Examining the Global Boundaries of Mass Customization: Conventional Configuration Procedures Clash With Holistic Information Processing

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A large-scale field study and three cross-cultural experiments demonstrate that conventional mass customization is in conflict with holistic information processing. Specifically, attribute-by-attribute configuration (vs. choosing from prespecified alternatives) reduces product evaluations of East Asian consumers while priming habitual processing styles can increase product evaluations both in the East and West.

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EXTENDED ABSTRACT

Prior research revealed that information processing is inherently tied to an individual’s cultural background. Specifically, Easterners share the belief that different pieces of information coexist independently and thus process visual information more holistically, whereas Westerners share the belief that each item exists autonomously and therefore process information more analytically (Nisbett and Masuda 2003). Companies that provide similar user interfaces to consumers across markets do not take these important cross-cultural differences into account and may not market their products most effectively (Haig 2011).

This shortcoming is particularly pronounced for product self-design systems that allow consumers to express their unique preferences (Simonson 2005). While the popularity of such customization systems is increasing among consumers, manufacturers still employ nearly identical user interfaces around the globe. For example, consumers configuring an automobile at Audi’s country-specific websites in North America, Europe, or Asia always walk through exactly the same configuration process: first prospective car buyers select a model, an exterior color, and their preferred rims, followed by a number of interior features and add-ons. We propose, and find support based on both lab and field data, that such attribute-by-attribute customization (Valenzuela, Dhar, and Zettelmeyer 2009) is not uniformly beneficial to all consumers; they may be effective for Western consumers but less so for East Asians, given their habitual, more holistic information processing style.

In study 1, which examined whether conventional attribute-by-attribute customization may be suboptimal for East Asian consumers (e.g., Japanese or Chinese), we collected field data in cooperation with a large European car manufacturer. The key dependent measure was the conversion rate of customers when configuring a car online. The dataset included 1,360,991 unique page visitors who configured their car using the company’s online car configurator. In line with our proposition, attrition during the configuration process was significantly larger for consumers in East Asia (vs. North America). This general trend is also reflected by substantially lower dealer request rates and lower return rates to the company’s car configurator in East Asian markets. These analyses of over a million prospective car buyers across various markets provide a first hint toward conventional MC systems being less beneficial to East Asian consumers. However, the reported findings have limitations: they are based on correlational data and do not necessarily indicate causation. Subsequently, we examined the effect and underlying process in a controlled setting.

Our key hypothesis was that consumers experience more mental simulation of product use and evaluate their customized product more favorably if a mass customization system matches consumers’ habitual processing mode. To test these predictions, we designed three experiments involving prospective car buyers in Singapore and Germany. In the experiments, participants configured a car using a mock-up configurator of a large European car manufacturer. Participants were randomly assigned to one of two predominant choice architectures: attribute-by-attribute customization versus choosing from prespecified alternatives. In the former architecture, participants customized their car sequentially, selecting an option (e.g., phantom black) for each of three attributes (e.g., exterior color). In the prespecified choice architecture condition, participants chose a car from a set of already prespecified alternatives. We controlled for the overall attribute space such that the prespecified alternatives resembled all possible attribute combinations of the attribute-by-attribute choice architecture. Before consumers configured their preferred car, they completed the Kimchi similarity task (Kimchi and Palmer 1982) to assess their culture-specific habits of information processing.

In line with our predictions, study 2 (N=142) revealed that when Singaporeans (vs. Germans) used the prespecified (vs. attribute-wise) choice architecture, they experienced an increased ability to mentally simulate using the car, and were more satisfied with their choice. In line with our prediction, these effects were moderated by consumers’ information processing styles such that the influence of a prespecified choice architecture was amplified for consumers with a more holistic processing style and vice versa. In study 3, we tested whether priming consumers with their habitual processing style (i.e., priming Easterners holistically and Westerners analytically using the Navon letters task; Förster 2009) may offset the detrimental effects of an attribute-by-attribute choice architecture. As predicted, study 3 (N=713) revealed that priming Singaporeans with a holistic processing style before using the attribute-by-attribute architecture increased mental simulation as well as choice satisfaction. For Germans, priming them with an analytic processing style before using the prespecified choice architecture also increased mental simulation and choice satisfaction. In sum, priming consumers with their habitual processing style increased their experience with rather unfamiliar customization formats. In a final study, we aimed to replicate the previous findings by employing a more realistic priming technique. We therefore created two 45s videos based on the company’s TV commercials that were displayed without sound to reduce confounds. The “holistic video” included scenes that are closely related to holistic perceptions by focusing on overall broad-based characteristics of a car, such as power and safety. In contrast, the “analytic video” included scenes highlighting single product items, such as xenon headlights and features of the multimedia system. A pretest (N=202) confirmed the intended priming effect of the videos on the Kimchi similarity task and also revealed that consumers remembered more single car items after being primed with the analytic video. Using these realistic stimuli, study 3 (N=853) replicated the previous effects; the priming of habitual processing styles increased consumers’ satisfaction with their product if they used a customization format that is not tailored to their habitual mode of information processing.

This research provides evidence that firms can benefit from tailoring the provided choice architecture to customers’ culture-specific information processing styles, therefore contributing to both the emerging field of cross-cultural consumer psychology and marketing (Burton 2009). Thus, consumers’ information processing styles establish an important boundary condition for the success of choice architectures in international markets. Given the increasing individualization of East Asian markets and the constant rise of mass customization, the current research provides a new lens on how culture-specific information processing can be aligned with interactive choice environments.
REFERENCES