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# Consumer Perceptions and Willingness to Pay for Intrinsically Motivated Online Content

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**ABSTRACT:** Providing profitable online content has been an elusive goal, challenging many companies such as the *New York Times*, Disney/ABC/ESPN, and Microsoft/Slate. Charging for content has been hit-or-miss, attributable to a lack of generally applicable models of information value. Previous studies in the management

information systems literature emphasized extrinsically motivated content (addressing tangible gains), while many sites target intrinsic goals such as entertainment or education. This study examines potential factors influencing willingness to pay for intrinsically motivated online content. Data from 392 college students indicate that even when analyzing content whose potential rewards are intangible and nonquantifiable, potential consumers focus on “expected benefits” as the main antecedent for willingness to pay. Other antecedents, such as perceived quality and provider reputation, only affected willingness to pay indirectly through expected benefits. Researchers are offered a baseline model for future study, and practitioners are advised to provide initial visitors a clear message about benefits of use to entice them to pay for content.

**KEY WORDS AND PHRASES:** consumer assessment, e-commerce, information value, online content, service quality, service value.

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CHARGING FOR ONLINE CONTENT IS BECOMING more common as several firms struggle to find a viable business model [47, 63, 78]. Many companies have begun imposing subscription fees as an alternative source of revenue [69]. A few specialized information providers have already demonstrated the success of this approach, as subscription arrangements have become a significant source of profits within a rapidly expanding base of subscribers [23, 63].

Widespread commercial interest in fee-based services [37, 63] has led some to cautiously proclaim eventual widespread acceptance of fee-based information and an upcoming death of the free Internet [59]. On the other hand, it is possible that charging subscription fees for access to online content will be rejected by the majority of consumers. Even for established companies, such as the *New York Times*, charging for content has been a struggle, resulting in mixed success at best. Furthermore, subscription revenue has been dwarfed by advertising revenue [37], and few subscribers begin to pay after a free trial period [58].

The majority of the current success stories in the provision of online content involve firms selling information with a well-defined purpose. Widely popular services such as Hoovers.com and Match.com and the online versions of the *Wall Street Journal* (www.wsj.com) and *Consumer Reports* (www.consumerreports.org) have found success by providing information to subscribers that may have a direct impact on their decisions. The literature on information value has emphasized the use of information for utilitarian purposes—for example, to save time or create inflows of cash. However, much of the content available on the Internet has no direct application to decision making or other utilitarian purposes. Such “intrinsically motivated” content is considered by users to be inherently interesting or enjoyable [73, 85, 86]. Examples of intrinsically motivated content can be found in sites about education, sports, gossip, movie news, books, and adult material. Such sites are abundant on the Internet, and some of them carry a substantial amount of visitors and subscribers.

Currently, little is known about consumers' willingness to pay (WTP) for intrinsically motivated online content (IMOC).<sup>1</sup> We do not know, for example, what factors influence a consumer's assessment of how much the access to an IMOC Web site is worth. In this study, we take the perspective of a provider launching a new fee-based site delivering IMOC. From this point of view, knowledge about what is taken into consideration by the consumer when assessing the value of the site would allow for better site designs and advertisements conveying the appropriate message to consumers. Consequently, the main research question in this study is:

*Research Question: What are the factors influencing WTP for IMOC?*

In this empirical study, first-time visitors browsed a new Web site to determine how much he or she would be willing to pay for a subscription. Our inquiry aimed to find how assessments of expected benefits, overall technical quality, and reputation affected WTP for IMOC, with the objective of creating a simple, baseline model. We attempt to provide Web site designers with guidelines that will help to target the content of their site to prospective users.

## Theoretical Background and Hypotheses

IN DETERMINING HOW MUCH AND WHETHER TO even charge at all for online content, it is important to determine customers' WTP, the central construct in this study. We explore several possible antecedents of WTP, such as quality, reputation, and expected benefits, and test these antecedents with results of an empirical study through structural equation modeling. We begin our investigation by exploring "perceived value."

Perceived value has been related to the benefits received from the product [98], and is experiential in nature, resulting from a consumer's interaction with a product/service [41]. Perceived value must also take into account consumers' sacrifices for the good or service [11, 21, 72, 81]; consequently, value increases as quality increases or consumers' sacrifice decreases [71, 89]. Therefore, value is the difference between the utility provided by the good minus the disutility of the sacrifice [71].

The idea of relying on benefits to assess value matches well with a substantial literature on the perceived value of information, much of which predates online content. "Expected benefits" have been considered the main determinants for information value in a variety of disciplines. Most authors recommend that goods and services provided by information companies should be valued from the perspective of their effects on the user's work, especially in time and effort to complete tasks and the consequences of the user's work on society [67]. Expected benefit has also been expressed as the extent to which the optimal informed decision exceeds the utility of the optimal uninformed decision [5, 19]; however, this view would only assess value in the context of its usefulness in improving users' decision making [80, 97]. Such an approach has appeared in the literature in management information systems (MIS), to assist in valuing information or information systems [1, 24, 40].

Unfortunately, when a context rich in intrinsic motivation is of concern, the list of outcomes needs to be expanded to include other potential benefits, such as those that are more affective and cognitive in nature, such as learning and enjoyment [75]. Recent studies of adoption of Web sites appear to confirm the role of a richer set of responses, indicating that an information product might be enjoyable in its own right, apart from any performance consequences. Perceived enjoyment can be considered a fundamental reason for the adoption of a Web site [85, 86].

Interestingly, in many of the papers mentioned above, information is considered only in its “purest” state and costs associated with its gathering are not discussed. However, IMOC Web sites are present in a market context, in which consumers will exchange their money or time to have access to the content. Thus, we return to the service literature to capture the other side of a service valuation: the sacrifices consumers will make to obtain the expected benefits through the service.

In general, the service literature indicates that those sacrifices are both monetary and nonmonetary (such as effort or time) [98]. The ubiquity of the Internet tends to minimize nonmonetary sacrifices, except where a site is overwhelmingly slow in loading or requires a complicated and lengthy registration process before the user can access the content. Although in some cases these problems might deter use, in this study we will focus on monetary sacrifices.

Exchange value (represented by price and WTP) is considered one of the most practical measures of information value [67, 75]. However, the use of monetary sacrifices such as exchange value is not without problems. For example, price might have a dual role: as an obvious consequence of perceived quality or value, but also as an antecedent to perceived quality [55, 82, 94]. Thus, researchers with access to Web sites charging for online content must be aware of the potential circular argument in which price would influence perceived quality, which, in turn, affects price. Furthermore, discounting adult sites, few firms currently charge for access to content, and most of those providers have very strong reputations, which can lead to skewed results.

Because of these potential problems in using price as a dependent variable and the context of our study focusing on a new Web site, we decided to focus on WTP. Thus, we expect that the higher the perception of expected benefits to be achieved through the use of a Web site providing IMOC, the higher the monetary sacrifice a prospective consumer would make to access that site. Consequently, even though the original conceptualization of information value takes into consideration mostly the more pragmatic uses of information (time and money saved/gained), we expect that WTP for IMOC will also be influenced by intrinsic benefits such as cognitive and affective outcomes. Thus,

*Hypothesis 1: WTP for a Web site delivering IMOC is positively influenced by consumers' perceptions of its expected benefits.*

The influence of expected benefits on WTP for IMOC follows the existing literature in economics, information science, MIS, and other disciplines. However, little is known about the extent of this influence in the IMOC context, in which the expected

benefits of the information are unclear or are hard to quantify. Intrinsic affective or learning objectives might not correspond to extrinsic utilitarian outcomes.

Moreover, the Internet itself affects consumers' evaluations of online content. If a person is simply browsing a new magazine in a newsstand, there are relatively few attributes that quickly can be taken into consideration in the evaluation process (e.g., quality of the paper, pictures, or writing). On a Web site, on the other hand, there are many more attributes, including things such as navigation requirements, page load delay, and use of multimedia. Also, the amount of content on a site is usually much larger than the amount found in a book or magazine. Going to each individual page of multiple sites to assess quality is not feasible for the average consumer.

Because online content is an experience good, crucial aspects of its quality are impossible to verify except through its use [12, 32, 53, 57]. The evaluation of individual service attributes therefore becomes increasingly subjective and experiential [18]. Consequently, the initial acquisition of online content (as in the case of most information goods) is done with the consumer not being completely sure about its value and quality [51, 84].

Finally, there will most often be uncertainty surrounding the purchase event itself, especially considering that fee-based online content is a relatively new product [29]. In those cases, other available cues might become necessary to evaluate IMOC [64, 81, 82, 98] due to a lack of defined and quantifiable benefits, incomplete information, and uncertainty. Therefore, besides expected benefits, which might be difficult in some cases for a consumer to determine, we propose that two potential additional antecedents to WTP are *overall technical quality* of the site and the provider's *reputation*. We propose that those two additional cues will complement the assessment of expected benefits to determine WTP.

## Quality

The influence of quality on WTP is well established in the literature. Indeed, many papers on contingent valuation attempt to discern methods for calculating WTP for improvements in quality (for reviews, see [4, 31, 46]). For example, it has been demonstrated that perception of quality directly affects how much a respondent would like to pay for products of different brands and features [16, 83]. A product's worth is sometimes based on relatively few indicators of quality [44]. In the context of online content, "perceived service quality" has been found to be associated with WTP [91].

First-time visitors are not likely to have enough information about detailed aspects of the site's technical attributes such as accuracy, completeness, consistency, and several other attributes that the literature has connected to value and quality of information systems (e.g., [2, 99, 100]). We propose that in their initial visits, users will only be able to assess the overall quality of the site based on more prominent features such as its organization, clarity, and absence of broken links and errors [28]. We expect that in their initial visit, users are likely to formulate an *overall assessment of the quality of that site*, not paying detailed attention to any given attribute [92] and then

use this overall assessment to evaluate how much he or she would be willing to pay for access to that site. Thus,

*Hypothesis 2: WTP for a Web site delivering IMOC is positively influenced by consumers' perceptions of the overall technical quality of the site delivering that content.*

## Reputation

An overall assessment of quality is often incomplete because IMOC products are extensive yet they are experience goods. Therefore, this assessment often needs to be augmented by extrinsic cues, such as reputation, that are not part of the product [6, 98]. In many cases even a trial period does not provide enough of an opportunity to evaluate a large site very thoroughly. Reliance on the reputation of the Web site or its provider can facilitate the evaluation task [9, 49, 52] and allow consumers to substitute reputation for actual use in cases where goods must be experienced, such as with IMOC [51, 76, 95]. In this case, reputation acts as a "value signal" [98].

Existing literature also suggests that reputation will enable online content providers to capture superior profitability [9]. In the consumer goods arena, it has been shown that brand preference expands price differentials between consumers [13]. Moreover, when there is goal ambiguity regarding the usage of a product, the utilization of brands in the evaluation process increases [66]. In particular, WTP has been affected by perceptions about the reputation of the product, and products with more-respected brands lead prospective consumers to a higher WTP [44]. Consequently,

*Hypothesis 3: WTP for a Web site delivering IMOC is positively influenced by consumers' perceptions of the reputation of the provider delivering that content.*

## Relationships Among Expected Benefits, Overall Technical Quality, and Reputation

Although some authors indicate a lack of clear differentiation between the constructs of *perceived quality* and *perceived value* [7, 21, 41, 71, 98], there is general agreement about a positive relationship between these constructs: "more" quality is related to "more" value when the sacrifice for the good is held constant [71]. In general, authors conceptualize perceived quality either as one of the main components of perceived value or as a factor that directly affects perceived value [21, 27, 65, 98]. It has been suggested that one of the most obvious determinants of information value is the set of characteristics of the information system generating it [39]. Information is deemed valuable when it displays satisfactory levels of attributes such as accuracy and timeliness [42, 77].

Studies have demonstrated that perceptions about both quality and brand directly influence perceptions of value [25]. Brand reputation and general impressions of quality are considered to be important factors in the consumer's judgment about both offline

and online products. For example, when evaluating grocery products, studies found that quality ratings, visible product characteristics, and reputation/brand were extremely important factors [44, 74]. Also, when analyzing Web information, subjects identified characteristics of the information object and characteristics of the source as the most important factors in their judgment [68]. Thus,

*Hypothesis 4: Consumers' perceptions of the expected benefits associated with a Web site delivering IMOC are positively influenced by consumers' perceptions of the overall technical quality of that Web site.*

*Hypothesis 5: Consumers' perceptions of the expected benefits associated with a Web site delivering IMOC are positively influenced by consumers' perceptions of the reputation of the provider delivering that content.*

Finally, it has been shown that in extreme cases, inexperienced users may solely use brand recognition to evaluate product quality [3]. Moreover, there is evidence that when examining Web sites for the first time, consumers make use of the brand to regulate their expectations about its intrinsic characteristics and functionality [10, 68, 92]. Game theoretic models have also indicated that perceptions about brand will affect the perception about the quality of information goods [9]. Indeed, extensive literature in marketing and economics suggests that perceived quality is affected by brand or provider's reputation [64, 79, 81, 93, 98]. Consequently,

*Hypothesis 6: Consumers' perceptions of the overall technical quality of a Web site delivering IMOC are positively influenced by consumers' perceptions of the reputation of the provider delivering that content.*

Based on the discussion above, we developed the research model displayed in Figure 1.

## Methodology and Data Collection

MOST OF THE PARTICIPANTS WERE RECRUITED from the community of a large mid-Atlantic university. Participation was voluntary and reinforced through extra credit from some instructors and a monetary prize for which all subjects were eligible. Data were collected through an online survey in which participants evaluated sports-related content.

The topic of sports was chosen because of its wide variation in interest among subjects, its widespread availability on the Internet, and the intrinsic nature of the entertainment-related context. The Web site was presented as a new service from an existing sports information provider, selected based on a pretest conducted with 24 college students assessing the overall impressions of several potential vendors. In this pretest, participants were asked to rank 13 different news media sources according to their "reputation as providers of sports information"—similar to the concept of "company credibility" used to evaluate a firm's ability to deliver good service [43]. We chose the provider that fell in the middle of the preference list and had the highest

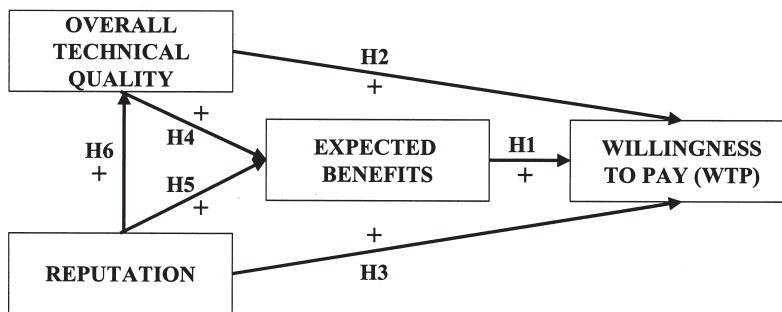


Figure 1. Research Model

standard deviation with regard to its reputation. This procedure maximized the variance in an important component of the model, and in the relatively homogeneous population [15], we avoided a floor or ceiling effect of reputation. The chosen provider's logo and name were included on the Web site and reputation-related questions were placed on the instrument.

## Procedure

Data collection took place entirely online to maximize the number of respondents and increase external validity (simulating a regular "Web surfing" context). Participants were contacted through a variety of mechanisms: e-mail distribution lists, advertisement in a student newspaper, fliers distributed to classes, and fliers posted on boards spread around the university. Because of the reach of the advertisement, several student volunteers from other universities also participated.

At any time during the two weeks in which the study was conducted, participants were able to respond to the online instrument at their convenience by entering the URL provided on the ads and fliers. Initially, participants answered questions evaluating their interest in the topic. These questions were used to identify and disqualify subjects with no interest in sports, because they were not likely to assign any value at all to the treatment Web site under even the best of circumstances.

Participants then visited the stimulus Web site, and were presented with nine questions. The answer for each question could be found in one of the pages of the site, forcing them to visit at least nine pages. A sample question was: "How many innings did pitcher X play in game Y?" General directions about where to find the answer were provided with each question. Participants spent, on average, 20 minutes in this "treasure hunt," forming, as expected, a general impression of the site. Once participants answered these questions, they completed an online questionnaire.

## Measurement and Variables

Eliciting subjects' WTP proved to be a challenge. We were not sure we would be able to obtain the high number of respondents (in the order of thousands in some cases)

required to perform contingent valuation [48]. Plus, we did not have the precisely defined variation in the level of attributes required for conjoint analysis [22, 34]. Therefore, based on several marketing studies [60, 87, 88], we decided to use direct questioning.

Specifically, we focused on participants' *WTP for an annual subscription to the stimulus Web site*. We did not, however, want to directly ask respondents how much they would be willing to pay for the good, as did the studies mentioned above. We feared the possibility of participants responding to this question carelessly, overestimating their WTP. Therefore, we presented the mechanism of a Vickrey (second-price sealed-bid) auction and asked participants to provide their bid for an annual subscription to the treatment Web site.

In a sealed-bid second-price auction, the highest bidder wins the bidding event but pays the amount of the second-highest bid [20]. This mechanism, used in a variety of settings [50], promotes bidding the full value (to the bidder), maximizing the probability of winning the bid but with a gain dependent only on an independent bidder. It disentangles the evaluation of how much an object is worth from bidding strategies [20]. Another important benefit is to encourage participants to think more carefully about the monetary value of the subscription (instead of responding impulsively), giving us a more accurate representation of their WTP for access to the site [20, 70]. This auction mechanism was presented immediately after the participant had gone through the "treasure hunt." With the participant having a fresh perspective about the site, we asked about his or her WTP for a subscription to that site in the context of the Vickrey auction using the format described in the Appendix.

Regarding the other measures, after investigating some potential candidates, we concluded that existing scales did not match our goal to identify the factors affecting WTP for a new IMOC site. Thus, we developed the other measures specifically for our online survey. See the Appendix for the detailed items.

For *expected benefits*, we created comprehensive items to target all the perceived potential outcomes obtained with the use of the stimulus Web site, using a list based on existing research about outcomes of information use [75]. Because of the exploratory nature of this study, we did not want to limit the capability of a potential user to define expected benefits. However, we utilized a manipulation check to verify if participants perceived the content to be associated with intrinsic motivation.

For *overall technical quality*, we followed previous studies [89, 96], and developed a general measure of perceived quality that could be easily grasped by a visitor making an initial examination of a vast site. Following two general items, other items addressed ease of learning, organization, information reliability, and accuracy. Although we expected first-time visitors not to be able to assess each attribute in detail, we were hoping to gather some general impressions about these groups of factors, informing us about what was considered more relevant by the visitor in the initial evaluation process.

For *reputation*, we included items to identify if the visitors to the stimulus site believed that the provider had a good reputation, had a history delivering that kind of information, and was competent to provide that information.

Because of the need for these new measures, the instrument went through a rigorous validation process. Several graduate students interested in sports made an overall assessment of the content of the items. Later, a pilot study was conducted with 52 college students from two "Introduction to MIS" classes. The main difference (in comparison with the main study) was that, because of the need for a debriefing session after the pilot, students simulated the study in a lab setting (and not on their own free time). The debriefing session was done in a group and no major problems with the instrument were identified. We analyzed the pilot results using SPSS 11. The reliability for all items was satisfactory (Cronbach's alpha above 0.80) and items loaded in the correct factors in a confirmatory factor analysis (with loadings of 0.60 or more). Nevertheless, based on feedback from the pilot study, we changed the wording of some of the items for clarity before the main study (the final items are included in the Appendix).

We also added some exploratory measures that were not central to the model discussed above. For example, participants were asked about their estimate of the average bid for the annual subscription to the prototype Web site being demonstrated. Participants were monetarily rewarded based on how close to the real average they were. Therefore, this measure allowed us to reward participants and persuade them to provide a thoughtful response. We also added an interest measure aimed to identify how much importance each respondent placed on sports. Furthermore, recognizing that participants might respond to a survey instrument not according to what they think but instead according to what they think is being studied, the instrument also included an open-ended question asking participants what they thought the study was about. Finally, demographic data questions included age, gender, affiliation with the university, experience with the Internet, connection type used to access the online survey, gambling habits, and fantasy league interest.

## Data Preparation for Analysis

There were 1,253 visits to the online survey; however, only about half of those visits (623) resulted in fully completed instruments. We speculate that many respondents deemed sports to be uninteresting or the potential reward to be not worth their effort, and decided not to participate. After eliminating non-U.S. participants, those who experienced technical problems, and those attempting to participate in the study multiple times, 518 data points remained. After removing participants who were not university students and eliminating those reporting no interest in sports, the final sample was reduced to 392 data points.

## Data Description

On average, participants were 23 years old ( $\sigma = 5.13$ ; minimum = 18; maximum = 48) and 49 percent were male. They spent on average about 9.18 hours per week ( $\sigma = 9.31$ ; minimum = 0.1; maximum = 75) surfing the Web (not including the use of e-mail). All participants reported at least one year of experience using the Internet.

About 39.4 percent of participants dialed in to respond to the survey and access the treatment Web site, 23 percent used a broadband connection, 36.3 percent employed a local network, and the remaining 1.3 percent of the participants did not know the type of connection they used. The majority (53.9 percent) of participants reported that they never placed bets, 43.8 percent of participants gambled occasionally or rarely, and the remaining 2.3 percent confessed they were frequent gamblers. Furthermore, the vast majority of participants (69.5 percent) had no interest in fantasy leagues. Although we requested information about household income, due to the sensitivity of this information, several participants opted not to answer the question. Thus, to minimize extraneous effects, such as the influence of a participant's wealth on his or her WTP, we decided to concentrate only on college students, so that our data set could be more homogeneous.

The measure of WTP appeared to work well. In comparison to the guess of the average annual subscription for online content (\$48.65) [59], the average WTP for the stimulus Web site in our study (\$62.16) appeared to be reasonable. A bigger concern came from the high variance, with several individual WTP values suspiciously high in comparison to the average. Consequently, we decided to exclude from the data analysis 34 WTP values that were beyond one standard deviation (\$153.93) above the mean. We speculate that respondents with excessively high bids misunderstood the question or deliberately misled us. For example, in an interesting follow-up debriefing, one of the participants with a high bid revealed that she thought the bid was for the ownership of the site. Also, some of the extraordinarily high bids were associated with people who spent a minimal amount of time on the study. However, even after this filtering process, kurtosis and skewness for the variable remained relatively high. Consequently, we conducted a transformation using a square root function. Table 1 indicates the evolution of WTP.

Table 2 presents the correlation matrix. In this table, *TOTEB*, *TOTOTQ*, and *TOTREP* represent the sum of the individual items for expected benefits, overall technical quality, and reputation. Moreover, *SPDCONN* represents if the connection was slow (0) or fast (1). As Table 2 reveals, it appears that there is no evidence of multicollinearity among the measures.

## Measurement Model

As recommended in the literature, we specified the measurement model before testing for the structural model [8]. Although we did not have enough data points to run separate measurement and structural models, we followed standard practices to deal with this limitation [62, 101]. First, we conducted a confirmatory factor analysis using structural equation modeling (more specifically, LISREL 8.30) to assess item and composite reliability, and convergent and discriminant validity. Listwise deletion was used to increase stability of the measurement model being generated; consequently, only 351 cases were included in the data analysis.

Reliability calculations [30] indicated some difficulties with reliability in measures of overall technical quality. Item reliabilities for *OTQLIK2* and *OTQLIK3* were 0.51

Table 1. Evolution of Willingness to Pay

Process	<i>N</i>	Minimum	Maximum	Mean	Standard deviation	Skewness	Kurtosis
Initial	385	0.00	1,151.00	62.16	153.93	4.88	25.69
First step	351	0.00	200.00	28.63	33.12	2.78	10.16
Second step	351	0.00	14.14	4.58	2.77	0.69	1.22

Table 2. Correlation Matrix

	WTP	TOTEB	TOTOTQ	TOTREP	TOTINT	GENDER	AGE	SURFHR	EXPINT	SPDCONN	BETS	FANTLG
WTP	1											
TOTEB	0.373**	1										
TOTOTQ	0.263**	0.561**	1									
TOTREP	0.195**	0.472**	0.588**	1								
TOTINT	0.025	0.201**	-0.012	0.175**	1							
GENDER	0.099	0.027	0.121*	0.046	-0.348**	1						
AGE	-0.037	-0.161**	-0.147**	-0.075	-0.006	-0.115*	1					
SURFHR	0.007	0.068	-0.030	0.037	0.149**	-0.236**	0.060	1				
EXPINT	-0.051	0.007	0.017	0.056	-0.043	0.005	0.007	0.111*	1			
SPDCONN	0.007	0.072	-0.053	0.016	-0.051	-0.056	0.138*	0.083	0.040	1		
BETS	-0.032	0.111*	-0.004	0.111*	0.396**	-0.360**	0.033	0.060	0.064	-0.014	1	
FANTLG	0.000	0.132*	-0.027	0.121*	0.485**	-0.443**	0.015	0.201**	0.061	0.009	0.512**	1

\*\* Correlation is significant at the 0.01 level (two-tailed); \* correlation is significant at the 0.05 level (two-tailed).

and 0.47, respectively. Furthermore, the average variance extracted (AVE) for overall technical quality (*OTQUAL*) was below 0.50, indicating high measurement error. Consequently, modifications were applied to the measurement model. Following a systematic approach, the first modification was the exclusion of *OTQLIK3* from the measurement model. Unfortunately, the item reliability for *OTQLIK2* continued to be relatively low and the AVE for the construct overall technical quality remained below 0.50. Hence, *OTQLIK2* was also excluded and a new measurement model was generated and analyzed, with the new model presenting acceptable reliability indicators for all remaining items, as indicated in Table 3. The two excluded items (*OTQLIK2* and *OTQLIK3*) are similar with regard to their composition because these items identified specific attributes (such as ease of use and organization) of the treatment Web site and the information carried by it (such as accuracy and currency), and not the overall assessment of quality.

Although it was disappointing not having a chance to learn more about the specific features examined by the site visitors, as the pilot study led us to believe we would, we were forced to drop those items from the final measurement model. The assessment of those information and site-related attributes might have been too difficult considering the short exposure to the new Web site.

The two remaining items for the factor *OTQUAL* were items related to an overall assessment of the quality of the treatment Web site and were retained. Finally, using SPSS 11, we reestimated the reliability of the scales using an independent measure of their Cronbach's alpha [33]. All scales presented reliability of 0.87 or above.

AVE indicators above 0.500 suggested that the factors possess adequate convergent validity [30]. Moreover, latent variables' AVE measures were higher than the squared correlations between paired latent variables, indicating sufficient discriminant validity [30]. Moreover, several goodness-of-fit indices (GFI)—adjusted goodness of fit index (AGFI) (0.91), normed fit index (NFI) (0.97), nonnormed fit index (NNFI) (0.96), and the comparative fit index (CFI) (0.98)—were above 0.90, indicating a good model fit. Only the measures based on the statistics for chi-square, likelihood-ratio chi-square, and normed chi-square suggested that the second modified measurement model (*MM<sub>M2</sub>*) would not have a good fit. However, this measure is usually deemed too sensitive for sample sizes larger than 200 cases, which is the situation in this study [35]. With large samples and real-world data, this measure tends to indicate unacceptable fit for perfectly valid models [36]. Finally, using chi-square difference tests, we compared the final measurement model to alternate models where the correlation between paired constructs was set to one [8]. All chi-square statistics were significant and the alternate models had inferior measures of fit. Therefore, it was concluded that the final measurement model was appropriate for the tests of the relationships between constructs.

## Results

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AFTER THE MEASUREMENT MODEL WAS ESTABLISHED, we again used LISREL 8.30 to determine the structural model. Figure 2 displays the results for the structural model,

Table 3. Evolution of Reliability and Discriminant Indicators for Measurement Model

Variables	$MM_i$ (df = 32)		$MM_{m1}$ (df = 24)		$MM_{m2}$ (df = 17)	
	Reliability	AVE	Reliability	AVE	Reliability	AVE
<i>EXPBEN</i>	<b>0.816</b>	<b>0.600</b>	<b>0.816</b>	<b>0.600</b>	<b>0.816</b>	<b>0.600</b>
<i>EBLIK1</i>	0.731		0.729		0.729	
<i>EBLIK2</i>	0.634		0.634		0.635	
<i>EBLIK3</i>	0.871		0.872		0.871	
<i>OTQUAL</i>	<b>0.731</b>	<b>0.410</b>	<b>0.717</b>	<b>0.461</b>	<b>0.738</b>	<b>0.584</b>
<i>OTQLIK1</i>	0.710		0.747		0.797	
<i>OTQLIK2</i>	0.514		0.496		—	
<i>OTQLIK3</i>	0.467		—		—	
<i>OTQLIK4</i>	0.848		0.847		0.806	
<i>REPUT</i>	<b>0.870</b>	<b>0.691</b>	<b>0.870</b>	<b>0.691</b>	<b>0.870</b>	<b>0.691</b>
<i>REPLIK1</i>	0.743		0.743		0.743	
<i>REPLIK2</i>	0.745		0.741		0.738	
<i>REPLIK3</i>	0.882		0.884		0.887	

Figures in bold represent the values for the overall construct.

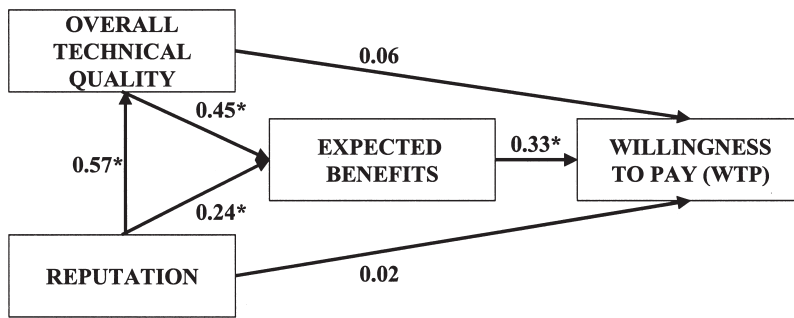


Figure 2. LISREL Results for Initial Research Model

df = 22; normed chi-square = 3.66; GFI = 0.95; AGFI = 0.90; NFI = 0.96; NNFI = 0.96; CFI = 0.97; RMR = 0.048; RMSEA = 0.086; \* significant at 0.01.

taking into consideration only the latent constructs. With the exception of the goodness-of-fit measure based on chi-square, most other measures indicated a good fit. The values for root mean residual (RMR) and root mean square error of approximation (RMSEA) were not as strong but acceptable nevertheless [14, 26, 35].

Consequently, results support H1, indicating a significant relationship ( $p < 0.01$ ) between Expected Benefits and Willingness to Pay for the subscription to a sports-related online content Web site. Overall Technical Quality and Reputation, on the other hand, had no significant direct impact on how much participants would spend on the subscription for the stimulus Web site, which leads to the failure to support H2 and H3. However, results also indicate that both Overall Technical Quality and Reputation have significant ( $p < 0.001$ ) *indirect* effects on Willingness to Pay (0.20 in the case of Reputation and 0.15 in the case of Overall Technical Quality).

Overall Technical Quality and Reputation had a significant influence ( $p < 0.01$ ) on expected benefits, indicating that the traditional assessment of value for that Web site (based on the potential positive outcomes to be obtained with the use of that site) was influenced by perceptions about the quality of the site and the provider's reputation. These results support H4 and H5. Finally, results indicate that, as suggested by the marketing literature, the assessment of perceived quality of that Web site (as captured in Overall Technical Quality) was positively influenced ( $p < 0.01$ ) by the perceived reputation of the provider, supporting H6.

## Exploratory Analysis of Explained Variance

Although results were significant and the amount of explained variance for Expected Benefits was high (0.39), the amount of explained variance for Willingness to Pay was relatively low at 0.15. To further investigate the problem we attempted two separate approaches utilizing non-hypothesized relationships [8]. First, we used another monetary assessment available in this study to investigate if explained variance would

be higher. In the second approach, we introduced interest as one of the components of the model.

### Use of Estimate of Average Bid as Dependent Variable

As explained above, in this study we used a performance-based mechanism to reward participants. In this case, we asked participants to provide an estimate for the average bid for the annual subscription to the stimulus Web site. Another way to look at these data is to consider this estimate as a measure of a “fair market value,” in other words, how much participants thought a group of interested people would be willing to pay for access to the site. We used estimate of average bid (EAB) to replace WTP in the original model and eliminated the nonsignificant paths. The new model presented in Figure 3 showed satisfactory goodness of fit measures (GFI, AGFI, NFI, NNFI, CFI above 0.90, although again RMSEA (0.083) and RMR (0.085) were not as strong), with the exception of those measures related to chi-square (for example, normed chi-square was 3.65). Although the model with EAB as a dependent variable confirmed the relationships found in the original model,  $R^2$  for EAB was very low (only 0.05), which can be explained by the difficulty related to the task of estimating other peoples’ WTP. Consequently, although the overall model was supported, EAB did not fulfill its mission to be a better measure for monetary assessment of entertainment-related online content.

### Inclusion of Interest in the Structural Model

Another alternative to increase the explained variance for Willingness to Pay is to add Interest to the model. As previously stated, we measured interest in the topic to filter those respondents who would be outside of the market for a sports-related Web site. We assumed that those with no interest in the topic would not be willing to spend any amount of money to subscribe to a Web site covering that topic. However, it is also possible to imagine that Interest might have a direct positive impact on both Expected Benefits (the “value” of that site for the user) and Willingness to Pay for the subscription. Consequently, we added Interest to the model and ran it again, with the results presented in Figure 4.

This model presented mixed measures of goodness of fit (for example, the AGFI dropped below 0.9). Furthermore, although results indicate a significant positive effect of Interest on Expected Benefits, the same was not true about the effect between Interest and Willingness to Pay. In this case, not only was the effect nonsignificant but it was also negative. As a consequence, explained variance for Willingness to Pay remained essentially the same (0.15). We also ran additional models with other variables (age, amount of Web surfing, experience with the Internet, gambling habits, and participation in fantasy leagues), but none of these variables had a significant influence on Willingness to Pay. Both gambling habits (−0.05) and participation in fantasy leagues (−0.03) had a nonsignificant negative impact on Willingness to Pay, mimicking the effect of interest.

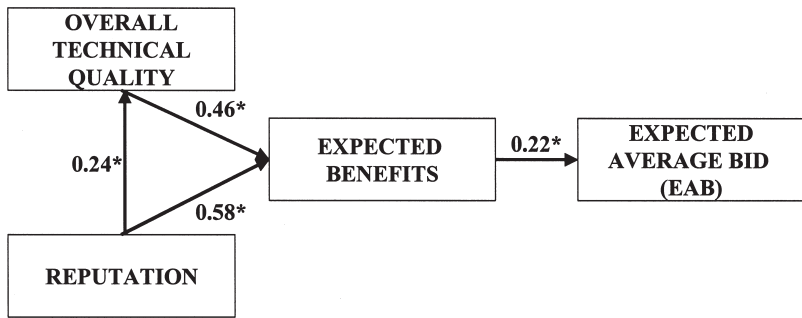


Figure 3. LISREL Results for New Model with EAB as Dependent Variable  
 $df = 24$ ; normed chi-square = 3.65; GFI = 0.95; AGFI = 0.91; NFI = 0.96; NNFI = 0.96;  
 CFI = 0.97; RMR = 0.085; RMSEA = 0.083; \* significant at 0.01.

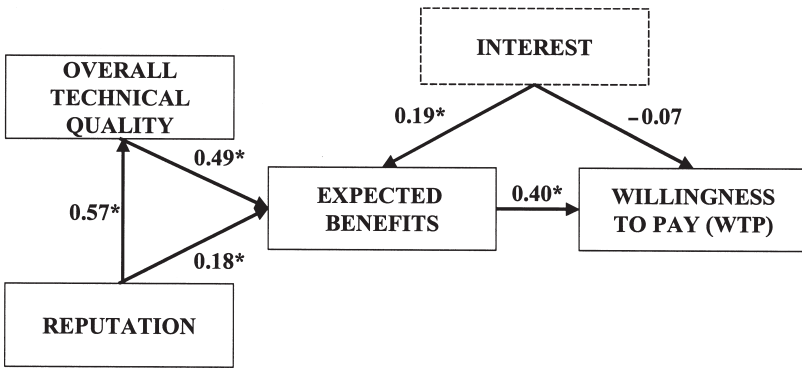


Figure 4. LISREL Results for Model with the Inclusion of Interest  
 $df = 38$ ; normed chi-square = 3.98; GFI = 0.93; AGFI = 0.87; NFI = 0.95; NNFI = 0.94;  
 CFI = 0.96; RMR = 0.057; RMSEA = 0.092; \* significant at 0.01.

### Additional Analysis of Expected Benefits

One downside of having generalist measures of expected benefits was the possibility of having visitors inferring outcomes that are not related to intrinsic benefits when visiting the site. For example, even though only a small number of study participants were either regular gamblers or fantasy players, members of the sample could have inferred potential outcomes that were utilitarian in nature. To further examine this issue we utilized data from our manipulation check to understand respondents' perceptions about the type of content displayed on the Web site.

One of the extra items in our instrument was a manipulation check asking participants to evaluate the type of content available on the stimulus site. At the "1" side of the seven-item scale the text read: "This Web site would mainly allow users to save time, earn money, and/or make better decisions." The "7" side of the scale stated: "This Web site is primarily for entertainment and/or learning." A higher result in the

manipulation check would indicate that the participant thought the content of the site was related to intrinsic motivation, whereas a lower result would suggest a perception of potential utilitarian gains from the site. The average result for the manipulation check was 5.1, indicating that, as a group, participants were more inclined to see the site as a source of content for entertainment and/or learning.

We also conducted additional tests using a subsample composed of those respondents that marked "5" or higher on the manipulation check scale. The number of data points in this subsample (256) still allowed us to keep a good ratio between the number of data points and the number of items in the instrument [45]. Moreover, this subsample would allow us to capture the perceptions of only those who associate intrinsic benefits with the stimulus site. Results are presented in Figure 5.

The resulting structural model shown in Figure 5 was very consistent with the one obtained with the full sample. There was an increase in the value of the path between Overall Technical Quality and Willingness to Pay but not enough to become significant. The measures of goodness of fit were also very similar to the ones in the original model. Finally, the amount of explained variance also remained similar with 0.13 for Willingness to Pay and 0.29 for Expected Benefits.

## Discussion

THE RESULTS OF THE ANALYSES INDICATED that even within an entertainment-related topic, participants' WTP for the subscription to a Web site was based solely on the expected benefits offered by that site. Surprisingly, despite extensive literature making the link between overall technical quality and WTP and between reputation and WTP, those relationships were not present in our model.

In other words, even though there might be no defined purpose for the information conveyed by the site for the majority of participants (considering that the vast majority of people in our sample never place bets or participate in fantasy leagues), and even with the relative newness of the product and the uncertainty surrounding the evaluation process, respondents were able to find benefits that were clear enough for them to serve as the sole basis for their WTP. Clearly, the traditional view of information value in which the final assessment of value is derived from the positive outcomes of using an information good (or service) is supported even in a context in which the topic of the Web site being examined was chosen as a "proof-of-concept" for IMOC. This result indicates a strong need for Web site providers to make a clear case about the purpose of their sites. Instead of spending the bulk of the design budget on "bells and whistles" (unnecessary features), providers should work hard to communicate to potential users the advantages and benefits associated with the use of the site. If the message is not clear or if it cannot be deduced from the information being presented, users will decrease their estimate of the worth of the subscription for that site.

The analyses also demonstrated that what participants think about the potential benefits of a given entertainment-related Web site is affected by their opinion of both the Overall Technical Quality of the site and the Reputation of its provider. Although

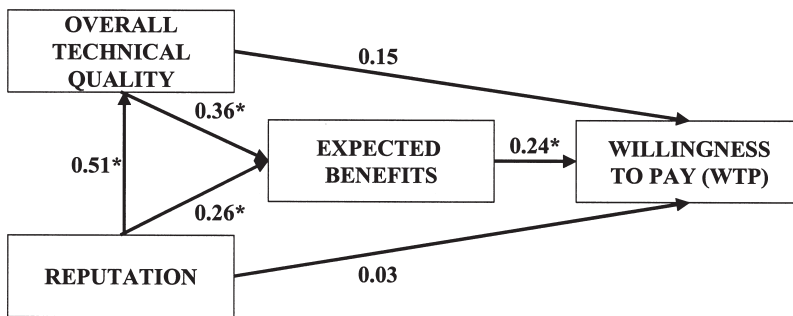


Figure 5. LISREL Results for the Original Model with a Subsample of Only Subjects Who Considered Benefits of the Site to be Intrinsic in Nature  
 $df = 22$ ; normed chi-square = 3.02; GFI = 0.95; AGFI = 0.89; NFI = 0.96; NNFI = 0.95; CFI = 0.97; RMR = 0.092; RMSEA = 0.086; \* significant at 0.01.

the role of Overall Technical Quality as a determinant of Expected Benefits is higher than the role of Reputation, both factors have an important effect on what people think they can expect from a Web site. Furthermore, both factors had significant indirect effects (through Expected Benefits) on Willingness to Pay. Consequently, completely neglecting unnecessary features on a Web site presenting entertainment-related online content is not a good move either. Balance must be achieved to convey the right message of the potential outcomes with the use of the site at the same time that this message is supported by strong technical characteristics of the entertainment-related Web site.

Moreover, Reputation had a positive significant effect on the evaluation of Overall Technical Quality. This result indicates that providers should not neglect brand management for their online content. Although the Internet provides a low-cost platform to disseminate online content, players in this industry that are not supported by strong brand recognition might have difficulty competing, because a low assessment of a provider's reputation could generate a chain reaction lowering the assessment of the Overall Technical Quality of the Web site presenting the entertainment-related content, the Expected Benefits to be achieved with that content, and, finally, the monetary assessment of the value of access to that content.

It is important to note, however, that WTP is also largely influenced by variables that go beyond the scope of this field study. Despite the strong and significant paths between Expected Benefits and Willingness to Pay in all models displayed above, the overall explained variance for Willingness to Pay was less than 0.15 in all cases. This result might be representative of an overall lack of experience of participants with paid online content. When facing the task of assigning some monetary value to the content being examined, participants could not rely on previous similar tasks, having never before paid for content. Consequently, as the online content industry struggles to transition from a free to fee-based model, it is important to develop other measures

of value that can address the attitudes and behaviors of consumers in the target market. It is also important for providers to have patience and educate potential customers about why the benefits provided by the site deserve monetary fees.

Finally, it is worth mentioning the negative, albeit nonsignificant, effect of Interest on Willingness to Pay. One possible explanation is the association between Interest and Knowledge. In this particular case, knowledgeable consumers were probably more aware of free alternatives in the provision of sports-related online content, lowering their monetary assessment for the prototype Web site used as the stimulus in the current study. A similar result was obtained for gambling habits and participation in fantasy leagues. Although they were likely beneficiaries of sports-related sites, their knowledge of free alternatives might have attenuated the value of the new site. Consequently, consumer knowledge about the topic and alternative Web sites should be addressed in future models studying the assessment of the value of online content.

## Conclusions

THIS PAPER ENHANCES EXISTING THEORY on the provision of online content in several ways. The paper provides a rare example of a study covering the provision of information for nonutilitarian purposes, an area not commonly covered in the existing information systems literature. With the increasing marriage of technology suppliers and content providers, and the continuously expanding dissemination of entertainment- and education-related information services to households across the globe, we believe that this is an area that deserves further theoretical development.

Consequently, the paper offers a baseline model that can be used in future research efforts. This parsimonious model emerged from the careful consolidation of different research streams from economics, information science, information systems, and marketing. It offers three main constructs that can be influenced by the management of online content providers: Expected Benefits (which can vary according to the market that the online content is serving), Quality (which can be changed through the development of new features for the Web site and different methods of information gathering), and Reputation (which can be influenced by concerted promotional efforts).

We used an online survey with a sports-based Web site developed especially for this study to collect data for consumers' monetary evaluation of this site. Our study included users who were visiting a sports-based Web site for the first time and bidding for a subscription. Based on the results of the analysis, we concluded that there is a direct path from Expected Benefits to consumers' Willingness to Pay for entertainment-related online content and that both Overall Technical Quality and Reputation have only indirect impacts on monetary assessment. However, we also concluded that the evaluation of Expected Benefits is influenced by both Reputation and Overall Technical Quality and that assessment of Reputation also influences Overall Technical Quality. Those results were upheld even when different subsamples and model specifications were implemented, suggesting that the traditional view of information

value based on potential positive outcomes, initially conceived for intra-organizational, decision-related settings, can be extended to intrinsically motivated systems in a voluntary adoption context.

The idea of users evaluating entertainment-related Web sites based on these sites' expected benefits also has implications for the adoption literature [56]. The success of technology acceptance model (TAM)-based studies in explaining patterns of adoption for utilitarian systems is well documented in the literature. However, few adoption studies have been conducted in a context where there is a variety of competing content providers, adoption is completely voluntary, and the benefits of adoption might not be naturally related to "perceived usefulness." More recently, we have seen some additions to TAM with the inclusion of constructs such as "perceived enjoyment" [86]. We believe that the further expansion of adoption models to include a variety of expected benefits (as indicated in the present paper) will lead to more meaningful results when applying the models to systems where the benefits are not tangible.

Furthermore, this study also raises the need for more research about WTP for online content. In general, little is known about how consumers formulate their bid prices, and pricing becomes especially difficult when products are new [54]. Furthermore, the intangibility of services makes it more difficult for consumers to compare prices, especially because the costs of providing a service are not obvious to the consumer [61]. However, these issues might be compounded when dealing with online information goods available on the Internet, especially in situations where multiple sources of information are available. There might be situations in which the assessments of expected benefits, quality, and reputation are high but (either as a matter of principle or because of the existence of many alternative sources of information) the consumer still has a low WTP for access to the site. That situation might explain the relatively low explained variance for the treatment Web site. Thus, it is necessary to understand better what leads people to pay (or not pay) for online content on the Internet. Are paid subscribers looking for more convenience? Do they share a particular perception about the "free Internet"? Are they heavy subscribers of hard copy content such as magazines? Answering those questions would help potential content providers to create more tailored pricing policies.

From a practitioner's perspective, this study indicates that content providers need to make the benefits of use very clear to their potential audience and also to invest in simultaneously increasing reputation and the technical aspects of the site so that the site's expected benefits are considered achievable by potential users who will, in turn, invest some money in adopting the site. One important implication is that for small companies with little brand recognition, it might be difficult to become competitive in the provision of online content. Even if the firm invests in creating a high-quality site, the lack of reputation might prevent consumers from assigning a high monetary value to the services of that firm. Consequently, the fact that the Internet provides a competitive arena with low barriers to entry might not be so significant, because a good deal of evaluation of entertainment-related online content is based on the provider's reputation.

One of the caveats present in this study is the focus on a single topic for the content of the Web site. The selection of this topic was based on the range it provides in terms of levels of interest and the widespread presence of similar Web sites on the Internet, making the setting more familiar to participants. The chosen topic and its entertainment characteristics also served as a “proof-of-concept” for studying IMOC. Further studies involving different content areas are necessary to increase our knowledge about the research topic.

Furthermore, future studies should work on improving the measurement of expected benefits and perceived technical quality. Following the objective of creating a parsimonious, baseline model, constructs in this paper were translated into items that are more generalist in nature. Our main concern was to reproduce a context in which a user visited the Web site for the first time and made initial judgments. Thus, we opted for measuring this user’s initial overall impressions of the site, instead of asking detailed questions about the potential many factors comprising a construct. However, both expected benefits and perceived overall technical quality are composed of several dimensions, and some of these dimensions may be more salient for the “first impression” of the site. For example, the literature indicates that, when evaluating services for entertainment and hedonic purposes, consumers emphasize some aesthetic components of the experience [17, 38, 90]. In the case of Web sites, factors such as “perceived visual attractiveness” have been shown to influence adoption [85]. At the same time, overemphasis on “beautification” features may negatively affect other factors, such as loading time. Our instrument, however, did not allow us to capture the relative weights of subcomponents of Web site quality. Therefore, better and more complete scales are necessary for future studies. Moreover, due to the size of the sample we obtained, we did not run measurement and structural models using different subsamples, which would have been preferable.

Finally, studies in this area should be extended by examining actual consumers of IMOC. Although that context was not appropriate for the perspective we were investigating (the release of a new IMOC site), much can be gained from understanding the behavior of actual consumers.

Despite those caveats, we believe that this exploratory study proposes a novel way to understand and analyze consumers’ assessment of the value of online content. As more systems go beyond the realm of the organization, and entertainment grows to be one of the major world industries, learning more about sites whose usage is intrinsically motivated becomes very important. The need for further research on this topic is clear: the fact that Interest was not associated with Willingness to Pay illustrates the need for more complex and comprehensive models for consumer assessment of online content. As users become more accustomed to paying for online content, further studies such as this one will need to more fully develop a network of constructs and relationships among those constructs on the path toward developing a more complete understanding of the dynamics of assigning value to such content.

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*Acknowledgment:* An earlier version of the conceptual sections of this paper appeared in the Best Paper Proceedings of the Academy of Management, 2002.

## NOTE

1. Notice that, in this case, we are not referring to Web sites that sell downloadable entertainment content, such as, for example, Apple's iTunes music store. Instead, we refer to sites in which the customer pays to see the content, where there is no structure to sell small, individualized pieces of content.

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## Appendix. Instrument

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### Willingness to Pay

SUPPOSE THAT THE MANAGEMENT OF THE WEB SITE decided to conduct an auction of these annual subscriptions among the participants of this study.

This auction follows a second-price sealed-bid mechanism to encourage a single bid that reflects the true value from your own perspective. As in a “normal” auction, the winner of the subscription will be the person with the highest bid. However, the winner will only pay the amount of the second-highest bid! Each participant in the auction has only one chance to submit a sealed bid.

Some examples with three bidders involving the auction of a car will clarify this mechanism:

1. Person A evaluates that the car is worth \$1,000 and bids this amount. Person B bids \$600.00. Person C bids \$400. Consequently, Person A wins the auction and obtains the car paying \$600 (= value of second-highest bid).
2. Person A evaluates that the car is worth \$1,000 but decides to offer a higher bid, let's say \$1,200. Person B bids \$1,150. Person C bids \$800. Consequently, Person A wins the auction and obtains the car paying \$1,150 (= value of second-highest bid), which is higher than what he or she thinks the car is worth.

With this mechanism in mind, please indicate your bid for the yearly subscription of the completed version of the Web site you have just examined.

\$ \_\_\_\_\_ My bid for a yearly subscription.

Following the same auction mechanism described above (second-price sealed-bid auction), what do you think the average bid will be for the completed version of the Web site you examined, counting only those interested in sports information? The two estimates closest to the real average will receive \$60.00 each.

\$ \_\_\_\_\_

### Expected Benefits (seven-point Likert scales)

I can see several positive outcomes coming from the use of this Web site, such as money, time saved, enhanced decision making, completion of tasks, learning or entertainment; the use of this site would bring me a lot of rewards; overall, the expected benefits in using this Web site are high.

### Overall Technical Quality (seven-point Likert scales)

This Web site would score high on technical quality; this Web site would score high on ease of learning and operating, flexibility, organization, and design; the information in this Web site would score high on reliability, accuracy, currency, and comprehensiveness; overall, the technical attributes of this Web site are strong.

### Reputation (seven-point Likert scales)

[Provider] has a good history in the provision of sports information; I fully believe that [Provider] has the skills to do a good job in the provision of sports information; overall, [Provider] has a good reputation in the provision of sports information.

### Interest (seven-point Likert scales)

I am very interested in sports in general; sports are an important subject to me.

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