explanations for this finding. Most of the respondents said that their organizations had not initially established measurable goals for their online editions as recommended in the innovation management literature. The absence of preset measurable goals makes concrete analyses of successes and failures hard to carry out. Additionally, social desirability issues make it difficult for individuals and corporate executives to publicly acknowledge that efforts in which they have invested time, personnel and financial resources have not been as successful as expected. In the absence of pre-established, objective and measurable criteria against which specific outcomes can be judged, it is likely that there would be a natural tendency to adopt a positive view of the online edition’s success wherever possible.

Interestingly, the majority of respondents noted that revenues and profits generated from the online edition would be the most important criteria for judging the success of the online editions in the long-term, but did not provide specifics. Only a few listed either number of page views or reader reaction as an important criterion for judging success, and several either said that their organizations were not yet evaluating their online operations or did not respond to the question.

Finally, no correlation was found between circulation size and use of most or all of the recommended steps in the innovation management process, based upon an index created to measure the use of the process (.048). This suggests that following a more complex innovation management process did not depend on the size of the newspaper.

Discussion and Conclusion

The study found that managers in the newspaper industry had approached the process of assessing and adopting the Internet as an emerging technology in a relatively haphazard fashion when the development processes used by respondents were compared to the new product assessment and development processes identified in previous research as enhancing the likelihood of success. Few of the newspapers surveyed had engaged in technology forecasting or target-market research before launching their online editions, and few had sought reader feedback during the development process. Fewer than half had fully tapped the expertise in their own organizations during the development process by setting up formal, multi-departmental development teams. Just over half had formally involved the editorial department – the primary production unit of a newspaper organization – in the formal assessment and development process, although the majority had made at least informal contact with the editorial staff at some point during the process. Fi-
nally, virtually none of the newspapers had set specific, measurable goals for their online editions that might have served as guides to a decision as to whether to increase or discontinue their investments.

The failure to conduct systematic technology strategy and development processes increases a firm’s risk when facing emerging and potentially disruptive technologies. It increases the likelihood that a firm will invest at the wrong time or in the wrong technology, such as the U.S. newspaper industry did with Videotext in the 1980s. Interestingly, circulation size was not a predictor of having used a more systematic approach to the development of online editions, even though larger newspaper organizations might be expected to have more personnel and financial resources to use for technology assessment and development.

Finally, from a theoretical perspective, the study’s findings suggest that the perceived nature of an emerging technology does influence an organization’s response to it. Specifically, the study found that newspapers publishers who believed the Internet had the potential to be a disruptive technology for their industry had used a more systematic and comprehensive process for developing an online edition and had developed a slightly more comprehensive online product than those who had not viewed the Internet as potentially disruptive to their industry or organization. This finding suggests that future research on innovation management in both the media and other industries needs to use the perceived nature of the innovation as a variable. Past innovation management research has not done this, so the findings in this project suggest a new line of inquiry for future scholarship.

This project had a number of limitations. It used a census of newspapers in a single state in the United States, and while the response rate was high, the sample size was small. Additionally, the study of newspapers in a single state means that there is potential for systematic bias in the data because geographically proximate organizations may influence each other through formal and informal contacts. Additionally, industry consolidation and clustering meant that there was co-ownership and joint management across some of the papers in the sample. Although the findings indicated that circulation size was not related to sophistication in innovation management, the papers in the study were generally small and medium-sized papers, and the possibility cannot be ruled out that a study which included large metropolitan dailies, regional papers, nationally distributed papers, or papers published in countries other than the United States, might have different results. It also must be noted that the measures used in this project were based upon self-report, which can present a problem, particularly given the time lag between the survey date and the events many respondents were asked to recall. Their present knowledge of the Internet might have shaped their memory and, hence, their responses.

In general, however, the findings of this study suggest that newspaper organizations need to pay more attention to the processes they use to assess and engage emerging technologies. They also suggest that newspaper companies should provide senior managers with more formal training in innovation management. The media have been identified as one of the industries most significantly affected over the past decade by the emergence of disruptive technologies (Day and Schoemaker, 2000). The continued rapid pace of development in the computer and telecommunications industries make it highly likely that media executives will be confronted with other new and potentially disruptive technologies in the foreseeable future. Given the amount of investment that often is needed to address such emerging technologies, and the risks that organizations face when they fail to do so successfully, innovation management is a skill set that newspaper organizations should seek to develop more fully within their executive teams.

Endnotes

1 Videotext was greeted with much enthusiasm by the newspaper industry, which viewed it as a new distribution system for its news product. However, the technology for Videotext proved to be a disappointment and the market virtually non-existent among consumers (Schoemaker & Mavaddat, 2000).

2 No major regional newspapers were respondents, so the responding newspapers were all roughly comparable to one another and consistent in size, scope and resources with the majority of newspapers in the United States.

3 A reviewer of a different manuscript that used a similar standard noted that use of a moderate correlation as defined on this scale as the benchmark for hypothesis support is conservative, particularly in a study with a small N. The authors agree, but prefer to be conservative in their claims of support or non-support for hypotheses.

References


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