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The effect of default options on choice—Evidence from online product configurators

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ABSTRACT

Many firms use product configurators to enable customers to specify their desired products online. In such systems, defaults are pre-specified for levels of product features by the manufacturer or dealer. For example, when configuring a racing bike online, a default is predefined (e.g., the Shimano Ultegra model) for all required features (e.g., the gearshift levers). Such defaults, which may even adapt to previous choices, ensure that a functional and fully defined product emerges at the end of the configuration process. However, when designing sales systems, companies often fail to realize that these defaults also affect customer decision-making. We demonstrate the effect by a study that makes use of a fully simulated racing bike configurator. We find the following results: Moving the default of one feature (e.g. wheels) from the lowest to the highest level results in an increase in sales. In addition, the feature level defined as the default also acts as a reference point by increasing the sales of levels near to it. In order to maximize sales, the default should be set at the level of a feature that is between the medium and the highest price level. To conclude we discuss how manufacturers and dealers subtly yet powerfully influence the decision-making process with their sales systems.

1. Introduction

In the age of mass customization, consumers can design their own personal watches (www.121time.com) and then design a shirt to match (www.99dogs.com; Franke et al., 2010; McFarland et al., 2006). Even cars are being put together by customers in configurators; in the German market, for example, over 70% of car customers configure their vehicles online. It is estimated (www.configurator-database.com) that worldwide, more than 40,000 configurators are in place in virtually all industries, allowing customers to design their own products (Soopramanien and Robertson, 2007; Chang and Burke, 2007; Burt and Sparks, 2003).

When designing a product with a configurator, customers must be able to make decisions as to the desired level (e.g., 90 hp) of all required attributes (e.g., the engine) of a product (e.g., a car). Companies support customers in this by providing defaults for these features (Brown and Krishna, 2004). Defaults are the pre-set options that customers will receive unless they make an active choice to change them (Park et al., 2000). They are commonly observed in online configurators, which present consumers with dealer-specified levels for all product attributes. Besides their significance for creating a product that actually works, defaults also play a decisive role in the customer decision-making process (Hsee and Rottenstreich, 2004). They serve as an anchor with which the other available options can be compared (Payne et al., 1993). Empirical studies show that defaults have a powerful effect on consumer choice and companies' profits (Johnson et al., 2002). Consider the following examples (Goldstein et al., 2008):

(1) A national railroad implemented a simple change to its Web site, making the purchase of seat reservations the default, unless a box was unchecked. Before the change, 9% of tickets included reservations, and after, this figure rose to 47%, bringing the railroad an estimated 40 million more dollars in annual revenue. (2) A major car manufacturer, like many of its competitors, created its online order-taking software to suggest the cheapest attribute levels as the defaults. Changing this default led people to choose vehicles with higher-end features, raising the sales price by just over 1000 Euros with no decrease in customer satisfaction, short or long term.

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In numerous studies it could be proven that defaults influence decision-making behavior independent of the type of product or attribute and independent of the characteristics of the consumers (Johnson et al., 2002; Madrian and Shea, 2001; Schkade and Kahneman, 1998; Kahneman et al., 1990; Kahneman and Tversky, 1991). Brown and Krishna (2004) show that customers who suspect the company intends to improve sales with defaults refrain from selecting the default. A study by Park et al. (2000) shows that consumers who start with a fully equipped model and have to deselect the attributes not desired, will ultimately choose a more expensive product than consumers who start from the stripped down model and have to add the desired attributes.

While the powerful effect of defaults is now becoming well known (Ariely, 2008; Thaler and Sunstein, 2008), less is known about how consumers will respond to defaults in all but the most basic scenarios (usually a simple opt-in or opt-out default that is set by a firm). Almost all contributions focus on the acceptance or rejection of the default and take no account of its effects on the perception and appraisal of all other feature options (McKenzie et al., 2006; McKenzie and Nelson, 2003). As a result, two important questions are still unanswered: (1) In most product configurators (e.g. for cars) the defaults for the individual attributes are mostly set to the lowest levels in terms of price (e.g. defaults are on the cheapest engine, cheapest color, etc.). Consequently, it is necessary to analyze the effects of defaults set on higher-priced attribute levels. (2) The attributes (e.g. engine) of many products (e.g. cars) mostly comprise not just one level, but rather consist of numerous levels (90, 130 hp, etc.). In order to design product configurators, it is important to know what feature levels to use as defaults so that sales can be optimized.

An answer to these questions should show the economic potential that can be found in shifting the default from the lowest price level of an attribute to higher price levels. This potential is interesting since the costs that would be incurred through shifting the default are basically zero.

The remainder of this paper is organized as follows. First, theories will be suggested to derive hypotheses and predict the effects of defaults. Second, we conduct experimental studies to measure the effects of defaults on sales and to ascertain the optimal default settings needed to maximize sales. Third, a validation study serves to clarify the importance of the experimental results for the design of product configurators. In conclusion, implications for the design of online configurators are drawn from the empirical findings. In addition, a theoretical discussion about the effects of defaults on the decisions of consumers will take place.

2. Theoretical framework

In keeping with Brown and Krishna (2004), a default can be interpreted as an option that the individual receives to the extent that s/he does not willingly decide on something else. Many dealers implement defaults and thus influence the likelihood that a particular item is chosen. The explanation offered by existing research supports the characterization of consumers as accommodating the biases imposed by the default. Brown and Krishna (2004) present three explanations for this: attention-based default effects, default effect due to processing distortion, and metacognitive default effects.

2.1. Attention-based default effects

Consumers consider defaults in order to reduce the cognitive effort that is required to make a decision (Johnson et al., 2002). With respect to effort being responsible for default effects, recent studies show that individuals employ cognitive resources in the project appraisal and the decision-making process (Levav et al., 2010). However, as these resources are limited, the more decisions reached in succession, the fewer resources remain to devote to reaching subsequent decisions. This phenomenon, termed the depletion effect, can be lessened if the individual does not undergo a demanding selection process, but decides instead in favor of the default (Desmeules, 2002). Default selection thus makes the decision-making process easier by demanding fewer cognitive resources.

Customers might interpret a default as a recommendation of the retailer to select an option. This phenomenon has been confirmed in multiple experiments by McKenzie et al. (2006). They show that although individuals may consider a default as a suggestion, they always make assumptions about the company's reasons for using a particular default. Indeed, customers frequently assume that, in addition to sales, companies focus on specific feature options to associate their products with a certain level of quality in the marketplace. In this respect, defaults are used to equip products with specific features and thereby contribute to their intended positioning.

2.2. Default effect due to processing distortion

Park et al. (2000) show that consumers orient themselves to the default, but do not manage to distance themselves from this anchor to make a selection in accordance with their own preferences. The authors instructed participants to configure a product from one of three different categories (i.e., cars, computers, or treadmills) with options being considered in either an additive or subtractive fashion. In the additive condition, participants were exposed to a base product and asked to add options, whereas in the subtractive condition participants were exposed to a fully loaded product and deselected undesired options. As expected, participants chose more options when asked to subtract (rather than add) options to a product. Levin et al. (2002) replicated these findings with an inexpensive, nondurable product (i.e., pizzas) in a cross-cultural setting.

Park et al. (2000) suggest that this anchoring on defaults can be attributed to loss aversion (i.e., losses loom larger than gains for identical amounts; Kahneman and Tversky, 1979). Under additive framing, consumers compare gains in utility (i.e., the increase in value incurred by adding a feature) against an economic loss in expense. Under subtractive framing, consumers compare a loss in utility (i.e., the decrease in value incurred by deselecting a feature) against an economic gain in price savings. Thus, consumers should be more sensitive to utility losses following subtractive framing, whereas they should be more sensitive to economic losses following additive framing. As such, consumers engaged in subtractive framing may be more reluctant to delete a feature (a loss in utility) than consumers engaged in additive framing would be to include that feature (a loss in economic income) (Levin et al., 2002).

2.3. Metacognitive default effects

Whether consumers follow the default in their decisions depends on whether and how they interpret the company's signal. Wright (2002) developed the concept of marketplace metacognition for this, which expresses the consumers' social intelligence about the marketplace. This includes all cognitive skills that consumers use to make good decisions in the market. As a result, the extent to which customers accept defaults depends on their marketplace metacognition (Campbell and Kirmani, 2000), meaning consumers tend to ask themselves to what extent the default is in the company's best interests (Jain and Posavac, 2001).