

Speaking for “Free”: Word of Mouth in Free- and Paid- Product Settings

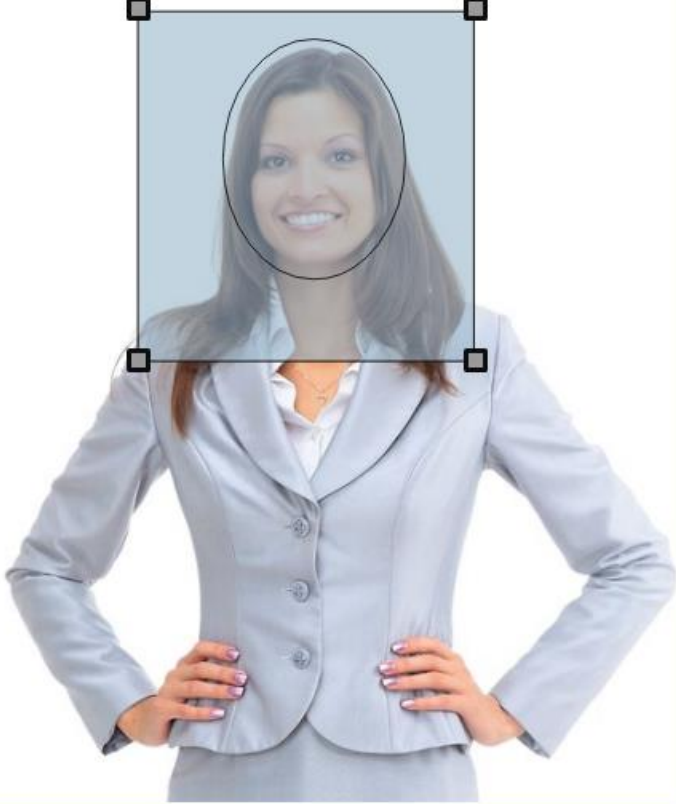
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Web Appendix


Web Appendix A

WEB APP FOR STUDY 2

Crop Panel



Preview Panel



Country

Photo Size

Save Photo

Web Appendix B

STUDY 2: PRETEST FOR PRODUCT TYPE, VOLUME AND DISPERSION

MANIPULATIONS

We conducted a separate pretest to ensure that the product type, volume, and dispersion manipulations were perceived as intended. The pretest included scales adapted from Rick, Cryder, and Loewenstein (2008), Thomas, Desai, and Seenivasan (2011), and He and Bond (2015). Eighty-one participants from Mechanical Turk were randomly assigned to the same eight conditions as the main study, underwent the same initial procedure, and then answered questions regarding all three manipulations. Compared to participants in the paid conditions, those in the free conditions reported less pain of paying (1 – not painful at all / ☺, 7 – extremely painful / ☹; $M = 1.21$ vs. 3.55 ; $F(1, 73) = 65.78$, $p < .001$), and also perceived more value (1 – very poor value, 7 – very good value; $M = 6.59$ vs. 5.58 ; $F(1, 73) = 14.80$, $p < .001$). Compared to participants in the low-volume conditions, those in the high-volume conditions perceived that the app had received more prior reviews (1 – very few, 7 – a lot; $M = 5.78$ vs. 4.07 ; $F(1, 73) = 28.59$, $p < .001$). Compared to participants in the low-dispersion conditions, those in the high-dispersion conditions perceived that user ratings were more spread out (1 – very close together, 7 – very spread out; $M = 3.88$ vs. 2.64 ; $F(1, 73) = 14.39$, $p < .001$).

Web Appendix C

CONTROLLED EXPERIMENT – CHOICE BETWEEN APPS

The design of this experiment was similar to that in Study 2, with two main exceptions. First, participants were given the opportunity to choose between alternative apps before experiencing their choice and deciding whether to post a review. The additional task was likely to generate noise and reduced the impact of the manipulations, making this a conservative design. Moreover, we expected that the addition of a choice would increase the likelihood of sharing in general, due to increased involvement and investment in the decision, as well as the possibility of using the review to reduce post-choice dissonance (Brehm 1956). However, we predicted that both the “reciprocity” and “risk” pathways in our model to remain active, in which case the pattern of sharing across conditions would be consistent with those in Study 2.

The second change was the addition of a new, “discounted” price condition. Given the wide-ranging effects of price promotion on consumer inferences and response (Gupta and Cooper 1992; Raghubir, Inman, and Grande 2004), the discounted condition was largely exploratory. To the extent that “free” is perceived as a category rather than a continuum, however, even a substantial discount would be unlikely to generate substantial reciprocity or inferences of risk reduction; if so, then our theorizing predicts a pattern of results that is similar in shape to that of the paid conditions.

Method

Experimental Procedure. Seven-hundred-and-nine U.S. residents were recruited from Mechanical Turk and compensated for their participation. Sample size considerations were based

on effect sizes observed in Study 2. Participants were randomly assigned to one of twelve conditions in a 3 (product type: free vs. discounted vs. paid) \times 2 (WOM volume: low vs. high) \times 2 (WOM dispersion: low vs. high) between-subjects design.

The setup and procedure of the study was identical to that of Study 2, with two important modifications. First, the scenario asked participants to “choose” between two alternative photo apps, based on the prior distribution of consumer reviews. One of the two alternatives was the target app (*GlobalVisaPhoto*), and the other alternative was a decoy (*Visafoto*). To ensure that the decoy alternative would be unattractive, its distribution presented a low average rating (two out of five stars), along with moderate volume (217 reviews) and moderate dispersion ($SD = 1.00$). The review distributions for the target app (*GlobalVisaPhoto*) varied by condition and were identical to those in Study 2. Only thirteen participants chose the decoy, and their data were discarded prior to analysis.

As in Study 2, participants in the free condition were told that the photo app was free of charge, and participants in the paid condition were told that each photo cost 50 cents. In the new, “discounted” condition, participants were told that although the “normal price” was 50 cents per photo, that they had received a first-time user discount and would only pay 25 cents per photo. As before, participants in the paid conditions went through the process of “paying” for their selected app out of their study compensation.

After experiencing the app, participants completed evaluation, review, and process measures similar to those in Study 2. As before, willingness to post a review was measured with a binary (yes/no) decision. In addition, participants completed a more sensitive dependent measure asking how motivated they would be to post a star rating and a text review (1 – not very motivated, 7 – very motivated). Participants who answered “yes” to the binary question were asked to write a

text review of the app and also to answer an open-ended question: “What is your opinion about the developers of GlobalVisaPhoto? What are your feelings towards them?”

Results

Descriptive Statistics. Based on the same filtering criteria used in Study 2, data from 97 participants were removed, leaving a sample of 612 (52% female, mean age = 37). As expected, participants were generally satisfied with the app ($M = 6.13$, $SD = 1.05$). Satisfaction was directionally higher than that observed in Study 2 ($M = 5.65$), suggesting that the addition of the choice task may have evoked post-choice dissonance reduction.

Posting Choice and Motivation. Table C-1 depicts the proportion of participants in each condition who agreed to post a review. Examination of the figure reveals a pattern consistent with that obtained in Study 2: in particular, participants were generally more willing to post a review for a free than a paid app, but this difference nearly disappeared when prior reviews for the app were low in volume and highly disperse. However, the three way product type \times volume \times dispersion interaction effect was not significant ($\chi^2(1) = .49$, $p = .48$).

[Insert Table C-1 about here]

Motivation to post is depicted in Table C-2 and was examined via an ANOVA including product type, review volume, and review dispersion as fixed explanatory factors. Results revealed a significant main effect of product type ($F(2, 600) = 9.53$, $p < .001$) consistent with the Study 2: participants expressed greater willingness to post a review when the app was free than paid ($M = 4.37$ vs. 3.24 ; $F(1, 600) = 14.37$, $p < .001$). Motivation to post in the new, discounted condition ($M = 3.65$) was significantly lower than that in the free condition ($F(1, 600) = 14.07$, $p < .001$) but was not reliably different from that in the paid condition ($F(1, 600) < 1$).

[Insert Table C-2 about here]

Most important, analyses also revealed a significant product type \times volume \times dispersion interaction effect ($F(2, 600) = 3.23, p < .05$). To decompose the interaction, we tested three partial interaction contrasts that each included two levels of product type. Results were significant for the test comparing free and paid ($F(1, 600) = 4.23, p < .05$) and for the test comparing discounted and paid, ($F(1, 600) = 5.54, p < .05$), but were not significant for the test comparing free and discounted ($F(1, 600) < 1$). Therefore, our follow-up analysis focused on the free and paid conditions.

To explore the three-way interaction, we conducted separate follow-up contrasts at each level of existing volume. The pattern of results was consistent with hypotheses and the findings of Study 2. When existing WOM volume was high, results revealed only a main effect of product type ($F(1, 600) = 11.29, p < .01$): participants were more motivated to post a review when the app was free than when it was paid, whether the dispersion was low ($M = 4.21$ vs. 3.56 ; $F(1, 600) = 2.39, p = .12$) or high ($M = 4.45$ vs. 3.10 ; $F(1, 600) = 10.23, p < .001$). When existing volume was low, however, results revealed a marginal product type \times dispersion interaction ($F(1, 600) = 2.97, p < .10$). Follow-up comparisons revealed that when dispersion was also low, motivation to post was greater when the app was free than paid ($M = 4.37$ vs. 3.26 ; $F(1, 600) = 6.76, p = .01$). When dispersion was high, however, the difference between free and paid conditions was negligible ($M = 4.13$ vs. 4.04 ; $F(1, 600) < 1, p > .30$).

Intention to Reciprocate. Analysis of the intention to reciprocate measure via ANOVA revealed a significant main effect of product type ($F(1, 600) = 17.50, p < .001$). On average, participants were more willing to reciprocate when the app was free ($M = 5.47$) than when it was discounted ($M = 4.67$; $F(1, 600) = 26.98, p < .001$) or paid ($M = 4.67$; $F(1, 600) = 25.20, p$

< .001). The difference between discounted and paid conditions was not significant ($F(1, 600) < 1, p > .30$).

To formally explore the proposed reciprocity pathway in the free and paid conditions, we conducted a mediation analysis using the same process described in Study 2. Results revealed a marginal indirect effect of product type on motivation to post through intention to reciprocate ($B = -.42, SE = .26, 90\% CI = [-.85, -.01]$). However, results did not support a mediating role for attitude towards the app ($B = .01, SE = .04, 90\% CI = [-.05, .10]$).

Text Analysis of Reciprocity. As an additional, exploratory investigation of reciprocity, we examined responses to the open-ended question (written by the subsample of participants who chose to post a review). Using a thesaurus, we identified reciprocity-related keywords (including “appreciate,” “grateful,” “thank,” “indebted,” and variations of these words). Two independent coders, blind to the hypotheses, then coded for the presence of these words in each response. Inter-coder reliability was high ($r = .98$), and disagreement was resolved by discussion.

Analysis revealed that reciprocity-related words were used by 71% of review writers in the free condition, compared to 58% in the paid condition ($\chi^2(1) = 3.21, p = .07$). For the most frequently mentioned word (“grateful”), the difference was 53% vs. 30% ($\chi^2(1) = 9.77, p < .01$). These differences suggest that among participants who chose to write a review, those who had paid nothing for the app felt more indebted to the developer than those who had paid for it. Given the limitations of this analysis (and especially the use of a selective sample), however, the evidence should be considered preliminary.

Perceived Adoption Risk. Analysis of the adoption risk measure via ANOVA revealed a significant main effect of product type ($F(2, 600) = 4.70, p < .01$), such that participants perceived the free app ($M = 2.07$) to carry less adoption risk than either the discounted app ($M =$

2.26; $F(1, 600) = 4.49, p < .01$) or the paid app ($M = 2.34$; $F(1, 600) = 8.82, p < .001$). The difference between discounted and paid conditions was not significant ($F(1, 600) < 1, p > .30$). Most important, analysis revealed a marginal product type \times volume \times dispersion interaction effect ($F(2, 600) = 2.39, p < .10$), and planned contrasts revealed a pattern consistent with predictions. When volume was low and dispersion was high, participants perceived lower risk when the app was free ($M = 2.05$) than when it was discounted ($M = 2.14$; $F(1, 600) < 1, p > .30$) or paid ($M = 2.67$; $F(1, 600) = 12.01, p < .001$); the main effect of product type was not significant for any other combination of volume and dispersion. However, mediation analyses of the risk pathway was inconclusive ($B = .01, SE = .08, 95\% CI = [-.10, .16]$).

Discussion

By requiring participants to actually “choose” the app that they would be experiencing, this experiment added an additional layer of realism to the design introduced in Study 2. The primary findings were consistent with our hypotheses and findings of Studies 2-3, suggesting that the effects of product type proposed in our framework are observable in actual consumer experience.

Findings for the new, discounted condition were exploratory but suggestive: overall, results for the discounted condition closely resembled those for the paid condition, and were distinct from those for the free condition. In particular, participants were less likely to share WOM for the app when it was discounted than when it was free, and the discount was largely ineffective at evoking reciprocity.

REFERENCES

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- Gupta, Sunil and Lee G. Cooper (1992), "The Discounting of Discounts and Promotion Thresholds," *Journal of Consumer Research*, 19 (3), 401-11.
- Raghubir, Priya, J. Jeffrey Inman, and Hans Grande (2004), "The Three Faces of Consumer Promotions," *California Management Review*, 46 (4), 23-42.

Table C-1

EFFECTS OF WOM VOLUME, WOM DISPERSION, AND PRODUCT TYPE ON
CHOOSING WHETHER TO POST A REVIEW

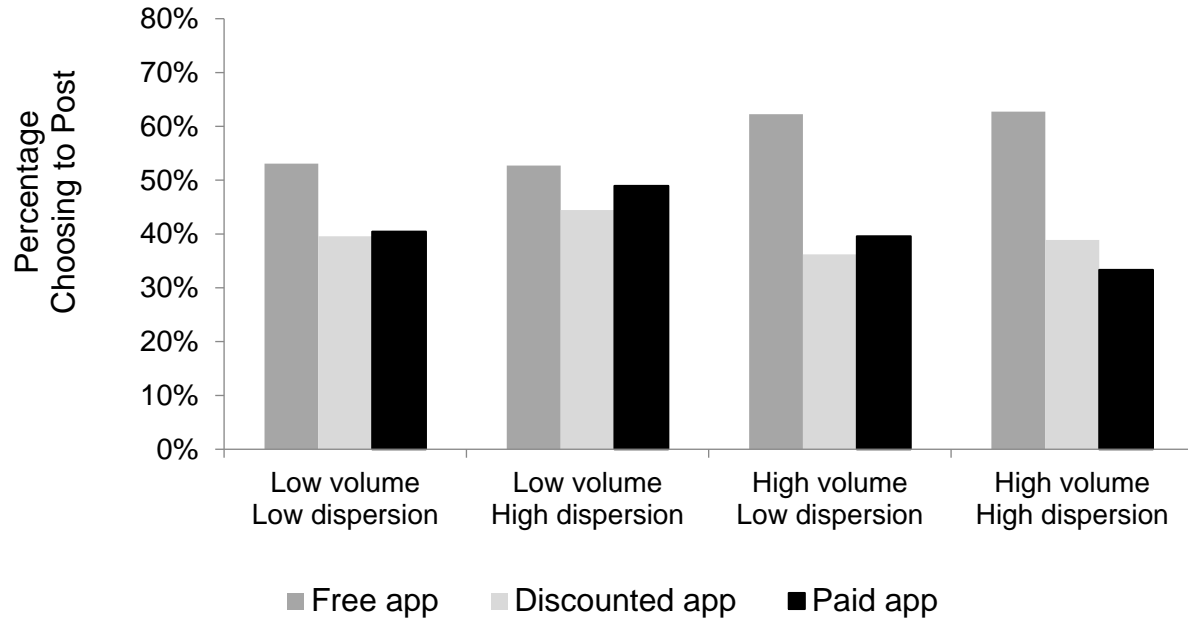
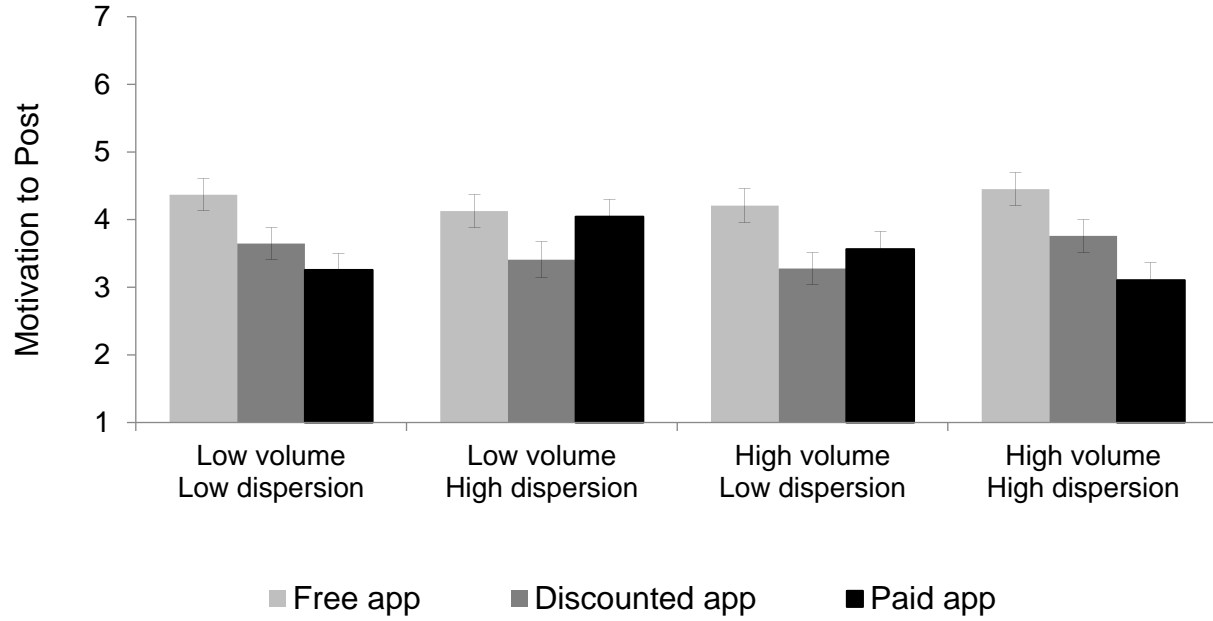


Table C-2

EFFECTS OF WOM VOLUME, WOM DISPERSION, AND PRODUCT TYPE ON
MOTIVATION TO POST A REVIEW



Web Appendix D

STIMULI FOR STUDY 3

[Bold, normal, and italicized terms in brackets were presented to participants in the free/ad-free condition, free/ads condition, and paid condition, respectively.]

Mobile App Scenario

Please imagine the following:

You have heard a lot about different smartphone apps related to nutrition and health, and you are interested in finding one of these apps to try for yourself. Therefore, you spend some time reading about different apps in this category.

One of the apps you find is the following:

HealthyU
(available for iPhone, Android, and Windows Phone)



Description:

The purpose of HealthyU is to provide a simple and effective means for people to control their weight and maintain a healthy lifestyle. This smartphone app is developed by a software start-up company based in Palo Alto, California. In addition to HealthyU, the develop team has created a variety of other consumer health related apps.

The App offers a variety of important features to support healthy behavior, such as the following:

- Food tracking. You can track everything you eat (meats, fruits, vegetables, beverages, etc.) throughout a day, along with its nutritional content.
- Physical activity tracking. Based on the type and duration of your activities throughout the day, the app provides information about activity level, calories burned, etc.
- Buddy system. (Optional) If you want, the app can pair you randomly and anonymously each month with a “buddy” who is also using the app. Buddies can send each other messages, encouragement, advice, or tips for meeting lifestyle challenges.
- Goal setting. You can set your own goal, or select from a list of pre-determined goals. The app provides periodic feedback on your progress toward that goal.
- Weight tracking. As new measurements are entered, a historical weight graph is updated.

Cost:

The basic version of HealthyU [**is free of charge and does not show any advertising** / is free of charge but shows sponsored ads every time that the app is activated / *costs \$2.99 and does not show any advertising*]. The basic version is fully functional, and can be upgraded to an advanced version for a fee.

Many similar health and nutrition apps [**charge a fee for their basic versions, sometimes \$2.99 or more** / are free to use, and they do not show sponsored ads / *charge nothing for their basic versions and are free to use*].

[next screen]

Next, please imagine the following:

After reading about HealthyU, you decided to download the basic version of the app and install it on your phone.

Over the next few weeks

You begin to familiarize yourself with HealthyU. The app takes some time to get used to, but eventually you grow more comfortable with the functions and find them to be useful. You appreciate some of the unique HealthyU features not found in other popular health apps – for example, its ‘DASH’ eating plan (“Dietary Approaches to Stop Hypertension”).

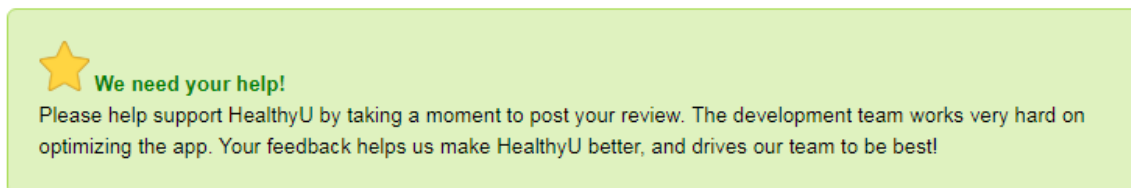
Two months later

You have used HealthyU regularly. With the help of the app, you have been able to maintain a number of healthy behaviors, such as: recording what you eat (3-4 days per week), keeping calories in moderation by following the eating plan, tracking your daily activity levels, getting at least 180 min of exercise per week, limiting stress, etc.

For the most part, you feel that you have been keeping your diet in check while enjoying a healthier, more energetic lifestyle. Therefore, you are satisfied overall with your experience with HealthyU.

[next screen]

As you are opening the HealthyU app one day, you receive the following popup message:



If you agree, your review will be posted at the app store.

Before you decide whether to post a review for HealthyU, please click "Next" to see a summary of its existing reviews at the app store.

Web Appendix E

STUDY 3 RESULTS WITH FAMILIARITY CONTROL

Intention to Post. To investigate our hypotheses, we conducted an ANOVA on intention to post as a function of product type, WOM volume, WOM dispersion, their interactions, and familiarity as a control variable. Results revealed a significant main effect of product type ($F(2, 670) = 16.55, p < .001$). As predicted, participants expressed greater willingness to post a review when the app was free than paid ($M = 4.75$ vs. 3.81 ; $F(1, 670) = 28.56, p < .001$). Intention to post in the new, free+ads condition ($M = 3.98$) was significantly lower than that in the free condition ($F(1, 670) = 20.04, p < .001$), but only directionally higher than that in the paid condition ($F(1, 670) = .90, p = .34$). Most important, analyses revealed a significant product type \times volume \times dispersion interaction ($F(2, 670) = 2.99, p = .05$). When existing WOM volume was high, results revealed only a main effect of product type ($F(2, 670) = 9.74, p < .001$), such that participants were more likely to post a review when the app was free than when it was free with ads or paid, regardless of dispersion. When existing volume was low, however, results revealed a significant product type \times dispersion interaction ($F(2, 670) = 3.13, p < .05$), showing product type difference only when dispersion was also low.

Intention to Reciprocate. ANOVA revealed a main effect of product type ($F(2, 670) = 17.77, p < .001$), such that intention to reciprocate was higher in the free condition than the free+ads condition ($M = 5.50$ vs. 4.96 ; $F(1, 670) = 16.91, p < .001$) or the paid condition ($M = 4.72$; $F(1, 670) = 33.38, p < .001$); the difference between the free+ads and paid conditions was marginally significant $F(1, 670) = 3.03, p = .08$). As a formal test of the pathway, we conducted a mediation analysis similar to that in Study 2. Consistent with predictions, results revealed an

indirect, negative effect of product type on intention to post a review through intention to reciprocate ($B = -.86$, $SE = .21$, 95% $CI = [-1.27, -.46]$).

We next examined the potential roles of attitude towards the app, self-serving motivation, and chance of survival, by including these variables in the mediation model simultaneously with intention to reciprocate. Results did not reveal a significant mediating role for attitude towards the app or self-serving motivation (95% CI s included zero). Results did reveal a mediating role for chance of survival ($B = -.17$, $SE = .09$, 95% $CI = [-.37, -.03]$), suggesting that participants more willing to post reviews for free apps due to the perception that they were more likely to survive. However, results continued to reveal a mediating role for intention to reciprocate ($B = -.68$, $SE = .18$, 95% $CI = [-1.06, -.33]$).

Perceived Adoption Risk. ANOVA revealed significant main effects of product type ($F(2, 670) = 4.14$, $p < .05$), volume ($F(1, 670) = 16.56$, $p < .001$), and dispersion ($F(1, 670) = 19.11$, $p < .001$). Most important, results also revealed a marginal product type \times volume \times dispersion interaction effect ($F(2, 670) = 2.50$, $p = .08$), whose pattern was consistent with predictions. Planned contrasts revealed that when volume was low and dispersion was high, participants perceived lower risk when the app was free than when it had ads or was paid ($M = 2.83$ vs. 3.37 ; $F(1, 670) = 10.90$, $p < .001$; vs. 3.44 ; $F(1, 670) = 14.25$, $p < .001$); the difference between the free+ads and paid conditions was not significant ($p > .30$). For all other combinations of volume and dispersion, the effect of product type was not significant ($p > .30$).

Consistent with predictions, mediation analysis revealed an indirect, positive effect of product type on intention to post through perceived adoption risk, moderated by the volume \times dispersion interaction ($B = -.15$, $SE = .11$, 95% $CI = [-.42, .00]$). Follow-up analyses revealed evidence for the indirect effect when volume was low and dispersion was high ($B = .13$, SE

= .08, 95% CI = [.01, .30]), but not for any of the other volume \times dispersion conditions (all CIs included zero).

Web Appendix F

ROBUSTNESS CHECKS FOR STUDY 4

First, we employed a continuous measure for existing review volume and review dispersion. Because prior review volume is highly skewed, we used the log transformation (denoted as $\log(\text{Volume})$). Regression results and estimated marginal effects are shown in Table F-1 and F-2. Caution should be taken interpreting these results, due to high intercorrelations: the correlation between $\Delta\Delta\text{Free}$ and $\Delta\Delta\text{Free}*\log(\text{Volume})$ was 0.8, and the correlation between $\Delta\Delta\text{Free}$ and $\Delta\Delta\text{Free}*\log(\text{Volume})*\text{Dispersion}$ was 0.7. Results revealed a significant positive coefficient for $\Delta\Delta\text{Free}$ and $\Delta\Delta\text{Free}*\log(\text{Volume})*\text{Dispersion}$. The marginal effect of changing from paid to free was again smallest in the low-volume, high-dispersion condition, although the marginal effect in this condition was not significantly different from that in the high-volume, high-dispersion condition (Table F-2).

Second, our model assumes that the consumers are at least moderately satisfied with their product experience. Therefore, we restricted the analysis to the subsample of apps with average ratings of at least four (out of five) at both platforms. Results are reported in Tables F-3 and F-4, and are qualitatively similar to the baseline results.

Third, we implementing a cross-sectional analysis following the approach of Chevalier and Mayzlin (2006). The analysis utilized only the September 2014 sample and was based on model specification (2). Regression results are reported in Tables F-5 and F-6, and are qualitatively similar with the baseline results.

Table F-1

STUDY 4: CONTINUOUS MEASURE OF PRIOR REVIEW VOLUME AND DISPERSION

Dependent variable: $\Delta\Delta\log(\text{NewReviews})$	(1)	(2)	(3)	(4)
$\Delta\Delta\text{Free}$	1.199*** (.176)	1.178*** (.160)	.696* (.423)	.763* (.417)
$\Delta\Delta\log(\text{Volume})$.190*** (.060)	.227** (.114)	.232** (.108)
$\Delta\Delta\text{Dispersion}$		-.230*** (.064)	.069 (.122)	.089 (.124)
$\Delta\Delta\text{Free}*\log(\text{Volume})$			-.029 (.111)	-.030 (.106)
$\Delta\Delta\text{Free}*\text{Dispersion}$			-.364* (.215)	-.371* (.208)
$\Delta\Delta\log(\text{Volume})*\text{Dispersion}$			-.129* (.067)	-.140** (.064)
$\Delta\Delta\text{Free}*\log(\text{Volume})*\text{Dispersion}$.152* (.080)	.151* (.077)
$\Delta\Delta\text{Rating}$				-.019 (.059)
$\Delta\Delta\text{OverallTop500}$.365*** (.077)		.363*** (.074)
$\Delta\Delta\text{CategoryTop500}$.136*** (.026)		.137*** (.027)
Observations	5,665	5,665	5,665	5,665
R-squared	.016	.024	.026	.032

Notes: Robust standard errors in parentheses; *** $p < .01$, * $p < .1$; the sign of the three-way interaction $\Delta\Delta\text{Free}*\log(\text{Volume})*\text{dispersion}$ is positive due to the continuous measure of volume (by contrast, we employed a binary measure that is equal to one for low volume and zero for high volume in the baseline model); caution should be taken interpreting these results, due to high correlations between $\Delta\Delta\text{Free}$ and its interactions with volume and dispersion.

Table F-2

STUDY 4: MARGINAL EFFECTS BASED ON CONTINUOUS MEASURES OF VOLUME
AND DISPERSION

Effects of changing from paid to free on new posts			
Low Volume + Low Dispersion	Low Volume + High Dispersion	High Volume + Low Dispersion	High Volume + High Dispersion
.868* (.477)	.671* (.403)	.815* (.403)	.677* (.348)

Notes: Marginal effects are calculated based on estimates in column (4) of Table F-1; robust standard errors in parentheses; * $p < .1$; high volume (dispersion) is evaluated at one SD above the mean, and low volume (dispersion) is evaluated at one standard deviation below the mean.

Table F-3

STUDY 4: SUBSAMPLE ANALYSIS

Dependent variable: $\Delta\Delta\log(\text{NewReviews})$	(1)	(2)	(3)	(4)
$\Delta\Delta\text{Free}$	1.116*** (.269)	1.156*** (.259)	1.106*** (.264)	1.162*** (.254)
$\Delta\Delta\text{LV}$		-.230* (.117)	-.227 (.188)	-.247 (.185)
$\Delta\Delta\text{HD}$		-.006 (.081)	-.186 (.273)	-.196 (.261)
$\Delta\Delta\text{Free*LV}$			-.001 (.229)	.002 (.223)
$\Delta\Delta\text{Free*HD}$.072 (.300)	.156 (.289)
$\Delta\Delta\text{LV*HD}$.414 (.299)	.571** (.289)
$\Delta\Delta\text{Free*LV*HD}$			-.583* (.342)	-.670** (.329)
$\Delta\Delta\text{Rating}$.351** (.137)		.380*** (.145)
$\Delta\Delta\text{OverallTop500}$.446*** (.092)		.454*** (.093)
$\Delta\Delta\text{CategoryTop500}$.147*** (.044)		.142*** (.044)
Observations	1,952	1,952	1,952	1,952
R-squared	.019	.048	.028	.053

Notes: The subsample is composed of apps whose prior average rating was at least four at both Google Play and Apple's App Store; Robust standard errors in parentheses; *** $p < .01$, ** $p < .05$, * $p < .1$; $\Delta\Delta$ indicates differences between the two platforms and between the two points in time.

Table F-4

STUDY 4: MARGINAL EFFECTS BASED ON SUBSAMPLE ANALYSIS

Effects of changing from paid to free on new posts			
Low Volume + Low Dispersion	Low Volume + High Dispersion	High Volume + Low Dispersion	High Volume + High Dispersion
1.164*** (.309)	.650* (.347)	1.162*** (.254)	1.317*** (.395)

Notes: Marginal effects are calculated based on estimates in column (4) of Table F-3; robust standard errors in parentheses; *** $p < .01$, ** $p < .05$, * $p < .1$.

Table F-5

STUDY 4: CROSS-SECTIONAL ANALYSIS

Dependent variable: $\Delta \log(\text{NewReviews})$	(1)	(2)	(3)	(4)
ΔFree	1.455*** (.100)	1.382*** (.091)	1.636*** (.105)	1.763*** (.103)
ΔLV		-1.262*** (.041)	-1.076*** (.071)	-.986*** (.070)
ΔHD		-.023 (.035)	-.326*** (.086)	-.202** (.086)
$\Delta \text{Free} * \text{LV}$			-.734*** (.100)	-.712*** (.099)
$\Delta \text{Free} * \text{HD}$			-.041 (.104)	-.068 (.102)
$\Delta \text{LV} * \text{HD}$.560*** (.097)	.538*** (.097)
$\Delta \text{Free} * \text{LV} * \text{HD}$			-.205* (.123)	-.244** (.122)
ΔRating		.184*** (.024)		.193*** (.023)
$\Delta \text{OverallTop500}$.707*** (.104)		.742*** (.103)
$\Delta \text{CategoryTop500}$.284*** (.036)		.254*** (.036)
Observations	5,665	5,665	5,665	5,665
R-squared	.053	.225	.231	.256

Notes: Robust standard errors in parentheses; *** $p < .01$, ** $p < .05$, * $p < .1$; Δ indicates the difference between the two platforms. Results are based on the September 2014 sample and specification (2) in Study 4.

Table F-6

STUDY 4: MARGINAL EFFECTS BASED ON CROSS-SECTIONAL ANALYSIS

Effects of changing from paid to free on new posts			
Low Volume + Low Dispersion	Low Volume + High Dispersion	High Volume + Low Dispersion	High Volume + High Dispersion
1.051*** (.103)	.740*** (.100)	1.763*** (.103)	1.695*** (.109)

Notes: Marginal effects are calculated based on estimates in column (4) of Table F-5; robust standard errors in parentheses; *** $p < .01$, ** $p < .05$, * $p < .1$.