



Note on Consumer Behavior

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In a classic paper on the managerial significance of behavioral decision theory, Itamar Simonson (1993, p. 80) concludes:

“In some situations, consumers do have clear and strong preferences for particular product or service characteristics. In such cases, none of the (behavioral science) manipulations are expected to affect purchase decisions. ... (However,) companies can increase their sales significantly by supplementing the voice of the customer with a better understanding of the various “irrational” influences on purchase decisions and translating that knowledge into specific sales, positioning, pricing, and communications tactics.”

The study of consumer behavior is extensive and sometimes controversial. Each year new concepts are identified and established wisdom is challenged. For example, the attraction effect (also known as asymmetric dominance), long thought to be a basic tenant of predictively irrational behavior, is now understood to be more a function of how the stimuli are presented. (In the attraction effect the presence of a dominated alternative [decoy] enhances the likelihood that the dominating alternative is chosen.) In a classic experiment by Kivetz, Netzer, and Srinivasan (2004), MBA students are given the choice of subscribing to the *Economist* in print (\$125), web (\$59), or print & web (\$125). In a laboratory experiment, hypothetical subscriptions to print & web increased from 43% when web-only was not present to 72% when web-only was present. However, the attraction effect rarely succeeds with non-textual stimuli. For example, using a rotten apple as a decoy rarely increases the percent of subjects choosing an apple over a banana. Frederick (2013) has recently attempted to reproduce the original experiment and

found that the results are extremely sensitive to the presentation of the stimuli.¹ Frederick's insights are important managerially. For example, if consumers are presented with textual descriptions of televisions of three high-definition televisions in the laboratory, the presence of a decoy (higher price, lower resolution) enhances an existing offering. However, if they are presented with the same televisions in retail store where they experience the resolution and read the price, the decoys lowers the sales of the existing offering.

As behavioral science advances, we are finding nuances in behavior phenomena. We should abandon the study of the phenomena, but any manager who relies on the phenomena in a marketing campaign should understand the nuances so that he or she can use the recommended marketing strategies effectively. The phenomena are valuable in diagnosing a marketing campaign, but misuse can backfire.

This note introduces you to two concepts: framing and memory schemata. These two ideas are representative of the behavioral phenomena that are studied in marketing. For students interested in greater depth we offer 15.847, Consumer Behavior. 15.847 provides an in-depth examination of a breadth of consumer-behavior phenomena, complete with managerial examples. For 15.810 the two basic concepts illustrate how consumer behavior theory is used for effective marketing campaigns. Many of the classic phenomena are specific examples of these two concepts.

Framing

Suppose you are planning a cookout with your friends and you purchase 75% lean ground beef with which to make hamburgers. It sounds appetizing. But we could reframe the same ground beef as containing 25% fat. Reframed, the hamburgers sound less appetizing. Suppose you are buying a mutual fund. Expenses of 1.5% does not sound like much until we realize that over twenty years a minor difference between 1.5% and 0.5% leads to a \$10,000 difference in the final value of a \$10,000 investment. The reframe causes us to think more carefully about seemingly minor differences in "load." We might be willing to drive two hours to an outlet mall to save 20% on fashion purchases of \$500, but we might be unwilling to save ½ of

¹ As I write this note, Frederick's research is still under peer review.

1% on an automobile purchase, even though the automobile savings might be a larger dollar amount. We make these “irrational” decisions when we frame savings as percentages rather than absolute savings.

Framing is everywhere. A home-alarm-system salesperson might focus on keeping you and your loved ones safe rather than emphasizing the cost and inconvenience of the alarm system. A salesperson in a store (or an auto dealership) will focus on the reliability of their product to make the sale, but then reframe to emphasize the risk of failure to sell an after-sale extended warranty. A major electronic retailer might frame its underinvestment in sales personnel as a shopping environment that allows you to shop unimpeded and play around with the electronics without interference. Even in entertainment, the movie, *The Sixth Sense*, was written from the perspective of Bruce Willis’ psychologist. (Spoiler alert) Most moviegoers were surprised when they found out that the psychologist was actually dead and could only talk to the boy with a sixth sense.

Framing is defined by:

“Selective influence over the consumer's perception of the meanings attributed to words, images, and products. Limiting mental representations, interpretations, and simplifications of focus. Equivalence frames represent logically equivalent alternatives portrayed in different ways. Emphasis frames focus on a subset of relevant perspectives.”

Tversky and Kahneman (*Science* 1981) provided a prototypical example of framing. They described a hypothetical situation where there was an unexpected and unusual outbreak of influenza. Physicians were told that 600 people would die if left untreated and were asked to make a decision between two treatments. Some physicians received the following two scenarios:

- A: The treatment is well-tested and 200 people would be saved
- B: The treatment is experimental. There was a 1/3 chance that all 600 would be saved and a 2/3 chance that no one will be saved.

The vast majority of physicians, 72%, chose the well-tested treatment. Tversky and

Kahneman then reframed the description. Another set of physicians received the following two scenarios:

- C: The treatment is well tested and 400 people will die.
- D: The treatment is experimental. There is a 1/3 chance that no one will die and a 2/3 chance that 600 will die.

When asked to choose among scenarios C and D, 78% of the physicians chose the experimental treatment. Take a moment and compare the two sets of scenarios. Mathematically, Scenario A is the same as Scenario C; Scenario B is the same as Scenario D. However, the “frame,” the manner in which the scenarios are presented reversed the physicians’ judgments. This particular example works well when some groups of physicians are given Scenario A vs. Scenario B and others are given Scenario C vs. Scenario D. The effect goes away if physicians are shown both scenarios together; their judgments are consistent.

There are many other examples. The “Linda problem,” used to demonstrate the “conjunctive fallacy,” is another classic.²

Linda is 31 years old, single, outspoken, and very bright. She majored in philosophy. As a student, she was deeply concerned with issues of discrimination and social justice, and also participated in anti-nuclear demonstrations. Which is more probable?

1. Linda is a bank teller.
2. Linda is a bank teller and is active in the feminist movement.

When given this choice, most people choose the second option, which violates the axioms of probability. If Linda is a bank teller and active in the feminist movement she is bank teller, but if she is a bank teller she is not necessarily active in the feminist movement. The way the question is worded is critical. For example, if we were to ask the following question:

Linda is 31 years old, single, outspoken, and very bright. She majored in philosophy. As a student, she was deeply concerned with issues of discrimination and

² Tversky and Kahneman (1983). Second example due to Chase, Hertwig, and Gigerenzer (1998).

social justice, and also participated in anti-nuclear demonstrations. There are 100 persons who fit Linda's description. How many of them are:

1. Bank tellers? _____ of 100
2. Bank tellers and active in the feminist movement? _____ of 100

Given this choice, consumers do not fall into the conjunctive fallacy. This nuance of the conjunctive fallacy is very important for marketing. The choices that consumers make depend upon the manner in which the choice options are described to them.

An Intuition for Marketing

In 1996 Gerd Gigerenzer and Dan Goldstein of the Max Planck Institute in Berlin published a paper in which they argued that consumers use simple "fast and frugal" decision rules for most of their decisions. They argued further that such simple rules did surprisingly well because the heuristic decision rules exploited "ecologically rationality." For example, consumers tend to prefer brands with which they are familiar (recognition heuristic) or make decisions using only the most diagnostic cue (take-the-best decision rule). Intuitively, ecological rationality means that, in everyday repeated decisions, consumers can count on a certain amount of regularity in the environment. Because the environment is fairly predictable, the heuristic decision often lead to the right decision and do so with little effort on the part of the consumer.

For example, if we are interested in high fuel economy we might avoid large cars, sports cars, and large internal combustion engines because, historically, such cars have low fuel economy. Or we might expect a certain sound quality from all Bose products whether they are speakers, radios, or headphones. Or we might pay particular attention to items at the end of a grocery store aisle because we've found by experience that those items fit our needs. (Perhaps we infer, correctly or incorrectly, that the grocery store puts products in end-aisle displays because the supermarket expect the products to be popular.)

The key concept is that, in most situations, consumers can count on the environment providing many cues and, hence, consumers use those cues in a manner that leads to good decisions. It is just not feasible for consumers to evaluate each and every decision from scratch. Experience matters. In most situations the frame provides valuable information to simplify decisions.

Influence arises when we change the context of the decision to favor a particular choice. Consider the Linda problem. Suppose in normal conversation we heard that Linda majored in philosophy and that she was deeply concerned with issues of discrimination and social justice, and also participated in anti-nuclear demonstrations. This might fit our stereotype of someone who is active in the feminist movement. We might believe that Linda is more likely to be in the movement than a randomly chosen person. We would probably be correct. We then take this conversational norm with us when we answer questions about Linda. However, when the mathematics of probability are made clear in the second question we think deeply and use that information.

Similarly in the classic Tversky-Kahneman framing example, conversational norms, prior experience, and moral imperatives all influence our answers to the questions. But we are able to override prior experience when we see both questions together. Framing is all about making some information more salient than other information.

A good mental image to understand framing is a picture frame. Consumers are faced with many decisions each day, but are limited in the amount of time, effort, focus, and information search they can devote to decisions. They will rely on past experience and rely on the information they find most relevant. The marketing campaign uses the picture frame to focus the consumer on the information that favors the target brand in the hopes that the consumer will attend disproportionately to the information that is provided. The marketing campaign influences the consumer's perspective on the problem.



Figure 1. Verbal Framing Visualization

Context Effects

Many framing phenomena are context effects. By a context effect we mean that the choices presented to the consumer influence the consumer's decision. We explore some of the better known context effects.

Asymmetric dominance (also known as a decoy effect). We began this note with the *Economist* laboratory experiment. The basic concept is that if the firm introduces a decoy it can make an existing brand look better, in part, because the decoy encourages the consumer to compare the existing brand to the decoy rather than to a competitor. For example, Simonson (1993) reports that Williams-Sonoma doubled the sales of a less-expensive bread maker by introducing a larger, more-expensive bread maker. The context, the choice of bread makers, carried information about what was available on the market and the less-expensive bread maker looked good by comparison. In the apple vs. rotten apple vs. banana example, the rotten apple likely introduced information that apples could rot (or the rotten apple made all apples appear less appetizing).

Compromise effects. Consumers often prefer products that represent compromises. For example, consider the choice of a low-priced portable grill and a moderately-priced portable grill. The sales of the moderately-priced portable grill can often be increased by introducing a

high-priced portable grill. It is as if consumers are choosing the moderately-priced grill as a compromise between the two extremes.

Retailers often include “good,” “better,” and “best” alternatives in the hopes of increasing the sales of the “better” choice. If the consumer is not sure about his or her preferences, say because the product must be experienced before it can be evaluated fully, the consumer might infer the preferences of the market from the offered products. If the consumer thinks of himself or herself as “not extreme,” the consumer might adopt a heuristic decision strategy and infer that the middle alternative is the best match to the consumer’s needs. The compromise effect is common, but not universal. Managers are best advised to test its effectiveness before using it.

Anchoring. There is a popular US game show called “The Price is Right.” In the initial round contestants guess the price of a product. The winner is the person who guesses the highest price without going over. This game has been on television since 1956 (with a hiatus from 1965-1972). It remains popular with live shows in Las Vegas and a smartphone app. The game would have no interest if everyone knew every price.



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For everyday items we all have reference prices—you likely know the price of coffee at the 100 Main Street Café. You might have a good feel for the price of beer at the Beacon Hill Pub. But what is a good price for a blood-pressure monitor at a drug store? \$50?, \$100?, \$200?, 500? If you need one you might visit a few stores to gauge prices. But you still don’t know how much to pay for extra features (or even know what those features are)? Likely you will construct your preferences (vs. price) as you search.

When you don’t know prices, you might be influenced by anchors. For example, suppose I choose a random number between 50 and 250 and tell you that number. I also tell you that it was generated randomly. Suppose it is 79. I might then ask you to guess the price of a blood-pressure monitor. You will be more likely to guess closer to \$79 than someone who was told the random number was 249. This effect has been demonstrated in the laboratory when subjects were actually given the opportunity to purchase unfamiliar products.

We see anchoring often. For example, Bob's Furniture, in a play on words, compares their mattresses (Bob-o-Pedic) to brand name mattresses (Tempur-Pedic). Bob's price of \$999 seems inexpensive by comparison. We also see "end pricing" in the example. A price of \$999 is anchored below \$1,000 while a four-digit price of \$1,001 would be perceived as much larger.



Ad image © Bob's Discount Furniture LLC. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/help/faq-fair-use/>.

We often see comparisons of "sale" prices to "regular" prices. The "sale" prices seem low in comparison because they are anchored to the "regular prices." In April 2013, J. C. Penny ousted its chief executive for lackluster sales. The CEO had instituted everyday fair prices and greatly reduced the number of items on sale. But it turned out that consumers liked sales. As the New York Times stated (April 13, 2013):

"Consumers infer that they get a great deal based on the reference point provided by the higher, presale price. Social scientists refer to this idea as anchoring, and it applies to all sorts of consumer behavior and expectations. Without that anchor, consumers have trouble determining whether the store is actually giving them a good price."

What we infer from "free." We all like something for free, but "free" can backfire. If a product is given away for free, consumer might simply infer a low value to that product. This is especially true when consumers have an otherwise hard time evaluating the benefits of the product. The managerial insight is that a firm must be careful when it offers something for free.

For example, when firms offer new products they face a situation where consumers are reluctant to try to the new products. To encourage consumers to try new products firms routinely "sample" those products. Firms overcome the inference that free = low quality by often "sample" products in small one-use sizes. The behavioral strategy is to provide the consumer with a plausible reason why the product is "free" so that they do not infer a lower quality. If done correctly, the consumer infers "high quality" because the consumer infers that the firm so much believes in its product that it is willing to invest in samples. The effects are subtle, but powerful.

The flip side of anchoring is that high price might connote high quality. High-price anchoring is particularly effective when it is otherwise hard for the consumer to judge quality and/or the consumer actually benefits because the consumer wishes to consume conspicuously to signal to friends and family.

Self-perception. Sometimes we anchor on our own self-image. Charities often exploit this tendency. It is common for charities to request a small favor—they ask you to address a few envelopes or make a small contribution. Once a consumer makes a contribution the consumer feels good about him- or herself. The consumer's self-perception is as the type of person that supports a good cause. The next time the consumer is asked for a larger contribution, the consumer seeks to reinforce that positive self-image and makes a larger contribution. Auto salespeople (you are smart to look at this vehicle) and retail clothing associates (it looks good on you) are particularly adept at using self-perception methods.

Other context effects. There are many other context effects. For example, what is fair? If you are going to pay extra for a "luxury box" at a sporting event, even though it is further from the playing field, the venue might provide special meals, more comfortable seats, and a special elevator to signal luxury and exclusivity. Too much variety can actually decrease sales. In many instances a smaller assortment sells better than a large assortment. A seemingly unrelated offer, such as a less-than-desirable free Collector's Plate with a purchase of Pillsbury's brownie mix, might lower sales (Simonson 1993). An open floor plan might signal luxury. Warehouse-like shelving in Home Depot might signal cost (and hence) price savings. I encourage you to study these and other effects in our advanced courses.

Framing is a general phenomenon. In class we will provide a variety of examples. We'll discuss how two firms framed early prototypes of household robot and we will discuss how an automaker reframed its brand from a stodgy brand for older consumers to an exciting brand for younger consumers. We'll also give examples a website is designed to mimic the way consumers now shop (and how this varies by culture). Once you understand the basic concept of framing, you'll see framing in many marketing campaigns. (Hint: How do BMW films frame the BMW brand?)

Memory Schemata

In the early 1980s the Tylenol brand of acetaminophen experienced a tragic poisoning. A number of consumers died from Tylenol that had been laced with poison. The poisoning was not the result of any actions by Tylenol, but rather the action of a criminal. Nonetheless, consumers associated the poisoning with the Tylenol brand. As a result, Johnson & Johnson, Tylenol's parent, pulled all Tylenol from the market. At the time, no one believed that Tylenol would recover because the image of poisoning would be forever tied in memory to Tylenol.

But Tylenol did recover and they did so, in part, because they understood how images (schemata) are connected in memory. In particular, when they were ready to re-launch the brand, advertisements for Tylenol never mentioned the poisoning nor safety nor any other attribute that might trigger the negative image of poisoning in consumers' memories. Instead, advertisements emphasized Tylenol's long history of reliability. The advertisements featured testimonials by actual consumers. Consumers described how Tylenol had been given to them by trusted doctors. (This was strategy effective, in part, because of Tylenol's long history of "detailing" to doctors who, in turn, recommended Tylenol to their patients.) These and other marketing activities built new memory schemata, or resurrected existing positive schemata. Consumers' memories were so overwhelmed with the new schemata that the poisoning incident became less salient. Tylenol recovered nicely.

Consider the logos in Figure 2. You are likely familiar with some of these, but perhaps not all of them. Choose one with which you are familiar and write down all of the associations you might have with that logo. Do this before reading the next paragraph. By the way, one of these images is just a color. (I hope this works; it might depend upon the way your tablet or computer displays the color.) This color should evoke a particular brand in your mind. Such colors, packaging, and other signals are known as "trade dress." In the US it is illegal for another company to use another firm's trade dress if that use would confuse consumers.

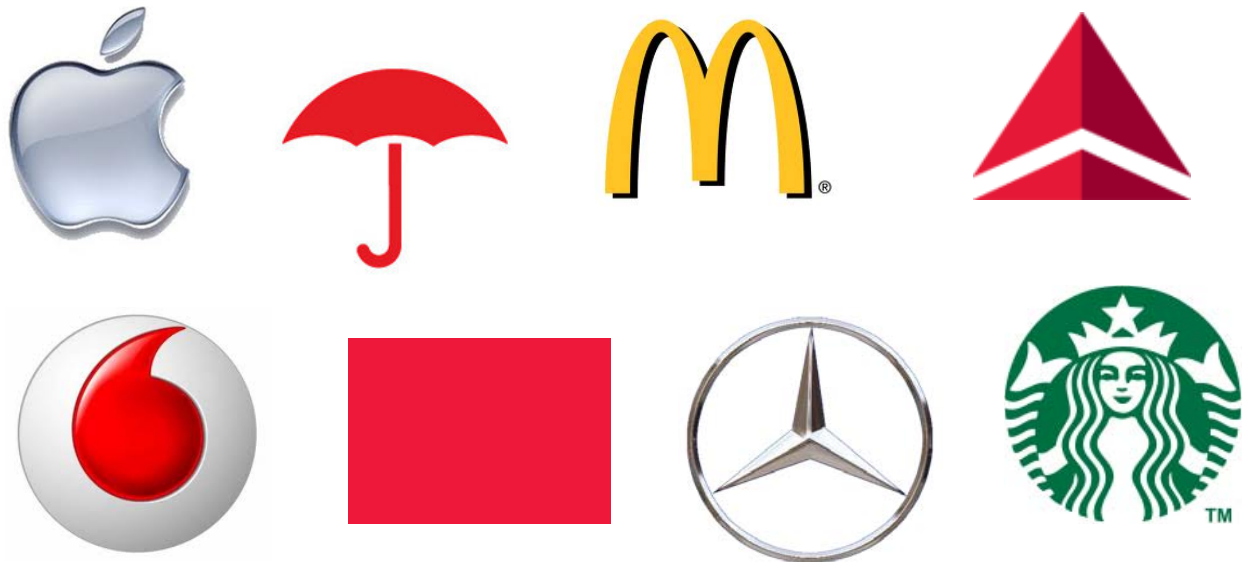


Figure 2. Examples of Brand Logos and Trade Dress

Suppose you chose the Apple logo. You might think of an iPhone or the iTunes store, but you might also think of the Apple Store on Boylston Street, or a friend that has a particularly distinctive iPhone cover, or you might think sleek, modern, or you might remember some of Apple's advertising, or you might think about creativity. In one experiment, Fitzsimmons, Chartrand, and Fitzsimmons (2008) demonstrated that consumers, who were exposed to the Apple logo subliminally, acted more creatively than consumers exposed to the IBM logo subliminally. Logos have meaning through associations. The thoughts or images that spring to mind when triggered by the logos are schemata.

It is useful to think of a consumer's memory as an associative map of schemata. For example, the Apple logo might be associated with the iPhone, but the iPhone might be associated with the friends you call often. The friends you call often might be associated with a particularly fun weekend trip that might be associated with a good meal that might be associated with ...

A brand cannot control all of the images in the associative map of schemata, but it can influence many. I'll continue to use Apple as an example. Some of you will have positive associations and some will have negative associations. That's okay. The memory schemata that the logo triggers will influence how you react to the following example with reactions varying from very positive to indifferent to very negative. Consumers do not come to brands as blank slates; they have a variety of schemata already in memory and those schemata are linked to other

schemata.

Many people associate the iPhone with loading apps extremely fast. Touch an app; it seems to come up immediately. In truth, the app takes a while to load, but Apple's operating system stores an image of the app and loads the image immediately. That image gives the impression that the app is already loaded and reinforces the schemata of instantaneous access.

Managers have many ways to influence the schemata of brand associations. Besides product features (fast loading), Apple might choose a design. For example, the image they seek with the "off" screen is a "black oily pond." Very little intrudes on this image. But Apple also advertises heavily on television. The advertising includes both features and usage. Presentations at product launch, images on the web, word of mouth, blogs, publicity, and other communications all influence the schemata associated with Apple. Figure 3 provides just a few of these many images that are readily available on the web.

Many of the images in Figure 3 are positive and stem from Apple's advertising over the years. Others are negative. For example, a Samsung advertisement sought to challenge Apple's innovativeness and youth image (images in the lower right), viral images of Apple as a corporate giant (gold bars in the middle), the PC World devil logo, or the challenge to digital rights management (reworked iPod image at the bottom) are all negative images.

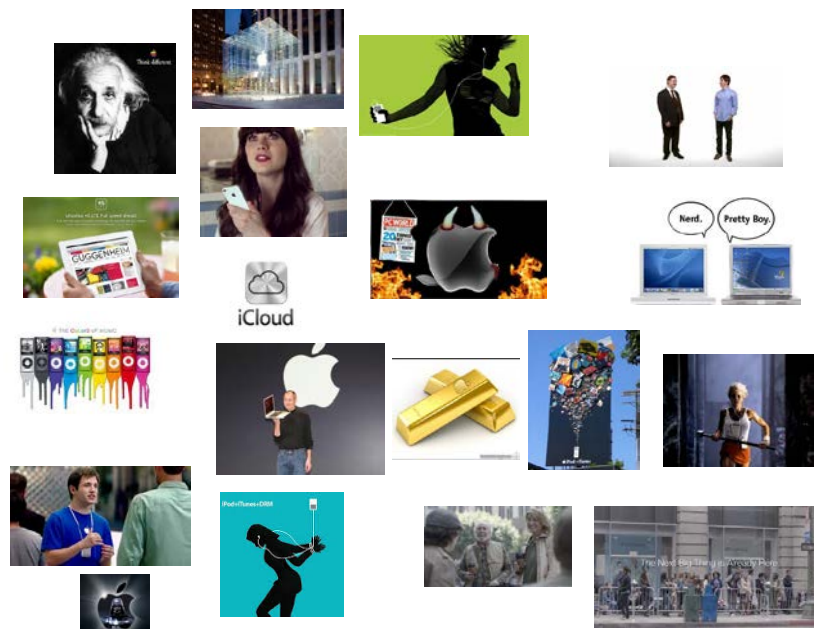


Figure 3. Images Associated with Apple

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Managing a brand image means managing schemata. Communications, whether they be corporate spending (Apple spent \$420M advertising in 2010; 90% of that was on television), earned publicity, or viral campaigns are all means to introduce and reinforce positive schemata or to overwhelm negative schemata. All actions by a corporation or brand influence schemata, and sometimes not in a positive way. Martha Stewart's legal troubles did not help her brand (nor did the Saturday Night Live spoofs).

The lessons are (1) understand the schemata associated with your brand, (2) understand how those schemata are linked in consumers' memories, (3) choose the schemata you want to link to your brand, (4) design products and communications strategies to create and reinforce positive schemata, and (5) avoid actions that trigger negative schemata. In class we will demonstrate a few strategies.

Summary

Consumers make decisions based on the information that they have. Some of that information comes from context, some from memory, and some is controlled by a brand's actions. Consumers will often "fill in the blanks" and, by this very action, make decisions that do not seem rational. Marketing managers can design better strategies if they understand these behavioral phenomena. We reviewed framing and memory schemata. These are two extremely important behavioral phenomena; but they are the tip of the iceberg.

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