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Why Great Products Fail

Because customers cannot always recognize they are great

Too often, great products fail because customers do not recognize the value that they create. Today, we have unprecedented insight into how customers evaluate new products. Yet many firms focus solely on creating value, without regard to how customers recognize innovations and evaluate new products. Customers can search or they can form inferences. Knowing when they will do w will determine which of your innovations customers will value. Armed with this knowledge, firms can focus their development on innovations that customers will value.

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Why Great Products Fail

A lot of great new products fail – and the firms often wonder why. They were careful to listen to their customers, yet the products still failed. This is not a rare occurrence. A recent study of almost 9,000 new products that achieved broad distribution at a national retailer revealed that just 40% of them were still sold three years later.¹ Some of these products did not create value for customers and deserved to fail. However, some of them would have created value if customers had adopted them. Their problem: customers could not recognize the value.

While most firms focus on customer needs, they do not think hard enough about how customers decide what to purchase. We now have ample insight into how customers evaluate new products. Yet firms generally focus solely on creating value, without regard to whether customers will recognize this value.

To decide what to buy, customers need to know what products are available and how their features vary. Whether you are an airline choosing which aircraft to purchase, a graduate choosing your first car, or a parent buying diapers for your infant, there are only two ways you can collect this information. You can search or you can infer. The inference process uses the information you can search for to guess the information that you cannot. We will start by discussing search, before turning to the inference process.

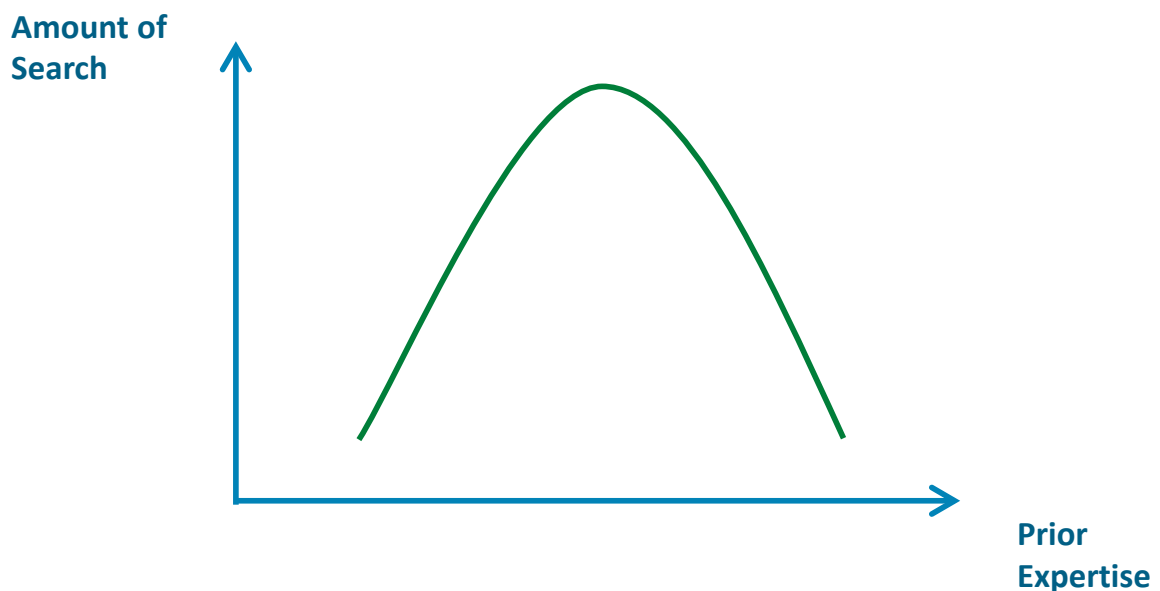
The Search Process

In July 2012 United Airlines announced the largest commercial aircraft purchase ever, with an agreement to purchase Boeing-737 aircraft. The list price of the 150 aircraft was \$14.7 billion. How long did it take United to make this decision? The deal team from United apparently spent two years engaged in expensive search trying to understand the capabilities of the different aircraft, the cost of operating them, and the cost of servicing them. Imposing structure and discipline on this search process is one of the primary roles of a procurement department. The length and intensity of this process reflects a trade-off between the cost of the search process, the importance of the decision, and the customer's expertise.

For a customer, the perceived benefit of searching for a better solution may not be the same as the actual benefit, particularly in markets with little recent innovation. This poses a challenge for disruptive innovations; customers may not find them because they do not know to look. When Aqualisa developed an innovative new shower system for the UK residential market, customers did not initially adopt the product, because they had become accustomed to the UK's low water pressure. They did not realize that a better shower was even possible, and so saw no reason to look.²

In other situations the benefits of the information are clear, but the cost of searching for it is simply too high. For example, when we fly into La Guardia airport many of us will use a yellow taxi to get to Manhattan. In 2014 there were an average of 1,391 accidents each month involving yellow taxis in New York.³ This adds to almost 17,000 accidents in 2014, even though there were only 13,437 taxi medallions. The implication: it is important to find a safe taxi driver. But what do we do when exiting the terminal carrying our luggage? Most of us jump into the first cab in the line. Although the benefits of finding a safe taxi driver are clear, the cost of searching for it is simply too high. One suggestion: walk around the taxi before you get in and see if there are any big dents, particularly around the passenger compartment (more about this suggestion later).

The relationship between how much customers search and their prior expertise is surprising. In an influential study using data from new car purchases, Sridhar Moorthy, Brian Ratchford and Debabrata Talkadar show that the relationship can be an inverted-U (see figure below).⁴ Customers with a lot of expertise (experts) may not search, because they think they already know. For example, a pharmaceutical company was recently surprised when doctors did not prescribe their new drug. The drug was a fabulous new product, which created tremendous value for customers. It treated the disease more effectively, and had fewer side effects than existing treatments. However, this was the first innovation in this therapeutic area for many years. Doctors believed they already knew all there was to be known about how to treat this disease, and so their minds were not open to the possibility of new treatments.

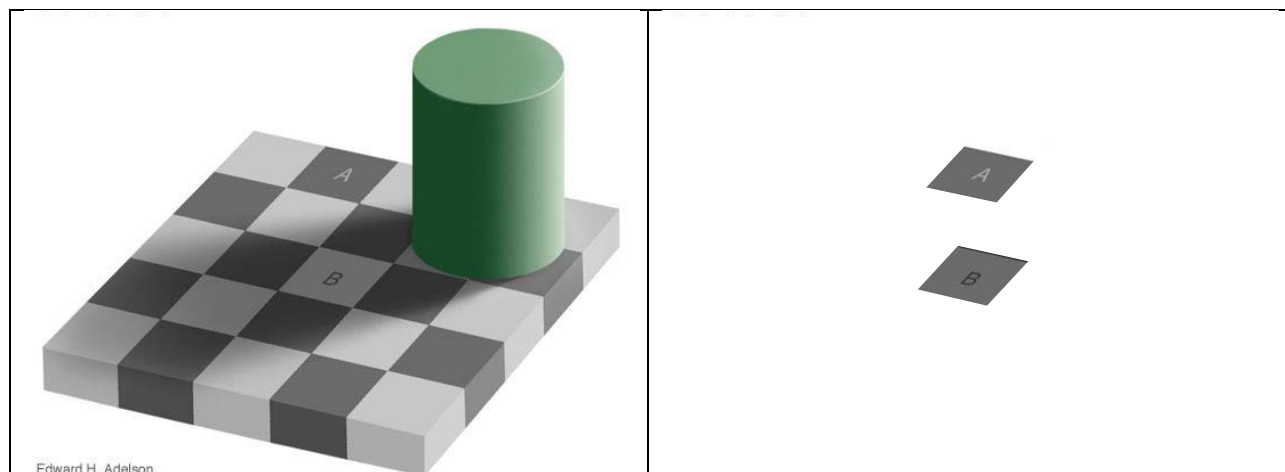


At the other end of this spectrum are customers who are clueless. They do not search because they do not know which questions to ask, where to find the answers, or how to interpret the information if it arrives. I once had a friend call on a Saturday morning and ask for help to buy a bicycle. Fine plan (when you are clueless ask for help), but poor execution (I knew nothing about bikes). Not wanting to disappoint my friend, I accompanied her to the bike store, where we explained that my friend needed a bike and I was here to help with her decision. The enthusiastic young salesman started describing the technical differences between the bikes. This went on for 20 minutes until my friend's eyes were completely glazed over. She stopped the salesman, looked him in the eye, and said, "I want a red bike." At which the salesman responded, "Well, I better take you to the red bike section then." We walked out 10 minutes later with a red bike. Think for a moment about the implications of this example for a bike manufacturer. Technical innovation would not increase the chances of a sale to this customer, no matter how much value the innovations created. More generally, the risk for firms is that they invest in innovations that customers cannot recognize.

The Inference Process

Even after two years of intensive search, United Airlines would not have known everything it wanted to know about the competing aircraft. When search is incomplete, we shift to forming inferences; we use what we can observe to infer what is too costly or too difficult to search for. We have already seen one example of a cue that customers can use to form inferences: using dents in taxis to infer the quality of the driver. McDonald's offers another illustration. The hamburger chain tells its franchisees, "Make sure you keep the parking area clean." Why, you might wonder? Customers do not really care about the parking area. What they care about is the cleanliness of the kitchen, and perhaps the bathrooms. However, what can customers see when they drive past? They use the cleanliness of the parking area (what they can see) to infer the cleanliness of the kitchen and bathrooms (what they care about). What is most surprising is that when you ask customers why they did not choose to stop, they often cannot tell you why. They just did not feel comfortable stopping at that restaurant. In other words, this is not a conscious thought process; it is operating at the sub-conscious, which makes it both pervasive and powerful.

We can illustrate this principle through a visual example created by Edward Adelson (these images can be reproduced and distributed freely).⁵ On the left is a checkerboard, with a black square labeled "A", and an apparently white square labeled "B". In fact cells A and B are both the same shade of grey. We demonstrate this on the right, where we have removed the surrounding context. Even more remarkable, now that you know this is true, look back to the left and try to tell your eyes that the A and B cells are the same color. You can't. Our eyes are forming inferences - we do not know that it is happening, and even if we did, we could not do anything about it.⁶ Although purchasing decisions are a different neural process than this visual process, a similar phenomenon occurs when customers are evaluating different products (or services). Customers often do not realize they are forming inferences, and even if they did, they are powerless to stop it.



The Role of the Brand

The most common cues we use to infer quality are the price and the brand. In a business-to-business setting, signaling information about quality is essentially the only role of the brand. Even in consumer markets, this signaling role is hugely important.⁷ However, as we discuss in a sidebar, in consumer markets, brands may signal more than just product quality.

The inference process tells us how important the brand will be in the purchasing decision. If customers can search, they won't rely on the brand. Moreover, their perceptions of the brand will change quickly as new information comes in. Both factors diminish the importance of the brand. However, in markets where customers cannot search, they are forced to use the brand to make purchasing decisions. For example, if a customer wants to buy a laptop computer with a big hard drive, they have two options. They can search the spec sheet to see how big the hard drive is. Alternatively, they could form an inference based upon the brand: "because it is a Dell it probably has a big hard drive". Inferring the size of the disk drive from Dell's brand may be unwise – but it may also be the only option for customers that lack the expertise to interpret the spec sheet (see the discussion about expertise above).

This example makes three points. First, customers would prefer to search. It is only when they are unable to search, either because they lack expertise or the cost is too high, that they rely upon the brand.

Second, the role of the brand may vary across customers. A novice computer buyer may lack the expertise to search, and be forced to rely upon inference. Most computer buyers have this expertise and will simply engage in search. Similarly, we can expect the brand to play a more prominent role for prospective customers than for existing customers. This became apparent to a consulting firm that was innovating in its consulting processes. In a professional services setting, as in any services setting, there is generally no spec sheet, and so prospective customers are often forced to rely on inference. As a result, prospective customers are unlikely to reward the firm for its process improvements. This contrasts with the firm's existing customers, who experience the process improvements firsthand.

Finally, the role of the brand may also vary across product features. Features that are on the spec sheet (e.g. the size of the hard drive) are typically features that can be discovered through search. However, features that do not appear on the spec sheet (e.g. reliability or ease of use) are not easily discovered through search, and so it is these features for which the brand's role will be more prominent.

The Impact of the Internet

We can also ask how the Internet has affected the role of the brand and the way that customers make purchasing decisions. We should first recognize that for some products, or at least some product features, the Internet has had little impact on the way that customers make purchasing decisions. For example, the Internet does not help us search on future events, such as how Volkswagen will respond to future product recalls, or how well Internet security software will protect against the next generation of threats. It is also less helpful for product attributes that requires physical inspection, particularly when the needs are specific to the user (such as the fit and appearance of a swimsuit).⁸

For many other products the Internet has had a profound impact on the way that customers evaluate products. It has done so in two ways. First, it has lowered the cost of search by making information more accessible.⁹ In many markets the initial impact of this change was perhaps smaller than anticipated. When customers purchase in physical stores they do not have access to a laptop or desktop computer. In these markets it was not until the advent of smartphones that the Internet lowered the cost of search.

The second impact of the Internet is a broadening of which product features are searchable. It is no longer just the features on a product's spec sheet. User-generated contents, including blogs and product reviews, now mean that customers can search on features that were previously unsearchable, such as the quality of a golf course, or the fairness of a contractor.

Consider how this has changed the restaurant market. It used to be that tourists in a new city had little choice but to ask the concierge or choose a restaurant that had a big national brand. This was a good outcome for the Hard Rock Cafe. How do tourists make restaurant choices now? They pick up their smartphone and query TripAdvisor.com or OpenTable.com. They can compare prices, menus, location, even the how politely they will be greeted by the maître d'. This has sharply diminished the role of the brand. Now small innovative restaurants offering great food and service become more prominent, while the Hard Rock Cafe has been forced to close many of its locations.

Does this mean that the Internet has increased or decreased price competition? If customers can now recognize greatness where they could not before, this will benefit the innovative firms, as customers will pay a larger premium. On the other hand, where customers were paying a premium for differentiation that was not real, the Internet will foster competition and undermine that premium.¹⁰ For example, if a viral video revealed that national brand and private label Vitamin C are identical products made in the same factory, they would stop paying a premium for the national brands.¹¹

What Should Firms do Differently?

For firms engaged in innovation or product development, the implications are clear. They need to ensure not just that they create products that create value for customers, but that customers can recognize this value. We recommend that firms focus on three sets of questions.

First, are customers **motivated to search**? Do they recognize that there could be a better solution, and are they willing to invest effort to find that solution? Recall the Aqualisa example: because customers did not know a better shower was possible, they were not motivated to look for it. How disruptive is the solution? If this is the first major innovation in the industry for 20 years then customers are less likely to be searching for new alternatives than if this is an industry that has had a steady stream of major innovations. A concrete measure of how motivated customers are to search is the length of their procurement or decision process. For example, customers on average spend 15-20 hours searching for information when buying a new car.¹² However, few customers will invest this amount of time when choosing diapers for their children.

Second, are customers **able to search**? Traditionally, the litmus test for this question was whether the information was listed on a spec sheet or not. Recall the Dell computer example: the size of the hard drive is on the spec sheet and searchable, but the reliability and ease of use are not. As long as

customers have the expertise to interpret the spec sheet, then features on the spec sheet are generally searchable. If the decision is important enough, but customers lack expertise, then they may still be able to search by turning to expert advisers. Examples of expert advisers include doctors, financial advisers, real estate agents, insurance brokers, IT consultants, or workplace benefits consultants (to help employers choose 401k providers). In some markets customers can use customer reviews to search for information that is not on the spec sheet. In these markets the spec sheet is no longer as good a litmus test of whether customers will search. One factor that has not changed: customers typically adopt a decision process and changing this decision process is difficult. For example, if customers have always searched for the best deals on cars by waiting until the end of the model year, then convincing them to purchase earlier in the model year will be difficult.

If customers cannot search, firms need to understand **what cues they will use** to infer the absent information. It is an indication of how well managed McDonalds manages its restaurants that it knows not just that customers infer restaurant cleanliness from the state of the parking lot, but that customers do this sub-consciously. You may have to create cues to help customers with this inference process. For example, automobile manufacturers would like to convince customers that the engines and transmissions in their cars are precisely engineered. Because the quality of the engineering of these components is not observable to customers, instead they will highlight engineering features that are observable. Recall the car advertisements in which ball bearings roll along door joints. No one really cares how precisely ball bearings could track on your car's door joints. However, the manufacturer has provided a cue to infer the quality of its engineering. Customers can use this cue to evaluate the engineering of parts that they cannot observe.

Conclusions

Developing great products is not enough. Firms have to develop great products that customers can recognize are great. Fortunately the way that customers collect information and make purchasing decisions is now understood. Rather than merely asking what customers need, firms need to understand how customers will evaluate which products will satisfy their needs.

If customers are motivated to learn about the products and have the expertise to interpret what they learn, then we can expect the customer search process to play an important role in customers' decisions. For innovative firms, this is a welcome situation, as customers are more likely to recognize their innovations. However, when customers are either not sufficiently motivated or not sufficiently informed, then search will give way to inference. This makes it much less likely that customers will recognize innovations. The implications for firms are clear: focus development on innovations that your customers will recognize, or find ways to alert them when they will not.

Sidebar 1

In consumer markets brands may play two signaling roles. First, they can signal information about product features that consumers otherwise cannot evaluate. Second, consumers can use brands to signal information about themselves. This second signaling role of the brand is particularly important if consumption is conspicuous. For example, when we wear a Rolex watch, drive a BMW car, carry a Louis Vuitton bag, or talk on an iPhone, our consumption is conspicuous to others. In these settings, consumers enlist brands to convey signals about themselves.¹³ Wearing a Rolex watch signals success and perhaps good taste - personal characteristics that are desirable to communicate, but objectionable to do so explicitly.

Sidebar 2

Will Customers Discover Your Innovation?

If customers cannot discover your innovations they cannot increase your sales. Which of your innovations will your customers discover? The answer can be found by asking three groups of questions.

Motivation to Search	<p>Do customers recognize the need is important?</p> <p>Do they think they already have a solution?</p> <p>How disruptive is the solution?</p> <p>How long is their decision process?</p>
Ability to Search	<p>How difficult is it to search?</p> <p>Is the improvement measured on a spec sheet?</p> <p>Can customers interpret the information?</p> <p>Will they have to change their search process?</p>
Customer Inferences	<p>What cues do customers use?</p> <p>What will they infer from these cues?</p> <p>Can you control or influence these cues?</p>

¹ Eric Anderson, Song Lin, Duncan Simester and Catherine Tucker (2015), "Harbingers of Failure," *Journal of Marketing Research*, 52(5), 580-592.

² Youngme Moon and Kerry Herman (2006), "Acqualisa Quartz: Simply a Better Shower," HBS case 9-502-030.

³ For a discussion of taxi cab accidents in New York see Laurence P. Banville, (2014), "Taxi Cab Accidents In New York: 1999 – 2014," 10 December 2014, <http://banvillelaw.com/taxi-cab-accidents-new-york-1999-2014/>.

⁴ Sridhar Moorthy, Brian T. Ratchford, and Debabrata Talukadar (1997), "Consumer Information Search Revisited: Theory and Empirical Evidence," *Journal of Consumer Research*, 23(4), 263-277.

⁵ See <http://persci.mit.edu/gallery/checkershadow>.

⁶ For another surprising example of these visual effects see: R. Beau Lotto and Dale Purves (1999), "The effects of color on brightness," *Nature Neuroscience*, 2(11), 1010-1014.

⁷ Prominent (though technical) studies of the signaling role of the brand include: Tulin Erdem and Joffre Swait (1998), "Brand Equity as a Signaling Phenomenon," *Journal of Consumer Psychology*, 7, April, 131-157, and Birger Wernerfelt (1988), "Umbrella Branding as a Signal of New Product Quality: An Example of Signaling by Posting a Bond," *Rand Journal of Economics*, 19, Autumn, 458-66.

⁸ Rajiv Lal and Miklos Sarvary draw a distinction between what they term digital attributes than can be searched online and non-digital attributes that cannot: Miklos Sarvary and Rajiv Lal (1999), "When and How is the Internet Likely to Decrease Price Competition," *Marketing Science*, 18(4), 485-503..

⁹ Florian Zettelmeyer, Florian, Fiona Scott Morton and Jorge Silva-Risso (2006), "How the Internet lowers prices: Evidence from matched survey and automobile transaction data," *Journal of Marketing Research* 43(2), 168-181.

¹⁰ John Lynch and Dan Ariely demonstrated this point in a clever study of wine markets. For differentiated wines, making it easier to obtain information about quality reduces price sensitivity. However, when the Internet revealed that the wines were undifferentiated, price sensitivity among customers increased. See John G. Lynch Jr. and Dan Ariely (2000), "Wine Online: Search Costs Affect Competition on Price, Quality, and Distribution," *Marketing Science*, 19(1), 83-103.

¹¹ This example is motivated by a documentary in which Leiner Health Products revealed that its national brand Vitamin C (Your Life) is identical to Duane Reade, Osco and other store brand Vitamin C.

¹² Brian Ratchford, M.S. Lee and D. Talukdar (2007), "The Impact of the Internet on Consumers' Use of Information Sources for Automobiles: A Re-Inquiry," *Journal of Consumer Research*, 34, 111-119.

¹³ Young Jee Han, Joseph C. Nunes and Xavier Drèze (2010), "Signaling Status with Luxury Goods: The Role of Brand Prominence," *Journal of Marketing*, 74, July, 15-30.