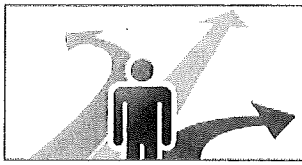
UXmatters



Decision Architecture

Designing for decision making

# Abundance of Choice and Its Effect on Decision Making

**By Colleen Roller**

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In my last column, "Decision Architecture: Helping Users Make Better Decisions," I talked about how people make decisions and what affects their decision-making process. Although it's a common assumption that people are largely goal oriented and know what they want, research on decision making has shown that our preferences are actually quite malleable—especially when we encounter something new.

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What affects decision outcomes most is the actual *context* in which people make decisions. All kinds of things affect decision making—the type of decision someone is making, the decision maker's level of expertise, the number of options available, the way and order in which options are presented, and many others. This column examines how the number of available options affects the decision-making process.

Studies have shown that people do like to have choices. Decades of psychological theory and research have demonstrated that giving people the ability to choose increases their intrinsic motivation, perceived control, task performance, and overall life satisfaction and happiness. But many of these studies offered people only a limited number of options, which they could easily differentiate and evaluate.

Current research shows that, as the number of options increases, so does the level of complexity of the decision itself. Although people are inherently attracted to having lots of choices, when it comes to actually choosing from among a large number of options, people often find themselves paralyzed and unable to make a decision. Why is it that an abundance of choice can become so overwhelming?

## The Complexity of Decisions

According to Sheena Iyengar, a business professor at Columbia University, decision making involves three distinct mental tasks:

1. Knowing what you want
2. Understanding what options are available

3. Making tradeoffs between the available options

People feel most confident in their decisions when they understand the available options and can comfortably compare and evaluate each one. It's easiest to evaluate the options when there are only a few of them, and they are easily distinguishable from each other. As the number of options increases, the evaluation process can become overwhelming and intimidating, especially when it feels like making a choice requires expert information or skill.

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People also feel a need to make the *right* decision—even when there might not really be a right or wrong answer. In my last column, I mentioned that people often feel they need to justify their decisions—both to themselves and to others. In abundant-choice situations, people become unsure of themselves as they grapple with the burden of judging the differences between good and bad choices. People always fear making a wrong decision, which can lead to feelings of regret. People are particularly averse to the experience of regret.

As the complexity of a decision increases, people experience conflict. They become concerned about their ability to properly evaluate the options, make the right tradeoffs between them, and make the right decision. Determining what tradeoffs to make is particularly difficult for people, especially when there are numerous options, and those options are either very similar or very different from each other. I'll talk about this more in my next column.

## What the Research Says About Abundance of Choice

Many studies have examined the effects offering either a very limited or an extensive set of options have on decision making. In a study using Godiva chocolates, [1] participants selected a chocolate from either a limited selection of six or an extensive selection of thirty chocolates. Researchers were primarily interested in learning about people's level of satisfaction with the selection process itself, their expectations about the selection they had made—before actually consuming the chocolate—their actual level of satisfaction with their selection once they had consumed it, and their willingness to choose again at some point in the future. The findings were instructive:

- :: As participants made their selection, they said they experienced more enjoyment when choosing from a display of 30 rather than from a display of six options.
- :: However, participants who chose from a set of six options later reported feeling more satisfied with their choice, and they were more likely to want to choose again, in comparison to those who had chosen from a set of 30 options.

What's interesting about this study is that the implications of making this decision were minor. Surely, there's no great risk of loss in choosing the wrong chocolate. And yet, even in this study—in which choice should be more about personal preference than making the right choice—it's apparent

that giving people an abundance of choice still had a demotivating effect.

## Decision Strategies

When people encounter an abundance of choice, they typically do one of two things to deal with their feeling of overload:

1. They either decide *not* to choose—perhaps surrendering the decision to someone else.
2. They adopt strategies that simplify the decision-making process.

In my last column, I talked about people's sensitivity to the work of decision making. Their primary goal in decision making is to arrive at the best possible result with the least amount of effort. As the number of available options and the information about those options increase, people tend to consider fewer options and to process a smaller amount of the information about each of those options.

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People use a variety of strategies to simplify the decision-making process. Two common strategies are

- :: **satisficing**—When people adopt a *satisficing* strategy, once they find the first option that meets some predefined criterion or set of criteria, they stop considering new options. Since a decision based on satisficing depends on the order in which people consider options, a different ordering of the options may yield a different decision outcome.
- :: **elimination**—When employing an *elimination* strategy, people use some criteria for the purpose of ruling out, or eliminating, options from the set of options under consideration, with the goal of reducing the size of the choice set and making a choice more manageable. An elimination strategy is a useful means of pruning down the number of options to a set a person can reasonably scrutinize in detail, thus facilitating a choice.

## Lessons for Design

Offering extensive choice works fine when users are sophisticated or expert in a domain—such as when people have very narrow and distinct preferences in music or rare books. Generally, however, whenever it's possible to limit the number of options, this should be your first plan of action. It is worth your considering that selecting an option from a limited choice set leads to better performance than selecting that same option from an extensive choice set.

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Research shows that, when choosing a purchase from a limited number of options, people feel more confident in choosing and more satisfied with their choice once they make the purchase. Plus, they are subsequently more likely to want to make a choice again. Cognitive research suggests that people are able to keep track of a maximum of only five options at a time. But depending on your audience and domain, even five options may be too many. It's up to you to do the research and find out what works for

your users.

Doing your research and asking the right questions is critical to designing well for users' decision making. Know your audience. What are the emotional drivers that affect their gut-level decision making? What criteria do they use when making decisions? What concerns do they have? What can you glean about users' decision making from your Web site analytics?

For one project I worked on, users' primary objective was to save money. However, they were also concerned about the Web site's delivering on the promised service—whether it was dependable and who they could contact if something went wrong. They weren't willing to opt for savings until they were convinced it was safe to do so. These requirements provided the focal point for the design.

People want decision making to be as easy as possible, and they use predictable strategies to simplify the process when it becomes too complex. Always remember that people's goal is to make the best decision with the least amount of effort. As UX designers, it's up to us to design user interfaces that make people feel their decision-making process is easy.

## Strategies for Design

There are several approaches UX designers can employ to simplify users' decision-making process. Depending on your domain, the particular design problem, and the audience, some of them will work better than others. These design approaches include the following:

*"There are several approaches UX designers can employ to simplify users' decision-making process."*

- :: Provide expert help or advice, especially if you are well-respected in your domain.
- :: Offer a recommended option and, if necessary, explain why you've recommended it.
- :: Follow the 3x3 rule, in which a user chooses three times from a total of three options each time.
- :: Offer to help a user to decide. This assistance could take the form of a wizard or a short survey.
- :: Chunk options into categories to make them more manageable. But make sure the category names are both usable and meaningful to your target audience.
- :: Display an extensive set of options, while enabling users to easily narrow them down by applying filters for multiple criteria. This common approach is effective only when users have a clear idea of which criteria to manipulate.
- :: When users must make a series of decisions, present options progressing from the simple to the complex.

Let's look at some examples of Web sites that have applied these design approaches. Figure 1 shows an example of a wizard on Onlineshoes.com that helps users determine what type of running shoe to buy. A key benefit of a wizard or survey is that it communicates the right criteria for a decision, thereby providing expert guidance.

**Figure 1**—A wizard on Onlineshoes.com provides expert guidance


The next two examples show two approaches to categorizing wines. Wine.com takes a traditional approach, providing a navigation bar on the left that lets users browse different groupings of wines, as shown in Figure 2. This may work fine for users who have more than just a novice understanding of wine.

**Figure 2**—Groupings of wines on Wine.com

wine.com

wine shop | fine w

Enter keyword

**Shop for Wine**

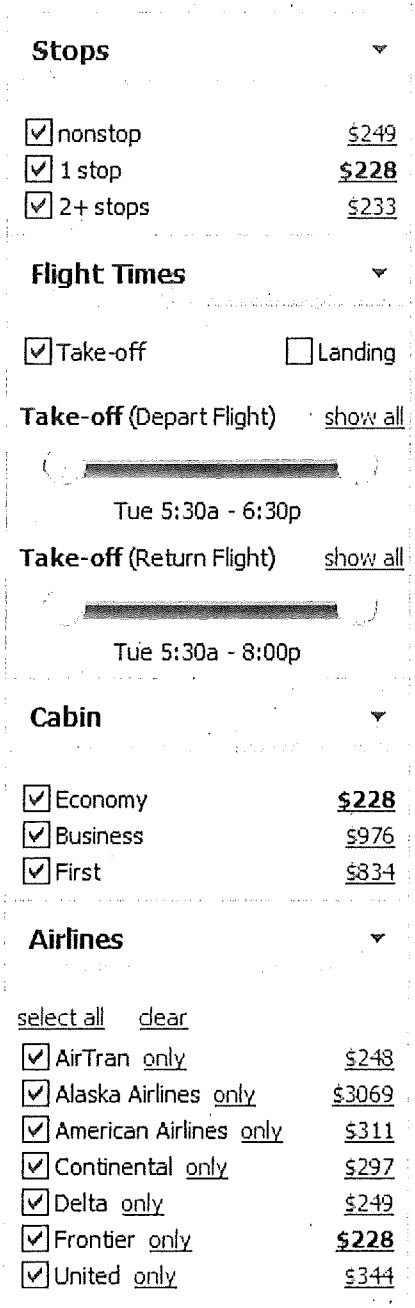
- 90+ rated under $20 +
- Best Wine Deals +
- Fine Wine +
- Type/Varietal +
- Style of Wine +
- Region +
- Rating Source +
- Wine Finder

In contrast, by focusing on how wines actually taste, Best Cellars offers a categorization scheme that is clearly better suited for novices.

**Figure 3**—Flavorful categories of wines on Best Cellars

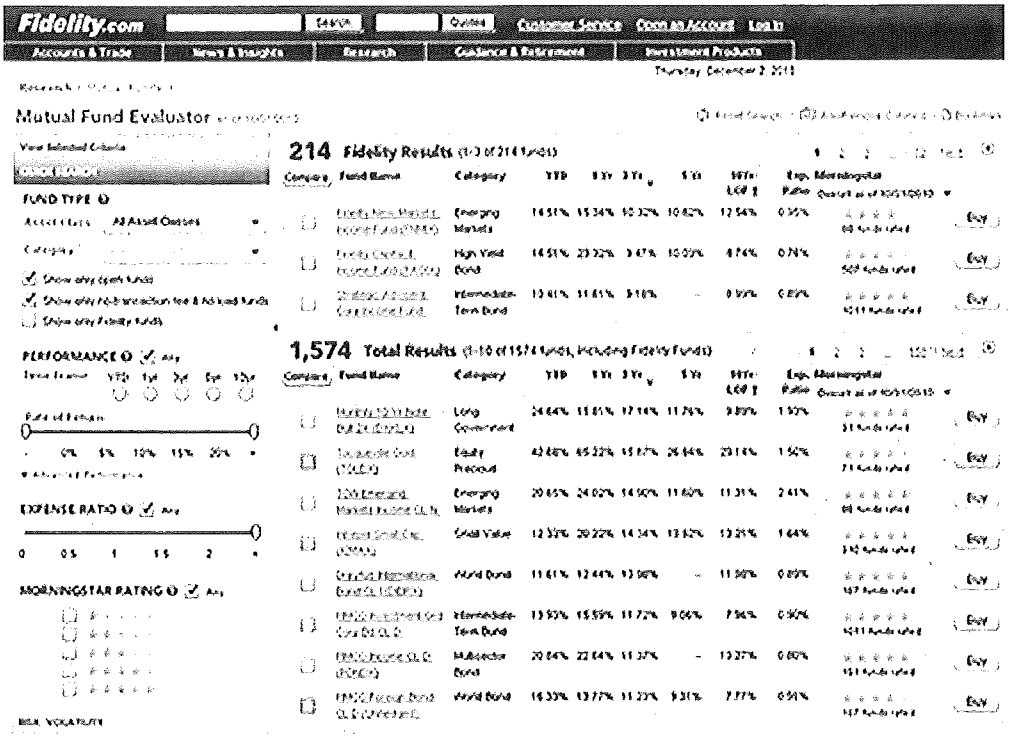

On Kayak.com, filtering works well when customers are choosing an airline flight, because they have clearly defined parameters and preferences a flight must match.

**Figure 4**—Filters help customers choose flights on Kayak




Fidelity.com uses a similar design for selecting mutual funds. While their filters might work great for experts, they might not work at all for novices. Novice investors would not know which criteria to manipulate or how, because they don't know what they need. (In recognition of this, Fidelity does provide an alternative approach to selecting funds for novice investors.) For mixed audiences, present just a handful of the most popular options, along with a way to see more. Novices would likely be content with the handful of options they can readily see, while experts could easily view additional options.

**Figure 5**—Filters better suited to experts, on Fidelity.com

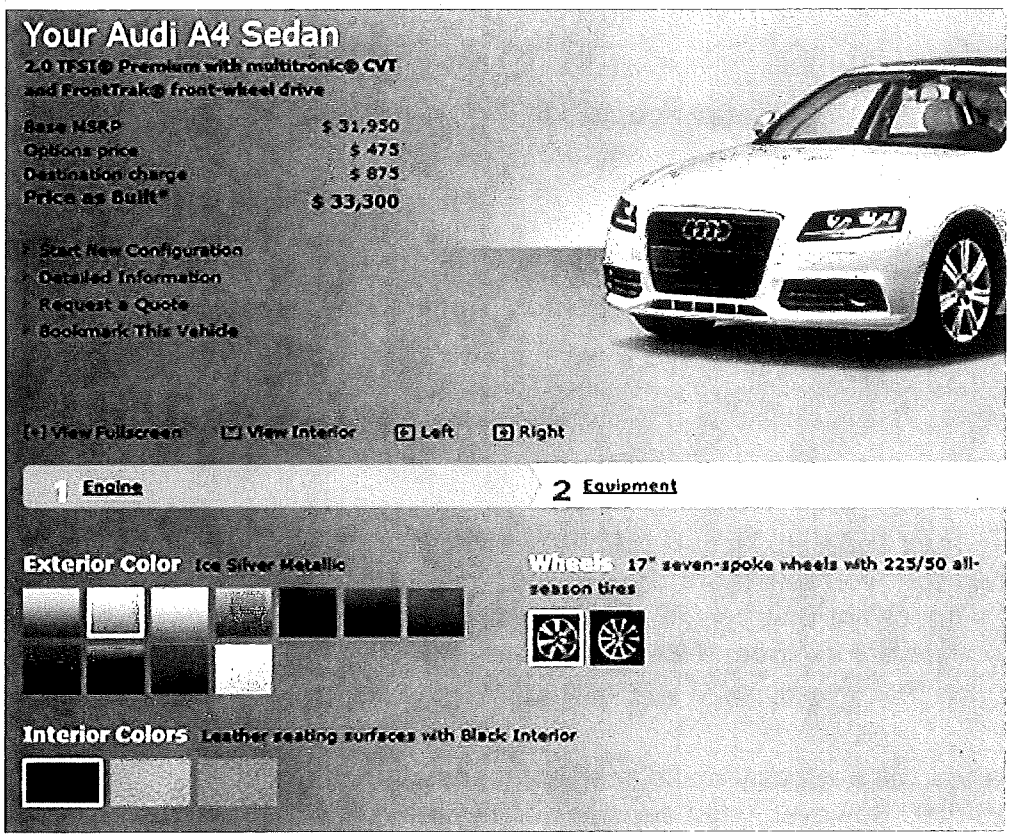



In situations where users must proceed through a series of decisions, it's most effective to have them move from the simple to the complex. Researchers observed two groups of car buyers who built their cars to order using the Audi Web site. [2] One group started the process by first selecting the interior and exterior colors of the car, for which there were 56 and 26 different options, respectively. From there, the choices became easier, because each of them involved fewer options.

The second group of car buyers encountered the same choices, but in the opposite sequence—starting with the interior décor and gearshift styles, which had only four options each. The first group of car buyers had a significantly harder time choosing. They started the process by considering each option carefully, then became overwhelmed and fatigued. In the end, they were much less satisfied with the experience than the second group, who started with decisions involving fewer options.

*"In situations where users must proceed through a series of decisions, it's most effective to have them move from the simple to the complex."*

**Figure 6**—Choosing colors on Audi.com today




Having people tackle a series of decisions by starting with the easier ones first—thus, moving from the less complex to the more complex—often has the advantage of providing context and helping people build their understanding of the big picture and envision what final outcome they want.

## Making a *Good Enough* Decision

It's all too easy to get so mired down in the complexity of a domain that you lose sight of keeping things simple for users. When designing for users' decision making, always keep this key question in mind: Is it most important for users to make absolutely the *right* decision, or is it sufficient for users to make a *good enough* decision?

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When a decision feels too complex, people either *don't* decide at all, or they employ ways of simplifying their decision-making process. Unfortunately, the simplification strategies they use don't necessarily yield the best decision outcomes.

If users don't decide, no one really wins—not you, your business partners, or your users. But when users make *good enough* decisions—that put them in a better place than they are today—it becomes a win/win/win situation. This is what optimal decision architecture is all about.

### Notes

[1] Iyengar, Sheena, and Mark Lepper. "When Choice Is Demotivating: Can One Desire Too Much of a Good Thing?" PDF *Journal of Personality and Social Psychology*, 2000, Vol.

79, No. 6.

[2] Levav, Jonathan, Mark Heitmann, Andreas Herrmann, and Sheena Iyengar. "Order in Product Customization Decisions: Evidence from Field Experiments." PDF *Journal of Political Economy*, 2010, Vol. 118, No. 2.

Topic: Columns | Decision Architecture | Human Factors | UX Design

## 2 Comments

**Dan Seward** wrote:

Hi Colleen,

Useful article, this stuff is fun to read and think about! I do have some feedback on your very last paragraph: you've left out the "feeling" component. While it is definitely important that people make decisions that leave them better off than they were before, from a UX perspective, it's also really important that they *feel* that way about the decision they've made, too.

One could argue that bad decisions will obviously make people unhappy in the long run, and I'd agree with that. However, good decisions don't always feel like good decisions, even though they may play out positively. A big part of this is enabling people to feel that they've made the best choice for them in their unique situation. There may be other choices that would have worked out as well or better, but if they have reason to believe—head or gut—that their decision was not sound, they won't be satisfied.

The article hovers around this point and illustrates it somewhat with the chocolate example, but I think it doesn't state it explicitly—apologies if I've missed it. Seems like it should be a core goal of "decision architecture" as a UX discipline to me!

Dan

December 23, 2010 8:09 PM | Reply

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**Colleen Roller** wrote:

Hi Dan,

Thanks so much for your thoughts. I totally agree with you! People's perception—how they feel about something—*is* their reality. We definitely need to keep this in mind as we design for optimal decision architecture.

Colleen

January 3, 2011 9:34 AM | Reply

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## Join the Discussion

Asterisks (*) indicate required information.