Social Product-Customization Systems: Peer Input, Conformity, and Consumers’ Evaluation of Customized Products

TOBIAS SCHLAGER, CHRISTIAN HILDEBRAND, GERALD HÄUBL, NIKOLAUS FRANKE, AND ANDREAS HERRMANN

TOBIAS SCHLAGER (tobias.schlager@unil.ch; corresponding author) is an assistant professor of marketing at the University of Lausanne, Switzerland. He has earned his Ph.D. at the University of St. Gallen, Switzerland, where he had also completed his postdoctoral studies. His research focuses on technology-driven phenomena in marketing, such as social interactions, gamifications, and virtual reality. His work has been published in the Journal of Marketing and the Journal of the Academy of Marketing Science.

CHRISTIAN HILDEBRAND (christian.hildebrand@unige.ch) is an associate professor of marketing analytics at the University of Geneva, Switzerland. He received a Ph.D. at the University of St. Gallen and had doctoral and postdoctoral visits at Stanford University, Duke University, and the University of Michigan. His research has been published in Information Systems Research, Journal of Marketing Research, Marketing Letters, and Harvard Business Review.

GERALD HÄUBL (gerald.haeubl@ualberta.ca) is Ronald K. Banister Chair in Business and a professor of marketing at the University of Alberta, Canada. He studies human judgment and decision making, with a focus on how consumers acquire information and make purchase decisions in technology-mediated shopping environments. His research has been published in Information Systems Research, MIS Quarterly, and numerous other journals in the fields of business, psychology, and computing science.

NIKOLAUS FRANKE (nikolaus.franke@wu.ac.at) is a professor of entrepreneurship and innovation at Vienna University of Economics and Business and leader of the Vienna User Innovation Research Initiative. He is interested in understanding the phenomenon of creative and innovative users, and researches methods that help companies to use this potential. His research has been published in Information Systems Research, Journal of Marketing, Organization Science, Research Policy, Management Science, and other journals.

ANDREAS HERRMANN (andreas.herrmann@unisg.ch) is a professor of marketing at the University of St. Gallen and director of the Institute for Customer Insight. He founded the Global School in Empirical Research Methods. His research examines phenomena at the intersection of marketing and behavioral economics. His work has been published in Information Systems Research, Journal of Marketing, Harvard Business Review, Journal of Marketing Research, and other journals.
ABSTRACT: Many product-customization systems enable consumers to obtain input from their peers during the customization process. The design characteristics of these customization systems vary significantly, and some systems provide consumers with the opportunity to receive peer input only privately (i.e., unobservable to fellow consumers) while others allow consumers to receive peer input publicly (i.e., observable to other consumers). Building on prior research on thinking styles and social impact theory, the current work examines the interplay between user, social network, and system design characteristics in social product-customization systems as drivers of whether consumers conform to input received from others on their customized products and of their evaluation of these products. Evidence from one field study and four experiments shows that consumers with more holistic (vs. analytic) thinking styles make more conforming product modifications when receiving public rather than private peer input, and this greater conformity to peer input boosts (vs. diminishes) consumers’ evaluation of customized products when they feel close (vs. distant) to input providers. These findings offer novel insights into how the design of social product-customization systems affects consumers’ evaluation of customized products.

KEY WORDS AND PHRASES: conformity, electronic commerce, information processing, product customization, similarity-attraction theory, social impact theory, social networks, thinking styles.

Many firms allow shoppers to configure their own products based on a menu of options [15, 20, 28, 41]. One increasingly common feature is that these customization systems provide consumers with the opportunity to receive peer input from other consumers during the product configuration process, rendering the process of customizing a product a social activity [19, 27].

Existing social-customization systems, however, differ in terms of how consumers interact with and provide input to each other. Whereas some make peer input publicly accessible (such as the apparel firm Threadless or the car manufacturer Audi, where fellow consumers can observe all comments that a focal consumer receives from an input provider), other customization systems keep this peer input confidential by using private messages as a communication channel (such as the customization system of the sporting goods manufacturer Adidas or the luxury car manufacturer Porsche, where other consumers cannot observe any comment that a focal consumer receives from an input provider).

The current research focuses on this natural variation of public versus private peer input types in social-customization systems and explores how they affect behavioral and evaluative consequences of a focal user conditional on user characteristics (consumer thinking styles) and social network characteristics (relationship closeness among peers). The theorizing of the current work builds on and integrates two streams of research. First, building on prior work on the role of user thinking styles in information systems (IS) [8], we propose that a match between user characteristics and system design can affect the extent of conforming product modifications in response to feedback from others. Specifically, the central proposition of the current
work is that public (vs. private) peer input mechanisms have a stronger effect for holistic (vs. analytic) thinkers, ultimately leading to greater conformity to peer input.

Second, building on the similarity-attraction hypothesis studied in prior work in IS \[2, 36\] and the effects of greater similarity on evaluative processes during system design evaluation \[1\], we propose and find that greater conformity to peer input can increase product evaluations when relationship closeness is high (either preexistent or exogenously induced by increasing similarity perceptions), but can severely diminish product evaluations when closeness is low. A series of five studies conducted in field settings provides conclusive evidence for this theorizing.

These findings make three key contributions. First, this is the first work examining how the interplay of system design characteristics in social-customization systems (public vs. private peer input mechanisms) and user thinking styles can affect the extent to which consumers modify their product configurations in response to peer input. Our findings suggest that matching public peer input with holistic consumer thinking styles can cause greater conformity, providing novel evidence of how greater “cognitive fit” between system and user characteristics in IS can affect critical behavioral and evaluative consequences for consumers \[8, 9\].

Second, the results of this research reconcile seemingly conflicting findings on the evaluative consequences of peer input in social-customization systems \[24, 31\]. Building on the role of similarity attraction effects in IS \[2, 36\], we demonstrate that high relationship closeness among peers can render the effect of greater conformity to peer input on product evaluations either positively (under conditions of high relationship closeness) or negatively (under conditions of low relationship closeness). These findings imply that declining to conform with input from close peers can in some cases negatively affect product evaluations, extending prior work on the predominantly positive evaluative consequences of strong ties among peers \[37\].

Third, the current research advances prior work on social impact theory (SIT) at the intersection of psychology and IS \[1, 37\]. Specifically, we show that the key assertion of SIT \[35\]—which suggests that multiple present peers should facilitate the impact of peer input independent of user characteristics—has an important boundary condition in the context of social-customization systems. While SIT posits that the mere number of peers should enhance the impact of input \[35\], our findings suggest that users’ thinking styles \[8, 47\] constitute an important boundary condition of SIT in the context of social-customization systems.

Research Model

Product Customization in a Social Context

We conceptualize product customization in a social context as a three-stage process: (1) The consumer creates an initial product configuration by selecting a number of product features in a product-customization system and shares it with fellow
consumers, (2) the consumer receives peer input on this initial configuration, and (3) the consumer has the opportunity to modify the initial configuration as he or she specifies in his or her final product configuration.

Most prior work on product customization in a social context has focused on the first stage and examined consumers’ motives to share their initial product configuration with fellow consumers [5, 30, 31] and how an initial product configuration may affect subsequent product modifications [27]. In contrast, little research has examined the second and third stages of product customization in a social context and the implications of how to effectively design social customization systems to affect central behavioral and evaluative consequences during product customization (such as the extent of conforming vs. unique product configurations and how a consumer ultimately evaluates products that were created under public vs. private peer input). Initial evidence on the effect of product recommendations suggests that distinct cultural orientations might explain consumers’ differential response to public versus private peer input during product customization. For example, Kramer et al. [33] found that Asian Americans responded more favorably than Anglo-Americans to product recommendations based on collective (as opposed to individual) preferences in a public choice context, whereas this effect was attenuated in a private choice context. However, whether consumers ultimately benefit from more conforming product modifications remained unclear. For example, Franke et al. [19] found that peer input during the customization process leads to greater willingness to pay for and satisfaction with the customized product, whereas Hildebrand et al. [27] showed that consumers receiving input from others end up less satisfied and perceive the overall customization experience as more onerous. The findings of Algesheimer et al. [3] suggest that the characteristics of consumers’ networks, that is, a stronger identification among fellow consumers, may reduce normative peer pressure and reactance, which may provide a conceptual link to the conditions under which greater conformity to peers may foster more positive product evaluations and when it may impede them.

Thus, although prior work has begun to shed light on how the social context may influence product-customization processes, the underlying mechanism and the interplay between users’ social network characteristics and the actual design of a customization system has remained a black box. To address these open questions, the following sections develop a research model that captures the conditions under which the design of social customization systems (i.e., public vs. private peer input) affects conformity to peer input and consumer product evaluation.

Matching Public versus Private Peer Input Mechanisms with User Thinking Styles

Currently existing social product-customization systems allow peer input to be presented either privately (e.g., via personal messages) or publicly (e.g., via online discussion boards). If presented privately, any peer input that a consumer receives is
invisible to other consumers. If presented publicly, an entire community of consumers can observe any peer input that a consumer receives. However, does this IS artifact—receiving peer input publicly or privately—have the same behavioral and evaluative consequences for consumers? Following prior research on the effect of the mere presence of others [4], we suggest that SIT [35] helps to explain the distinct influence of receiving private and public peer input. The central tenet of SIT is that a given message is more influential when the source of the message is large in number [35]. In the context of social product-customization systems, the number of peers is particularly relevant because multiple fellow consumers are virtually present when consumers receive input on their initial configurations in public (in contrast to private input where only one fellow consumer is present).

However, we propose that whether or not consumers take into account the input context of a social customization system depends on their specific thinking styles. Prior work on the design of information systems has identified user thinking styles—that is, the way that individuals acquire, process, and evaluate information [6, 8, 9, 55]—as critical factors that determine how an IS artifact affects individuals’ behavior. For example, individual differences in thinking styles have been shown to affect user preference for detailed versus aggregate quantitative reports [6]. Prior work also found that a cognitive fit between the design of information systems and thinking styles can lead to a range of positive outcomes (e.g., reduced error rates or greater enjoyment of system use [9]). A key dimension of user thinking styles is the holistic-analytic continuum. Holistic thinking is defined as the “orientation to the context or field as a whole, including attention to relationships between a focal object and the field” [46], p. 293, which has been termed field-dependent thinking [9]. In contrast, analytic or field-independent thinking tendencies are decontextualized and consider individual facets of an object in isolation. In short, holistically thinking individuals tend to see the “big picture” of a situation, whereas analytically thinking individuals tend to disaggregate the characteristics of a situation. Apart from the evidence in prior work in the field of IS, differences in thinking styles were also found to systematically influence consumers. For example, Lalwani and Shavitt [34] found that consumers with an analytic thinking style tend to separate judgments of price and quality, whereas consumers with a holistic thinking style tend to integrate price information when judging quality. This is critical in the context of social customization systems and we expect that whether consumers take into account the presence of others when they receive peer input during product customization depends on their thinking styles. As individuals embedded in a social context with a strong focus on relationships were found to develop a holistic thinking style, whereas those embedded in a social context with a low focus on relationships tend to develop an analytic thinking style [46], we expect that consumers with holistic versus analytic thinking styles respond more sensitively to situations that involve multiple consumers (as in public peer input contexts). Drawing on this link between social relationships and thinking styles, we propose that consumers with holistic thinking styles should conform to a greater extent when other peers are present when they receive that input. As a greater number of peers
(either physically present or imagined) increases the impact of a message [35], publicly received peer input should lead to greater conformity than privately received peer input for consumers with holistic thinking styles as they take into account the greater number of merely present peers in the current situation. In contrast, consumers with analytic thinking styles should separate peer input from the social context in which it is provided and analytic thinking should present a boundary condition to the effect of receiving input in public. In sum, we predict that public (vs. private) customization systems cause a greater pressure to conform to the received peer input for consumers with holistic (vs. analytic) thinking styles.

Hypothesis 1 (H1): The extent of conforming product modifications in response to peer input in public (private) settings is stronger for consumers with holistic (analytic) thinking styles.

Similarity-Attraction Theory and the Evaluative Consequences of Relationship Closeness

If, as we propose, users with holistic (vs. analytic) thinking styles will conform to a greater extent to peer input that is provided in public (vs. private), a critical question is how conforming to (vs. diverging from) peer input affects their final evaluation of a customized product? Conforming to peer input can be a double-edged sword. On the one hand, it may increase consumers’ evaluation of their final product configurations, for instance, when these product modifications correspond to consumers’ preferences. On the other hand, conforming to peer input may also decrease their evaluation of their final product configurations, especially when consumers modify their initial product configurations against their conviction.

Prior work on the similarity-attraction hypothesis [36] suggests that greater similarity between a focal user and an IS artifact can affect subsequent evaluative outcomes. In the context of decision aids, Al-Natour et al. [1] found that users evaluate an online shopping assistant more favorably if they believe that the shopping assistant is more similar to themselves. Such greater similarity between a user and a system or IS artifact can also increase the likelihood of technology adoption (see [2] for a discussion of the interaction-centric model of information technology [IT] adoption). Support for this hypothesis has been found for demographic characteristics, academic interests, leisure activities, life values, and personality similarity [42] and for a wide range of both evaluative beliefs and behaviors [18]. Consistent with this work, we expect that relationship closeness among consumers and their peers determines whether conforming to (vs. diverging from) peer input construes the final product configuration positively or negatively. Conforming to peer input comes with the risk that the final product configuration corresponds less to one’s idiosyncratic preferences [56], but this risk is particularly high when consumers receive input from peers from whom they feel particularly distant. Although consumers tend to dissociate from distant peers [53], they might also
conform to peers’ input if they feel normative pressure to do so [13]. Accordingly, consumers who conform to input from distant peers may deviate from their idiosyncratic preferences because they feel urged to do so, not because they expect that conforming to peer input improves their product configurations. Ultimately, conforming to input from distant input providers should decrease their evaluation of the final product configurations. By contrast, conforming to peer input from close peers should enhance consumers’ evaluation of the final product configurations. Close peers are key drivers of individuals’ social utility [54] and their input can be considered a form of social proof [13, 26]. More important, consumers tend to infer that the preferences of close peers correspond to their own preferences [10, 43, 50], norms, values, goals, and even their own identity [3]. Accordingly, conforming product modifications in response to peer input from close (vs. distant) input providers should lead to a greater (lower) preference fit and more favorable product evaluations.

Thus, we hypothesize that the extent of conformity to peer input increases consumers’ evaluation of the final product configuration when they receive input from close peers but reduces their evaluation when they receive input from distant peers.

Hypothesis 2a (H2a): A greater extent of conforming product modifications in response to peer input leads consumers to evaluate their final product configurations more favorably when perceived closeness to input providers is high.

Hypothesis 2b (H2b): A greater extent of conforming product modifications in response to peer input leads consumers to evaluate their final product configurations less favorably when perceived closeness to input providers is low.

In what follows, we present the results of one field study and four experiments designed to test the proposed research model (see Figure 1). Study 1 provides field evidence among actual car buyers on the positive effect of public (vs. private) input
on conformity to peer input when holistic thinking is high (Japanese car buyers) versus low (German car buyers). Study 2 corroborates these findings using a rigorous experimental paradigm with random assignment to peer input conditions and Study 3 rules out potential confounds (i.e., that holistically thinking consumers self-select public peer input). Study 4 provides evidence for our theorizing by exogenously manipulating consumer thinking styles while Study 5 provides causal evidence on the role of perceived closeness to the input providers using an attitude similarity paradigm.

Study 1: Impact of Public versus Private Input on Car Configurations across Countries

The goal of Study 1 was to examine the impact of privately versus publicly received peer input on the extent to which consumers make conforming product modifications in a field setting and whether this effect holds only for consumers in countries with predominantly holistic versus analytic thinking styles (H1). This study was based on car purchases made after consumers received input from their peers during the configuration process either privately or publicly.

Context and Data Collection

This field study was conducted in cooperation with a large German car manufacturer and we received data on 1,348 actual car buyers who shared their initial car configurations with fellow consumers either on Facebook (public) or via e-mail (private) to obtain peer input prior to finalizing their configurations and placing their orders. In particular, we obtained the data from the manufacturer’s configuration system for the time period between 2013 and 2015 across a wide range of model types (from midsized sedans to SUVs and sports cars). Car buyers were either from Germany (a Western country with predominantly analytic thinking styles) or Japan (an Eastern country with predominantly holistic thinking styles; [14, 40]) and the car configuration system in both countries was identical (apart from language differences). Using these data on car buyers’ configurations both before and after receiving peer input, we examined the extent to which these configurations were modified in response to peer input. We estimated a linear mixed model to test whether car buyers from more holistic thinking cultures made more conforming product modifications in response to public (vs. private) input. The econometric model allowed us to account for multiple observations per car buyer (some car buyers received multiple peer inputs with a total of 1,414 pairs of initial and final car configurations). We also controlled for the number of initially configured features to account for potential ceiling (or floor) effects. More formally, we estimated the following model:
ModifiedFeatures$_{ji} = \beta_1 \times \text{Input}_{\text{public}}[i] + \beta_2 \times \text{ThinkingStyle}_{\text{analytic}}[i] + \beta_3 \times \text{Input}_{\text{public}}[i] \times \text{ThinkingStyle}_{\text{analytic}}[i] + \beta_4 \times \text{NumberFeatures}[i] + \zeta_j + \epsilon_{ji}$

for car buyer $j$, configuration $i$, the buyer-specific random intercept $\zeta_j$, and the error $\epsilon_{ji}$, with

$\text{ModifiedFeatures}_{ji} = a_{j,i(1)}/A_{j,i(0)},$   

where $a_{j,i}$ measures the number of modified features of car buyer $j$ for the final car configuration $i(1)$ relative to the initial car configuration $i(0)$. $A_{j,i(0)}$ is the overall number of features a car buyer $j$ configures prior to receiving peer input on the initial car configuration. The errors $\zeta$ and $\epsilon_{ji}$ are assumed to be normally distributed, $\sim N(0, \sigma^2_{\zeta, \epsilon}).$

Results

The results of the linear mixed effects model reveal that car buyers from Japan (Germany) modified their initial car configuration to a greater extent after receiving peer input publicly (privately) rather than privately (publicly) (Japan: $M_{\text{Input [Public]}} = 28.73\%$, $M_{\text{Input [Private]}} = 10.98\%$; Germany: $M_{\text{Input [Public]}} = 7.82\%$, $M_{\text{Input [Private]}} = 17.57\%$; $\beta_{\text{Input [Public]}} = -24.754, t = -5.431, p < 0.001$; $\beta_{\text{Input [Public]}} = 15.348, t = 3.489, p < 0.01$; $\beta_{\text{ThinkingStyle}_{\text{Analytic}}} = 6.218, t = 2.218, p < 0.05$, $SD_{\text{RandomIntercept}} = 13.877$; marginal $R^2 = 0.058$; conditional $R^2 = 0.696$; see Appendixes 1 and 2 for all between-subjects mean-differences across studies). Using a fractional response model that also accounted for the individual-level heterogeneity by using a random intercept per car buyers led to similar and consistent results relative to the linear mixed model ($\beta_{\text{Input [Public]}} \times \text{ThinkingStyle}_{\text{Analytic}} = -6.357, t = -5.596, p < 0.001$; $\beta_{\text{Input [Public]}} = 3.650, z = 3.301, p < 0.001$; $\beta_{\text{ThinkingStyle}_{\text{Analytic}}} = 1.634, t = 2.321, p < 0.05$, $SD_{\text{RandomIntercept}} = 4.566$; see Appendix 1 for details). Finally, we estimated the same two models including year and car model as controls; all results remained consistent in both statistical significance and directionality. These findings provide initial evidence that consumers with holistic (vs. analytic) thinking styles indeed modify their product configurations to a greater extent when receiving public (vs. private) peer input from other consumers.

Discussion

The results of Study 1 provide initial support for our prediction that the extent of conformity to peer input depends on both how peer input is provided (in private vs. public) and on consumers’ thinking styles (holistic vs. analytic). Specifically, we
found that consumers from a country with more holistic thinking styles (Japan) modified their initial car configuration more extensively in response to public rather than private input than consumers from a country with more analytic thinking styles (Germany) (H1).

Although these findings are consistent with our theorizing, the field data may suffer from potential limitations. Specifically, the data may suffer from self-selection effects contaminating the current results (e.g., self-selection of input context, self-selection of an input provider, or the decision to invite input at all) and it may be possible that consumers from Germany (Japan) may not always exhibit an analytic (holistic) thinking style. Moreover, consumers across countries may also have varied in dimensions other than consumer thinking styles such as differences in individualism versus collectivism [29]. The following studies were specifically designed to test the underlying causal mechanism of public versus private customization systems (e.g., controlling for input content) and how this effect varies (i.e., is moderated) by consumers’ thinking styles and relationship closeness in an experimentally controlled social product-customization system.

Study 2: Random Assignment to Private and Public Peer Input

To test the causality of our theorizing in a more rigorous setting, we developed an online community platform in cooperation with a Swiss men’s dress shirt manufacturer that was used in studies 2 through 4. This online community platform allowed us to hold constant the content of the peer input that consumers receive and to experimentally manipulate peer input.

Method

Participants and Design

We recruited 103 participants ($M_{\text{Age}} = 32.50$, $SD_{\text{Age}} = 10.13$) via Amazon Mechanical Turk (MTurk) for monetary compensation and received a personal login for the online community Swiss Custom Shirts. Using a one-factor between-subjects design (private vs. public peer input), participants were randomly assigned to a private (i.e., input was only visible for the focal consumer and the input provider) or a public peer input condition (i.e., input was visible for potentially all community members). Before configuring the shirt, participants were instructed to examine and browse through the online community for five minutes (the online community featured several sites, including brief descriptions of typical community members). Participants then configured men’s dress shirts using a configurator that was identical to the actual configurator of the partner company (i.e., same features and sequence of features). Using a consequential choice paradigm, all participants were informed at the outset of the study that one randomly selected participant will receive his shirt. After participants configured their dress shirts, they were led to
believe that they received input on their initial shirt configuration from a randomly selected community member. Specifically, participants were told that they would receive peer input within the next five minutes. In the public condition, the message read: “Please note: All community members can see your shirt configuration; the feedback you receive is public.” To increase the credibility of the manipulation, the number of community members that observed this process was shown while waiting for peer input (changing every 20 seconds and ranging between three and seven members of the community). In the private condition, the message read: “Please note: Nobody other than you and the randomly chosen community member will see your configuration and the feedback you receive is kept private.”

After two minutes, participants were automatically forwarded to the received peer input. This peer input was identical (in terms of content) across conditions (i.e., “I like your shirt design. I have adjusted some shirt features—see the following table. These are just a few suggestions. Feel free to include any of my proposed adjustments if you like”). Below this text, a list with the features of the participant’s initial shirt configuration and the suggestions of the community member was shown. In both conditions, 8 out of 13 shirt features were modified in random order (we chose this number of features after discussions with the shirt provider as the firm considered this number to be realistic). Then participants were free to modify their initial shirt configuration and it was made clear across conditions that their modifications (and final shirt configurations) were not visible to the community or input provider.

Measurement

The extent of conformity to peer input was measured using the percentage of features of participants’ initial shirt configurations that they modified in the direction of the peer input. Formally, we defined the measure of conformity as follows:

\[
\text{Extent of Conformity}_{ij} := \frac{a_j}{A_j} ,
\]

where \(a_j\) represents the number of features that consumer \(j\) modifies in the direction of the received peer input, and \(A_j\) is the overall number of shirt features. Consumers’ thinking style was measured prior to receiving peer input using six items (“The whole, rather than its parts, should be considered,” “In order to understand a phenomenon, it is more important to pay attention to the whole than its parts,” “We should consider the situation a person is faced with, as well as his/her personality in order to understand one’s behavior,” “The whole is greater than the sum of its parts,” “It is more important to pay attention to the whole context rather than the details,” “It is not possible to understand the parts without considering the whole picture”; \(\alpha = 0.83; [12]\)). All measures were based on Likert scales ranging from 1 = “Do not agree at all” to 7 = “Fully agree.” As a manipulation check for public and private peer input, we asked participants how many community members they believed were present when receiving peer input, with answers ranging from 1 to 7.
Results

Manipulation Check

The manipulation check confirmed that participants in the public input condition believed that more community members were present when they received peer input than participants in the private input condition ($M_{\text{Input [Public]}} = 4.64$, $M_{\text{Input [Private]}} = 1.28$; $F(1, 101) = 311.5$, $p < 0.001$).

Extent of Conformity to Peer Input

To test whether the extent of conformity varies as a function of consumers’ thinking style (H1), we used a moderation analysis (with public versus private peer input as predictor, participants’ thinking style as moderator and extent of conformity as dependent variable), followed by spotlight analyses [51]. In support of H1 and confirming the results of the field study, the effect of public peer input on the extent of conforming shirt modifications was attenuated for participants with a more analytic thinking style ($\beta_{\text{Input [Public]}} \times \text{ThinkingStyle [Analytic]} = -0.387$, $t = -2.007$, $p < 0.05$; $\beta_{\text{Input [Public]}} = 0.388$, $t = 2.026$, $p < 0.05$; $\beta_{\text{ThinkingStyle [Analytic]}} = 0.096$, $t = 0.730$, $p = 0.47$; $R^2 = 0.083$). In addition, we calculated the level of thinking style at which the impact of public versus private input on conforming product modifications significantly differed (i.e., the Johnson–Neyman points). Above a level of 4.915 on our measure of thinking style (i.e., the more holistic thinking participants), public input led to significantly more conforming product modifications than private input. Finally, and in line with SIT [35], the simple main effect of public peer input caused a greater extent of conforming shirt modifications than private peer input ($M_{\text{Input [Public]}} = 34.91\%$, $M_{\text{Input [Private]}} = 22.00\%$; $F(1, 101) = 5.038$, $p < 0.05$).

Discussion

Study 2 provides additional support for the proposed research model using an experimental paradigm (e.g., holding the content of peer input constant across conditions and observing the extent of conformity to peer input) and provides renewed support that public peer input leads to a greater extent of conformity to peer input if consumers think more holistically than analytically (H1).

Study 3: Testing Whether Thinking Styles Predict the Choice of Peer Input

Study 3 was designed to examine whether consumers with holistic thinking styles tend to choose public over private peer input. This may confound the current findings since consumers who are more responsive to a specific type of input
might be inclined to choose that input (e.g., holistic thinkers might choose public input in anticipation that they would benefit from it). In addition, consumers are often free to choose their preferred input type in practice (i.e., they might post their product configuration in a public context and also receive input publicly). To rule out this potential confound and the possibility that the self-selection of input type might affect our results, we modified the experimental paradigm of Study 2 such that participants were free to choose between receiving public and receiving private peer input.

Method

Participants and Design

We recruited 122 participants (M\text{Age} = 31.02, SD\text{Age} = 9.64) via MTurk for monetary compensation. The design of this study was nearly identical to Study 2 (using the Swiss Custom Shirts community). We used the same public and private peer input manipulations as in Study 2 but participants were free to choose among them (“You can now choose whether you want to receive public or private feedback”).

Measurement

We used the same measures for the extent of conformity to peer input, consumers’ thinking style (\(\alpha = 0.87\)), and the manipulation check for public versus private peer input. Except for consumers’ thinking styles, all scale items were measured after receiving peer input.

Results

Manipulation Check

The manipulation check confirmed that participants in the public input condition believed that more community members were present when they received public peer input than participants in the private input condition (M\text{Input[Public]} = 4.61, M\text{Input[Private]} = 1.44; \(F(1, 120) = 173.1, p < 0.001\)).

Selection of Peer Input

The majority of participants (62 percent) selected public over private peer input. However, predicting participants’ choice of peer input using a logit model (coding public peer input as 1 and private peer input as 0) revealed no significant effect of participants’ thinking style (Beta\text{ThinkingStyle[Analytic]} = 0.157, \(p = 0.38\), AIC = 161.57).
Extent of Conformity to Peer Input

Providing renewed support of H1 using the same set of analyses used in Study 2, participants’ thinking style significantly moderated the effect of public peer input on the extent of conformity such that participants with a holistic thinking style conducted a greater extent of conforming shirt modifications when they received public rather than private peer input (Beta_{Input[Public]×ThinkingStyle[Analytic]} = −0.408, t = −1.999, p < 0.05; Beta_{Input[Public]} = 0.145, t = 0.768, p = 0.44; Beta_{ThinkingStyle[Analytic]} = 0.262, t = 1.507, p = 0.13). Above a level of 5.942 on our measure of thinking styles, public input led to a significantly greater extent of conformity to peer input than private input as identified by the Johnson–Neyman point. As a potential consequence of the self-selection of peer input, the main effect of public (vs. private) peer input pointed in the same direction as in studies 1 and 2 but was not statistically significant (M_{Input[Public]} = 32.43 percent, M_{Input[Private]} = 27.33 percent; F(1, 120) = 0.755, p = 0.39).

Discussion

The key conceptual insight from Study 3 is that consumers’ thinking styles do not predict the choice of public or private peer input. This emphasizes the independence of consumers’ choice of public and private peer input and thinking styles, and rules out the potential confound that consumers self-select a specific type of peer input to which they are then more likely to conform due to their thinking styles. The main effect of public input did not increase the extent of conformity as in Study 2, which is likely due to participants voluntarily choosing input in the current study. More important, the study shows that the hypothesis (i.e., on the interaction between thinking styles and input type) is not sensitive to consumers’ choice of input type.

Study 4: The Role of Consumer Thinking Styles

In the studies presented thus far, consumers’ thinking style was measured based on participants’ self-reports. The primary objective of Study 4 was to examine whether situationally inducing (i.e., manipulating) thinking styles moderates the effect of public input on the extent of conforming product modifications (H1). In the prior studies, consumer thinking styles were either measured (Studies 2 and 3) or varied as a function of cultural differences (Study 1). To provide a stronger test of our conceptual model and the causality of effects, the current study manipulates consumer thinking styles rather than capitalizing on natural variations in consumer thinking styles as in the previous studies.

Apart from a methodological reason to establish causality, exogenously inducing either holistic or analytic thinking styles is also managerially important. If we find support for our theorizing, then firms could directly influence the extent of conforming modifications by situationally inducing specific thinking styles. Critically,
Study 4 also examines whether and how conformity to peer input affects consumers’ evaluation of their final product configurations (H2a, H2b).

Method

Participants and Design

We recruited 193 (M_{Age} = 32.66, SD_{Age} = 10.25) via MTurk for monetary compensation and randomly assigned to one of four conditions in a 2 (private vs. public peer input) × 2 (holistic vs. analytic thinking style) between-subjects design. This study used the same experimental setting as in the previous studies. We used the most common manipulation of thinking styles, namely the Navon letter priming procedure [45]. The priming procedure was done after participants completed their initial shirt configurations. Specifically, participants in both the holistic and analytic thinking styles condition were presented with a target stimulus (large letters composed of smaller letters). In the holistic condition, participants had to type the large letters, whereas in the analytic condition participants had to type the small letters in a separate text box (this process was repeated six times with six different letters). Thus, participants were required to focus either on the overall pattern of letters (holistic thinking style condition) or the individual letters composing the overall pattern of letters (analytic thinking style condition).

Measurement

We used the same measures for the extent of conformity to peer input and the manipulation check for public versus private peer input. Perceived closeness to the input provider was measured using two items (“I can easily relate to the peer,” “I like the peer”; α = 0.87; [52]). The evaluation of the final shirt configuration was measured using four items on 7-point Likert scales (“I like the design of my shirt,” “I am satisfied with my shirt,” “The design of my shirt looks really great,” “The shirt comes close to my idea of a perfect design”; 1 = “Do not agree at all” to 7 = “Fully agree”; α = 0.95 [21]). To test the effectiveness of the thinking styles manipulation, we used the Kimchi–Palmer matching task [32], a common behavioral measure of thinking styles. We presented participants with a large shape (e.g., one large triangle) formed of smaller geometric figures (e.g., many small triangles). Participants then had to indicate which of two other figures (e.g., a square made of triangles or a triangle made of squares) was more similar to the target. Higher (lower) values on the Kimchi–Palmer matching task indicate a holistic (analytic) thinking style. We used this measure of thinking styles for consistency reasons (consistency of the Navon letter priming technique followed by the Kimchi–Palmer matching task involving a similar task requiring them to identify geometric shapes, which should be less
disruptive for participants) and to further generalize our current findings to behavioral (rather than self-reported) measures of thinking styles.

Results

Manipulation Checks

The manipulation of thinking style was effective as participants in the holistic thinking condition identified a significantly larger number of large geometric forms than participants in the analytic thinking condition (M_{ThinkingStyle[Holistic]} = 4.91, M_{ThinkingStyle[Analytic]} = 4.40; F(1, 191) = 4.066, p < 0.05). Participants in the public input condition believed that more community members were present when they received peer input than participants in the private input condition (M_{Input[Public]} = 5.05, M_{Input[Private]} = 1.37; F(1, 191) = 582.7, p < 0.001), indicating that the manipulation was effective.

Extent of Conformity to Peer Input

As this study used a 2 (private vs. public peer input) × 2 (holistic vs. analytic thinking style) between-subjects design, we used a two-way ANOVA to analyze the effect of both factors on the extent of conformity to peer input. While neither the input type (F(1, 189) = 1.452, p = 0.22), nor thinking style (F(1, 189) = 0.149, p = 0.70) significantly predicted the extent of conformity to peer input, the interaction between both factors was highly significant (F(1, 189) = 10.645, p < 0.01). As predicted by H1, post hoc contrasts revealed that public versus private peer input led to a greater extent of conformity for participants primed with a holistic thinking style (p < 0.01; M_{Input[Public],ThinkingStyle[Holistic]} = 40.20 percent, M_{Input[Private],ThinkingStyle[Holistic]} = 23.11 percent, M_{Input[Public],ThinkingStyle[Analytic]} = 25.54 percent, M_{Input[Private],ThinkingStyle[Analytic]} = 34.88 percent, see Figure 2). In addition, the contrast between the two public input conditions (primed either with a holistic or an analytic thinking style) was significant (p < 0.05), underlining the marked effect of public input for consumers with a holistic thinking style. Moreover, we estimated a linear model testing closeness as an additional main effect and moderator of the path from public versus private peer input on the extent of conformity to peer input. As expected and consistent with predictions of SIT [35], closeness had a direct effect on the extent of conformity (Beta_{Closeness} = 0.242, t = 3.481, p < 0.001; Beta_{Input[Public],ThinkingStyle[Analytic]} = -0.793, t = -2.857, p < 0.01; Beta_{Input[Public]} = 0.912, t = 1.721, p < 0.10; Beta_{ThinkingStyle[Analytic]} = 0.384, t = 1.982, p < 0.05; R^2 = 0.134), but did not moderate the effect of public versus private peer input on the extent of conformity (Beta_{Input[Public]×Closeness} = -0.102, t = -1.009, p = 0.31). These findings provide additional evidence that the proposed interaction between peer input and consumer thinking styles holds in terms of directionality and significance even after controlling for closeness among peers.
Evaluation of the Final Shirt Configuration

The results of a moderation analysis (with the extent of conformity as predictor, perceived closeness to the input provider as moderator, and shirt evaluation as dependent variable) revealed that a greater extent of conformity significantly decreased shirt evaluations but that closeness attenuated this effect ($\beta_{\text{Conformity}} \times \beta_{\text{Closeness}} = 0.251$, $t = 3.160$, $p < 0.01$; $\beta_{\text{Closeness}} = 0.403$, $t = 5.421$, $p < 0.001$; $\beta_{\text{Conformity}} = -0.290$, $t = -3.924$, $p < 0.001$; $R^2 = 0.155$). The first Johnson–Neyman point ($p = 0.05$) was at 5.543, indicating that the extent of conformity to peer input negatively affected shirt evaluations below this level of perceived closeness (74.09 percent of participants). The second Johnson–Neyman point was beyond the measurement scale. Thus, the results supported H2b but not H2a.

We also examined the possibility that thinking styles may also affect consumer product evaluations by adding thinking style as predictor of product evaluation and as potential moderator of the path from conformity on product evaluation. Analytic thinking styles neither directly affected product evaluation ($\beta_{\text{Conformity}} \times \beta_{\text{Closeness}} = 0.245$, $t = 3.048$, $p < 0.01$; $\beta_{\text{Conformity}} = -0.280$, $t = -3.003$, $p < 0.01$; $\beta_{\text{Closeness}} = 0.410$, $t = 5.471$, $p < 0.001$; $\beta_{\text{ThinkingStyle [Analytic]}} = 0.139$, $t = 1.029$, $p = 0.30$; $R^2 = 0.160$), nor moderated the effect path.

Figure 2. The Impact of Thinking Styles and Public versus Private Input on the Extent of Conformity to Peer Input (Dress Shirts, Study 4)
of conformity on evaluation (\(\beta_{\text{Conformity} \times \text{Thinking Style[Analytic]}} = -0.020, t = -0.146, p = 0.88\)) and the hypothesized interaction between conformity and closeness remained robust. These results provide further support that consumer thinking styles moderate the effect of peer input type (public vs. private) on conformity to peer input and that closeness moderates the effect of conformity on product evaluation.

Discussion

Study 4 provided a causal test of the hypothesized moderating role of consumers’ thinking style using an exogenous thinking style manipulation. Study 4 also provided initial support for the moderating role of perceived closeness to the input provider. Whereas greater conformity reduces consumers’ evaluation of the final product when consumers receive input from distant input providers, this effect is attenuated when they feel close to the input provider (H2b).

Study 5: The Role of Perceived Closeness to Input Providers

Study 4 provided evidence on the moderating role of perceived closeness to the input provider for consumers’ evaluation of the final product configuration (i.e., positive when feeling close to the input provider versus negative when feeling distant from the input provider). The purpose of Study 5 was to test the causality of this prediction (H2a, H2b) and to examine whether these findings hold even when perceived closeness to the input provider is situationally construed by the product-customization system. If our theorizing is correct, companies could directly affect consumers’ evaluation of customized products by means of the design of their product-customization systems. Thus, the major objective of Study 5 was to test the causality of the proposed moderating effect of closeness when closeness among peers is situationally induced via a similarity manipulation [2].

A second objective was to test the generalizability of our conceptual model across other types of social customization systems. As studies 1 to 4 used social customization systems in product categories with a larger fraction of males than females (i.e., cars, male dress shirts), the current study used a social customization system as part of an earring community (Pure Elegance Earring Community) where participants were invited to configure earrings for themselves. Other than that, the experimental procedure (i.e., the manipulation of public vs. private input and the input content) was equal to the one used in all previous studies.

Method

Participants and Design

We recruited 210 female participants (\(M_{\text{Age}} = 31.15, SD_{\text{Age}} = 8.71\)) via MTurk for monetary compensation and randomly assigned to one of four conditions of a 2
(close vs. distant input provider) × 2 (private vs. public peer input) between-subjects design. Participants configured one pair of earrings with a total of four features (feature levels in parentheses): a clip (4), a small module (16), an intermediate module (8), and a big jewelry module (20). The manipulation of perceived closeness to the input provider was based on an attitude similarity paradigm [11] and conducted as follows: After participants completed their initial earring configuration, they filled out a short version of the Big Five personality trait questionnaire. After that, participants were led to believe that a community member who was either similar (high closeness condition) or dissimilar (low closeness condition) would provide peer input on their initial configuration based on their answers in the personality questionnaire (i.e., sharing many [high closeness condition] or only a few traits [low closeness condition]). The manipulation of public versus private peer input was identical to the previous experiments. Finally, all participants had the opportunity to modify their initial earring configuration.

Measurement
We used the same measures to assess the extent of conformity to peer input, holistic thinking style ($\alpha = 0.83$), evaluation of the final earring configuration ($\alpha = 0.93$), effectiveness of the closeness manipulation ($\alpha = 0.91$), and effectiveness of the public versus private peer input manipulation, as in the previous experiments.

Results
Manipulation Checks
The closeness manipulation was effective, as indicated by a significantly higher level of perceived closeness to the input provider in the high closeness condition than in the low closeness condition ($M_{Closeness[High]} = 5.42$, $M_{Closeness[Low]} = 4.27$; $F(1, 208) = 37.04, p < 0.001$). The public and private peer input manipulation was effective as well, namely, participants in the public peer input condition believed that a larger number of community members were present than in the private peer input condition ($M_{Input[Public]} = 4.75$, $M_{Input[Private]} = 1.84$; $F(1, 208) = 184.70, p < 0.001$).

Extent of Conformity to Peer Input
Providing renewed support for H1, public peer input led to less conformity to peer input for participants with an analytic thinking style than participants with a holistic thinking style ($\text{Beta}_{\text{Input[Public]}} \times \text{ThinkingStyle[Analytic]} = -0.340, t = -2.473, p < 0.05$; $\text{Beta}_{\text{Input[Public]}} = 0.287, t = 2.101, p < 0.05$; $\text{Beta}_{\text{ThinkingStyle[Analytic]}} = 0.227, t = 2.453, p < 0.05$; $R^2 = 0.051$). Above a level of 4.943 of thinking style, public input led to a significantly greater extent of conformity than private input as
identified by the Johnson–Neyman point. Consistent with SIT, public peer input resulted in a significantly greater extent of conformity to peer input than private peer input (M_{Input[Public]} = 36.45 percent, M_{Input[Private]} = 26.21 percent; F(1, 208) = 3.915, p < 0.05). As in Study 4, we included closeness as main effect and moderator of the effect of peer input on conformity. While closeness directly increased the extent of conformity (Beta_{Closeness[High]} = 0.171, t = 2.311, p < 0.05; Beta_{Input[Public] × ThinkingStyle[Analytic]} = −0.347, t = −2.519, p < 0.05; Beta_{Input[Public]} = 0.583, t = 1.208, p = 0.23; Beta_{ThinkingStyle[Analytic]} = 0.272, t = 2.930, p < 0.01; R^2 = 0.093), it did not moderate the effect of public versus private peer input on conformity (Beta_{Input[Public] × Closeness[High]} = −0.051, t = −0.535, p = 0.59).

Evaluation of the Final Earring Configuration

A greater extent of conformity to peer input negatively affected participants’ earring evaluation, yet, the effect was significantly moderated by the manipulated closeness to the input provider (Beta_{Conformity × Closeness[High]} = 0.537, t = 3.828, p < 0.001; Beta_{Conformity} = −0.232, t = −2.098, p < 0.05; Beta_{Closeness[High]} = −0.038, t = −0.276, p = 0.783; R^2 = 0.076). In support of both H2a and H2b, the effect of the extent of conformity on participants’ evaluation of the final earring configuration was positive for participants in the high closeness condition (Beta_{Conformity} = 0.029, t = 3.107, p < 0.01) and significantly negative for participants in the low closeness condition (Beta_{Conformity} = −0.025, t = −2.531, p < 0.05). Higher perceived closeness had a significant negative effect on participants’ evaluation of the final earring configuration when less than 13.52 percent were modified and a significantly positive effect when more than 57.84 percent were modified, as identified by the Johnson–Neyman points (see Figure 3). We again examined the possibility that thinking styles may also affect consumer product evaluations and estimated a linear model using thinking style as predictor of product evaluation and as potential moderator of the path from conformity on evaluation. As expected, analytic thinking styles neither affected product evaluation (Beta_{Conformity × Closeness[High]} = 0.554, t = 4.004, p < 0.001; Beta_{Conformity} = −0.229, t = −2.092, p < 0.05; Beta_{Closeness[High]} = −0.023, t = −0.172, p = 0.86; Beta_{ThinkingStyle[Analytic]} = −0.207, t = −3.081, p < 0.01; R^2 = 0.117) nor moderated the effect of conformity on evaluation (Beta_{Conformity[High] × ThinkingStyle[Analytic]} = 0.054, t = 0.792, p = 0.43); while the hypothesized interaction between conformity and closeness remained robust.

Full Conceptual Model

Finally, we examined the full conceptual model using a moderated mediation paradigm involving bootstrapped estimates [25] with public (vs. private) input as independent variable, the extent of conformity to peer input as mediator, and participants’ evaluation of the final earring configuration as dependent variable. We specified thinking style as the moderator of the first path (from public input to
extent of conformity) and closeness to the input provider as the moderator of the second path (from extent of conformity on participants’ evaluation of the final earring configuration). We then estimated the conditional indirect effect of public (vs. private) input on participants’ earring evaluation (using the PROCESS Macro for R, Model 21; [24]). Specifically, the indirect effects were calculated conditional on participants’ thinking style (at the mean plus/minus one standard deviation above/below the mean) and on closeness (high vs. low condition). As expected, public peer input from close peers increased participants’ evaluation of the earrings for participants with holistic thinking tendencies (Beta = 0.199, CI95 = [0.070; 0.411]) and medium holistic thinkers (Beta = 0.091, CI95 = [0.013; 0.219]), but had no effect for participants with analytic thinking tendencies (Beta = −0.017, CI95 = [−0.155; 0.101]). Conversely, peer input from distant peers decreased participants’ evaluation of the earrings for participants with holistic thinking tendencies (Beta = −0.129, CI95 = [−0.296; −0.028]) and medium holistic thinkers (Beta = −0.059, CI95 = [−0.163; −0.006]), but had no effect for participants with analytic thinking tendencies (Beta = −0.017, CI95 = [−0.155; 0.101]). The direct effect of public (vs. private) peer input was nonsignificant (Beta = 0.015; CI95 = [−0.254; 0.284]).

Next, we included closeness as predictor of extent of conformity, as well as thinking style as predictor of product evaluation. As expected and in line with our preceding findings, the effect of closeness on the extent of conforming product modifications was significant (Beta = 15.818, CI95 = [1.579; 30.056]) and holistic (vs. analytic) thinking increased participants’ product evaluation (Beta = 0.257, CI95 = [0.064; 0.450]) while the moderations by both variables were nonsignificant.
and the indirect effect of public input via conformity remained significant and positive for holistic thinkers when receiving input from close input providers and negative for analytic thinkers when receiving input from distant input providers. Thus, all effects were consistent and remained significant even after controlling for these alternative model specifications.

Discussion

Study 5 provides causal evidence that relationship closeness (either measured or externally induced) affects how conformity to peer input influences consumers’ evaluation of their final product configurations (i.e., more positive when they feel close to the input provider and more negative when they feel distant from the input provider; H2a, H2b). These findings provide robust evidence that the closeness among feedback provider and recipient ultimately determines whether conformity to peer input boosts or dampens how consumers evaluate their customized product. Further implications for the design of social customization systems and how closeness might be exogenously induced in actual practice is further discussed in the General Discussion section.

General Discussion

Social-customization systems have become an important tool for firms in many industries and it has become a major trend to link social communities to these systems. The current study examined how the two dominant mechanisms (i.e., system characteristics) to provide peer input in social-customization systems (private vs. public) interact with the way that users of these systems process information (holistic vs. analytic thinking styles) to influence their product configurations (the extent of conformity to peer input) and how conformity ultimately affects consumers’ evaluation of their product dependent on the relationship (or closeness) among the focal consumer and his or her peers. The central proposition of this research is that the consequences of public versus private input depend on consumers’ thinking style and consumers’ relationship closeness to input providers. Study 1 provides initial evidence from actual car buyers in Japan and Germany that public (vs. private) input leads to a greater extent of modifications if consumers think more holistically (Japan) rather than analytically (Germany). Studies 2 to 4 provide experimental, causal evidence for this theorizing while studies 4 and 5 reveal that conformity has a differential effect on product evaluations such that customized products were evaluated more negatively when consumers feel distant to input providers but that they evaluate them more positively when they feel close to peers.
Theoretical Implications

The findings of this research provide three novel theoretical insights. First and foremost, the current findings shed light on how receiving peer input in social customization systems affects consumers’ final product configurations. Specifically, we show that receiving the same peer input publicly leads to more conforming product modifications when consumers’ thinking is more contextualized (i.e., holistic) rather than isolated (i.e., analytic). These findings contribute to prior work in IS that examined how user thinking styles can determine the effective use and consequences of IT artifacts [8, 9]. While prior work examined whether thinking styles lead to a preference for detailed versus aggregate quantitative reports and the general processing during system use [6, 17], the current work provides a novel look at how matching system design characteristics (public vs. private peer input mechanisms in social-customization systems) with consumer thinking styles can cause more conforming product modifications and the downstream consequences that such modifications can have for consumers’ product evaluations.

Second, the current research can also explain seemingly conflicting findings on the evaluative consequences of peer input in social customization systems. Specifically, we show that conforming to input from close peers increases consumers’ evaluation of their final product configurations, whereas conforming to input from distant peers has the opposite effect, meaning that the characteristics of the individuals’ social network (e.g., relationship closeness)—aside from dimensions on how individuals communicate with each other [57] or the content they exchange [22]—critically determines consumers’ valuation of the final customized products. While Franke et al. [19] observed a positive effect of modifying initial product configurations in response to peer input on perceived preference fit, willingness to pay, and purchase intentions, Hildebrand et al. [27] found a negative effect on satisfaction with final product configurations. Whereas Franke et al. [19] conducted their studies in a skiing community of a well-known ski brand (i.e., Edelweiser), Hildebrand et al. [27] conducted their study on an experimental community platform in which relationship closeness was arguably lower. The current work explicitly tested this potential explanation and we provide support for the notion that relationship closeness alters the effect of product modifications (either positively under conditions of high relationship closeness vs. negatively under conditions of low relationship closeness). These findings imply that declining to conform with input from close peers may negatively affect product evaluation, which also advances prior work on the consequences of greater tie strength among individuals [23] and similarity attraction effects studied in prior work in IS [1, 2, 23, 37], which found predominantly positive consequences of similar others.

Third, the current research advances prior work at the intersection of psychology and IS [1, 37]. Specifically, we show that the main predictions of social impact theory (SIT; [35]) also hold across systems in which other individuals are mainly passively present rather than actively contributing (such as the passive presence of users online). Whereas prior work [4] has shown that SIT holds in an offline retail
setting with the physical presence of other consumers, the current paper extends the robustness of the predictions of SIT in contexts that are characterized by a mere virtual presence [38, 44]. However, our findings reveal a critical boundary condition of SIT for the application to social customization systems. While SIT posits that the mere number of peers should enhance the impact of input from others [35], our findings show that consumers’ thinking style [8] is an important boundary condition of SIT in the context of social customization systems.

Overall, the current work advances (i.e., by demonstrating the impact of two critical moderators—closeness among peers and consumer thinking styles) and extends (i.e., by broadening the area of application and downstream consequences of SIT and prior work on similarity attraction effects in IS) our understanding of how the dynamics of social influence processes in social customization systems can be altered by the design characteristics of the system and the interplay between consumer and social network characteristics.

Managerial Implications

Opening product-customization systems to social input may be risky because firms cannot control the input that consumers receive. However, firms can influence in which context consumers receive peer input and can facilitate from which peers they receive that input. The results of this study answer three questions that provide guidance for firms on the effective design of social product-customization systems: (1) Should social product-customization systems be tailored to specific markets? (2) Who should provide input? (3) How can social product-customization systems be designed to support varying consumer thinking styles?

Tailoring Social Product-Customization Systems to Markets

Developing one product-customization system that is globally rolled out instead of tailored to specific markets or cultures is a de facto standard in many industries [49]. For instance, Adidas provides the opportunity to customize running shoes to meet consumers’ aesthetic and functional preferences and, subsequently, receive input on their configuration from fellow consumers. Notably, Adidas uses the same shoe configurator across all markets, independent of consumers’ cultural orientations (i.e., thinking styles). Notwithstanding the cost savings of such “one-size-fits-all” designs of social product-customization systems, the current work advocates tailoring these systems to specific markets to facilitate or impede conformity to peer input.

Facilitate Specific Input Types

Firms should monitor the number of merely present consumers when engineering social product-customization systems and develop strategies to either enhance or prevent multiple consumers from following fellow consumers’ product
configurations depending on whether they expect private or public peer input to increase consumers’ evaluation of their final product configurations. For instance, in firm-hosted social customization systems, firms can design customization interfaces such that they encourage consumers to look at other consumers’ product configurations and selectively display the number of consumers who currently observe a product configuration (as in a public peer input condition). In addition, firms can include features such as a “Who is online” or “Who is doing what” feature [38] to differentially enhance or block consumers’ perception of configuring a product in a public setting. Similarly, consumers may receive direct feedback from other consumers and the number of this feedback could be highlighted to spur further interactions [16]. An interesting implication of the current work is that the level of conformity of consumers’ final product configuration will affect not only consumers’ evaluation of the latter but also the firms’ costs. Specifically, if consumers tend to conform to a majority vote of others, it is likely that product configurations may converge toward more “average product designs.” The interesting and less intuitive implication for companies is that conforming product configurations may reduce the number of variants and thus the costs of the company providing a social-customization system [27]. Thus, from a cost-based perspective, firms may ironically benefit from conforming product modifications. However, whether the reduced costs are outweighed by a potential loss in sales of more extreme features (which may generate higher margins) requires further investigation.

Facilitate Input of Consumers Who Feel Close to Each Other

A precondition of product customization in a social context is that peers are willing to provide input to their fellow consumers and research has already shed light on how to motivate consumers to provide feedback to others [47]. However, one central implication of the current work is that merely providing consumers with the opportunity to share their initial product configurations can be detrimental. Instead, firms should not advertise sharing product configurations and receiving feedback from any user of a social customization system but to prioritize and facilitate receiving input from peers to whom they feel close. For instance, firms can highlight that close peers typically have better insight into the preferences of the focal user than more distant peers. For example, LogoSportswear, a firm providing the opportunity to design one’s own fan shirt on the basis of the colors of U.S. sports teams, suggests, “You can share your design with friends and family,” implicitly highlighting the notion that family and friends might be well-suited to provide feedback on consumers’ product designs. In communities with both close and distant peers, however, smart algorithms can categorize individuals based on a variety of target items (such as matched interests, political orientation, or simply demographic information or preferences for specific products) and thus individually match consumers with more similar peers. In addition, firms can then actively communicate these similarities among peers to further facilitate the positive effects revealed in the current work as
shown in Study 5. Thus, the implication for firms providing social-customization systems is to invest in stronger connections among consumers by stimulating participation [7], facilitating shared experiences [39], and make active use of matching users based on available user information [48].

Engineering Social Product-Customization Systems to Support Specific Thinking Styles

The current research demonstrated that redesigning the interface of a social product customization system can induce a specific thinking style (see Study 4). Thus, the interesting implication for firms is that interfaces might be specifically designed to induce a preferred thinking style (holistic vs. analytic) given the current peer input mechanism (such as public vs. private). One way to do so is to consider presenting either fully configured products—or so-called starting solutions—that are likely to induce a holistic (vs. analytic) thinking style [28] versus the standard, sequential product-customization process that is more likely to draw consumers’ attention to individual attributes and thus induce a more analytic (vs. holistic) thinking style. These directions of how interfaces can be designed to impact consumers’ mode of information processing are unexplored and warrant future research.

Overall, the findings of this research demonstrate that conformity to peer input depends on contextual factors of an IT artifact or system (public vs. private input mechanism), user characteristics (holistic vs. analytic thinking style), and the social relationship among peers (high vs. low relationship closeness). Examining the dynamics and interactions among these key conceptual dimensions, the current work provides novel insights into how firms can effectively design social product customization systems to either promote or prevent conforming product modifications and whether more conforming product modifications are ultimately beneficial or detrimental for consumers (i.e., increasing or decreasing the satisfaction that consumers derive from products that have been cocreated with other peers).

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### Appendix 1. Additional Model Comparisons between Fractional Response and Linear Mixed Model in Study 1

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*p < 0.05, **p < 0.01, ***p < 0.001
Appendix 2. Conformity to Peer Input across Studies

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