Pay for Online News

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Abstract

People have paid for print newspapers for ages and they don't seem to mind. So what is so different about online news? This paper develops an individual-level choice model for analyzing the probability of an individual choosing one of these charging service for online news: video on demand, news in depth, and news in print whereas no-charge is a status-quo. Among the charging service, customization, specialization, updateness, variety, and archive are measuring service attributes. Based on data collected from 9,624 approved members of a top news site on Taiwan, the results indicate that the 5 service attributes are all shown to have statistically significant impact on the probability of choosing a charging service while the variety attribute has a relatively higher impact as a whole. Results reveal that the preferences of respondents for charging services increase if the service design “hits” their real preferences, despite their initial negative attitude toward charging service. Accordingly, customization, updateness, and variety are identified as the core components of online news design.

Keyword: Electronic Commerce, Online News, Discrete Choice Analysis; Random Utility

1. Introduction

Internet news or online news has emerged as an important Internet phenomenon, as it receives substantive attention from both practitioners and the academics of marketing, information systems, media, and communication (Dimmick, Chen, and Li, 2004; Clemons, Gu, and Lang, 2002-3; Hui and Chau, 2002; Chyi and Lasorsa, 2002; Eskstrand, 2002; Ngai and Wat 2002; Sundar, 2000; Palmer and Eriksen, 1999). As the number of Internet users and usage are growing rapidly (Anandarajan, Simmers, and Igbaria, 2000), surveyed data consistently show that larger proportion of Internet users, range from 62% to 84%, access news online, that gathering news and information is the most popular online activities, accounting for 20% time spent on the Internet. (Datamonitor, 2002; Carina and Palmer, 2002; Pauwels and Dans, 2001). Despite its large and growing audience, companies of online news are still in search of
profitable business models and economic success (Ihlström and Palmer, 2002).

The highly vulnerable market, pure informational nature, and high differentiability of online news call for distinct service design and operation strategies from its physical counterparts (Hui and Chau, 2002; Palmer and Eriksen, 1999; Clemons et al., 2002-3; Petterson et al., 1997). Should the CNN interactive provide customized content for individual customer? Should The Wall Street Journal publish more economic reports about European Union and Japan for those audience involved in global investment, as both the economic entities either grow up or recover from a long recession? The choices between strategic alternatives have important implications for online news service design, i.e. new practices may need to be designed and developed. Previously, researchers of online news focus on the change, impact, online-offline relationship, and competition resulting from the Internet (e.g., Clemons et al., 2002-3; Pauwels and Dans, 2001; Dimmick et al., 2004; Waetlar et al., 2000; Chyi and Lasorsa, 2002; Chyi, 2001; Sundar, 2000), the classification and strategies (e.g., Hui and Chau, 2002; Petterson et al., 1997; Chyi and Sylvie, 1998), value perceptions, propositions and revenue generating activities (e.g., Palmer and Eriksen, 1999, 2001; Sundar, 1998, 1999), and legal issues (e.g., Ekstrand, 2002). Despite increased studies on the topic of online news, few studies, one exception refers to Ihlström and Palmer (2002), empirically examined the relationship between value-generating attributes, users’ value perception and their willingness to pay. To bridge the gap, the paper employed the approach of discrete choice analysis (DCA), which has been used to model decision-maker’s choice processes in a variety of academic disciplines (Louviere and Timmermans, 1990), to explore the individual customer’s choice behavior among service alternatives that required payment.

The purposes of the study are twofold. First, to elicit and identify the service preferences, based on previous studies and empirical discrete choice of customers, for different customer segments, and to uncover the similarities and differences of preferences in terms of service attributes among segments. The other aim is to explore what managers can do to address the similarities and differences so as to generate revenue. Specially, the following research questions are addressed:

1. What are the service preferences of online news readership that belong to different usage segments?
2. How can key similarities and differences between the service preferences of usage segments be quantified?

This paper proceeds as follows. In the next section, we review the previous studies on Internet marketing and online news, and derive the service attributes. In the section three, we describe how we conduct the research by the approach of DCA. Section 4 depicts the results of data analysis, descriptive statistics, and estimation. In
the section of discussion, we discuss the significance of our findings and compare the results to previous research. Finally, we propose some implications for theory and practitioners, limitation and feasible future studies are also included.

2. Conceptual Background

2.1 Characteristics of Online News and Implications for Marketing Strategies
The marketing strategies for those companies selling digital products as a major profit-making endeavor, to a large extent, depend on the characteristics of the products and services being marketed (Peterson et al., 1997). Previous studies provide a consonant agreement on the nature and characteristics of online news: it is a low-outlay, frequently purchased good, with a value proposition of intangible or informational nature, and a high differentiation potential (Hui and Chau, 2002; Peterson et al., 1997). The same researchers argued that these attributes make news ideal for online delivery, and that the high potential to tailor services for specific costumers makes sellers have a much better chance of capturing more customer surplus. Chyi and Sylvie (1998), who divided online news market into four segments, suggested that publishers facing inter-media competition can achieve differentiation by developing Internet-related features such as two-way communication and multimedia, and that content differentiation matters more under intra-media competition. In sum, the previous studies suggested that publishers should leverage the high differentiability of online news to access particular audience or customer segments. Below, we review the literature of market segmentation and specific service attributes that could be used to differentiate the product from others.

2.2 Design for Online News Service
Recognition the slow walk to profit, researchers, based on theoretical arguments and business cases, began to pose the value propositions of online news services. For instance, Palmer’s studies (Palmer and Eriksen, 1999, 2000; Ihlström and Palmer, 2002) suggested that customized product, specialized content, specialized delivery, archive access, transaction brokers, and targeted advertising were the value-generating activities for digital publishers. Sundar (1999) identified four criteria used by news receivers—credibility, liking, quality, and representativeness. Sundar (1998) found that stories with quotes were associated with higher credibility and quality. Grounding on the theory of the niche, Dimmick et al.(2004) explored the competition between the Internet and traditional news media. Results of the study suggested that online news provided users satisfaction with more needs than any of the traditional media on the gratification opportunities. The concept of gratification opportunities (Dimmick and Albarran, 1994), one aspect of the theory of the niche, refers to customers’ beliefs
that a medium allows them to obtain greater opportunities for satisfaction, more specially, the perceived attributes of a medium relating to time use, variety of content, and updateness (Dimnick et al., 2004).

This paper identified customized product, specialized product, archive access, updateness, and variety of content from previous studies as the service attributes. These attributes were chosen because they were theoretically and empirically shown to be influential to customers’ perceived value for online news services.

3. Model

This paper followed the steps suggested by DCA to design services and formulate operations strategies for online news publishers. DCA applications typically involve the five steps: (1) identification of attributes, (2) specification of attribute levels, (4) collect stated preference from respondents, and (5) estimation of choice model (Verma et al., 1999). Discrete choice analysis (DCA) has been used to model choice processes of decision-makers in the face of discrete alternatives with several hypothetical and/or true attributes (Louviere, 1983; Louviere et al., 2000; Tam and Hui, 2001). This approach involves modeling one’s preferences in response to experimentally designed profiles (Pullman et al., 2001).

3.1 Site Selection

We conducted a detailed case analysis of operations at one of the largest Taiwan-based online news Websites, referred to as EDAY using the DCA method. The information presented in this article is based on the data collected from the member choice data collected during 2004. We chose to conduct the analysis at EDAY for the following reasons: (1) large portion of Internet users who are Chinese-spoken visit EDAY, (2) the publisher is struggling for profit, and is about to redefine news services, and (3) in addition to online news, EDAY owns and operates businesses of broadcast, video and audio entertainment, information infrastructure and services, and virtual shopping. As a whole, the company is a typical case of online news publishers worldwide (Palmer and Eriksen, 1999), and is suitable for our study.

3.2 Survey

The survey was administered in the form of web questionnaire by an independent business unit of the company that is responsible for market survey. The respondents are those registered members of EDAY. Five service attributes, which are customized product, specialized content, archive access, updateness, and variety of content and choices, were identified from previous studies as being influential to customers’ perceived value for online news services. Next, we identified the relevant values for
each of the five attributes selected for the study. The final possible values were selected after detailed discussions with EDAY management, which, to a large extent, reflected managerial understanding and intentions of how the five theoretically derived attributes might be implemented practically. For example, four values were identified for archive, which are photo bank, classification schemes, text searching, and library of video and audio with searching services; the content variety contained 17 items such as politics, economics, finance, travel and so on, that allow respondents to choose multiple items. To code the data for DCA analysis, we employed the approach used by Pullman et al. (2001). Content variety was selected as a three-level attribute to reflect low, medium, and large number of possible choices in online news. The others attributes were chosen as two-level to reflect high or low level of specific service provided. The median of each attribute was used to classify respondents into high/low respectively.

Three charging services were addressed by EDAY administration to increase customer’s value and lead to generating revenue: (1) providing video-and-audio on customer’s demand, referred to as video-and-audio charge, (2) providing in-depth content, referred to as content charge, and (3) providing news services whose content is similar to the version of newspaper or broadcast, but with Internet features added, referred to as Internet charge. In order to reflect the reality, non-charge was chosen as the fourth alternative. The final survey instrument was administered to approximately 10,000 members during January through March 2004, 9624 of those questionnaires were usable (96% response).

3. Results
To find out the patterns of preferences of different market segments, we divide the respondents into three segments according to their usage depth.

4.1 Estimation of Choice Models
The MNL models were developed for each usage segment (low, medium, and heavy usage) and estimated using NLOGIT 3.0. NLOGIT uses maximum likelihood estimation to generate relative weights (β in (2)) for each online news attribute, as shown in Table 2. The interpretation of β is similar to regression coefficients of ordinary least squares, however, it should be noted that the dependent variable of a MNL model indicates the probability of selecting a specific alternative among multiple choices. The ways that relate dependent variable and independent variables were specified according to (2) and (3). Finally, in order to reveal the preference similarity and differences between usage segments, we employed the approach proposed by Swait and Louviere (1993) to test the equality of MNL model.
parameters.

**Low Usage Segment**
All the intercepts for the MNL model of low usage were statistically significant. These intercepts suggested the general negative attitude of the segment toward paying for online news. Internet charging appeared to be the least favorite choice, and video-and-audio charge was favorable relative to others. Preference increased as the level of customization, updateness, and variety increased at all alternatives. Specialization had no significant impact on preference. The negative and little values of specialization for alternatives suggested that specialized service design for online news might be inappropriate for customers who were low usage. The archives were perceived favorably at content charge but not at others. By the magnitude of coefficients, we found that the variety were the most influential attribute. The values on goodness-of-fit indexes shown a relative acceptable fit between the MNL model and the data: McFadden’s $\rho^2$ and adjusted McFadden’s $\rho^2$ are 0.15.

**Medium Usage Segment**
The general negative attitude toward paying, which was suggested by the intercept values, was also found in the segment. Internet charging appeared to be the least favorite choice, and video-and-audio charge was favorable relative to others. With even larger magnitude than low usage segment, preference increase as the level of updateness and variety increased at all alternatives. Customization was perceived favorably for all alternatives. In contrast to the low usage segment, specialization had significant and positive impact on preference. The variety was found to be the most influential attributes on preference, and the archives were preferred for content charge but were not preferred for video-and audio and Internet charge. The values of goodness-of-fit indices were good and acceptable, with a value of 0.20 for both McFadden’s $\rho^2$ and adjusted McFadden’s $\rho^2$.

**Heavy Usage Segment**
All the attributes selected shown significant and positive impact on preference. In contrast to low and medium usage segments, the archives were perceived positively for all alternatives. The results suggested that a comprehensive service design led to increased preference. It is worth to note that variety is the most influential attribute on customer’s acceptance of the charged services. The values of goodness-of-fit indices were good, with a value of 0.25 for both McFadden’s $\rho^2$ and adjusted McFadden’s $\rho^2$. 

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### Table 1 Estimation of Choice Model for Each Usage Segment

<table>
<thead>
<tr>
<th>Alternatives/Attributes</th>
<th>Intercept</th>
<th>Customization</th>
<th>Specialization</th>
<th>Updateness</th>
<th>Variety</th>
<th>Archive</th>
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<tbody>
<tr>
<td><strong>Low Usage Segment</strong></td>
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<tr>
<td>Video-and-audio (29.3%)</td>
<td>-1.35*</td>
<td>0.56*</td>
<td>-0.14</td>
<td>0.46*</td>
<td>0.74*</td>
<td>0.02</td>
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<tr>
<td>Content (27%)</td>
<td>-1.76*</td>
<td>0.48*</td>
<td>0.03</td>
<td>0.39*</td>
<td>0.71*</td>
<td>0.52*</td>
</tr>
<tr>
<td>Internet (20%)</td>
<td>-1.91*</td>
<td>0.62*</td>
<td>-0.13</td>
<td>0.49*</td>
<td>0.71*</td>
<td>0.09</td>
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<tr>
<td><strong>Goodness-of-fit</strong></td>
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<tr>
<td>McFadden’s $\rho^2$</td>
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<td>Adjusted McFadden’s $\rho^2$</td>
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<td><strong>Medium Usage Segment</strong></td>
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<tr>
<td>Video-and-audio (37%)</td>
<td>-1.77*</td>
<td>0.62*</td>
<td>0.31*</td>
<td>0.67*</td>
<td>1.04*</td>
<td>0.13</td>
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<tr>
<td>Content (37.3%)</td>
<td>-2.08*</td>
<td>0.47*</td>
<td>0.45*</td>
<td>0.60*</td>
<td>1.11*</td>
<td>0.56*</td>
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<tr>
<td>Internet (26%)</td>
<td>-2.14*</td>
<td>0.47*</td>
<td>0.35*</td>
<td>0.72*</td>
<td>0.93*</td>
<td>0.07</td>
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<td><strong>Goodness-of-fit</strong></td>
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<td><strong>Heavy Usage Segment</strong></td>
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<tr>
<td>Video-and-audio (44%)</td>
<td>-2.03*</td>
<td>0.65*</td>
<td>0.42*</td>
<td>0.89*</td>
<td>1.18*</td>
<td>0.31*</td>
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<tr>
<td>Content (44%)</td>
<td>-2.54*</td>
<td>0.74*</td>
<td>0.59*</td>
<td>0.73*</td>
<td>1.24*</td>
<td>0.76*</td>
</tr>
<tr>
<td>Internet (33%)</td>
<td>-2.48*</td>
<td>0.59*</td>
<td>0.52*</td>
<td>0.88*</td>
<td>1.15*</td>
<td>0.26*</td>
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<tr>
<td><strong>Goodness-of-fit</strong></td>
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<tr>
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* Statistically significant at the 5% level

1 Figures in the brackets represent the prediction rate

### 4. Discussion

The results show that the preferences of customers for charged services increased if service design captured their real preferences, despite their initial negative attitude toward payment. However, not all the service attributes are beneficial in different contexts. In particular, the customers of low usage perceived negatively or valueless in terms of the specialization and archive. The reason behind their disfavor might be that the customers of low usage access online news for their general information and entertainment needs, which result in the specialized reports and searchable archives are not appreciated. Moreover, the archive impacted the preferences of low and medium usage only on the content charge, not on other alternatives. Together with its significant impact for those who are heavy usage, the results suggest that those who value content or are heavy usage value the searchable archives. The findings complement previous studies (Palmer and Eriksen, 1996, 2000; Ihlström and Palmer, 2002), that argued the revenue generation potential of the archives, by identifying the conditions where customers value the archives.

Customers were reluctant to pay for services, and the negative attitude toward service charge increased as usage depth increased. The Internet charge appeared to be the relative unfavorable choice, which suggests that simply replicating the physical counterpart of online news such as newspapers to the Internet environment confronts
with the most negative attitude toward service charge. The video-and-audio charge was the favorite choice relative to others. In contrast to the study of Sundar (2000), who argued that multimedia led to negative evaluation of the news Website and its content, our result indicates that enhanced multimedia charged services such video on demand, and news of real time multimedia transmitting relatively fit customer’s preferences. One reason for this contradiction is that people of Taiwan access news Websites not only for its story content, but also for entertainment purposes.

The customization, updateness, and variety had significant impact for all choices in all segment. These three service attributes constitute the “fundamental core” of service design for online news –that is, they should always be well designed into the services. Furthermore, all theoretically derived service attributes had statistically significant impact on customer preference in the heavy usage segment, which implied that the segment called for a comprehensive service design.

5. Conclusion
The objectives of the study are (1) to elicit and identify the service preferences, based on previous studies and empirical discrete choice of customers, for different online news customer segments, (2) to uncover the similarity and difference of preferences in terms of service attributes among segments, and (3) to explore what managers can do to address the similarities and differences so as to generate revenue. Considering its very informational natural and high differentiation potential, we adopted the concept of micro marketing and employed the approach of discrete choice analysis to model customer’s service preferences in three different usage segments. The models show relative good and acceptable goodness-of-fit indices that indicate fit between the data and the models. The models predication rates are also good enough in that most of them are greater than the expectation value of random choice (25%) except the Internet charge choice of the low usage segment.

Our study provides insights and makes several significant contributions to both theory and practice. First, we empirically confirmed the service attributes that were proposed to be critical to value proposition of online news, and demonstrated what, how, and when the attributes have significant impact on the service preferences of customers. Thus, the results add to earlier studies by identifying those specific attributes most beneficial under different contexts. Second, we introduced and tested the concept of micro marketing and the approach of DCA in the context of online news. Third, we identified those specific attributes beneficial to all contexts. We refer these attributes to the “fundamental core” of service design for online news. Our research is also contributive to practitioners. For examples, publishers should well design and implemented every service attributes of the fundamental core, and should
consider attributes in addition to the core depending on the different preferences patterns. In particular, a comprehensive service design that involves all service attributes is suggested for the customers of heavy segment.

Future research may be conducted with limitations of this study in mind. In this study, the subjects are members of a single large company in Taiwan. Because of this, the results may not apply as well to readership of other companies. Moreover, we did not consider the cost of service design and management for different attributes. Future research is needed in determining the cost and benefits of customizing certain portions of a service versus a standardized service offering. The relative low prediction rate of low usage segment suggests that studies are needed to explore additional influential service attributes, so as to increase the model predictability. Longitudinal panel data is encouraged in that they will enable us to obtain better understanding of preferences patterns of online news services and factors that may explain them.

References


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