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BY REBECCA W. HAMILTON, ROLAND T. RUST, AND CHEKITAN S. DEV

COMPANIES MUST MAKE important decisions about which features to include in the goods and services they offer to customers. Understanding the return on investment (ROI) for a feature is essential to increasing profitability. Adding features increases costs, but it may increase revenues as well, either by attracting new customers or retaining existing customers. Notably, as we describe in this article, the features that retain customers may be different from the features that initially attract customers.

Customer lifetime value is the net profit earned over the course of a company's relationship with the customer.<sup>1</sup> To maximize customer lifetime value, a company must not only convince customers to buy its product or service once; it must also retain them. Hotel and airline companies, for example, invest heavily in loyalty programs designed to encourage their best customers to come back again and again. About one-third of leisure guests and about one-half of business travelers say they are loyal to a hotel brand.<sup>2</sup> Subscription-based services such as Netflix and Amazon Prime frequently offer free trials to attract customers, hoping that they will recoup their investment when customers sign up and become paying subscribers. Profits flow to video game app developers not when their apps are downloaded for free, but when users decide to keep playing and spend money to upgrade the app or make in-app purchases. Yet in many cases, the notion of generating revenue is no more than a pipe dream: According to one estimate, less than 40% of video game players return to a free-to-play game after the first session;<sup>3</sup> another analysis found that, on average,



## THE LEADING QUESTION

How should companies decide which features to include in products or services?

## FINDINGS

- ▶ Features that retain customers may be different from those that attract new customers.
- ▶ Having too many features can decrease customer satisfaction.
- ▶ Different research methods are suited to measuring the effects of features on customer attraction and retention.

three-quarters of people who download apps stop using those apps within 90 days.<sup>4</sup>

Given the importance of retaining customers, companies have an incentive to design goods and services with customer retention in mind. Unfortunately, they often add expensive features to their offerings without knowing whether or how much the new features will increase retention. Our research has shown that adding too many features can actually *decrease* customer satisfaction with products after customers have used them. In one of our studies, participants were initially more inclined to choose a digital video player that had 21 features over one that had only seven features. However, after participants used the 21-feature video player to perform a series of tasks, they were less satisfied than those who used the seven-feature model, and they were significantly less likely to say they'd choose it again for another task.<sup>5</sup> Thus, although having more features increased initial choice, it had the opposite effect on customer retention. This is what we call “feature fatigue.”<sup>6</sup>

Hotel companies, too, frequently add amenities, such as fitness centers or free wireless internet access, hoping that they will drive trial, market share, and loyalty.<sup>7</sup> The result is what hotel industry analysts refer to as “amenity creep” — a proliferation of features added to attract new guests. Using current research methods, it is difficult to tell which features have the most impact on customer retention. How much more likely is a hotel guest to return if he or she enjoyed a fitness center, free wireless internet service, or free bottled water on his or her last visit?

Clearly, companies would be able to make smarter business decisions if they could accurately

predict their ROI for specific features. In this article, we share some insights from our research at a global hotel company. (See “About the Research.”) We highlight the important difference between features that attract customers and features that retain them, discuss how to measure the effects of features on attraction and retention, and point out key issues in predicting ROI, such as differences in the costs of various features and in the relative importance of new versus existing customers.

## Attracting Customers Versus Retaining Them

Some features may be valuable because they attract new customers, while others are valuable because they retain existing customers. For example, having a strong user community can be a powerful feature for retaining gamers. On the other hand, if the community behaves aggressively toward rookie players, a strong community may scare new users away.<sup>8</sup>

An added challenge is that consumers themselves may evaluate features differently when they are making an initial choice between alternatives versus when they are evaluating their satisfaction with a consumption experience. Typically, adding more features or amenities increases the likelihood that consumers will choose a company's goods and services;<sup>9</sup> each feature added gives the customer one more reason to choose the product. For example, when customers choose a hotel, airline, or theme park, their choices may be influenced by amenities or star attractions<sup>10</sup> in addition to core attributes such as location or price. To maximize initial choice, managers often decide to offer more amenities.

### ABOUT THE RESEARCH

Our research on features began with a discussion about a mousepad — complete with a clock, a calculator, and an FM radio — that one of us brought back from a conference a number of years ago. Would the list of features make the mousepad more attractive to consumers, we wondered, or would the two pages of instructions printed in a tiny font be a turnoff? To find out, two of the authors and fellow researcher Debora Viana Thompson created some electronic products, varied the number of features they included, and conducted a series of experimental studies. Not surprisingly, consumers were initially attracted

to products that had more features. However, their preferences changed once they had used the products, and we observed that consumers were consistently more satisfied with the products that had fewer features. We called this effect “feature fatigue.”<sup>i</sup>

We wondered whether consumers would fall prey to the same pattern in the hotel industry, where brands are often described as engaging in “amenity wars.” We were able to convince a global hotel company to help us find out. With our fellow researcher Michel Wedel, we conducted a large-scale survey of guests, asking them about their use of hotel amenities both before and after they were guests at one

of the company's hotel properties. The company maintains a sophisticated customer database and was able to match the survey data with longitudinal revenue data. We conducted a detailed analysis of ROI for three amenities of interest (a fitness center, free in-room internet access, and free bottled water) and found that these amenities varied in the value they offered the company. Some had the power to attract customers, while others had the power to retain customers.<sup>ii</sup> Thus, a financially sound decision to add an amenity depends on a company's proportion of new and existing customers as well as the revenue and cost streams associated with the amenity.

However, as mentioned earlier, our research shows that adding more features can actually *reduce* customers' satisfaction when using products.<sup>11</sup> As more features are added to home electronics, for example, the buttons on the remote controls proliferate and often become smaller, making it more difficult for users to access the features they want. Similarly, adding more features to a website or an app makes it harder for users to navigate and more time-consuming to master. As more attractions are added to a theme park, customers may not have time to experience them all, and the park may become so large that it is overwhelming for customers to navigate.

Thus, there is tension between offering the most features to attract customers and offering the right features to bring customers back. The same consumers who say they want more features often end up preferring fewer features once they start using a product. This creates a challenge for managers: sorting out the features people think they want before they have used a product from the ones that will encourage them to return.

Some features have a strong influence on customer attraction, while others have more of an effect on retention. In our research at the global hotel company, we found that free wireless internet was much more likely to attract customers than free bottled water. Admittedly, it would be quite surprising if prospective hotel guests said they based their decisions to stay at a particular hotel brand on whether that brand gives them free bottles of water during their stay; the value of a bottle of Perrier or Fiji water is only a couple of dollars, and guests can easily imagine picking up a bottle in the lobby or from a vending machine instead. In contrast, there are fewer substitutes for wireless internet service during a hotel stay, and guests can predict their frustration with camping out in the lobby to use the free internet access there or connecting via their mobile phones instead of paying a \$15 fee to have access in their rooms. A quick review of travel blogs suggests that free wireless internet access is a hot-button issue; some customers say they choose a hotel that offers it as a matter of principle.

However, the picture changed when we switched from looking at features that *attracted* guests to features that *retained* them. Offering free bottled water during a stay led to a bigger boost in customer

retention than offering wireless internet access.<sup>12</sup> Why the difference? Although customers may have a good sense of the value of some amenities prior to using them (such as in-room internet), the value of other amenities (such as bottled water or a well-equipped fitness center) may be more visceral or emotional, and they may influence the consumer's evaluation of the overall service experience in a more holistic manner. It's harder for both consumers and companies to predict how visceral or emotional reactions to features will affect future behavior.<sup>13</sup> For example, gamers may not have any way of knowing which features will increase the stickiness of an app before they use it.

Thus, different research methods are required to measure the effects of features on customer retention than are used to measure their effects on attracting new customers. Surveys and conjoint analysis, which ask customers to self-report the effects of features on their preferences, are helpful in predicting which features will attract customers. But measuring the effect of features on retaining customers requires different methods. Longitudinal studies comparing the subsequent purchases of customers who use and do not use a feature, and field studies comparing purchases over time, can provide more accurate insight into retention. We will describe these approaches more fully below.<sup>14</sup>

## Computing ROI

In collaboration with a global hotel company, we developed a model to assess how features produce financial return by attracting new customers and/or by retaining existing customers. Our model integrates three kinds of data: the revenue increase due to the effect the feature has on attracting new customers; the revenue increase due to the effect the feature has on retaining existing customers; and the costs associated with adding the feature. We tested our model using three features or "amenities" of interest in the hotel industry: bottled water, free internet access, and access to a fitness center. We validated the model using a field study.

**Attracting New Customers** In collaboration with Forrester Research, a technology and market research firm in Cambridge, Massachusetts, we ran what is known as a discrete choice experiment<sup>15</sup> with frequent



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travelers to estimate the effect of each feature on their initial choice of a hotel. We asked the travelers a series of choice questions involving trade-offs between features. Analyzing these choices allowed us to compute the degree to which adding each feature was likely to influence a customer's initial choice of each brand. Because each brand managed by the global hotel company competes with other brands in the marketplace, we computed predicted changes in each brand's current market share.

Of the three features, we found that adding free internet influenced initial choice more than adding the other two features. The impact of adding free internet on predicted market share ranged across brands from 3% to 17%, while the impact of adding free bottled water or a fitness center on predicted market share ranged from 0% to 3%.

**Features That Retain Customers** Next we contacted guests by email before and after they stayed at one of the hotel company's properties and asked them to participate in an online survey. Guests reported whether they expected to use each feature and whether they actually used each feature during their stay. We also collected 18 months' worth of visit and revenue data after the stay and, as a control, 18 months of visit and revenue data prior to the stay. We used the data to estimate the impact of using each feature on future visits and revenues, controlling for expected use of the feature, past visits, and revenue. To estimate the parameters, we used a hierarchical Bayesian model (visits and revenue conditional on visits), but we found very similar results using simple regression models. Surprisingly, of the three features, bottled water had the largest impact on customer retention and future visits.

**Costs Associated With Adding Features** We collected data on the costs of offering each feature to the hotel company, including the initial costs of implementing the feature (for example, modifying facilities

and training staff), maintenance costs (such as staffing and payments to third parties), and usage costs that were incurred only when guests used the feature. The total cost of different features — both in terms of cost structure and timing — differs dramatically. Providing free bottled water in guest rooms had very low installation and maintenance costs; the largest cost was the per-usage cost of the water. By contrast, while providing in-room internet access had low installation costs and virtually no incremental cost per use, the annual maintenance costs for the service, supported by a third-party vendor, were relatively high. Finally, the fitness center had relatively high installation costs, moderate maintenance costs, and moderate per-usage costs. Collecting this data allows managers to consider cost flows in comparison to revenue flows.

**Calculating the Return on Features** The hotel company provided annual guest and revenue data for each brand and the proportion of new versus returning guests for each brand. We used the estimation results for both attracting and retaining customers, along with the cost data, to compute the ROI for the three features in question (free bottled water, in-room internet, and a fitness center). Although all three features showed positive ROI, the effects were driven by different factors. The ROI for free internet was driven by its effects on attracting customers, while the ROI for free bottled water was driven by its effects on retaining customers.

We were able to validate our results for bottled water against the ROI for the actual prior implementation of that feature by two of the hotel company's brands. We compared revenues from properties of two hotel brands that had added bottled water with closely matched control properties that had not added the feature. To control for seasonality, we compared revenues from 12 months prior to the implementation of the feature and 12 months after the implementation of the feature across both the test and control properties. Our model's ROI

estimates for the two brands were very similar to the ROI results for the feature's actual implementation.

## Implications of Our Findings

As companies place more emphasis on long-term relationships with customers, they should also attempt to understand the role features play in retaining customers. Many companies don't just care about attracting new customers; they also think about lifetime customer value. And while subscription-based services may try to woo new customers with free trials, they need to convert as many as possible to become repeat users. Thus, the ability to distinguish between features that attract new customers and those that retain customers is critical. Our research uncovers a few key insights:

**Consumers are likely to overestimate the likelihood that they will use features.** In our work with the hotel company, we observed a pattern of overestimating use of the three features we examined closely as well as most of the other 47 features for which we measured expected and actual use. Executives should accordingly use caution when interpreting data from self-report methods such as surveys, interviews, and focus groups suggesting that customers want more features.

**Customers tend to be better at identifying features that will attract them than features that will retain them.** In our work with electronic products, consumers consistently chose products with a high number of features, but these products left them less satisfied than similar products with fewer features. Moreover, some features do not provide discernable value to customers until they have used them. For example, our research with the hotel company showed that the effects of both bottled water and fitness center features on initial choice were much smaller than their effects on repurchase. Thus, managers should consider using research methods suited to uncovering the boost in retention that some features provide, such as longitudinal usage studies

and field studies, to avoid missing out on providing potentially profitable features.

**Consider features as an investment in customer lifetime value.** Managers have developed many tools for increasing customer lifetime value, such as loyalty programs and sophisticated customer relationship management systems. Like other initiatives that increase customer retention, offering features designed to retain customers may produce savings due to lower customer acquisition costs and reduced servicing costs. Clearly identifying the effects of features on customer retention will allow managers to evaluate features against other potential investments geared toward increasing customer lifetime value.

## Putting Our Insights Into Practice

Given what we have learned, companies shouldn't rush to add new features that seem promising. Rather, they should begin by asking a series of questions:

**Why should I add this feature to my offering?** When considering a new feature, think about whether the feature is likely to attract new customers, retain existing customers, or both. If your company's proportion of new customers is high and is likely to remain high (as is the case of distinctive tourist destinations that many customers only visit once), features that are likely to attract new customers should receive priority. In contrast, if a large proportion of business is from repeat customers or if your company would like to increase its proportion of repeat customers, more attention should be given to features that retain customers.

**Do my competitors offer the feature?** Feature fatigue and amenity creep often result from managers wanting to match competitive offerings. Although benchmarking is important, it is more important with features designed to attract customers (including getting them to switch from competitors) than with features designed to retain customers. When customers are unfamiliar with your brand, they may conduct comparisons of features across brands. But



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when people have already experienced your brand, they will rely on their impressions of their experience to decide whether they will buy again. Thus, when deciding whether to match the competition, consider first whether your goal in adding the feature is to attract or retain customers.

**How can I measure the effects of adding a feature on customer retention?** As we have discussed, different research methods are suited for determining whether features will retain customers or attract new customers. Surveys, interviews, focus groups, and conjoint analysis are very useful for predicting whether specific features will attract customers.<sup>16</sup> However, because customers often have a harder time predicting whether features will influence their repeat purchases, directly asking them (in surveys, interviews, focus groups, and conjoint analysis) is unlikely to generate accurate estimates of a feature's effect on retention. Instead, it is better to use what's known as A/B testing, which involves implementing a feature in a few different settings and comparing the results with those where the feature hasn't been added. For example, you might offer a particular feature to randomly selected customers and not others, and then make comparisons; alternatively, you might add a feature to one product offering and compare its repeat sales to those of similar products where you haven't offered the feature. Such comparisons allow you to estimate changes in both revenues and costs associated with adding a feature, which will enable you to estimate the ROI.

Our approach for computing the ROI for features allows managers to account for the effect of specific features on both attracting and retaining customers. Comparing changes in both revenues and costs over time due to adding features allows companies to make better decisions about which features to include in their goods and services.

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