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The authors investigate whether consumers systematically consider feature usage before making multifunctional product purchase decisions. Across five studies and four product domains, the article shows that consumers fail to estimate their feature usage rate before purchasing multifunctional products, negatively affecting product satisfaction. The findings demonstrate that when consumers do estimate their feature usage before choice, preferences shift from many-feature products toward few-feature products. The authors show that this shift in preferences is due to a change in elaboration from having features to using features, and they identify three key moderators to the effect: need for cognition, feature trivialness, and materialism. Finally, the authors investigate the downstream consequences of usage estimation on product satisfaction, demonstrating that consumers who estimate usage before choice experience greater product satisfaction and are more likely to recommend their chosen product. These results point to the relative importance consumers place on having versus using product features.

*Keywords:* usage estimation, having versus using, product features, multifunctional products, product choice

## Having Versus Consuming: Failure to Estimate Usage Frequency Makes Consumers Prefer Multifeature Products

As products in many consumer markets become increasingly multifunctional, consumer demand for products with multiple features soars. For example, the market share of so-called smartphones—mobile phones with powerful processors and various features such as Internet and e-mail capabilities—in the mobile phone market increased to almost 50% in February 2012, and sales rose by more than 38% from the previous year (Nielsen Company 2012). Because of their additional features, such products are often significantly more expensive than their no-frills counter-

parts. Although consumers are willing to pay more for these additional features, perhaps there are cases in which “less is more.” For example, the features may not be used, and they may simply detract from the essence of the product (*The Economist* 2009). This conflict between purchase and usage behavior is explained by the complexity of product features. Consumers underestimate learning costs at the time of purchase (Meyer, Zhao, and Han 2008) and fail to take the usability factors into account (Thompson, Hamilton, and Rust 2005) when they purchase multifunctional products.

Consumer research on multifunctional products thus far has focused on consumer reactions to products with novel and complex features that are difficult to use (Hamilton and Thompson 2007; Mukherjee and Hoyer 2001; Thompson, Hamilton, and Rust 2005). However, in many product markets (e.g., mobile phones, vacation resorts), consumers shop for products with multiple, yet simple, features. When consumers are familiar with a product and its features, they are less likely to underestimate learning costs, and usability is unlikely to be a factor in product choice (Kahn and Meyer 1991). Still, even for simple product purchases, consumers

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are generally poor when it comes to accurately predicting their product usage rate.

Building on this research, we demonstrate that consumers prefer products with many features and pay a higher price for such products, not only because they overestimate their usage rate of features but also because they simply fail to estimate usage in the first place. We propose that consumers focus on simply having features instead of elaborating on how often they will actually use a feature, and this can lead to a decrease in product satisfaction. Notably, we show that usage estimation before choice may act as an effective intervention tool for consumers to make more optimal multifunctional product choices that are based on usage rate. In the next section, we provide a brief review of relevant literature, and then we present five studies that demonstrate why and in which conditions a usage estimation intervention works for helping consumers make better decisions. We conclude with a discussion of our findings, their implications, and directions for further research.

### CONCEPTUAL BACKGROUND

Consumers are likely to evaluate products with many (vs. few) features more favorably because they believe that each additional feature adds new capabilities to the product. Implicit in such evaluations is that consumers think that they are going to use the features of these products. However, research has shown that the complexity of features and associated learning costs hinder consumer's use of many product features (Meyer, Zhao, and Han 2008; Mukherjee and Hoyer 2001; Thompson, Hamilton, and Rust 2005), and consumers fail to consider these usability concerns before making their choice (Hamilton and Thompson 2007). In addition, when consumers purchase a service with which they are familiar, they may overpay because they overestimate their usage frequency of the product. For example, when choosing between a pay-per-use fee and a flat fee for using a service such as a swimming pool, consumers overestimate higher-than-average usage incidents, leading them to overpay for such products (Nunes 2000). This overestimation leads consumers to prefer paying a flat fee for all-inclusive services over a pay-as-you-go fee, despite the flat fee being suboptimal. Thus, there is some evidence that consumers may overpay for products due to the overestimation of their usage rate of product features and services.

Although overestimation may also increase preferences for products with multiple features, we suggest another reason for consumers' attraction to and overpayment for multifunctional products and services: We propose that consumers overvalue multifunctional products because they fail to consider (and estimate) their usage rate of features before purchase. As a result, they prefer more expensive, many-feature products over less expensive, few-feature products, even though additional features are unlikely to be used.

Why would consumers fail to consider their feature usage rate before purchase? First, query theory suggests that consumers construct their preferences using a series of queries (Johnson, Häubl, and Keinan 2007). These queries are likely to begin at a basic level, such as "What are the benefits of owning this product?" and may not include more specific questions, such as "How often will I use this product?" This notion is consistent with construal-level theory (Trope and Liberman 2010), which would suggest that at the time

of purchase, consumers construe objects at a higher level (Thompson, Hamilton, and Rust 2005), and each feature, as long as it is desirable (and nontrivial), adds value to the product. In contrast, consideration of usage requires a low-level construal of the product that makes feasibility aspects such as product usability more salient (Trope and Liberman 2010; Trope, Liberman, and Wakslak 2007), which is more likely to be employed after choice and when consumers start using the product (Thompson, Hamilton, and Rust 2005). Thus, the mental representation of a multifunctional product before purchase may be based on the benefits of having features and be devoid of the predicted usage rate of its features.

Second, consumers are likely to approach multifunctional purchase occasions in a mind-set of having and spending (Rassuli and Hollander 1986), which reduces the weight of usage in their valuation. Indeed, consumers have been shown to prefer many-feature products because of the social utility derived from having such products rather than the utility from the capabilities of using these products (Thompson and Norton 2011). Social utility from owning many-feature products—even when the features are not consumed—entails utility derived from conspicuous consumption (Veblen [1899] 1975), through which consumers convey, to both others and themselves, their wealth and status (Sengupta, Dahl, and Gorn 2002) as well as their technological acumen (Thompson and Norton 2011), versatility, and openness to new experiences (Ratner and Kahn 2002). Overall, as long as the features of a many-feature product add value to the product, consumers will be more likely to favor a many-feature product over a few-feature product. As a result, at the time of purchase, consumers are more likely to focus on having the features rather than thinking about how frequently they will be using them.

One way to determine whether consumers indeed fail to estimate their usage rate of product features is to instruct them to estimate their usage rate for each feature before choice and examine whether this process alters their preferences. How would usage estimation before a decision influence preferences? When consumers think about how often they will use each feature before choice, they are likely to elaborate more on usage, and less on having, in the decision process by considering whether the frequency of usage exceeds the cost of acquisition (Nunes 2000). If consumers simply overestimate their rate of usage, we would expect the usage estimation to increase preferences for many-feature products: Having participants estimate usage will lead them to elaborate more on usage and cause even greater overestimation.

However, we propose that consumers fail to consider usage altogether, which should lead to the opposite effect. In this case, if consumers are indeed failing to consider feature usage, asking consumers to consider usage should change their preferences because previous research has shown that specific questions about an issue influence subsequent overall judgments (Sears and Lau 1983; Strack, Martin, and Schwarz 1988; Tanner and Carlson 2009). Importantly, answering specific questions such as estimating usage leads to elaboration on the general issue rather than to passive concept priming or salience (Martin 1986; Schwarz and Clore 1983). In our context, usage estimation is likely to change the type of elaboration consumers conduct in the multifunctional product purchase decision,

whereby they focus more on how, when, and in what contexts product features will be used and focus less on how having such product features would provide benefits. This proposition is also in line with construal-level theory (Trope and Liberman 2010), which suggests that a having focus makes consumers attend to desirability aspects, whereas a using focus leads them to elaborate on feasibility issues such as usability. Therefore, we expect that prompting consumers to estimate usage will shift the type of elaboration from a focus on having features toward a focus on using features, thus increasing the relative value of using the features and decreasing the value of having the features. The change in type of elaboration should decrease preference for a many-feature product. As a result, we propose that estimating usage before choice will lead to a change in preference, whereby a few-feature product will be preferred over a many-feature product when usage is estimated compared with when it is not estimated.

Perhaps more important than its effect on preference, usage estimation may also influence product satisfaction and enjoyment from the consumption experience. We propose that usage estimation may shift consumers' preferences toward a few-feature option, but in the end, a few-feature option may or may not be the optimal choice in terms of satisfaction. On the one hand, forgoing a many-feature option may result in consumers feeling less product satisfaction because people become attached to options and features that they consider, which could lead to less satisfaction after choosing a different alternative (Carmon, Wertenbroch, and Zeelenberg 2003). Similarly, a basic (vs. premium) product may actually deter from the product experience by virtue of providing a basic product experience and reducing utility from conspicuous consumption (Thompson and Norton 2011). Thus, overall product satisfaction may be reduced when people estimate usage. On the other hand, we propose that usage estimation before choice encourages consumers to consider not only having a product but also how and when they would use it. This deliberation on usage should help consumers choose an option that better matches their actual usage and true preferences, causing usage estimation to result in greater product satisfaction after consumption. As a result, usage estimation before choice can provide an effective intervention for a better choice of multifunctional products. People may realize that the actual usage frequency is an important part of a good decision. Furthermore, consumers should experience less concern about forgone features when they estimate usage before choice and acknowledge that an unused feature is not truly forgone. Thus, we propose that overall product satisfaction will increase when consumers estimate usage before choice compared with when they do not consider usage.

#### OVERVIEW OF STUDIES

We present five studies that test our proposed theory. The first four studies focus on identifying key moderators to test when and why usage estimation affects preferences for multifunctional products, and the final study examines how estimating usage affects product satisfaction after consumers have purchased and consumed the product of their choice. Study 1 shows our basic effect, that usage estimation increases preference for a few-feature (vs. many-feature) product and that this effect is moderated by consumers' need for cogni-

tion, providing preliminary evidence for our explanation based on changes in elaboration. Study 2 shows the moderating role of feature trivialness, not only providing a boundary condition to the effect but also suggesting that usage estimation does not simply increase elaboration. Study 2 also changes the type of elaboration. In Study 3, we gather thought protocols and provide more evidence that estimating usage leads consumers to elaborate more on using features and less on having features. In Study 4, providing additional support for the notion that consumers focus on having instead of using features, we show the moderating role of material values. Finally, in Study 5, we demonstrate our effect in an actual consumption decision and show its downstream effects on product satisfaction and the likelihood of recommending a product.

#### STUDY 1: MODERATING EFFECT OF NEED FOR COGNITION

To provide evidence that consumers do not consider their usage rate of features before choice and that it is driven by a lack of elaboration on usage, we investigated choice between a many-feature product and a few-feature product, while examining the role of need for cognition (NFC). If, as we suggest, consumers are less likely to elaborate on using (vs. having) features, the effect of usage estimation on choice should be moderated by a person's level of NFC (Cacioppo, Petty, and Kao 1984). High-NFC consumers are more likely to elaborate about usage because they typically put forth greater effort to make more accurate decisions (Levin, Huneke, and Jasper 2000), leading them to automatically incorporate their feature usage into their purchase decisions. Accordingly, we predict that high-NFC consumers will not be influenced by usage estimation before choice. In contrast, low-NFC consumers are cognitive misers and should not elaborate on usage in the control condition; however, when they are led to estimate usage before purchase, their elaboration on usage will increase, and they will be more likely to prefer a few-feature product over a many-feature product. In Study 1, using a cell phone choice scenario, we test the effect of usage estimation on product preferences and the moderating role of NFC.

#### Method

We used an online survey (Qualtrics.com) to collect responses through the online participant database Amazon Mechanical Turk (MTurk), which has been shown to provide a reliable, heterogeneous sample (Goodman, Cryder, and Cheema 2013). A total of 267 participants completed the online experiment. The experiment took approximately ten minutes to complete.

We manipulated usage estimation by asking participants to estimate how many times each week they would use each of the 14 cell phone features (see Appendix A). Participants in the control condition indicated their usage after making their choice. Next, participants read a scenario in which they needed to buy a new cell phone and were considering two options: a many-feature phone (Phone A), which had 14 features (the same features from which participants estimated usage) for \$149, and a few-feature phone (Phone B), which had only 7 of the 14 features for \$49. Both prices included a two-year contract and were determined according to current cell phone package deals in the U.S. cell

phone market. The two phones were presented side by side with their location on the screen counterbalanced (the location factor did not have a significant effect on the results). Participants were then asked, “Which cell phone would you be most likely to buy?” (1 = “definitely Cell Phone B,” 4 = “indifferent,” and 7 = “definitely Cell Phone A”). The results are reported such that higher numbers translate to a higher preference for the few-feature phone. Last, participants answered the 18-item NFC scale (Cacioppo, Petty, and Kao 1984), averaged to create a composite NFC measure (Cronbach’s  $\alpha = .89$ ).

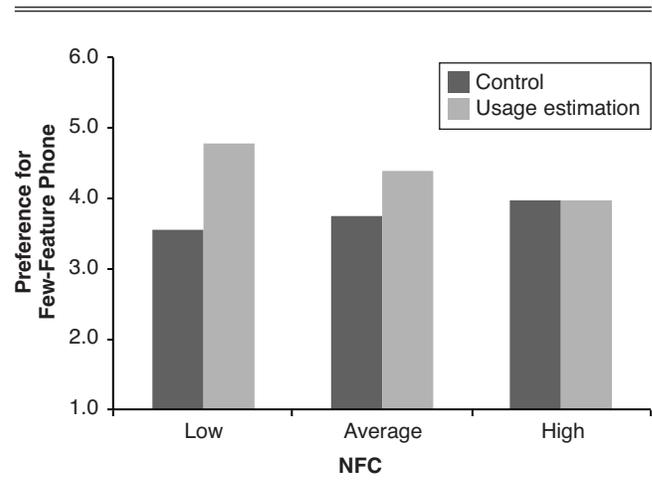
### Results and Discussion

We proposed that participants would be more likely to choose the few-feature phone when they estimate their usage before (vs. after) their purchase decision but that this effect would depend on NFC. To test our hypotheses, we conducted a regression analysis predicting choice of cell phone with usage estimation (coded 1 for usage estimation and  $-1$  for control), NFC (mean-centered), and their interaction. Confirming our hypotheses, the results revealed a significant, positive main effect of usage estimation ( $b = .31$ ,  $t(261) = 2.09$ ,  $p < .05$ ), showing that the average NFC participant was more likely to prefer the few-feature phone in the usage condition ( $M_{\text{usage}} = 4.38$ ) compared with the control ( $M_{\text{control}} = 3.76$ ). We also found a significant usage estimation  $\times$  NFC interaction ( $b = -.45$ ,  $t(261) = -2.05$ ,  $p < .05$ ). Conducting a spotlight analyses at plus and minus one standard deviation from the mean of NFC (Irwin and McClelland 2001), we found that high-NFC participants did not differ in their preference for the many- or few-feature phone on the basis of usage estimation ( $M_{\text{usage}} = 3.96$  vs.  $M_{\text{control}} = 3.98$ ;  $b = -.029$ ,  $t(261) < 1$ ). More important, and as we predicted, low-NFC participants demonstrated a positive effect of usage estimation such that they preferred the few-feature phone more in the usage condition compared with the control ( $M_{\text{usage}} = 4.96$  vs.  $M_{\text{control}} = 3.56$ ;  $b = .64$ ,  $t(261) = 2.78$ ,  $p < .01$ ; see Figure 1).

Study 1 provides more evidence that consumers, especially those low in NFC, are less likely to elaborate on usage before choosing a many-feature product. When participants estimated usage before choice, they were more likely to prefer the few-feature phone. Supporting our notion that this effect is driven by a difference in elaborating on having versus using, we found a significant usage  $\times$  NFC interaction. Consumers, especially those with low NFC, are more likely to evaluate a feature on the basis of the importance of possessing the feature than its usage rate, because the latter requires more cognitive effort. Thus, the results are consistent with our proposal that usage estimation changes the type of elaboration employed by low-NFC consumers, shifting elaboration from a focus on having toward a focus on using. High-NFC participants’ preferences for the many-feature phone, however, did not change when they estimated usage before the purchase decision, because they are more likely to spontaneously elaborate on both having and using features.

This study is not without its limitations. We did not directly measure the type of elaboration, so we do not have evidence that the type of elaboration is indeed changing. In Study 3, we address this issue further. In addition, the differential behavior between high- and low-NFC participants

Figure 1  
THE EFFECT OF USAGE ESTIMATION AND NFC ON PREFERENCE FOR THE FEW-FEATURE PHONE (STUDY 1)



could also be explained by heuristic processing, an issue that we address next.

### STUDY 2: TRIVIAL VERSUS NONTRIVIAL FEATURES

Because low-NFC consumers are more likely to use heuristic processing (Cacioppo et al. 1986), the moderating effect of NFC observed in Study 1 may also be explained by these consumers’ use of a heuristic to make their choice of multifunctional products. It is possible that consumers are employing a quantity-of-features heuristic, such as “choose the option with the most features.” Such an explanation would suggest that consumers simply do not pay attention to the features, let alone estimate their usage rate. In other words, instead of investigating each feature and considering the benefits of having the feature and its frequency of usage, consumers may be finding a reason to choose by simply selecting the option with the greatest number of features. If this is the case, then trivialness of the features should not matter to consumers.

Indeed, research on trivial attributes—features that do not add objective value to the product—has shown that adding such features can lead to an increase in choice share (Carpenter, Glazer, and Nakamoto 1994), though at times, these features can reduce choice share (Simonson, Carmon, and O’Curry 1994), depending on the attribute’s role in providing a reason for choosing or rejecting (Brown and Carpenter 2000). In the case of multifunctional products, the extra features on the many-feature product might be providing consumers a reason to choose the many-feature option, regardless of the benefits of having or using the features.

In contrast to the simple heuristic-processing explanation, we propose that consumers do elaborate on the decision but only assess whether a feature is important to have and not how often it will be used. In other words, consumers, especially those with low NFC, are more likely to elaborate on having the feature than using it. As usage estimation shifts elaboration from a focus on having toward a focus on using, consumers are more likely to attend to feasibility (vs. desirability) issues, incorporating usage rate of features into their purchase decision. When the extra features are nontrivial, usage

estimation will shift choice share from the many-feature product to the few-feature product; however, when the features are trivial, usage estimation will not be needed because the trivial features are not even worth having, let alone using. Thus, we expect that the effect of the usage estimation intervention on choice will hold when the features are nontrivial but not when they are trivial.

We designed Study 2 to test the moderating effect of feature trivialness. Moreover, we extend our results into a different product domain, vacation resorts, to further test the boundaries of our theory. Vacations are an experience, which have been shown to be qualitatively different from material products (Nicolao, Irwin, and Goodman 2009; Van Boven and Gilovich 2003). Vacations are more hedonic products and less likely to be purchased for functional aspects than cell phones (Khan, Dhar, and Wertenbroch 2005). In addition, with hedonic purchases, consumers may be uncertain about their usage and want to keep their options open, perhaps limiting the generalizability of the usage estimation effect. Therefore, extending the results to experiential, hedonic, less frequently purchased products will enable us to generalize our findings.

### Method

One hundred eighty-four participants from various colleges in a midwestern university received course credit in their introductory business classes in exchange for participating in the experiment. The study had a 2 (usage: estimation vs. control)  $\times$  2 (trivialness: trivial vs. nontrivial features) between-subjects design. Participants in the usage estimation condition estimated their usage of hotel features for a four-day vacation before making their choice. Participants in the control condition estimated their usage at the end of the experiment (after making their choice).

We conducted the experiment by computer, and participants made a choice between two resort hotels presented side by side, with the location of the hotel descriptions on the screen counterbalanced (there was no significant effect of location), on a seven-point scale ("Which hotel would you choose?" [1 = "definitely Hotel A," and 7 = "definitely Hotel B"]). The results are reported such that higher numbers translate to a greater preference for the few-feature hotel. The few-feature hotel contained the first 13 features at \$145 per night; the many-feature hotel contained all 20 features at \$195 per night. In the trivial features condition, we replaced the last 7 of the 20 nontrivial features with trivial features gathered from the website of a major hotel chain (for the amenities, see Appendix B). As a manipulation check, at the end of the experiment, participants rated the importance of each feature ("Indicate how important each hotel feature is to you" [1 = "not important at all," and 7 = "very important"]).

### Results

The manipulation check showed that we manipulated trivialness successfully. Participants rated the features in the trivial condition ( $M_{\text{trivial}} = 14.41$ ) as less important than those in the nontrivial condition ( $M_{\text{nontrivial}} = 21.32$ ;  $F(181) = 51.58$ ,  $p < .01$ ).

Consistent with our previous studies, participants were more likely to prefer the few-feature hotel when they estimated usage before choice ( $M_{\text{usage}} = 5.14$ ) compared with

the control ( $M_{\text{control}} = 4.26$ ;  $b = .44$ ,  $t(179) = 3.16$ ,  $p < .01$ ). We also expected that a many-feature hotel would be less appealing when its features were trivial versus nontrivial. Consistent with this expectation, there was a main effect of trivialness: Participants preferred the many-feature hotel when it was differentiated by nontrivial features ( $M_{\text{nontrivial}} = 3.30$ ) versus trivial features ( $M_{\text{trivial}} = 6.10$ ;  $b = -1.40$ ,  $t(179) = 10.07$ ,  $p < .001$ ).

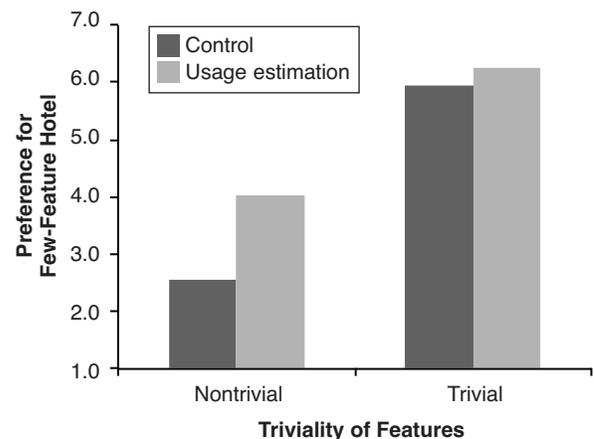
Furthermore, as expected, we found a significant usage estimation  $\times$  trivialness interaction on preference ( $b = .28$ ,  $t(179) = 2.05$ ,  $p < .05$ ; see Figure 2). In the nontrivial features condition, participants preferred the few-feature hotel more after estimating usage ( $M_{\text{usage}} = 4.02$ ) compared with the control ( $M_{\text{control}} = 2.57$ ;  $b = .72$ ,  $t(179) = 3.71$ ,  $p < .001$ ); however, in the trivial features condition, there was no significant difference in preferences ( $M_{\text{usage}} = 6.25$ ;  $M_{\text{control}} = 5.94$ ,  $b = .15$ ,  $t(179) < 1$ ).

### Discussion

The results of Study 2 provide further support for the notion that consumers do not elaborate on usage before choosing a many-feature product. When participants were asked to estimate usage before choice, they were more likely to prefer the few-feature hotel. Importantly, this effect was also moderated by feature trivialness, discounting a feature quantity heuristic-based explanation of the results. Usage estimation did not alter preferences when the many-feature product's extra features were deemed to be trivial and not important. When the extra features were nontrivial, however, usage estimation decreased preference for the many-feature product.

These results suggest that consumers do pay attention to feature importance, but they do not spontaneously incorporate usage rate into their evaluation of features. Thus, it seems that usage estimation changes the way consumers elaborate on the value of the features, increasing the weight of using over having. In the next study, our aim is to enhance our understanding of the underlying elaboration process of usage estimation effect on choice.

Figure 2  
THE EFFECT OF USAGE ESTIMATION AND TRIVIALNESS OF FEATURES ON PREFERENCE FOR THE FEW-FEATURE HOTEL (STUDY 2)



### STUDY 3: MEDIATING ROLE OF ELABORATION ON HAVING

We designed Study 3 to further investigate the elaboration process through which usage estimation shifts preferences. We proposed that usage estimation leads consumers to elaborate differently, whereby they focus less on having and more on using. In Study 3, we measure elaboration on having versus using and collect thought protocols to provide more evidence for our proposed process.

#### Method

Sixty undergraduate students in a southeastern university received course credit in their introductory marketing classes in exchange for participating in the experiment. The experiment was conducted by computer using a web-based survey (Qualtrics.com). Participants chose between two resort hotels presented side by side (“Which hotel would you choose to stay at?” Hotel A or Hotel B). The stimuli were the same as those used in the nontrivial condition in Study 2. Participants in the usage estimation condition rated their usage of hotel features for a four-day vacation before choice. Participants in the control condition estimated their usage at the end of the experiment (after choice).

After making their choice of hotel, participants responded to an open-ended question asking what features/aspects of the hotel(s) were important to their decisions and why. Two judges blind to the hypotheses coded participants’ responses. Specifically, judges first counted the number of thoughts in each response; then, they counted the number of using-related and having-related thoughts separately. Judges were instructed to “count the number of thoughts that refer to having (e.g., ‘I would want to have a minibar in the room’),” and “count the number of thoughts that refer to usage (e.g., ‘I would definitely use the beach’).” We computed the average of the judges’ codes ( $r$  ranging from .75 to .94) to calculate the proportion of using-related thoughts (over total thoughts) and having-related thoughts (over total thoughts).

Next, participants responded to two items measuring having versus using thoughts: (1) “When making purchase decisions, it is important to think about having things just in case you need them,” and (2) “I prefer having things even if I don’t use them” (1 = “totally disagree,” and 7 = “totally agree”). Because these items were correlated ( $r = .52, p < .001$ ), we averaged participants’ responses to these items to create a having variable.

#### Results and Discussion

Consistent with our previous studies, a logistic regression revealed that participants were more likely to choose the few-feature hotel when they estimated usage before choice compared with the control ( $b = .70, \text{Wald's } \chi^2(1, 59) = 5.54, p < .05$ ). When participants estimated usage before choice, 23 of 30 participants (77%) chose the few-feature hotel; in contrast, in the control condition, only 15 of 30 participants (50%) opted for the few-feature hotel.

Next, we investigated the effect of usage estimation on participants’ type of elaboration. Analyzing the effect of usage estimation on the proportion of using-related thoughts and having-related thoughts among all thoughts provided in the open-ended response revealed a significantly lower pro-

portion of having-related thoughts ( $M_{\text{usage}} = .29$  vs.  $M_{\text{control}} = .44; F(1, 59) = 3.98, p = .05$ ) and a directionally greater proportion of using-related thoughts ( $M_{\text{usage}} = .22$  vs.  $M_{\text{control}} = .12; F(1, 59) = 2.14, p = .15$ ) when participants estimated usage before (vs. after) choice, suggesting that usage estimation shapes an otherwise having-dominated elaboration to become more evenly focused on using and having features. We then tested whether the proportion of having- and using-related thoughts mediated the effect of usage estimation on choice. Using the recommended indirect bootstrapping technique for testing mediation (Preacher and Hayes 2008), our analyses revealed that usage estimation had an indirect effect on choice through thoughts about having ( $b = .035, 95\% \text{ confidence interval [CI]} = .002, .0958$ ) and through thoughts about using ( $b = .02, 90\% \text{ CI} = .0002, .0606$ ).

Finally, given that usage estimation seems to shift elaboration from a focus on having toward a focus on using, we wanted to investigate whether usage estimation reduces participants’ beliefs about having features and increases beliefs about using features, as they realize that they are unlikely to use most of the features. To that end, we first examined how usage estimation affected participants’ responses to our having-related questions. The results revealed a significant effect of usage on having such that when participants estimated usage, they were less inclined to have things that they do not use ( $M_{\text{usage}} = 3.92$  vs.  $M_{\text{control}} = 4.58; F(1, 59) = 7.15, p < .01$ ). Given this finding, we tested whether having mediated the effect of usage estimation on choice. Using the recommended indirect bootstrapping technique for testing mediation (Preacher and Hayes 2008), our analyses revealed that usage estimation had a significant indirect effect through thoughts about having (vs. using) on choice ( $b = .036, 95\% \text{ CI} = .0014, .1001$ ). Thus, the results are in line with the explanation that usage estimation increases elaboration on the value of using versus having extra features, making people more likely to choose the few-feature product.

### STUDY 4: MODERATING EFFECT OF MATERIALISM

Our studies thus far have demonstrated that rather than failing to elaborate in general, consumers fail to elaborate on usage rate when they make multifunctional product purchase decisions. Thus, we propose that consumers are more likely to spontaneously elaborate on having features. Estimating usage before choice makes consumers elaborate on usage, shifting preferences to a few-feature option. One reason consumers fail to elaborate on usage may be that features provide value even when they are not used. Therefore, to better understand why feature usage rate is not an influential factor in multifunctional product purchase, in Study 4, we focus on conditions when usage estimation may not change preferences.

From a purely economic perspective, the utility of a product comes from consuming it; however, products with many features also provide utility beyond consumption, such as social utility (Thompson and Norton 2011). Certain consumers derive more happiness from the acquisition and ownership of material goods (Richins and Dawson 1992) than they do from the benefits or the experiences that a product provides. These consumers who are high in material values place possessing products near the center of their lives and believe that possessions and acquisitions will

increase their happiness and well-being (Belk 1985; Burroughs and Rindfleisch 2002; Richins and Dawson 1992). Thus, consumers, especially those who are high in materialism, may not approach multifunctional product purchase occasions by thinking about whether they will *use* all the product features of a product; rather, they may just want to *have* as many features as possible. We propose that for consumers who are high in material values, usage estimation is unlikely to reduce the importance of the features because usage frequency is not the primary source of value. For consumers who are low in material values, however, estimating usage before choice should be especially beneficial, because they care about using more than possessing, which will cause usage estimation to increase the preference for a few-feature product.

### Method

We used an online survey (Qualtrics.com) to collect responses through the online participant database MTurk. A total of 153 participants completed the online study. We used a modified instructional manipulation check to ensure that participants were following instructions (Goodman et al. 2012; Oppenheimer, Meyvis, and Davidenko 2009). Ten participants did not follow instructions and were compensated and omitted from the analyses, but including these participants does not significantly change the results. The study took approximately ten minutes to complete.

To further extend our findings to another domain, we used cable television packages as the target choice in this study. The study had one manipulated factor (usage: estimation vs. control) and one measured factor (materialism). Participants were presented with 86 television channels provided in the actual AT&T U-verse channel lineup: a basic cable package that included 37 channels and a plus cable package that included all 86 channels. We manipulated usage estimation in the same way as previous studies: Half the participants first rated how frequently they actually watch each of the 86 television channels in a regular week, while the other half completed this estimation after making their package choice. Participants read a scenario in which they needed to purchase a new cable television service and were considering two options: a “Plus Package,” which had 86 channels and costs \$83/month, and a “Basic Package,” which had 37 of the 86 channels that the Plus Package provided and costs \$67/month. Prices and channels provided in each package were based on the current cable service package deals in the U.S. cable television market. Participants viewed the two packages side by side, with the location of the package descriptions on the screen counterbalanced (we observed no significant effect of description location) and were asked, “Which package would you choose to buy?” (1 = “definitely the basic package,” 4 = “indifferent,” and 7 = “definitely the plus package”). The results are reported such that higher numbers translate to a higher preference for the basic package. Last, participants completed the nine-item, five-point material values scale (Richins 2004), and we averaged participants’ responses to create a composite material values measure ( $M = 3.04$ ,  $SD = .71$ ; Cronbach’s  $\alpha = .82$ ).

### Results and Discussion

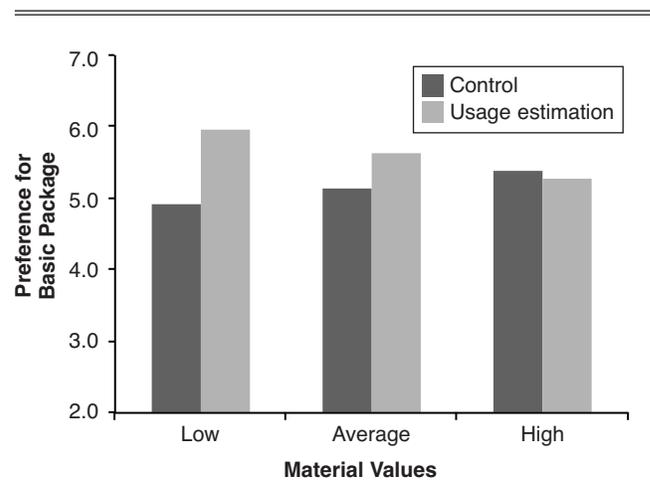
To test our predictions, we conducted a regression analysis predicting choice of package with usage estimation

(coded 1 for usage estimation and  $-1$  for control), material values (mean-centered), and their interaction. Confirming our hypotheses, the results revealed a marginally significant, positive main effect of usage estimation ( $b = .24$ ,  $t(142) = 1.67$ ,  $p < .10$ ) and, more important, a significant usage estimation  $\times$  material values interaction ( $b = -.41$ ,  $t(142) = -1.97$ ,  $p = .05$ ). To explore the nature of the interaction, we conducted spotlight analyses plus and minus one standard deviation from the mean of material values (Irwin and McClelland 2001). For participants high in material values, usage estimation revealed no significant effect on choice ( $M_{\text{usage}} = 5.27$  vs.  $M_{\text{control}} = 5.37$ ;  $b = -.051$ ,  $t(142) < 1$ ). More important, and as we predicted, usage estimation demonstrated a positive simple effect on choice for participants low in material values. Specifically, low-material-values consumers were more likely to prefer the basic package when they estimated channel-watching frequency ( $M_{\text{usage}} = 5.97$ ) than when they did not ( $M_{\text{control}} = 4.91$ ;  $b = .53$ ,  $t(142) = 2.56$ ,  $p = .01$ ; see Figure 3). These findings demonstrate that for participants low in materialism, usage estimation changes choice, but for participants high in materialism, usage estimation has no effect on preferences, suggesting that having—as opposed to using—product features has a greater influence on consumers’ multifunctional product purchase decisions. The results also demonstrate a condition in which the usage estimation intervention is not effective, namely, when consumers are high in material values and thus have a chronic focus on having, acquiring, and owning material goods.

### STUDY 5: THE EFFECT OF USAGE ESTIMATION ON SATISFACTION

Although we have shown that usage estimation before choice can shift consumers’ preferences toward few-feature products, we have not examined how this affects product satisfaction. We propose that usage estimation before choice encourages consumers to consider not only having a product but also how and when they would use it. Consideration of usage should help consumers choose an option that better

Figure 3  
THE EFFECT OF USAGE ESTIMATION AND MATERIALISM ON PREFERENCE FOR BASIC CABLE TELEVISION PACKAGE (STUDY 4)



matches their actual usage and true preferences. If consumers are able to choose a product that is a better match to their true preferences due to the usage estimation intervention, the intervention should lead consumers to experience greater product satisfaction compared with the control, and they should be more likely to recommend the product to others. However, usage estimation could have an opposite effect: It could lead to a decrease in satisfaction and a decrease in likelihood to recommend. A basic (vs. premium) product may actually deter from the product experience by virtue of providing a basic product experience or reducing utility from conspicuous consumption (Thompson and Norton 2011). Thus, overall product satisfaction may decrease if people estimate usage before choice. In this study, our main objective was to test the effect of usage estimation on product satisfaction and likelihood to recommend the product. Participants chose between a few- and a many-feature product and then consumed the product they chose. Finally, after spending approximately ten days with the product, they reported their product satisfaction and likelihood of recommending the product to friends.

### Method

We recruited 80 participants from a midwestern university who owned an iPhone or iPad and were able to download apps to these devices. Participants were informed that they would receive at least \$5 plus an app for their device in exchange for participating in the two-part online survey. In the first part of the survey, we manipulated usage estimation by first asking half the participants to estimate how many times each week they would use a list of features. Participants in the control condition did not respond to these questions. Next, participants were given \$7 and then were asked to buy one of two apps, Appbox Lite for \$0 or Appbox Pro for \$1.99. The few-feature product, Appbox Lite, contained 11 features (e.g., currency converter, holidays from 83 countries, clinometer, price grab), and the many-feature product, Appbox Pro, contained the same 11 features plus 11 more (e.g., dashboard, flashlight, translator, wallet). These apps are available online at these prices. After participants made a decision, we asked them how many apps they owned, and we used this variable as a covariate in all analyses. Participants then received a link to redeem their apps within 24 hours.

Ten days later, in Part 2 of the study, participants received another survey by e-mail, and 51 participants responded to four questions measuring satisfaction with their app: “How much did you enjoy the app that you purchased?” (1 = “did not enjoy at all,” and 7 = “enjoyed very much”), “How much did you like the app that you purchased?” (1 = “did not like at all,” and 7 = “liked very much”), and “How satisfied were you with the app that you purchased?” (1 = “not satisfied at all,” and 7 = “very satisfied”). We averaged these items to form a composite measure of satisfaction from product experience (Cronbach’s  $\alpha = .92$ ). We also asked participants how likely they would be to recommend the app that they purchased to their friends (1 = “not likely at all,” and 7 = “very likely”).

### Results and Discussion

Consistent with the main findings in our previous studies, usage estimation significantly increased preferences for the

few-feature product. A logistic regression revealed that participants were more likely to choose the few-feature app when they estimated usage before choice compared with the control ( $b = .64$ , Wald’s  $\chi^2(79) = 5.59$ ,  $p < .05$ ): Whereas 17% chose the few-feature Appbox Lite in the control condition, 44% chose it when they estimated usage before choice, an increase of 158%.

Next, we examined whether usage estimation influenced participants’ satisfaction level after they had time to use the apps they purchased. If usage estimation before choice encourages consumers to choose an option that better matches their actual usage and true preferences, we would expect usage estimation to lead to greater satisfaction. As expected, we found that participants who estimated usage before choice reported greater product satisfaction than those in the control condition ( $M_{\text{usage}} = 4.97$  vs.  $M_{\text{control}} = 4.31$ ;  $F(1, 48) = 4.55$ ,  $p < .05$ ). In addition, these participants were more likely to recommend the app to their friends ( $M_{\text{usage}} = 4.83$  vs.  $M_{\text{control}} = 3.85$ ;  $F(1, 48) = 4.41$ ,  $p < .05$ ). Overall, these results provide further evidence that usage estimation before choice can increase preferences for a few-feature product due to elaboration on using compared with having. Furthermore, this elaboration and choice leads to greater product satisfaction and recommendation intentions.

### GENERAL DISCUSSION

Across five studies and four product domains, we investigated whether consumers spontaneously estimate feature usage rate in purchasing multifunctional products. We first provided evidence that consumers do not fully incorporate feature usage into their purchase decisions by showing that a usage estimation intervention consistently affected choice. In Study 1, we showed that usage estimation before choice shifts preferences toward a few-feature product and that NFC moderates the effect, suggesting that a difference in elaboration type is responsible for the shift in preferences. Further identifying the cognitive process, in Study 2, we demonstrated that usage estimation shifts preferences toward a few-feature product and that this result is moderated by the trivialness of the features. In Study 3, we collected thought protocols from participants and showed that usage estimation before choice shifts elaboration from a focus on having features toward a focus on using features. In Study 4, we focused on the individual difference of material values to show how consumers chronically focused on having and acquiring, rather than using (i.e., those high in material values), are not influenced by the usage estimation intervention, providing more evidence for our notion that consumers tend to focus on having rather than using when choosing multifunctional products.

With an incentive-compatible field experiment and yet another product category (apps), our final study examined the effect of the usage estimation intervention on product satisfaction and recommendation intentions. The results showed that estimating usage before choice not only shifted preferences to the few-feature option but also led consumers to experience more product satisfaction and increased their likelihood of recommending the product to friends. Together, these results show that consumers approach multifunctional product purchase occasions in a mind-set focused on having, rather than using, product features, ultimately leading to a decrease in their product satisfaction.

### *Theoretical Implications*

Our findings have several important theoretical contributions, building on research on how consumers respond to multifunctional products (e.g., Hamilton and Thompson 2007; Mukherjee and Hoyer 2001; Nowlis and Simonson 1996; Thompson, Hamilton, and Rust 2005). While previous research has shown that the product experience can lead consumers to focus on usability concerns and prefer simple, easy-to-use products (due to a lower-level construal of the products), we show that making consumers estimate usage frequency can also lead consumers to prefer few-feature products, perhaps by making usability issues salient. Furthermore, while previous research has shown that overestimation of overall product usage can affect choice (Nunes 2000; Thompson, Hamilton, and Rust 2005), our research demonstrates that a failure to estimate usage can also drive choice for multifunctional products. Across several product domains, we demonstrate that usage estimation is not an automatic component of consumers' purchase decision.

Our research also adds an important dimension to research focusing on how product usage context effects, such as scale labels, affect product usage estimates and choice. Whereas our studies focused on feature usage, previous research has focused on the usage of the product as a whole, which can be driven by the use of any feature (e.g., Hamilton, Ratner, and Thompson 2011; Menon, Raghurir, and Schwarz 1995). Although our research investigates the question whether consumers consider usage in the first place, and not whether these usage estimates are accurate or context dependent, we should note that it is possible that the framing of the usage question also affects usage elaboration and choice (see Hamilton, Ratner, and Thompson 2011). Further research should investigate feature usage framing, along with its relation to product usage.

We can also conceptualize the demand for more features as a demand for more variety and larger assortments. Recent research has shown that when consumers focus on feasibility concerns, their demand for many options (i.e., large assortments) decreases (Goodman and Malkoc 2012). This result is consistent with our finding that a focus on usage, which is related to feasibility, decreases the demand for many features. Taking this a step further, it is possible that estimating usage could also result in a demand for smaller assortments, perhaps attenuating choice overload (e.g., Diehl and Poyner 2010; Goodman et al. 2013; Iyengar and Lepper 2000).

It would also be worthwhile for researchers to investigate how the effect of usage estimation is moderated by public (vs. private) usage. Public consumption may increase the importance of having compared with using, attenuating the estimation effect; however, estimating usage for public consumption may also increase the salience of product usability, which can increase the preference for few-feature products (Thompson and Norton 2011) and enhance the effect.

Why do people fail to incorporate feature usage in their purchase decisions? Our research suggests that people are concerned more about having the features rather than using them. Estimating usage does not alter the preferences of consumers with high material values, suggesting that for some consumers, the evaluation of a multifunctional product is so focused on having that feature usage is irrelevant.

Our research adds to the literature on material values (Nicolao, Irwin, and Goodman 2009; Richins 2004) by providing evidence that material values not only affect spending and consumption habits (Belk 1985; Richins and Dawson 1992) but also affect how consumers incorporate usage in their product purchase decisions. These results also support the notion that those who are high in material values are likely not only to purchase luxurious, more expensive products (Belk 1985) but also to purchase such products regardless of their usage.

We should also note that our findings could be extended to bundled products. Often, products are bundled to offer multiple functions and features in a single purchase, such as a tool kit, a camera, and a lens kit, or a video game and console bundle. In these cases, consumers are also more likely to focus on having pieces of the bundle, while neglecting usage information. We conducted a follow-up study using bundles of apps instead of the multi-feature app we used in Study 5. We again found that participants were more likely to choose the few-feature app bundle when they estimated usage before choice compared with the control ( $b = .51$ , Wald's  $\chi^2(77) = 4.28$ ,  $p < .05$ ): In the control condition, 42% chose the few-feature bundle, and 64% chose it when they estimated usage.

### *Practical Implications*

Our findings have important implications for managers, as well as consumers trying to make difficult decisions between multifunctional products. Research shows that paying for services that are not used decreases consumer satisfaction (Bolton and Lemon 1999). Similarly, our findings from Study 5 suggest that purchasing a multifunctional product with rarely used features, or simply failing to consider usage, can lead to less satisfaction. Moreover, given that products with multiple features usually come with a hefty price tag, purchasing products with fewer but more useful features is likely to lead to greater savings for consumers. As such, this research prescribes to consumers that they should consider how often they will use each product feature before making multifunctional product purchase decisions. It should be noted that for some features, usage rate may be less important because they are rarely, if ever, used and yet provide utility. For example, the OnStar feature in a car may rarely be used, but it is still important and provides utility. All else being equal, however, an OnStar feature that has been used (or is expected to be used) multiple times should be viewed as more important and lead to greater satisfaction.

For the marketer, our findings have different short- and long-term implications. In the short run, the results suggest that marketers should avoid any focus or priming of feature usage frequency, which can decrease preference for multifunctional products; instead, focusing the consumer on having a feature will be more likely to drive purchase to multifunctional products. In the short run, these strategies may work to increase the choice share of many-feature options, but there are long-term costs. Our findings suggest that manufacturers and retailers may suffer from a decrease in customer loyalty when consumers are caught paying more for multifunctional products and not using the features, which we show can damage customer satisfaction. Ultimately, we know that consumers not only overestimate their

feature usage but also fail to estimate usage altogether. The optimal solution, with respect to the marketer and consumer, is to focus on matching a consumer to a product that he or she will use in the first place and then encourage and educate the consumer to use the features that are purchased.

#### APPENDIX A: STUDY 1 FEATURES

In the blanks below, estimate the number of times per week that you would use the following features:

1. Speakerphone \_\_\_\_\_ per week
2. Texting \_\_\_\_\_ per week
3. Contact phonebook \_\_\_\_\_ per week
4. Specialized ringtones \_\_\_\_\_ per week
5. Global voice and data capabilities \_\_\_\_\_ per week
6. Bluetooth \_\_\_\_\_ per week
7. Customizable wallpaper \_\_\_\_\_ per week
8. Digital camera \_\_\_\_\_ per week
9. Call forwarding \_\_\_\_\_ per week
10. E-mail \_\_\_\_\_ per week
11. Synchronize calendar and contacts \_\_\_\_\_ per week
12. Internet \_\_\_\_\_ per week
13. MP3 player \_\_\_\_\_ per week
14. Gaming \_\_\_\_\_ per week

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#### Appendix B STUDY 2 CHOICES

A: Nontrivial Features Choice	
Hotel A	Hotel B
Beach	Beach
Pool	Pool
Pool bar	Pool bar
Gym	Gym
Lunch buffet	Lunch buffet
Breakfast buffet	Breakfast buffet
Restaurant	Restaurant
Snorkeling and scuba diving	Snorkeling and scuba diving
24-hour room service	24-hour room service
Wi-fi in the room	Wi-fi in the room
Night entertainment	Night entertainment
Spa	Spa
Lobby bar	Lobby bar
Laundry	
Tennis court	
Business room	
Golf course	
Jet skis	
Basketball court	
Mini-Bar in Room	
\$195 / night	\$145 / night

B: Trivial Features Choice	
Hotel A	Hotel B
Beach	Beach
Pool	Pool
Pool bar	Pool bar
Gym	Gym
Lunch buffet	Lunch buffet
Breakfast buffet	Breakfast buffet
Restaurant	Restaurant
Snorkeling and scuba diving	Snorkeling and scuba diving
24-hour room service	24-hour room service
Wi-fi in the room	Wi-fi in the room
Night entertainment	Night entertainment
Spa	Spa
Lobby bar	Lobby bar
Photo center	
Complementary shoe shines	
Direct dial phone	
Extra phone in bathroom	
Extra pillows	
Magnifying shaving and makeup mirror	
Floral shop	
\$195/night	\$145/night

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