

**One-of-a-Kind Products:
Leveraging Strict Uniqueness in Mass Customization**

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Abstract

This research examines product uniqueness in its most pure form—products that are literally one of a kind. It does so in mass customization (MC) settings where consumers configure their own products. Due to extremely large solution spaces that are typically available in MC, a specific product configured by a consumer is often one of a kind in that it has never been produced before. How might firms leverage such strict product uniqueness to enhance consumer value? A natural way of doing so is to simply inform consumers that the product they have configured is one of a kind—through a feedback message that is either present-oriented (e.g., “this specific product has never been produced before”) or future-oriented (e.g., “this product will remain one of a kind in perpetuity”). Evidence from five experiments, including a large-scale field experiment, shows that one-of-a-kind feedback can cause a substantial increase in consumers’ product valuation. This value-enhancing effect of one-of-a-kind feedback specifically occurs in product domains that are primarily matters of subjective taste. By contrast, such feedback tends to reduce consumers’ product valuation in domains that are primarily matters of objective quality. These findings advance our understanding of the concept of product uniqueness, and of how firms can harness the one-of-a-kindness of mass-customized products to unlock consumer value.

Keywords: mass customization, one-of-a-kindness, product uniqueness, automated feedback, subjective taste, objective quality

1. Introduction

Consumers value uniqueness. This research proposes that they particularly value what is one of a kind—and not merely few of a kind. From artworks to collectibles, one-of-a-kindness is linked to high value and appreciation. Handmade artworks and more recently non-fungible tokens (NFTs) in the context of digital art command exceptional prices due to their inherent quality of being one-of-a-kind. The same holds for collectibles such as stamps, where one-of-a-kind specimen capture record prices. The value potential of one-of-a-kindness is particularly relevant for mass customization (MC) systems, where the likelihood of creating one-of-a-kind products is typically high due to large solution spaces. How can companies operating these systems leverage the value of one-of-a-kind products?

Imagine the following scenario: A sneaker aficionada customizes her sneakers online through an MC system. The system allows her to select the color of 20 different sneaker attributes—for each one, she can choose from 50 colors. After some trial and error, she comes up with an appealing configuration. Before adding the sneakers to her cart, she receives the following feedback: “Your sneakers are one of a kind. You are the first person to ever create this product configuration.” Does this message about her sneakers being one of a kind add value for the aficionada? And if so, more so than if she was informed that her sneakers were merely among a few of a kind?

Objectively speaking, such feedback should not create value for the aficionada. Given the vast number of options consumers can typically choose from in MC systems, any mass-customized product is highly unique. Indeed, most mass-customized products may even be *one of a kind* in that they have never been produced before. In our example, there are 50^{20} possible product configurations (i.e., a 34-digit figure). It is thus unlikely that a specific configuration has been chosen before. A rational consumer, experiencing this vast solution space, will account for

the high likelihood of a one-of-a-kind product in her valuation. Consequently, the feedback will not provide any noteworthy new information.

If, however, the aficionada underestimated the likelihood, or simply did not consider that her sneakers are one of a kind, the corresponding feedback might reveal an otherwise untapped source of value. Even if she thought that her sneakers might be quite unique, could the information that her sneakers are one of a kind—and not merely among a few identical ones configured before—affect her valuation? In fact, many instances in consumers' lives (e.g., romantic partners, collectibles) indicate that one-of-a-kindness is disproportionately superior to less strict forms of uniqueness. Thus, informing consumers that their configurations are one of a kind might represent a significant opportunity for MC system providers, as such systems enable the creation of one-of-a-kind products at scale. It would be straightforward and inexpensive for firms to benefit from products that are one of a kind by implementing an automated feedback function based on a simple database query of past sales.

Building on prior work on value generation in MC (Franke, Schreier, & Kaiser, 2010) and the literature on product uniqueness (Lynn & Harris, 1997), we theorize that providing consumers with automated feedback about their product being one of a kind enhances their valuation of that product. Consistent evidence from five experiments including a large-scale field experiment shows that feedback identifying customized products as one of a kind can substantially enhance consumer value as reflected in higher conversion rates, more favorable product attitudes, and greater willingness to pay (WTP).

The current research makes three key theoretical contributions. First, we conceptualize and examine the consequences of strict product uniqueness: one-of-a-kindness. We demonstrate that one-of-a-kindness is distinct and more effective than less strict conceptualizations of uniqueness (i.e., merely being rare, scarce, or few of a kind). Second, we show that automated

business-to-consumer (B2C) feedback on a product being currently one of a kind or remaining so for the future can be used to leverage uniqueness in MC, thus providing novel avenues for creating value controlled entirely by the MC provider. Third, we demonstrate a product-level boundary of the positive effect of uniqueness in MC, in that one-of-a-kind feedback can negatively impact the subjective value of configured products that are primarily matters of objective quality (vs. subjective taste). Our findings have direct practical implications: Firms offering MC for products that are primarily matters of subjective taste may consider providing automated feedback to inform consumers that their product is one of a kind.

2. Theoretical background

2.1. Uniqueness as value driver in mass customization

Uniqueness in MC is defined as “the extent to which the customer regards the product as different from other products” (Franke and Schreier, 2008; p. 95) and has been shown to drive value. In MC, consumers can tailor products to their unique personal preferences, which translates into increased valuation of the customized good (Franke & Schreier, 2008; Schreier, 2006). Despite its importance, uniqueness has received relatively little attention in MC research (Franke & Schreier, 2008; Schreier, 2006; Yin et al., 2020). A literature review of behavioral marketing research on MC shows that only 8 (18%) of 44 reviewed articles focused specifically on uniqueness (see Web Appendix A). This is surprising, given that MC practice explicitly recognizes the value of uniqueness: Companies leverage the supply of uniqueness inherent to MC to generate value. Numerous industries—particularly those where consumers esteem expressing their unique preferences—employ MC, from fashion and sneakers (e.g., Nike By You, Vans Custom) through consumer electronics (e.g., Dell, HP) to mobility (e.g., Audi, BMW). Many companies directly appeal to uniqueness: Nike invites customers to “create

something *uniquely* your own,” Vans suggests making sneakers “*one of a kind*,” and BMW wants to sell cars that are as “*unique* as their drivers” (italics added).

Besides uniqueness, MC research describes two other value drivers: preference fit, that is, the superior fit of the customized product to individual preferences (Dellaert & Stremersch, 2005; Franke, Keinz, & Steger, 2009; Schreier, 2006); and process benefits, that is, positive feelings elicited by customizing a product (Franke et al., 2010; Moreau & Herd, 2010). These two value drivers received considerable attention from research detailing both their dimensions and the factors qualifying their effect on MC outcomes (37, or 84%, of 44 reviewed articles examined at least one of them; see Web Appendix A). For example, preference fit has been shown to consist of aesthetic and functional preferences (Franke & Schreier, 2008; Hunt, Radford & Evans, 2013; Schnurr & Scholl-Grissemann, 2015). Process benefits result from the interplay between positive affect, such as enjoyment or pride (Franke & Schreier, 2010; Franke et al., 2010; Teichmann, Scholl-Grissemann, & Stokburger-Sauer, 2016; Turner, Merle, & Gotteland, 2020), and negative affect, such as anxiety or confusion (Franke & Schreier, 2010; Huffman & Kahn, 1998; Moreau, Bonny, & Herd, 2011; Valenzuela, Dhar, & Zettelmeyer, 2009). Figure 1 provides a conceptual overview of research on MC value drivers.

Existing research on the uniqueness value driver in MC demonstrated that perceived uniqueness, generates value for consumers, even when controlling for preference fit and process benefits. Beyond that, research on uniqueness in MC has mostly focused on its interaction with consumer characteristics, such as their need for uniqueness or narcissism (de Bellis et al., 2016; Franke & Schreier, 2008; Hildebrand & Schlager, 2019; Lee et al., 2013; Park, Han, & Park, 2013; Yoo & Park, 2016). We aim to extend this research by highlighting uniqueness in its different forms and investigating its interaction with product instead of customer characteristics (Figure 1).

2.2. One-of-a-kindness

The marketing literature typically refers to unique products as products that exist only a few times (*few of a kind*; Cheema & Kaikati, 2010; Irmak, Vallen, & Sen, 2010; Lynn & Harris, 1997; Tian, Bearden, & Hunter, 2001). Rooted in that literature, MC scholars have placed uniqueness on a continuum, ranging from low to high (de Bellis et al., 2016; Franke & Schreier, 2008). By contrast, we return to the origins of the word “uniqueness” (from Latin *unicus*; “one and no more, only, [...] single”; Lewis & Short, 1879) and focus on configurations that are unique in a strict sense (*one of a kind*).¹

Conceptualizing uniqueness as one-of-a-kindness is especially amenable to MC contexts, in which the likelihood of customizing a one-of-a-kind product is high. In fact, many customized products are one of a kind given the vast number of attributes consumers can choose from and their fine granulation (e.g., 115 trillion possible sneaker configurations exist on nike.com/nike-by-you and 566 quadrillion possible cereal mixes on mymuesli.com/mixer). Consequently, whereas a certain degree of proximity of configured products is likely, exact replication is extremely unlikely. Indeed, the CEO of a large MC cereal provider noted that out of 100,000 configured and shipped cereal products 99,958 were one of a kind (Raeth, 2013). Prior research measuring the actual uniqueness of MC configurations supports this notion with a large share of one-of-a-kind product configurations (de Bellis et al., 2016; Franke & Piller, 2004).

Marketing research has not specifically discussed uniqueness as one-of-a-kindness, yet, anecdotal evidence, especially from the art market, hints at the particularity of goods that are one

¹ Measurements of perceived uniqueness applied in the MC literature summon questions that reflect this distinction: Franke and Schreier (2008), who introduced uniqueness to the MC literature, asked their participants (1) “I perceive this self-designed cell phone cover as highly unique”, (2) “This cell phone cover is one of a kind” and (3) “My cell phone cover design is really special.” While the first and third items remain unspecific and assess the *extent* of uniqueness or specialness, the second item measures a strict form of uniqueness in line with our conceptualization.

of a kind. Traditional art is inherently one of a kind due to its handmade nature; and it is impossible to perfectly replicate a painting or sculpture (Benjamin, 2008; Hirschman, 1983). Ownership of such a one-of-a-kind good represents a key driver of the immense value accumulation in these markets (Humble, 1983; Wollheim, 1980). The fundamental difference between one of a kind and few of a kind is exemplified by digital art: As the advent of non-fungible tokens (NFTs) makes digital ownership attainable, we observe a disproportional value accumulation for digital art that is one of a kind. “Legendary” NFT art with one-of-a-kind traits (e.g., a one-of-a-kind face for a Bored Ape) trades at a multiple of NFT art with traits that are not one but few of a kind (e.g., 1:2 or 1:3 identical faces; dappradar, 2022; nftsguru, 2022).

2.3. One-of-a-kind feedback

Despite their prevalence across industries and markets, MC systems have not yet exploited their full potential (de Bellis et al., 2019; Franke & Hader, 2014). Especially, the value of uniqueness remains untapped. We argue that a simple way to increase the effectiveness of MC systems is to leverage uniqueness by providing a feedback message that reminds consumers that their product is one of a kind. Scholars have sought to improve MC design by integrating feedback functions, allowing a two-way information flow, and thus fostering the interactive nature of the interface (Dahan & Hauser, 2002; Payne, Storbacka, & Frow, 2008). This body of research shares two characteristics: First, it has mostly investigated how to enhance preference fit (Dellaert & Stremersch, 2005; Franke et al., 2009) or process benefits (Franke et al., 2010; Moreau & Herd, 2010; see Figure 1). Second, it has focused on a specific form of feedback, namely, peer feedback given by other consumers (D’Angelo, Diehl, & Cavanaugh, 2019; Franke, Keinz, & Schreier, 2008; Hildebrand et al., 2013).

In the MC literature, there is little evidence of automated feedback from the provider. Prior research on such automated business-to-consumer feedback exclusively focused on *functional* provider feedback, i.e., about the working of the customized product (Franke & Hader, 2014; Moreau, Bonny, & Herd, 2011; see Figure 1). To our best knowledge, no research on automated feedback capitalized on uniqueness as a value driver, thus reaching beyond functional information. Automated feedback about product uniqueness can refer to the configured product being one of a kind in that it has never been configured by another customer—highlighting a *social* comparison, instead of any functional matter. This information potentially creates value for a consumer, who might not account for the high likelihood of uniqueness due to an underestimation or neglect of this possibility (Paulos, 1988; Sunstein, 2002). Making consumers aware of the uniqueness of their customized product could convey feelings of distinctiveness and satisfy an inherent need—and thus generate value for consumers and firms. Receiving one-of-a-kind feedback might result in increased valuation of a customized product compared not only to receiving no feedback but also to feedback about being among a few of a kind (in the most extreme form, being among two with an identical configuration). Finding such an effect would strongly support the notion that uniqueness, conceptualized as being one of a kind, differs qualitatively from less strict forms of uniqueness. Lastly, to test whether popularity similarly affects the valuation of customized products, we test one-of-a-kind feedback against feedback on being among many with an identical configuration.

We further examine two types of one-of-a-kind feedback, accounting for a temporal dimension of uniqueness. Specifically, beyond informing consumers about the product being one of a kind in the present (present-oriented feedback), firms could ensure and communicate that the product will remain one of a kind in the future by blocking the particular configuration for future customers (future-oriented feedback). For example, returning to the context of art, uniqueness

implies not only that the artifact is one of a kind when it is created or sold, but also that the artifact cannot be perfectly reproduced (Benjamin, 2008; Hirschman, 1983). The same goes for novel technologies such as NFTs, which guarantee that a digital or physical good remains one of a kind (Hofstetter et al., 2022). We expect this future-oriented feedback to create additional value compared to giving consumers present-oriented feedback alone as it limits onward product supply, even further tapping into uniqueness as a key value driver. In sum, we propose that one-of-a-kind feedback generates value for consumers.

H1: One-of-a-kind feedback positively impacts consumer valuation of customized products.

2.4. The moderating role of taste versus quality product domains

Prior research on uniqueness in MC has unanimously assumed that uniqueness positively impacts product valuation but ignored its potential boundaries which extend beyond individual consumer differences. Straightforwardly, consumers' need for uniqueness predicts MC adoption and has been shown to increase the positive effects of uniqueness (Franke & Schreier, 2008; Hildebrand & Schlager, 2019; Hunt, Radford, & Evans, 2013; Park, Han, & Park, 2013; Yoo & Park, 2016). In addition, some authors have focused on narcissism, demonstrating that this trait predicts the desire for and the design of unique configurations in MC (de Bellis et al., 2016; Lee, Gregg, & Park, 2013; see also Figure 1). Extending that body of research, we propose a product-level moderator that qualifies the effect of uniqueness in MC as either positive or negative.

Relative to the positive effects of one-of-a-kind feedback its inherent counterconformity signal may also have negative consequences, such as group exclusion or social disapproval, depending on contextual factors (Snyder & Fromkin, 1977; Tian et al., 2001). We highlight one such factor in the customized product's domain. MC systems exist for a wide range of products

including ones that are primarily matters of subjective taste (e.g., sneakers and jewelry; “taste domains”) and ones that are largely matters of objective quality (e.g., personal computers and audio systems; “quality domains”). The distinction between subjective taste and objective quality has long interested economics (e.g., Sutton, 1986) and has recently received more attention in marketing (Min & Cunha, 2019; Spiller & Belogolova, 2017). Most prior studies on MC, particularly those examining the value of uniqueness, have chiefly investigated taste domains (e.g., fashion; see Web Appendix A; out of 44 articles 39 (89%) taste vs. 15 (34%) quality or a combination thereof). We extend this focus by explicitly studying quality domains.

Starting with taste domains, here, value accrues only as far as products match individual preferences, with the preference ordering of different product configurations mainly depending on the individual consumer (i.e., personal taste). No objectively superior option exists in taste domains (Min & Cunha, 2019; Spiller & Belogolova, 2017); instead, consumers decide what is better or worse. Personal preferences are crucial in the absence of a socially validated correct choice (Spiller & Belogolova, 2017). In line with consumers’ need for distinctiveness, others’ choices are relevant only to avoid matching them (Brewer, 1991; Snyder & Fromkin, 1980). Specifically, in taste domains, the signaled uniqueness inherent in one-of-a-kind feedback taps into a self-referential process. One-of-a-kind product feedback might reflect positively on those consumers who infer that their preferences are one of a kind, thus satisfying their need for distinctiveness and hence, increasing their valuation (as per H1).

In quality domains, by contrast, the preference ordering of product configurations is independent of the individual consumer, but based instead on objective criteria, which universally discriminate superior from inferior configurations (Min & Cunha, 2019). Put differently, in quality domains consumers agree on one product configuration being superior to others. The choice of fellow customers might thus indicate a correct or better choice (Spiller &

Belogolova, 2017). In line with the diagnosticity of other consumers' choices in quality domains, research has demonstrated a tendency toward conformity and choice matching. For example, Liu, McFerran, & Haws (2020) showed that consumers are more likely to match other consumers' choices in quality domains than in taste domains.

In quality domains, where matching others' choices certifies a correct choice, one-of-a-kind feedback likely raises an otherwise non-existent concern about having made a non-conforming and risky decision. Imagine a consumer being notified that she is the first ever to configure a computer in a certain way; she justifiably might find this concerning. The counterconformity signal might activate risk concerns about the product lacking functionality. Indeed, D'Angelo et al. (2019) provided preliminary support for this reasoning by showing that consumers do not infer a desire for uniqueness in other consumers in product domains where functionality is key. According to the authors, consumers recognize that uniqueness is not a sensible customization goal when functionality is important. In quality domains, two mechanisms (one positive, one negative) might be at play, with their net effect deciding on the direction of the one-of-a-kind feedback effect. On the one hand, one-of-a-kind feedback might emphasize the perceived specialness of the customized product and thus positively impact consumers' product valuation. On the other hand, one-of-a-kind feedback might signal a non-conforming, risky choice and compromised functionality, thus decreasing valuation.

In sum, we propose that one-of-a-kind feedback operates via two parallel mechanisms—perceived specialness and compromised functionality concern. The product domain the MC is operating in determines which mechanism dominates, leading to opposing effects on the outcome. In taste domains, perceived specialness outweighs functionality concerns; one-of-a-kind feedback signals desirable specialness while the non-conforming choice is irrelevant to proper functioning. For products in quality domains, a non-conforming, one-of-a-kind choice

likely triggers concerns about product functionality stronger than any effects of specialness, thus reversing the value enhancing effect of one-of-a-kind feedback.

H2: The positive effect of one-of-a-kind feedback on consumer valuation (H1) is confined to products that are matters of subjective taste. By contrast, for products that are matters of objective quality, one-of-a-kind feedback reduces valuation.

Overall, this work zooms in on uniqueness in MC and adds to the scant research on this value driver. Based on the nature of MC systems, it highlights a strict form of uniqueness rooted in a hitherto unaddressed conceptual difference: uniqueness as being one of a kind versus uniqueness as being among a few of a kind. Adding another facet to research on MC and uniqueness, this research distinguishes two temporal forms of uniqueness. That is, present-oriented one-of-a-kindness, which denotes a one-of-a-kind configuration in the here and now, complemented by future-oriented one-of-a-kindness, which describes a perpetuated one-of-a-kind configuration blocked for incoming customers. Based on MC research on feedback functions, we offer a company-controlled way of leveraging the value of uniqueness in MC via automated B2C social feedback. Lastly, we offer a product-level moderator that qualifies the positive effects of uniqueness within MC and potentially beyond.

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Figure 1. Conceptual overview of prior research on MC value drivers and feedback functions (based on the literature review in Web Appendix A). Contributions of the current research are presented in boxes with solid lines.

3. Overview of experiments

The findings of five experiments (and two additional studies reported in the web appendix) provide compelling evidence that one-of-a-kind feedback creates value for consumers. Experiment 1 examines the impact of one-of-a-kind feedback in a large-scale field experiment, demonstrating that such feedback drives conversion rates in the marketplace. Experiment 2 applies a realistic mock-up MC system to confirm the effect in a controlled setting and shows the value enhancement of future-oriented feedback over present-oriented feedback. Experiment 3 demonstrates that feedback about one-of-a-kindness is distinct from feedback about being among a few of a kind, and that one-of-a-kindness increases valuation compared to conservative benchmarks in a controlled setting. Experiments 4 and 5 explore a product-level boundary of the proposed effects and identify contexts where one-of-a-kind feedback may be detrimental. The studies show that such feedback can potentially reverse the positive effects of one-of-a-kindness for products in quality domains (vs. taste domains). This happens because one-of-a-kind feedback may signal that the customized product's functionality is compromised.

Overall, we test our theorizing across different samples (actual customers and crowdsourcing platform workers) and product domains (alarm systems, audio systems, cars, cereals, computers, sneakers, sofas, sunglasses, and watches). In addition, we employ different study designs (field and online experiments; real MC systems and scenarios) and utilize several operationalizations of product valuation (conversion rate, product attitude, WTP, and purchase intention).

4. Experiment 1: One-of-a-kind feedback in the field

The first experiment examined the effect of one-of-a-kind feedback on the value consumers attribute to their customized product (H1), operationalized as conversion rate. We

conducted the field experiment with actual customers in collaboration with a large European MC system provider in the domain of cereals.

4.1. Method

Design and participants. We ran the field experiment in Germany, the largest sales market for the cereal producer. The sample included 36,466 adult customers ($M_{\text{age}} = 36.6$ years; 72.4% female), out of which 32,886 customers or 90.2% configured a one-of-a-kind cereal. Unless noted otherwise, we focused our analyses on these customers to control for any effects of actual product uniqueness. The field experiment employed a two-cell between-subjects design.

Procedure. As in many other domains, the MC system of the cereal producer provided a vast number of possible product configurations, namely 566×10^{15} cereal configurations. We used the original interface of the provider. Customers followed a typical MC procedure to configure their desired product: They first chose from 15 kinds of cereal (e.g., oats and crunchy) and 24 refined bases (e.g., flakes and puffs), before they selected up to 18 different fruits (e.g., cranberry and raisins), 13 nuts and seeds (e.g., hazelnut and sunflower seeds), and 16 types of chocolate (e.g., dark and white chocolate).

After finishing their cereal configuration, customers who configured a one-of-a-kind cereal were randomly assigned to one of two conditions. In the one-of-a-kind feedback condition, customers received feedback that their configuration was one of a kind. Specifically, customers read that they were the first to create their cereal configuration. The optical integration of the pop-up window with the feedback message matched the style of the MC system to keep customers blind to the experiment. The feedback message constituted the only alteration to the interface's configuration process. In the control condition, customers did not receive any feedback after configuring their one-of-a-kind cereal. Across both conditions, customers continued the original configuration process: They designed their customized cereal's packaging

and assigned it a name (e.g., “Tim’s Cereal”) before clicking the “put in basket” button. Finally, they were asked to voluntarily indicate their age and gender.

Measures. The key dependent variable in this field experiment was customers’ conversion rate, defined as the share of customers who bought their customized cereal out of those who completed the configuration process. Thus, this study focuses on a variable with economic downstream consequences. In addition, we received data on customers’ age and gender, as well as the price of their configured cereal. These variables served as covariates in our analyses.

4.2. Results

Preliminary analyses. We found no significant differences between the two conditions with regard to gender ($M_{\text{control}} = 72.4\%$ female, $M_{\text{one_of_a_kind}} = 72.6\%$ female; $\chi^2(1, 32,886) = 0.16, p = .697$), purchase price ($M_{\text{control}} = 8.73$, $M_{\text{one_of_a_kind}} = 8.75$; $F(1, 32,884) = .33, p = .565$), and in-basket placement ($M_{\text{control}} = 0.96$, $M_{\text{one_of_a_kind}} = 0.96$; $F(1, 32,884) = 1.34, p = .247$). However, customers’ age ($M_{\text{control}} = 36.20$, $M_{\text{one_of_a_kind}} = 37.26$; $F(1, 15,836) = 25.96, p < .001$) differed significantly between conditions. Note that only 48% of participants indicated their age and that the reported effects are robust when controlling for age differences.

Conversion rate. We found a significant difference in conversion rates between the one-of-a-kind feedback (84.43%) and the control condition (82.51%; $\chi^2(1, 32,886) = 17.71, p < .001$; see Figure 2), supporting H1. We tested for robustness with a binary logistic regression and found similar effects even when controlling for the influence of age, gender, and purchase price ($b = 0.06$, $SE = 0.03$, $z = 2.03, p = .042$). From a financial perspective, a 2.33% increase in conversion approximated €1,192,221 in additional yearly revenue for the cereal producer.

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Figure 2. The effect of one-of-a-kind feedback on conversion rate.

Amount ordered and money spent. Adding to the robustness of these effects, we found that customers in the one-of-a-kind feedback (vs. control) condition also ordered a larger amount of items ($M_{\text{control}} = .96$, $M_{\text{one_of_a_kind}} = .99$; $F(1, 32,884) = 8.23$, $p = .004$). The average amount ordered was below one as not every customer who entered the MC system purchased an item. The larger order number also translated into a larger amount of money spent per customer: On average, customers spent €8.54 in the one-of-a-kind feedback condition, compared to €8.37 in the control condition ($F(1, 32,884) = 4.25$, $p = .039$). Thus, customers were not only more likely to order the customized product after receiving one-of-a-kind feedback, but they also ordered more items and spent more money.

Additional analyses. So far, we focused our analyses on customers who configured a one-of-a-kind product to provide an unbiased view of the experimental treatment effects. For the sake of completeness, we further considered the 9.8% of customers who did not configure a one-of-a-kind cereal. Comparing their conversion rate (78.13%) to those who configured a one-of-a-kind product and received feedback (84.43%) showed an even larger difference in conversion of 8.07% ($\chi^2(1, 27,652) = 90.33$, $p < .001$). Customers who configured a one-of-a-kind product but did not receive feedback had a 5.60% higher conversion rate than those not configuring one of a kind ($\chi^2(1, 12,394) = 32.00$, $p < .001$). The latter result indicates that configuring a one-of-a-kind product generally is associated with a higher conversion rate relative to configuring not one of a kind.

4.3. Discussion

The findings of the field experiment provide compelling evidence of the proposed effect

of one-of-a-kind feedback. Even though creating a product that is one of a kind is highly likely, providing one-of-a-kind feedback boosts conversion rates in the MC system, translating into increased revenue for the MC provider. The field experiment, an infrequently used method in MC research (we identified only one other article conducting a field experiment; Hildebrand, Häubl, & Herrmann, 2014), demonstrates the high external validity of our effect. More fundamentally, our findings confirm that uniqueness—in addition to preference fit and process benefits—drives value in MC (Franke & Schreier, 2010).

5. Experiment 2: Present- and future-oriented feedback

The second experiment aimed at (1) replicating the findings of the field experiment in a controlled setting by showing that one-of-a-kind feedback increases consumers' valuation of the customized product (operationalized as WTP) and (2) examining whether feedback about the product remaining one of a kind in the future can further increase product valuation. We conducted an online experiment using a mock-up MC system to customize sunglasses.

5.1. Method

Design and participants. We recruited 206 Amazon Mechanical Turk workers from the USA. Twelve participants were excluded from the analysis due to language problems, six participants due to failing attention checks, and three participants due to an extreme WTP of three standard deviations above the mean. The final sample consisted of 185 participants ($M_{\text{age}} = 34.6$ years; 41% female). The experiment employed a between-subjects design with three conditions. A first group received one-of-a-kind feedback that is present-oriented (present-oriented feedback), similar to the one employed in Experiment 1. A second group received one-of-a-kind feedback that is future-oriented (future-oriented feedback), notifying that the product

remains one of a kind by being blocked. A third group received feedback about being one among many customers with an identical configuration (many-of-a-kind feedback).

Procedure. While we used food as a stimulus in the field experiment, we selected accessories for this experiment. Participants were presented with a simplified mock-up version of the Canvas sunglasses configurator (see canvaseyewear.com). It provided a solution space of 6.3×10^6 possible configurations. Participants were asked to configure their preferred sunglasses by navigating through five subsequent steps: They chose the color of the front frame, left and right temple view, lenses, and pattern design. After finishing their configuration, participants were randomly assigned to one of three conditions. In both the present- and future-oriented feedback conditions, participants received one-of-a-kind feedback stating that their configuration was one of a kind and that they were the first to create their specific sunglasses (see Web Appendix B). Participants in the future-oriented feedback condition additionally read that their configuration would remain one of a kind in the future by being blocked for future customers (see Web Appendix B).

In the third condition, we employed feedback about the configured product being explicitly *not* one of a kind. We informed participants that they were not the first to create their sunglasses and that many others had configured them before (see Web Appendix B). We did so to test whether any feedback, instead of one-of-a-kind feedback, might create value for consumers (note that all other experiments use no feedback as a baseline comparison). Specifically, we wanted to exclude the alternative explanation that providing consumers with one-of-a-kind feedback might increase their awareness of a value dimension that had not been salient before (Ames & Iyengar, 2005). Prior research demonstrates that important product attributes that are not salient fail to provide value to the customer; this value, however, is noticed immediately if the dimension is featured prominently (Ratneshwar et al., 1997). After receiving

either of the three messages, participants indicated their WTP for the sunglasses. Finally, participants responded to a manipulation check, measures of brand attitude and status consumption, as well as demographical questions.

Measures. We measured WTP using the contingent valuation method (CVM; Cummings & Taylor, 1999; Mitchell & Carson, 1989; “What is the maximum amount you are willing to pay for your self-designed sunglasses reflecting your individual preferences (in \$ US)?”). It allows for determining the WTP hypothetically. As a manipulation check, we assessed participants’ perceived uniqueness with a 10-item measure adapted from Tian et al. (2001; “My self-configured sunglasses are”: e.g., “unique”; all 7-point Likert scales; $\alpha = .96$). We measured a series of variables that served as covariates in our analyses: brand attitude (“To me, the brand ‘Canvas’ is likable”; 7-point Likert scale; Sengupta & Johar, 2002); status consumption (three items, e.g., “I would buy a product just because of its status”; 7-point Likert scales; $\alpha = .94$; Eastman, Goldsmith, & Flynn, 2015); as well as age, gender, and income. We controlled for brand attitude mainly to ensure that any preexisting brand attitude did not affect the results. For a rather unfamiliar brand, such as Canvas eyewear, our intervention might also positively impact brand attitude, which we also aimed to control for (He, Chen, & Alden, 2016). Additionally, we assessed status consumption to make sure that the desire for status and its expression through product consumption did not affect our results.

5.2. Results

Preliminary analyses. The manipulation check was successful: Participants perceived their customized product as more unique in the present-oriented feedback condition ($M_{\text{present-oriented}} = 4.96$) than in the many-of-a-kind feedback condition ($M_{\text{many_of_a_kind}} = 3.08$; $F(1, 182) = 53.08, p < .001$). In addition, future-oriented feedback ($M_{\text{future-oriented}} = 5.55$) led to higher uniqueness perceptions than present-oriented feedback ($M_{\text{present-oriented}} = 4.96$; $F(1, 182) = 5.24, p$

= .023). We also analyzed the covariates and found no significant differences regarding age ($p = .982$), gender ($p = .572$), and income ($p = .215$). However, brand attitude ($M_{\text{future-oriented}} = 5.30$, $M_{\text{present-oriented}} = 5.31$, $M_{\text{many_of_a_kind}} = 4.79$; $F(2, 182) = 2.78$, $p = .064$) and status consumption ($M_{\text{future-oriented}} = 4.22$, $M_{\text{present-oriented}} = 3.86$, $M_{\text{many_of_a_kind}} = 3.40$; $F(2, 182) = 2.69$, $p = .070$) differed between conditions. The reported effects were robust when controlling for differences in status consumption and brand attitude.

Willingness to pay. Both present- and future-oriented feedback significantly increased WTP (see Figure 3). An ANOVA with feedback as factor and WTP as dependent variable produced a significant effect of one-of-a-kind feedback ($M_{\text{future-oriented}} = \text{US\$}50.02$, $M_{\text{present-oriented}} = \text{US\$}43.67$, $M_{\text{many_of_a_kind}} = \text{US\$}35.00$; $F(2, 182) = 8.27$, $p < .001$). A one-way ANCOVA controlling for brand attitude, status consumption, age, gender, and income confirmed the effect ($F(2, 177) = 10.63$, $p < .001$). Planned contrasts showed a significant difference in WTP between the present-oriented and many-of-a-kind feedback conditions, corresponding to an increase in WTP of US\$8.67, or 25% ($F(1, 182) = 5.74$, $p = .018$). These results provide renewed support for H1. We further found a marginally significant difference in WTP between the present- and future-oriented feedback condition, corresponding to an increase in WTP of US\$6.35, or 15% ($F(1, 182) = 3.18$, $p = .076$). Lastly, the difference between the many-of-a-kind and future-oriented feedback conditions was significant at a difference of US\$15.02, or 43% ($F(1, 182) = 16.46$, $p < .001$).

--- Please insert Figure 3 about here ---

Figure 3. The effect of present- and future-oriented one-of-a-kind feedback on WTP.

Choices. Analyzing participants' choices revealed that, in line with the field experiment, most participants (87.0%) configured a one-of-a-kind product. The remaining 13.0% of participants configured sunglasses that were not one of a kind, with one specific type being configured by 5.9% of participants (i.e., all-black sunglasses without any additional design features). Note that the solution space in this study (6.3×10^6 configurations) was considerably smaller than the one in most real-world MC systems.

5.3. Discussion

Experiment 2 replicated and extended the results of Experiment 1 in a controlled setting suggesting that present- and future-oriented one-of-a-kind feedback can increase WTP by as much as 43%. This supports the notion that one-of-a-kind feedback creates value even though most configured products are—and will remain—one of a kind due to vast solution spaces.

Moreover, we tested the effectiveness of one-of-a-kind feedback against many-of-a-kind feedback (i.e., many others that configured the same product), demonstrating consistent effects. Specifically, we could exclude the alternative explanation that one-of-a-kind feedback is merely adding value by increasing awareness of a previously ignored value dimension (Ames & Iyengar, 2005). We also investigated preference clusters and found that 87% of the customized sunglasses were one of a kind. Considering the much larger solution spaces in most real-world MC systems, this demonstrates that most customized products are indeed one of a kind, corroborating the feasibility of future-oriented one-of-a-kind feedback. Interestingly, our feedback intervention positively affected brand attitudes, suggesting that—at least for rather unfamiliar brands like Canvas eyewear—our intervention could help to form positive attitudes.

6. Experiment 3: One-of-a-kindness versus less strict forms of uniqueness

In the third experiment, we aimed at establishing the qualitative difference between one-of-a-kindness and less strict forms of uniqueness. To do so, we tested one-of-a-kind feedback against the most conservative benchmark possible, that is, feedback about being one of two customers with an identical product. This study was preregistered (<https://aspredicted.org/f98gs.pdf>).

6.1. Method

Design and participants. 601 participants from Prolific Academic participated in a four-cell between-subjects design. We excluded 67 participants who failed at least one of two attention checks (including these participants did not change the results; see Web Appendix C). The final sample consisted of 534 participants ($M_{\text{age}} = 34.4$ years; 49% female). As in Experiment 1, we included a one-of-a-kind feedback condition and a control condition, which allowed us to test the robustness of the previous results. In both conditions, participants were informed that a total of 60,174 configurations had been sold in total. To explore the qualitative difference of one-of-a-kindness, we included two additional conditions comparing one-of-a-kind feedback against the most conservative benchmarks possible: (1) feedback that the configuration has one identical match among 60,174 sold configurations (two-of-a-kind feedback) and (2) feedback that the configuration has one identical match among 120,348 sold configurations (two-of-a-kind feedback constant). The latter condition kept the proportion of the number of configurations that are identical to the participant's and the total number of sold configurations constant (i.e., $1/60,174 = 2/120,348$; for the specific manipulations, see Web Appendix D). Keeping this proportion constant allowed us to rigorously isolate the effect of one-of-a-kindness.

Procedure. After being introduced to the scenario, participants saw a picture of an unbranded sneakers MC system and imagined customizing a pair of sneakers to their liking.

After that, we randomly assigned them to one of the four conditions. In the one-of-a-kind feedback condition, participants received feedback that their configuration was one of a kind among 60,174 sold ones. In both two-of-a-kind feedback conditions, we told participants that they were the second with this particular configuration (either among 60,174 or 120,348 configurations sold). Participants in the control condition were simply informed that 60,174 configurations were sold. Next, participants reported their attitude towards the product and their purchase intention. Finally, they answered two manipulation and attention checks before finishing with demographical questions.

Measures. Product attitude was measured with five nine-point semantic differentials (e.g., unfavorable vs. favorable; White et al., 2016; $\alpha = .97$) and purchase intention on a slider from 0 to 100 (de Bellis et al., 2019). Perceived product uniqueness (“How unique is your design?”; 1 = “not at all unique” to 7 = “extremely unique”) and perception of being one of a kind (“I was the first and only one to create this design”; 1 = “strongly disagree” to 7 = “strongly agree”) served as our manipulation checks. Additionally, we assessed participants’ age, gender, and income.

6.2. Results

Preliminary analyses. The manipulation proved effective and supported the distinctiveness of one-of-a-kindness: Participants perceived their customized product as most unique in the one-of-a-kind feedback condition ($M_{\text{one_of_a_kind}} = 6.39$, $M_{\text{two_of_a_kind}} = 5.00$, $M_{\text{two_of_a_kind_constant}} = 4.89$, $M_{\text{control}} = 5.11$; $F(3, 530) = 24.17$, $p < .001$). Importantly, one-of-a-kind feedback led to significantly higher perceived uniqueness than both two-of-a-kind feedback conditions (all pairwise comparisons $p < .001$). These findings are backed by perceptions of being the only one with a configuration. Participants did not feel like being one of a kind—unless they received one-of-a-kind feedback ($M_{\text{one_of_a_kind}} = 6.47$, $M_{\text{two_of_a_kind}} = 1.66$, $M_{\text{two_of_a_kind_constant}} = 1.69$, $M_{\text{control}} = 4.69$; all pairwise comparisons $ps < .001$). In short, being

one of a kind is perceived qualitatively different from being among two of a kind. Analysis of the covariates revealed no significant differences in age ($p = .569$), gender ($p = .950$), and income ($p = .291$).

Product attitude. A one-way ANOVA with feedback condition as factor and product attitude as the dependent variable showed a significant difference between conditions ($F(3, 530) = 13.18, p < .001$; see Figure 4). Controlling for the covariates age, gender, and income confirmed these results ($F(3, 527) = 13.36, p < .001$). Planned contrasts revealed that product attitude was significantly higher in the one-of-a-kind feedback condition ($M_{\text{one_of_a_kind}} = 7.94$) compared to both two-of-a-kind conditions ($M_{\text{two_of_a_kind}} = 6.81, M_{\text{two_of_a_kind_constant}} = 6.69; ps < .001$), as well as compared to the control condition ($M_{\text{control}} = 7.33; p = .005$). Interestingly, both conditions providing feedback about being among two-of-a-kind led to a significantly lower product attitude compared to the control (control vs. two-of-a-kind feedback constant: $F(1, 530) = 8.49, p = .004$; control vs. two-of-a-kind feedback: $F(1, 530) = 5.39, p = .021$), meaning that one-of-two feedback might actually prove detrimental.

Purchase intention. We found similar effects for purchase intention as the dependent variable. A one-way ANOVA resulted in significantly different purchase intentions between conditions ($F(3, 530) = 4.08, p = .007$), also when controlling for the aforementioned covariates ($F(3, 527) = 4.09, p = .007$). One-of-a-kind feedback led to a higher purchase intention ($M_{\text{one_of_a_kind}} = 79.61$) compared to both one-of-two feedback conditions ($M_{\text{two_of_a_kind}} = 69.72; p = .003; M_{\text{two_of_a_kind_constant}} = 70.99; p = .007$), as well as the control condition ($M_{\text{control}} = 71.46; p = .0087$). There were no significant differences in purchase intention between the control and the two-of-a-kind feedback conditions ($p > .1$).

--- Please insert Figure 4 about here ---

Figure 4. The effect of one-of-a-kind versus one-of-two feedback on product attitude.

6.3. Discussion

In Experiment 3, we replicated the findings from Experiment 1 in a controlled setting and offered robust evidence for a qualitative difference between one-of-a-kindness and less strict forms of uniqueness by showing the value-increasing effect of one-of-a-kind feedback over and above the effect of two-of-a-kind feedback. We did so for one of the most popular MC product categories, namely sneakers (see, e.g., Nike ID and Vans Custom), and for another operationalization of product valuation (product attitude and purchase intention instead of conversion rate and WTP). Despite the two-of-a-kind conditions representing the most conservative comparison, feedback about configuring a one-of-a-kind product still added considerable value.

A posttest reported in Web Appendix E confirms that this qualitative difference persists when relaxing the uniqueness concept further, that is, testing one-of-a-kind feedback against conditions where participants are among a few (7) or among many (15,754) customers with an identical configuration. Interestingly, we observed that the control condition containing no feedback results in second-to-highest product valuation. Here, greater uniqueness was perceived, translating into improved attitudes and intentions compared to even the two-of-a-kind conditions. Thus, we will test our reasoning against such a control condition without any feedback in the following experiment.

7. Experiment 4: Moderation via taste versus quality product domains

Experiment 4 aimed at replicating the positive effect of one-of-a-kind feedback in taste domains (H1) while also testing its potential negative effect in quality domains (H2). We conducted an online experiment with six different products (three in taste domains and three in quality domains).

7.1. Method

Design and participants. We recruited 802 US participants on Prolific Academic to participate in a 2 (one-of-a-kind feedback: yes vs. no) $\times$ 2 (product domains: taste vs. quality) between-subjects design with three products per domain for a total of 12 conditions. One participant failed an attention check, resulting in a final sample of 801 participants ($M_{\text{age}} = 36.4$; 47% female). Participants were randomly assigned to one out of six products representing either taste domains (sneakers, sofa, watch) or quality domains (alarm system, audio system, personal computer). We collapsed the product categories into two aggregate conditions, as the results within conditions did not differ. This study was preregistered (<https://aspredicted.org/2yx3c.pdf>).

Procedure. Participants entered the scenario and were asked to imagine configuring the respective product along numerous attributes (e.g., for sneakers: tongue, sole, heels, eyestay, side element, and laces; for the home audio system: speakers, amplifiers, mixing unit, subwoofers, controllers, and receivers). After the configuration, participants randomly received either one-of-a-kind feedback like the one used in prior studies (see Web Appendix F) or no feedback at all. Next, all participants wrote about their configuration experience and their customized product to increase engagement with the scenario. After participants had indicated their purchase intention and product valuation (in randomized order) for the configured product, they responded to two manipulation checks, an attention check, a measure of domain expertise, as well as

demographical questions. Those in the one-of-a-kind feedback condition additionally answered a question on the perceived valence of the feedback.

Measures. We measured purchase intention as in Study 3 and product valuation with four items (e.g., “How favorable are you of your customized product?”; all 7-point Likert scales; $\alpha = .94$; de Bellis, Johar, & Poletti, 2023; Faraji-Rad, Melumad, & Johar, 2017). To confirm the working of our feedback manipulation, we asked participants how unique their configuration is (7-point scale anchored at: 1 = “not at all unique” to 7 = “extremely unique”). For the subjective taste (vs. objective quality) manipulation, participants responded to the question “Is it a matter of subjective taste or objective quality whether one customized [product] is better than another customized [product]?” (7-point semantic differential anchored at: 1 = “subjective taste” and 7 = “objective quality”; Spiller & Belogolova, 2017). Further, we measured consumers’ product expertise with five items (e.g., “How familiar are you with the product?”; all 7-point Likert scales; $\alpha = .92$; Thompson, Hamilton, & Rust, 2005).

7.2. Results

Preliminary analyses. The manipulation of one-of-a-kind feedback proved effective as indicated by higher product uniqueness perceptions in the feedback condition ($M_{\text{one_of_a_kind}} = 6.41$, $M_{\text{control}} = 4.81$; $t(799) = 15.81$, $p < .001$). The manipulation of subjective taste (vs. objective quality) was also effective: Products from quality domains were perceived rather as a matter of objective quality ($M_{\text{quality}} = 4.40$, $M_{\text{taste}} = 2.57$; $t(799) = 14.25$, $p < .001$). We found no significant differences regarding age ($p = .102$), gender ($p = .749$), and income ($p = .438$), yet there was a significant difference in expertise between the taste and quality domains ($M_{\text{quality}} = 3.80$, $M_{\text{taste}} = 4.43$; $t(799) = 5.55$, $p < .001$). The latter result can potentially be explained by the competence hypothesis (Heath & Tversky, 1991), which suggests that people’s personal preferences and subjective evaluations in taste domains may act as knowledge cues increasing perceived

expertise. Note that our results were robust to controlling for expertise.

Purchase intention. An ANOVA with one-of-a-kind feedback and product domains as factors and purchase intention as dependent variable showed that product domains moderated the effect of one-of-a-kind feedback on purchase intention (see Figure 5). We found no significant main effects for one-of-a-kind feedback ($F(1, 797) = .62, p = .432$) and product domains ($F(1, 797) = .83, p = .364$), but there was a significant interaction between the two factors ($F(1, 797) = 9.20, p = .003$). Controlling for age, gender, income, and expertise did not change the significance of the interaction term ($F(1, 793) = 11.30, p < .001$).

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Figure 5. The effect of one-of-a-kind feedback on purchase intention in quality versus taste domains.

Following up on the interaction, planned contrasts revealed that one-of-a-kind feedback increased purchase intention in taste domains ($M_{\text{one_of_a_kind}} = 70.54, M_{\text{control}} = 59.58; F(1, 797) = 12.27, p < .001$; see Figure 5), thus replicating previous findings. Although we found a directionally negative effect of one-of-a-kind feedback on purchase intention in quality domains, this effect did not reach statistical significance ($M_{\text{one_of_a_kind}} = 54.25, M_{\text{control}} = 56.71; F(1, 797) = .61, p = .435$; Figure 5).

Product valuation. We found similar effects for product valuation as the dependent variable. Specifically, we observed a significant interaction between one-of-a-kind feedback and product domains ($F(1, 797) = 6.15, p = .013$), even after controlling for the covariates ($F(1, 793) = 7.31, p = .007$). Planned contrasts revealed that one-of-a-kind feedback significantly increased product valuation in taste domains ($M_{\text{one_of_a_kind}} = 5.64, M_{\text{control}} = 5.12; F(1, 797) = 10.24, p =$

.001), but had no significant effect in quality domains ($M_{\text{one_of_a_kind}} = 4.52$, $M_{\text{control}} = 4.57$, $F(1, 797) = .09$, $p = .759$).

Text analysis. We analyzed participants' responses to the writing task that asked them to write about the customization and final product. For that, we calculated participants' expressed sentiment—as a proxy for their evaluation of the MC system—with the tidytext package and NRC emotion lexicon in R (Saif & Turney, 2013; Silge & Robinson, 2016). We ran an ANOVA with one-of-a-kind feedback and product domains as factors and sentiment as the dependent variable. In accordance with previous findings, participants in taste domains expressed more positive sentiment when receiving one-of-a-kind feedback ($M_{\text{one_of_a_kind}} = 2.21$, $M_{\text{control}} = 1.75$; $F(1, 705) = 6.41$, $p = .012$).² In quality domains, however, one-of-a-kind feedback did not change sentiment ($M_{\text{one_of_a_kind}} = 1.24$, $M_{\text{control}} = 1.26$; $F(1, 704) = .02$, $p = .88$). Moreover, analyzing feedback valence, significantly more participants configuring products from quality domains reported negative perceptions of the one-of-a-kind feedback (33.65%) compared to participants configuring in taste domains (6.57%; $\chi^2 = 44.27$, $p < .001$). In sum, we found robust evidence for the positive effect of one-of-a-kind feedback on valuation in taste domains; this effect was canceled out—yet not reversed—in quality domains. Thus, H2 was supported only partially.

7.3. Discussion

The findings of this experiment show that one-of-a-kind feedback has differential effects in domains that are primarily matters of subjective taste versus objective quality. While we confirmed that one-of-a-kind feedback impacts valuation positively for a different set of products

² The lower degrees of freedom (cp. to the analyses of purchase intention and product valuation) result from the text analysis process. Only such texts that contain sentiment-relevant terms were included in the analysis. Some text responses did not include sentiment-relevant content and were thus dropped for the analysis.

and measures in taste domains, we found the hypothesized negative effect of one-of-a-kind feedback in quality domains only by trend. Further exploratory analyses on the written text by participants indicate that consumers value the specialness conveyed through the message; yet, in quality domains, they feel insecure about having configured a product that might not be fully functional. We investigate these two opposing mechanisms in the next study.

8. Experiment 5: Underlying mechanism of negative effect in quality domain

Experiment 5 aimed at examining the underlying reasons for the differential effect of one-of-a-kind feedback in quality domains to inform MC providers operating in these domains about the potential downsides of applying such feedback. We examined the two opposing mechanisms triggered by one-of-a-kind feedback—a feeling of specialness, affecting valuation positively, and functionality concerns, affecting valuation negatively. We conducted an online experiment with customized PCs to disentangle these two mechanisms.

8.1. Method

Design and participants. We recruited 151 US participants ($M_{\text{age}} = 31.6$, 49% female) on Prolific Academic for a between-subjects design with two conditions (one-of-a-kind feedback: yes vs. no), focusing exclusively on a quality domain. No participant failed the attention check. We selected personal computers (PC) as quality domain products, as they scored high on the respective manipulation check in Experiment 4 ($M = 4.41$). Moreover, PCs are among the most widely offered products in MC systems (e.g., Dell).

Procedure. Participants started the study by imagining customizing a PC along several attributes. They then received either the one-of-a-kind feedback message employed in Experiment 4 or no message at all. Before responding to our measures designed to capture the underlying mechanisms of perceived specialness and compromised functionality, participants in

the one-of-a-kind feedback condition provided up to five positive and negative thoughts and feelings (in randomized order) that the received feedback might elicit. Subsequently, all participants indicated their purchase intention and answered an explorative question on whether they would prefer a standard over their customized PC. Lastly, they completed two manipulation checks, an expertise measure, an attention check, and demographical questions.

Measures. We measured purchase intention, the manipulation check, and the perception of the product as taste versus quality exactly as in the previous study. Our measures for the underlying mechanisms were designed to capture the two opposing paths and informed by the qualitative responses in Experiment 4. They were assessed on 7-point Likert scales and randomized in presented order. Perceived specialness was measured with one item (“How special is your PC?”; 1 = “not at all special,” 7 = “very special”). Three items comprised our concern with functionality measure: “How afraid are you that the functionality of your customized PC may be compromised?” (1 = “not at all afraid,” 7 = “very afraid”); “How certain are you that the features of your customized PC fit with each other?” (1 = “not at all certain,” 7 = “very certain”; reverse-coded); and “How well do you think will your customized PC work?” (1 = “won’t work at all,” 7 = “will work very well”; reverse-coded). We aggregated the items into a single score of functionality concerns ($\alpha = .75$). Additionally, we included a separate dependent variable (“How comfortable do you feel with your customized PC?”; 1 = “not at all comfortable,” 7 = “very comfortable”; for additional analyses on this item, see Web Appendix G). For the explorative question, we asked participants “How likely are you to choose a standard,

preconfigured PC over your customized PC?” (from 0 = “not at all likely” to 100 = “very likely”). We assessed expertise ($\alpha = .90$), age, gender, and income as in the previous studies.

8.2. Results

Preliminary analyses. Our manipulation of providing one-of-a-kind feedback proved effective ($M_{\text{one_of_a_kind}} = 5.79$, $M_{\text{control}} = 2.96$; $t(149) = 9.51$, $p < .001$). Further, and in line with Experiment 4’s manipulation check, the PC was perceived as a quality domain product ($M = 4.66$; one-sample t-test from the scale midpoint: $t(150) = 4.22$, $p < .001$). We found no significant differences in income ($p = .921$), age ($p = .331$), gender ($p = .711$) and expertise ($p = .776$) between the conditions.

Purchase intention. In line with H2, we found a significant negative effect of one-of-a-kind feedback on purchase intention for PCs ($M_{\text{one_of_a_kind}} = 61.48$, $M_{\text{control}} = 72.04$; $t(149) = 2.36$, $p = .019$). This effect was robust to controlling for the covariates age, gender, income, and expertise ($F(1, 145) = 5.49$, $p = .020$). Moreover, the exploratory measure of standard over customized PC choice provided consistent evidence: Participants in the one-of-a-kind feedback condition were more likely to opt for the standard choice, although the effect did not reach statistical significance ($M_{\text{one_of_a_kind}} = 53.19$, $M_{\text{control}} = 46.29$; $t(149) = 1.40$, $p = .165$).

Specialness and functionality concerns. Analyzing the measures for the underlying mechanisms showed that participants had significantly higher concerns with their customized PC’s functionality when they received one-of-a-kind feedback ($M_{\text{one_of_a_kind}} = 3.46$, $M_{\text{control}} = 2.66$; $t(149) = 3.62$, $p < .001$). This pattern was evident for each of the three items (see Web Appendix G). Further, we found significantly higher values for perceived specialness in the one-of-a-kind feedback condition ($M_{\text{one_of_a_kind}} = 6.32$, $M_{\text{control}} = 5.46$; $t(149) = 3.96$, $p < .001$).

Mediation analyses. We estimated a mediation model with one-of-a-kind feedback as the independent variable, perceived specialness and functionality concerns as parallel mediators, and

purchase intention as the dependent variable. Mediation analysis with 10,000 bootstrapped replications confirmed that the negative effect of one-of-a-kind feedback on purchase intention was driven by functionality concerns ($b = -11.56$, 95% CI $[-18.06; -5.11]$; for mediation analyses with the single items, see Web Appendix G). We found directional evidence for an indirect effect through perceived specialness ($b = 1.36$, 90% CI $[-.17; 3.33]$); one-of-a-kind feedback significantly increased perceived specialness ($b = .85$, 95% CI $[.43; 1.28]$), yet perceived specialness increased purchase intention only directionally ($b = 1.59$, 90% CI $[-.37; 3.55]$). Controlling for functionality concerns, the confidence interval for the direct effect included zero ($b = -.35$, 95% CI $[-7.10; 6.39]$).

Text analysis. The open text fields asking for positive and negative thoughts and feelings allowed us to examine our findings qualitatively. Participants on average expressed an equal number of positive and negative thoughts (2.69 and 2.60, respectively; $p = .616$), supporting the notion that two opposing effects—one positive and one negative—might be at play. Among the positive comments, the two most frequent terms mentioned were “unique” (44 mentions) and “special” (11), in line with the perceived specialness item and a generally positive connotation of uniqueness (Franke & Schreier, 2010). Among the negative comments, the most frequent terms were “wrong” (9), “concern” (5), and “bad” (4), highlighting the concern of lacking functionality due to a presumably deficient configuration. Note that the word-frequency analysis is based on stemmed words (e.g., “uniqueness” and “unique” count towards a single term “unique”).

8.3. Discussion

This final study explored the underlying process that guides consumers’ perception of one-of-a-kind feedback for products that are primarily matters of objective quality. We found that one-of-a-kind feedback can indeed be detrimental in MC and investigated the underlying mechanism. Mediation and qualitative analysis lend support to functionality concerns as the root

cause for the reversed (and in Experiment 4 offset) effect of one-of-a-kind feedback on product valuation in quality domains. One-of-a-kind feedback heightened functionality concerns as it implies that one is choosing unlike anybody else—a perceived warning signal decreasing valuation beyond the universal positive effect of perceived specialness.

9. General discussion

The current research investigated product uniqueness as a value-generating force in MC systems. Across five experiments conducted in the field and controlled settings, we found robust support that one-of-a-kind feedback can significantly drive value in MC. We conceptualized and empirically tested uniqueness as one-of-a-kindness in contrast to less strict forms of uniqueness applied in prior research. We demonstrated and quantified the positive effect of one-of-a-kind feedback, and found managerially relevant boundary conditions in the form of product domains that are primarily matters of objective quality (vs. subjective taste). These findings extend the literature on MC and product uniqueness by introducing an unexplored form of uniqueness and discovering its negative potential.

9.1. Theoretical contributions

The main theoretical contribution of this work lies in expanding knowledge on the uniqueness value driver in MC. Despite its abundant occurrence in MC, uniqueness and its potential for generating value has remained underexplored. MC research has primarily been devoted to investigating the value drivers of preference fit (e.g., Dellaert & Stremersch, 2005) and process benefits (e.g., Franke et al., 2010). We introduced and examined a novel conceptualization of uniqueness, namely one-of-a-kindness, which has been ignored in the literature on MC and product uniqueness more broadly (Franke & Schreier, 2008). We argued that one-of-a-kindness represents the most extreme form of uniqueness, being theoretically

distinct from less strict forms of uniqueness. We demonstrated that one-of-a-kind feedback can generate surplus value in MC settings where vast and finely-granulated solution spaces make one-of-a-kind configurations highly likely (and our intervention highly scalable). Refining existing conceptualizations, we also distinguished a temporal dimension of uniqueness: being currently versus perpetually remaining one of a kind.

We theoretically derived and empirically tested a boundary of the positive effect of uniqueness in MC. Specifically, we demonstrated a hitherto unexplored negative effect of uniqueness. Applying recent findings on product perception and choice matching to uniqueness in MC, one-of-a-kind feedback had negative consequences for product categories that are primarily matters of objective quality (vs. subjective taste; Spiller & Belogolova, 2017). In quality domains, consensus and conformity certify value; thus, a one-of-a-kind configuration signals risk and potential malfunctioning, potentially reversing the positive effects of one-of-a-kindness.

Finally, while several MC studies focus on value generation via peer feedback (Franke, Keinz, & Schreier, 2008; Hildebrand et al., 2013) or functional provider feedback, the current findings highlight that automated social feedback is a viable alternative. In general, our findings suggest how to make more and better use of the interactional nature of MC systems (Dahan & Hauser, 2002; Payne, Storbacka, & Frow, 2008).

9.2. *Managerial implications*

The current findings show how and when MC providers can tap into product uniqueness to add value to consumers and firms. We advise providers to utilize a distinct feature of their systems, namely, the high likelihood of a one-of-a-kind configuration. Firms can leverage the interactional nature of their MC systems to give feedback about the one-of-a-kindness of a

customer's configured product. One-of-a-kind feedback is a promising and practicable intervention that can be generated at low costs with a simple database query (Marion, Meyer, & Barczak, 2015). In addition, it is fully controlled by the MC system provider, a major advantage over C2C social feedback. MC systems with large solution spaces might benefit even more when complementing the feedback by blocking one-of-a-kind configurations for incoming customers, perpetuating one-of-a-kindness.

Further, the tested boundary conditions might inform managers on whether their offering will benefit from one-of-a-kind feedback. Companies operating MC systems in taste domains benefit while those in quality domains should exert caution, as one-of-a-kind feedback might elicit product functionality concerns.

Our studies provide compelling evidence for the practical relevance of one-of-a-kind information. We tested our proposed effects across highly externally valid and tightly controlled settings and documented considerable increases in consequential outcomes: One-of-a-kind feedback significantly improved the actual conversion rate in the field and boosted WTP by 14% to 43%. MC providers may decide how to capture the added value. For example, they might appropriate the returns directly by charging higher prices, or enjoy higher customer satisfaction, retention, and more positive word-of-mouth as evident in our textual analyses in Study 4. Firms could also offer customers the option to block their configurations and charge them for this service. For instance, Porsche demands €10,000 per car to block one-of-a-kind exterior colors for two years (Porsche Exclusive Manufaktur, 2017) and the watchmaker Unity claims an additional 50% of the standard price for blocking a one-of-a-kind watch design (see unitywatches.com/design-your-own-watch).

We conducted a follow-up survey (see Web Appendix H) with 102 actual customers from a premium European car manufacturer employing MC to explore additional options for

companies to generate value after giving one-of-a-kind feedback. We found that most customers (in total 56%) would value a proof of their product's one-of-a-kindness (e.g., logo (52%), event invitation (23%), certificate (22%)) and a considerable share is even willing to pay for it (21%).

While we demonstrated that one-of-a-kind feedback creates value in MC, it may also do so in other contexts where products are one of a kind (e.g., custom-tailored business suits). Taken together, implementing one-of-a-kind feedback is a low-hanging fruit for MC providers, considerably increasing value for consumers if applied under the right conditions.

9.3. Limitations and future research

Across our studies, participants received feedback about their product configuration being one of a kind. Future research could apply a uniqueness feedback function in other contexts: Could alternative forms of one-of-a-kind feedback—for example, on one-of-a-kind consumer relationships with the brand, consumers' one-of-a-kind identity or preferences, or one-of-a-kind production methods—impact consumer product valuations differently? The conceptual distinction of uniqueness defined as one of a kind versus few of a kind might also be of interest in other marketing-relevant contexts. The fundamentality of one-of-a-kindness and its implications could be examined in strategic market contexts (e.g., with a one-of-a-kind seller or buyer) or in its impact on consumers who encounter one-of-a-kindness in their daily lives (e.g., monotheism in religious belief or monogamy in relationships). Importantly, across these domains, one-of-a-kindness results in an enhanced status or appreciation of subjects and objects relative to being among a few of a kind.

Regarding limitations, the effectiveness of our proposed one-of-a-kind feedback intervention hinges on the configurations' one-of-a-kindness. Even though most MC systems exhibit vast solution spaces, MC systems with rather small solution spaces (e.g., only a few hundred possible one-of-a-kind configurations) might not be able to benefit from one-of-a-kind

feedback; the same holds for MC systems where prior to the introduction of feedback most configurations were already selected at least once.

Further, it might be risky for companies to block certain configurations in case there exist preference clusters of popular configurations within the target market. To counter this threat, we recommend companies to analyze their existing configuration database and disable blocking for popular options or enable it only for a certain timeframe or in a specific geographical region. Alternatively, companies could ensure that once a configuration is identical to another one after the second-to-last attribute, only attribute options that are still available are displayed on the last attribute.

9.4. Conclusion

Returning to the introductory example, the aficionada likely values her customized sneakers more after receiving feedback that they are one of a kind, and this enhanced value is likely to be higher than if she received feedback about her sneakers being quite unique (i.e., few of a kind). To boost value even further, the MC provider could keep her sneakers one of a kind by blocking her configuration for future customers. If, instead of sneakers, she had configured a product from a quality domain, such as a PC, the same feedback would likely have been detrimental. We recommend that companies employing MC systems take these findings into account and apply automated one-of-a-kind feedback to increase MC effectiveness and add value for consumers and themselves.

10. References

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