INCREASING WILLINGNESS TO PAY THROUGH ENCOURAGING SOCIAL PARTICIPATION - A WEB EXPERIMENT

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Abstract

Content websites have been experimenting in recent years with charging users for their content offerings. However, reported conversion rates of around 1-5% of total unique website users make this strategy feasible only for websites that cater to millions of users. How, then, can a website raise conversion rates without significantly enlarging its user base?

Content websites have begun to incorporate social features, providing platforms for community formation. Users' engagement with a website's social features has been shown to increase their willingness to pay. This research investigates the effect of acts of initiated participation—"calls to action" made by website owners—on users' willingness to pay in content websites.

We designed an experiment in which users explore a content website and are required to respond to requests for participatory acts. We show that users who are given the calls to action in increasing order of effort level are willing to pay more for a monthly subscription or in a one-time donation, compared with users who are not exposed to such prompts. Interestingly, we show that the order of activities is crucial; when the tasks are not initiated according to increasing order of effort, the results do not hold.

Keywords: Paywalls, Virtual Communities, Business Model, Experiments.
1 Introduction

There is an ongoing debate among researchers as well as practitioners regarding the implications of placing online content behind paywalls. Leading news websites such as NewYorkTimes.com and WallStreetJournal.com have experimented with so-called “freemium” strategies, offering a few content items for free each month and limiting additional content to paying subscribers. However, the long-term results of such strategic moves are unclear. Reported conversion rates of freemium-based content websites are approximately 1-5% of the total number of website users (Anderson 2008), which makes such strategies feasible only to content websites that have a very large user base to begin with. It seems likely, therefore, that a key question on the minds of content website managers is how to raise conversion rates without significantly enlarging the user base?

Previous attempts to understand consumers’ willingness to pay for content services have focused on the content consumption experience of the user. The basic assumption is that higher satisfaction with the website's content and features will lead to higher use and higher willingness to pay for the website's services. However, many content websites no longer focus exclusively on content. Rather, they fuse content with varied social experiences. A user on a video website such as YouTube, for instance, can rate videos, tag them with keywords, add them to his personal playlist, be part of a community discussion around that content and upload his own videos to the website. This makes a user's social experience inseparable from the content offered. It also makes the act of payment not only a mere cost/benefit analysis of content offer but also a contribution to a social platform he takes an active part in (Ramaprasad, Desmeules and Bassellier 2012). Recently, Oestreicher-Singer and Zalmanson (2013) presented a model named the "Ladder of Participation", whereby a website offers its users opportunities to engage in a set of participatory actions, organized according to the level of effort they entail. The user climbs the ladder, beginning as a consumer-only "lurker type” and eventually advancing (in successful cases) to the level of a fully pledged community member. Users on higher rungs of the ladder—reflecting higher levels of engagement with the website's community features—were also more likely to pay for content-related services. The resultant conclusion is that website owners should encourage people to participate more actively in the website community as a proxy for converting users from free to fee.

A core challenge associated with the "Ladder of Participation" model is that few consumers actually make it up the ladder. On most content websites only a small percentage of users populate the "highly committed" rungs. Moreover, the process of climbing seems entirely voluntary and may take users months or even years to complete. While Oestreicher-Singer and Zalmanson have dealt with the initial connection between participatory acts and willingness to pay—and addressed some aspects of the endogenous relationship between the two behaviours— from a theoretical perspective, we still know very little about the dynamics of social engagement and the process by which it is converted to willingness to pay. For example, can all users become socially active, or are some be destined to be lurkers? Does engagement have to be a user-initiated process, or can websites initiate user participation—and thereby shorten the "climb" time and increase users' willingness to pay? This proposed research aims to close these gaps. In the question regarding the effect of website-initiated call for engagement, there are several reasons why this might not lead to user payment and might even conclude in their resentment. First, it is possible that only self-willed or voluntary action leads to the form of engagement that results in increased willingness to pay. Second, a website-initiated “prompt” to participate may be viewed by users as an interruption, damaging the user experience and maybe even lowering willingness to pay.

In this research we attempt to empirically test how website-initiated participation influences users' immediate willingness to pay behaviour on content websites. In the experiment described below, users explore a website called "VideoBook" that shows high-quality video content. While watching videos, users are presented with various "Calls to Action", issued at different points in time, to which they are
asked to respond by engaging in participatory acts requiring different degrees of mental effort. We show the effect of short-time engagement on willingness to pay. Specifically we show that users who are given the calls to action according to increasing order of effort level (similar to a "ladder") are more likely to pay for a monthly subscription and are willing to pay more for such a subscription, as compared with users who are not exposed to such calls to action, users who are given “smaller” tasks, and users who are given the tasks in reverse order. We also show that users who are exposed to the “ladder” exhibit higher willingness to make a onetime monetary donation to the website. Moreover, we show that exposure to interruptions does not hurt users’ appreciation of the content website.

**Theoretical Background**

This paper adds to several different streams of literature discussing the connection between users' active participation and their resultant willingness to pay.

In the context of social websites, both Li and Bernhof (2008) and Preece and Schneiderman (2009) have observed a ladder-type lifecycle for users in social online environments. Specifically, they suggest that most users can be organized into a well-defined hierarchy according to the extent to which they use the website’s social features and are active in the website's community. Some users move gradually up to higher levels, while others stay in place. These findings regarding online communities echo the seminal work of Lave and Wenger (1991) on learning processes in communities of practice. More recently, Oestreicher-Singer and Zalmanson (2013) have offered a framework of a "Ladder of Participation", which is suited to content websites that incorporate social features as part of their offer. The ladder of participation is an ordered list of user activities in content websites. The first step, where all users begin, is a "lurker", a passive user who only consumes content. Some users then invest some time and effort in making small contributions, such as rating and tagging content (this stage is labelled “content organization”). The next stage in the ladder includes users who invest significant time and effort in community participation by publishing comments and contributing to forum discussions (this stage is labelled “community participation”). Finally, members on the highest rung of the ladder create significant content, lead, and moderate discussions in the community (this stage is labelled “community leadership”). Clearly, users who "move up the ladder" invest more effort in the website and create more value than users who just consume content. Drawing from organizational commitment theory, Oestreicher-Singer and Zalmanson (2013) suggest that a user’s climb up the ladder of participation reflects a progression towards higher and more fundamental types of commitment toward the website. Their research found that users on the last.fm music website who were at top rungs were more likely to purchase a premium subscription compared with people who exclusively listened to music, even if they were avid consumers.

The studies cited above on participation in social and content websites investigated consumers who had been using the websites in question for a long time (more than a year on average) and were voluntarily active. A second stream of literature investigates the effects of short-term initiated actions on subsequent willingness to pay. Researchers in social psychology have discussed people's need for "effort justification", showing that even a short period of effort increases one’s appreciation for the pursuit in which the effort was invested (Festinger, 1957; Aronson and Mills’, 1959). Researchers in behavioural economics have demonstrated the "endowment effect", where people prefer goods with which they have been endowed (Kahneman, Knetsch, and Thaler 1990), and thus an overvaluation can occur also because of perceived ownership of the product rather than effort expended in creating it. Even time spent touching objects can increase feelings of ownership and value (Peck and Childers 2003; Peck and Shu 2009). IS and marketing researchers have built on these theoretical foundations to investigate overvaluation in cases in which consumers participate in an item’s production, a process that is prevalent online (Franke and Piller 2004; Schreier 2006; Franke, Schreier, and Kaiser 2010). Recently, Norton, Mochon and Ariely (2009) coined the term "IKEA effect" and showed people's tendency to assign higher valuations to products they have assembled themselves.
Our work brings those streams of literature together, closing the gaps in relation to current website practices. While the theory of the "Ladder of Participation" refers to the flow of actions a user undergoes, which may result in increased willingness to pay for a subscription, it is limited to voluntary actions taken by the user. It is unclear what will happen if those activities are initiated by the website. Moreover, the process of the climb is rather long and it is not clear if can be shortened by initiating requests for user engagement. Hence, the underlying assumption is that only very few users will end up reaching the higher rungs of the ladder. On the other hand, the research done on "effort justification" and "endowment effects" shows by the design of randomized experiments that participatory actions can indeed be exogenously initiated, and that their effects on willingness to pay can be immediate. However, studies in this vein have tested the mere effect of an action or experimented with volume of such actions, but did not explore the significance of the arrangement of the task sets that participants were asked to engage in. The unique characteristics of online environments as well as the social nature of the new content websites call for a more nuanced definition of user participation and an exploration of its outcomes.

2 Methodology

We designed web experiments on a YouTube-like video site we named "VideoBook", which was specially built for this study. The website provides video clips that can be viewed using a built-in video player. Emphasis was given in our design on making the website's appearance and feeling similar to what one would experience browsing a video content website such as YouTube.com or Vimeo.com while at the same time not looking identical to either one of them, thus preventing users from mistaking our website for another. For that reason, rich graphic design was used to create a symbol icon and buttons that are similar in functionality yet distinctive in appearance (Figure 1). On each page a user can navigate by clicking on a "pick random video" button or by clicking on one of four suggested video links that appear to the right of the current video. The user does not have to watch any video fully, and we activated the navigation buttons after the first 10 seconds of playback of each video.

![Figure 1. The VideoBook Screen](image-url)
For this experiment, videos were taken from the Vimeo.com website. Vimeo.com is one of the largest video content websites in the world and specializes in artistic, high-quality videos. We chose Vimeo.com over YouTube.com as source of videos because in the process of embedding videos it does not insert advertisements. By using Vimeo.com as a source, we avoid creating an unplanned and uncontrollable distraction or interruption in the form of an online ad by a third-party website. In order to make sure that the quality of a user’s experience would not be influenced by the specific videos he or she chose to watch, we limited our website to screen only highly rated high-resolution nature videos. Specifically, we chose the 50 highest-rated videos in the category of nature on Vimeo, promising a generally high level of content quality. As opposed to music and comedy video clips, the nature genre, which is characterized by unique and striking aesthetics of landscapes and animals, is not as prone to cultural differences and diverse personal tastes as the more narrative-led videos or music video clips. This enabled us to avoid bias resulting from users’ personal video choices. Along with the videos, we randomly selected tags and comments from the original video pages on Vimeo.com and added them into "VideoBook".

As is the case on most content websites, while watching the video each user was presented with information about the video such as the name of the video, the current rating of the video (randomly assigned), previous tags, and comments (randomly chosen from the original video). Tags and comments were limited to four at most (when there were more than four associated with the original video) in order to avoid overcrowding the layout of VideoBook and influencing the user’s experience. Further, the user could choose to engage in one or more of the following activities: the option to mark the video as liked or disliked by clicking on a "Like/Dislike" button; the option to rate the video on a scale of 1 to 5 stars; the option to "tag" the video, that is, the option to offer key words that best describe the video; the option to mark a fellow user's comment as "liked" or "disliked" using a "Like/Dislike" button; the option to add a new comment in a free-text box.

Note that the activities are listed above in increasing order of mental and time effort expected from the user, based on the literature of the ladder of participation (see Figure 2) and correlate to the content organization (e.g. like, rate, tag) and community participation (comment) levels. Also note that community leadership is not dealt with in this experiment as most video websites don't have a "leadership" component as well as our assumption that effective test of leadership could not be achieved in a one-time session.

Figure 2. VideoBook's Ladder of Participation

2.1 The experiment

In this study we asked 258 individuals (51.9% female, mean age 34.1) to watch videos on "VideoBook" for about 20 minutes. Tasks were submitted as human intelligence tasks (HITs) to
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Amazon Mechanical Turk (MTurk). Every individual was asked to browse a study webpage corresponding to his or her assigned scenario. Participants were required to complete the entire task, watching videos for approximately 20 minutes, in order to receive payment. Each participant received $1.5 upon completing the task.

We randomly assigned each participant to one of four possible versions of this website, based on different actions required from the participant:

**The "Voluntary participation" condition** (hereafter condition C1): Under this scenario, users are free to browse the website without interruption; they can engage with all features on the website as they normally would on other video content websites. That is, they can voluntarily tag videos, write comments and use any other feature, but those actions are not mandatory.

**The "Encouraged likes" condition** (hereafter condition C2): Under this scenario, users of the website are free to browse the website without interruption for the first two video clips, but from the third video clip and on, they are asked to choose and click the “like” or “dislike” buttons before continuing on to the next video (Figure 3). The request for action appears on screen near the video after ten seconds of playback. The user can still watch the video and engage with other features (such as comments) on screen but cannot navigate away until completing the request to like/dislike. This condition was motivated by the "effort justification" literature, according to which the exertion of even the smallest effort may lead to higher economic valuations of a product.

**The "Climbing up the ladder" condition** (hereafter condition C3): Under this scenario, users of the website are “pushed” up the ladder of participation by requests for action that require increasingly high levels of effort. Specifically, as in condition C2, there are no requests for action during the first two videos. From the third video on there is one request after each video; the same action is requested for two concurrent video playbacks before the user moves up the ladder (see the exact time line in Table 1). As in condition C2, throughout the session, the user can still watch the video and engage with the other features on the screen but cannot navigate away until completing the request for action. This condition is motivated by the "Ladder of Participation" theory, according to which the order of actions has a role in inducing willingness to pay in consumers.

**The "Climbing down the ladder" condition** (hereafter condition C4): This scenario is similar to C3, except that the requests for action are presented in reverse order of effort. That is, the user is first
requested to write comments on two videos (the highest rung of the ladder), and then moves on to actions that are located on lower rungs (see the exact time line in Table 1). This condition requires overall the same amount and same levels of participation as C3. Its purpose is to answer the question: does the order of actions matter?

The users were asked to use the website for 20 minutes, with no other specific task description aside from the requests for action. At the end of the 20 minutes, they were asked to evaluate their willingness to pay for a monthly subscription to VideoBook (“How much will you be willing to pay for a monthly subscription to VideoBook? (Any amount in US Dollars)”). Many content websites (Wikipedia, Reddit) do not strictly charge for a subscription but choose to obtain funds through requests for donation, usually accompanied by the explanation that funds will be used to improve the site’s experience and functionality. Therefore, we also asked participants how much they would be willing to donate (one-time) to VideoBook in order to improve its service (“If VideoBook were to ask for a one-time money donation to improve service, how much would you be willing to donate? (Any amount in US Dollars?’)

To estimate whether the calls for action damaged users’ experience on the website, we asked the users for their assessment of satisfaction using the website (“How enjoyable do you find the video content consumption experience?’”). Finally, given that this is still an ad-based industry, willingness to spend time on the website is of high importance. Hence, we asked participants if they would be willing to continue the experiment for an additional 20 minutes (“How willing are you to continue viewing additional 20 minutes of content through this site for $1.00 extra?”). For the latter two questions, participants responded by rating a Likert scale with numbers between one and seven.

As videos were three and half minute long in average, we excluded from our analysis participants who watched fewer than 6 videos and those who watched more than 20 videos. It is our assumption that those groups have used extensive skipping or idle behaviour and thus could not be counted as representative of video consumption across the different conditions. Out of 257 participants we removed 76 participants based on these criteria (29.5%).

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Voluntary participation</th>
<th>Encouraged likes</th>
<th>Climbing up the ladder</th>
<th>Climbing down the ladder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Videos 1 &amp; 2</td>
<td>No Action</td>
<td>No Action</td>
<td>No Action</td>
<td>Comment Request</td>
</tr>
<tr>
<td>Videos 3 &amp; 4</td>
<td>No Action</td>
<td>Like Request</td>
<td>Rating Request</td>
<td>Tag Request</td>
</tr>
<tr>
<td>Videos 5 &amp; 6</td>
<td>No Action</td>
<td>Like Request</td>
<td>Like/dislike a Comment Request</td>
<td>Like Request</td>
</tr>
<tr>
<td>Videos 7 &amp; 8</td>
<td>No Action</td>
<td>Like Request</td>
<td>Like/dislike a Comment Request</td>
<td>Rating Request</td>
</tr>
<tr>
<td>Videos 9 &amp; 10</td>
<td>No Action</td>
<td>Like Request</td>
<td>Tag Request</td>
<td>Like Request</td>
</tr>
<tr>
<td>Videos 11 and on</td>
<td>No Action</td>
<td>Like Request</td>
<td>Comment Request</td>
<td>Comment Request</td>
</tr>
</tbody>
</table>

Table 1. Participatory Acts Experiment Design

3 Results

Our core results are presented in Figure 4 and show participants’ willingness to pay for a subscription as a function of the scenario they experienced. Our results show that average willingness to pay for a
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monthly subscription to the VideoBook website was highest in the "Climbing up the ladder" condition. A post-hoc ANOVA test (LSD) shows that users in the "Climbing up the ladder" condition were willing to pay significantly more than the control group (i.e., the "Voluntary participation condition; $2.412 and $0.955 respectively; p<0.05). Differences between the "Encouraged likes" condition, the "Climbing down the ladder" condition and the "Voluntary participation" condition were not found to be significant in the post-hoc tests.

Figure 4. Monthly Subscription Payment (in USD)

Figure 5 presents participants’ willingness to make a one-time donation to the VideoBook website as a function of their scenario assignment. With regard to donation intention, we again see that the highest average donation is associated with participants in the "Climbing up the ladder" condition. A post-hoc ANOVA test (LSD) shows that users in the "Climbing up" condition were willing to donate significantly more than users in the "Voluntary participation" condition ($6.543 and $3.136, respectively; p<0.05). Users in the "Encouraged likes" or "Climbing down" conditions did not have significantly different donation intentions compared with users in the "Voluntary participation" condition. These results are further supported by the two right columns of Table 2, which present the results of regressions in which the user’s intended donation is the dependent variable. The first column only includes the different conditions, while the second column also controls for age, number of videos watched, and the level of enjoyment from the website.
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Figure 5. One-Time Donation Payment (in USD)

<table>
<thead>
<tr>
<th></th>
<th>Monthly Subscription Payment</th>
<th>One Time Donation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The effect of participation</td>
<td>The effect of</td>
</tr>
<tr>
<td></td>
<td>With additional Variables</td>
<td>participation</td>
</tr>
<tr>
<td>&quot;Encouraged likes&quot; condition</td>
<td>.805 (.637)</td>
<td>2.239 (1.448)</td>
</tr>
<tr>
<td>(dummy)</td>
<td>.721 (.632)</td>
<td>2.108 (1.428)</td>
</tr>
<tr>
<td>&quot;Climbing up the ladder&quot;</td>
<td>1.458* (.643)</td>
<td>3.407* (1.463)</td>
</tr>
<tr>
<td>condition (dummy)</td>
<td>1.240* (.649)</td>
<td>2.990* (1.465)</td>
</tr>
<tr>
<td>&quot;Climbing down the ladder&quot;</td>
<td>1.220 (.654)</td>
<td>2.712 (1.487)</td>
</tr>
<tr>
<td>condition (dummy)</td>
<td>.888 (.673)</td>
<td>1.970 (1.519)</td>
</tr>
<tr>
<td>Number of Video Plays</td>
<td>- .028 (.052)</td>
<td>- .046 (.118)</td>
</tr>
<tr>
<td>Enjoyment Level</td>
<td>- .429* (.177)</td>
<td>- 1.157* (.399)</td>
</tr>
<tr>
<td>Age</td>
<td>- -.012 (.022)</td>
<td>- .019 (.049)</td>
</tr>
<tr>
<td>Constant</td>
<td>.955* (.460)</td>
<td>3.136* (1.046)</td>
</tr>
<tr>
<td></td>
<td>-.1253 (.1345)</td>
<td>-4.296 (3.038)</td>
</tr>
<tr>
<td>Observations= 181</td>
<td>R-Square .032</td>
<td>.033</td>
</tr>
<tr>
<td></td>
<td>.068 (1.345)</td>
<td>.080</td>
</tr>
</tbody>
</table>

Table 2. Regression results – Willingness to Pay/Donate
Figure 6 presents the results with regard to willingness to continue using the website. While participants in conditions with initiated participation showed higher average willingness to continue (average Likert scale rankings of 5.313 among participants in the "Encouraged likes" condition, 5.186 in the "Climbing down the ladder" condition, and the highest still being the "Climbing up the ladder" condition with 5.5), the differences were not statistically significant.

![Figure 6. Willingness to Continue (Likert Scale 1 to 7)](image)

Figure 7 shows the results with regard to "Enjoyment". We see overall high enjoyment in all conditions. While the differences are not significant, the "Climbing up" condition is actually associated with somewhat higher enjoyment. This seems to indicate that participants did not perceive the calls for action as intrusions on the video-watching experience.
3.1 Robustness and Realism

A key question in experimenting with a mockup website such as VideoBook is whether the website is sufficiently similar to real-life websites. To further strengthen our results, we retested the VideoBook platform, incorporating the following new options.

The ability to skip over a call for action. In real-world websites, it might be challenging to introduce mandatory calls for action. Today, most websites include popup windows with suggested actions, but a "skip" option exists and mandatory actions are still uncommon. Nevertheless, some level of mandatory action is evident even today. For example, many YouTube videos include popup ads that the user is obligated to watch for 5 seconds before skipping. To test the impact of mandatory actions on the users, we incorporated into VideoBook's design the option to skip "calls for action". Specifically, each type of "call for action" in each condition included a "skip this" button that enabled the user to move on to the next video without performing the requested action. We tested 197 additional users with the skip button with the three scenarios that include "calls for action"; among these 138 users (70.1%) did not skip at all, and only 18 users (9.1%) skipped more than two calls for action. Given that the average number of calls for action encountered during the experiment is 8.40, it seems unlikely that our results were influenced by the mandatory nature of the calls for action.

Voluntary and variable time on website. Naturally, the participants of the experiment were obligated to use the website (unless they chose to leave the experiment). To test whether the participants perceived the website as a real content website, we allowed users to continue using the site after the end of the experiment. That is, they could continue using VideoBook but were no longer
being paid to do so, and they could quit at any time, as in real-world content browsing experiences (they were notified that this extra time on the website was intended "for your viewing pleasure" only). Among 311 users tested with this feature on the four scenarios, 21.8% of the users voluntarily chose to extend their time on the website (27% of the voluntary participation, 21.6% out of the encouraged likes, 23% out of the "climbing the ladder" and 13% out of the "climbing down the ladder"), indicating that they enjoyed the website and perceived it as a real content website.

**Solving the hypothetical bias in willingness to pay.** Self-reported willingness to pay suffers from the hypothetical bias, and real willingness to pay might be significantly lower. However, given that VideoBook is a mockup website, it would be unethical for us to sell actual subscriptions. We therefore gave users the option to contribute back some of the funds received for participation in the research. Users went the same experimental procedure as described earlier but were now presented with a non-hypothetical donation question (instead of the former one): "VideoBook is asking for a one-time money donation to improve their service, how much will be willing to donate?" Users were then able to donate to the VideoBook website any amount between 1 and 100 cents. At the end of the experiment they received their promised compensation, minus the amount they had pledged to donate. Results show that among 291 users, 160 (55.4%) chose to pledge at least one cent. This suggests that the participants perceived VideoBook as a real content website, which can be seen in the following feedback we received from one of the participants: "These videos were gorgeous, and I loved the music, too. I am unemployed right now, and don't have an extra penny for any kind of subscription service or donate to anyone, but if there really is a newsletter, please add me, and I will sign up as soon as I find a job."

## 4 Discussion

This research studied the effect of initiated participation on user willingness to pay in the short run. We find significant differences in consumers’ self-reported willingness to pay, based on different participation experiences on VideoBook, a specifically designed video website. Initiated participation was shown to affect users’ valuation of a monthly subscription and their reported willingness to make a one-time money donation, as well as their likelihood to continue using the site. However, interestingly, these effects (as compared with controls) were only observed in cases in which the effort required of participants increased gradually, thus supporting the notion of a "Ladder of Participation" on which the climb creates a change in attitude towards the website and its value. This research is novel in showing that a ladder quality exists in the context of a social website as an expression of an organic need to participate without the motivation of feedback from a community, but rather can be implemented through consistent and gradually escalating calls for action from the website itself. This hints at a larger role that website managers can play in affecting the user experience in community-oriented websites.

The randomized experiment setting and the unique design of the website enabled us to control for different alternative explanations. First, the randomized experiment controlled for the potential endogeneity of using observational data. That is, users were randomly assigned to different levels of participation, such that users who engaged more with the website did not hold any unique characteristics that might also have made them more likely to pay for a subscription.
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Second, the various conditions used in the experimental design enable us to isolate the drivers of the phenomena and choose between competing theories. The “Encouraged likes” and especially the “Climbing down the ladder” conditions showed that “effort justification” and the “endowment effect” cannot fully explain our results. Recall that users in the “Climbing down” condition did exactly the same tasks as users in the “Climbing up” condition, only in a different order. This demonstrates the importance of the gradual increase in the difficulty of the tasks, supporting the notion of a ladder of participation. From a managerial perspective, the lack of contribution of the “Encouraged likes” condition towards willingness to pay is of great importance, suggesting that websites should not suffice with offering the bare minimum and should invest in different social computing features.

Finally, our results show no statistically significant differences in reported enjoyment across conditions, thus strengthening the notion that what we see here is not merely a difference in enjoyment or user satisfaction.

While the randomized experiment enabled us to gain new insights that could not be obtained using observational data, one shortcoming of this design is that it is limited to the short run and immediate reactions to engagement. While we believe there is researchers’ and practitioners’ value to insights in this case, engagement with websites should also be tested in the long-run with multiple website visits. Second, our results are based on a hypothetical question and not on actual monetary payments of users. We would like to note that we asked the users to name the amount of monthly subscription fee rather than to provide guidelines or boundaries. We find that users were willing to pay, on average, an amount of 2.4USD per month in the case of “Climbing up the ladder”. This amount is consistent with typical freemium subscription fees on social content websites, which are generally between $3 and $5 a month (see Oestreicher-Singer and Zalmanson 2013). Reported intended donations were higher compared with monthly fees; this difference can be attributed to the less committed nature of a one-time donation. This finding, too, reflects and verifies industry practices. This seems to suggest that participants responded to our questions in a reasonable manner reflecting their true willingness to pay.

Another shortcoming of the lab experiment is with regard to the enjoyment results. Many website owners fear that an interruption in the form of a "call to action" may decrease user satisfaction or affect churn rate. This is not evident in the results shown here. In fact, the highest valuation was given to a condition containing a high number of different calls to action, which contradicts that assumption. However, we must take into account that this is an "online lab" experiment and that users were paid to browse "VideoBook" for 20 minutes without any other purpose. They were not searching for a specific video, nor were they in any hurry. This is very similar to the process of ill-defined search, which characterizes a large percentage of users’ online behaviour on content websites (Goldenberg, Oestreicher-Singer and Reichman 2012) However, actual users browsing through content websites might have more limited spans of time and attention, as well as specific goals in mind. In such cases, users may react differently to these calls to action, and this remains an interesting direction for future research.

Finally, this study used an online video website. An interesting avenue for future work would be to extend our findings to willingness to pay on news or music websites. In addition, we used videos that were of high quality. Future work should study the role of quality in the observed effects.
5 References