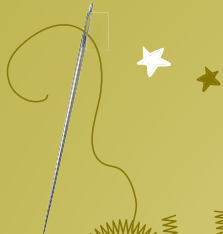


{ New Strategies }



CUSTOMIZATION



/// ... if consumers understand and communicate their preferences

CUSTOMIZATION: A GOLDMINE OR A WASTELAND?

Nikolaus Franke, Peter Keinz and Christoph J. Steger

Should firms invest in customization strategies? Customization is a “hot” topic advocated in many popular books and articles. On the other hand, spectacular failures in the recent past have raised doubts. We experimentally tested the value customization generates for customers in the diverse product categories of newspapers, fountain pens, kitchens, skis, and cereals. The findings are clear: customization by far outperforms the more traditional strategies of segmentation and mass marketing.

The Promise of Customization

“Giving the customers what they want” has been the mantra of marketing professionals for many years. However, it is not what most companies have been doing in recent decades. Instead they have been dividing the market into segments and tailoring the products to the *average preferences* of one or more of those segments — which means that the individual customer does not get exactly what he or she wants. Instead, the benefits from individual offerings are balanced with the benefits of large-scale production processes. This “segmentation” idea was first described in 1956 and quickly became one of the most powerful marketing methods in theory and practice. Until today, it has been considered an essential part of the body of knowledge in marketing, and it is discussed in virtually every marketing textbook and routinely applied by most companies in most markets.

However, two major developments have increasingly challenged segmentation in recent years. First, there is a constantly increasing supply of technology that facilitates small lot sizes and customization. As a result, the production costs for individualized offerings are declining, and the internet has brought about a dramatic reduction in the costs of communication with customers. Second, customer preferences have become increasingly heterogeneous in many markets. In turn, the customers’ demand for individualized products has clearly increased.

Thus, scholars and practitioners alike have developed high expectations regarding the potential of customization. It has been assumed in recent years that the age-old practice of targeting market segments is dominated and will be displaced by individual marketing. Practitioners also praise the merits of customization, and companies such as Adidas, BMW, Puma, General Electric, Lego,

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Nike, Procter&Gamble, IKEA and many others have begun to experiment with customization.

Opposition to Customization

However, spectacular failures in customization, such as Levi Strauss' "Original Spin" jeans and Mattel's "My Design Barbie", have raised doubts as to whether the "promise of customization" is not a false promise. Indeed, there are arguments against customization beyond increased production costs. Offering customers products tailored to their individual stated preferences might actually be misleading.

- > First, *customization requires us to specify precisely what we want* — and in many situations we might not be willing to do so. We love (pleasant) surprises. For example, many people do not find it satisfying to get a present they have specified in detail beforehand, and we usually prefer to listen to jokes we do not know over jokes we do know, let alone to jokes we devised ourselves (of course, most of us will know some painful exceptions). One could argue that these cases are somewhat special.
- > But there is a second and potentially much more important argument: *customers might not be able to specify their preferences correctly*. Research on consumer decision-making suggests that preference systems are often ill-defined, and many people have a hard time stating what they really want. If they are forced to do so, they are largely influenced by the "framing" of the situation and the way the question is asked. Therefore the individual preference statement may contain a large error term. One can argue that given such arbitrary preference statements, it is questionable whether products customized on the basis of those preferences are more beneficial to customers than standard products.
- > In extreme cases, *an adept segmentation strategy might even yield higher benefits for customers than customization*. If the segments identified capture the (common) essence of preferences within the segment and eliminate random error through aggregation, the true component of preferences is revealed — and the segment-specific products will lead to a higher preference fit than products customized on the basis of erroneous individual preference statements. Such a phenomenon is sometimes called the "wisdom of the crowd" effect. The most famous anecdote illustrating this point is about a county fair

at which a crowd of people were able to guess the weight of an ox much more accurately when their individual guesses were averaged than separate estimates made by cattle experts.

These arguments are not purely theoretical. Recent research shows that there are consumers who do prefer products based on the aggregated preferences of other consumers over products based on their own individual preferences. Such consumers prefer the default configurations provided by the producer and fail to see the opportunities offered.

The Experiment:

A Competition between Newspapers

In this study, therefore, we decided to carry out an experiment in which we would let the two marketing principles of customization and segmentation compete directly. We selected newspapers as the product category for our experiment. This category allowed us to employ concrete and relatively realistic experimental stimuli, namely by using newspapers that were actually tailored to the subjects' preferences (with varying proximity). As most consumers are at least somewhat interested in some sort of newspaper, it was possible to draw a truly representative sample of 1,279 Austrian citizens. The rationale underlying this study is simple: we simulate the strategies of customization, segmentation, and mass marketing, and we measure the resulting benefits for customers. As opposed to customization, "mass marketing" means that every customer gets the same product. This strategy is rarely employed nowadays, but it certainly used to be the norm. Recall the famous dictum of Henry Ford: "Any customer can have a car painted any color that he wants so long as it is black". We have included mass marketing in order to provide an additional comparison.

In the first step, we captured the preferences of subjects with regard to a collection of 90 newspaper headlines. The headlines included two introductory lines in order to give subjects an idea of what each article was about. We randomly selected them from 4,964 real articles released by the Austrian News Agency (APA), and the articles covered the topics of foreign affairs, domestic affairs, current events, culture, economics, science, education, media and sports. Subjects revealed their preferences on five-point rating scales ranging from 1 ("I would really like to read this article") to 5 ("I would definitely not read this article"). In the second step, we performed some calculations.

Calculating Preferences

- > Group 1 was to receive a *mass marketing product*. Therefore, we calculated the mean preference rating for each of the 90 headlines and ranked them on that basis. The ten best-rated headlines constitute our “mass marketing newspaper”, the one standard product that comes closest to the subjects’ preferences on average.
- > Group 2 received a *segment-specific newspaper*. Using the preference ratings as a basis, we conducted latent class analysis, which can be considered state-of-the-art for segmentation purposes. We calculated the optimum number of segments using the Bayesian Information Criterion and found that ten segments were best suited to our study. The ten best-rated headlines in each segment defined the respective segment-specific newspapers, that is, the product which is best adapted to the average preferences of each segment. Each subject was provided with the segment-specific newspaper that came closest to personal preferences (measured using the minimum squared Euclidian distance).
- > Defining the *customized newspapers* for group 3 was easy. For each subject, we ranked the 90 headlines according to the individual’s preferences and selected the ten highest-rated headlines. In cases where ties precluded an exact solution (e.g., when 12 headlines were assigned a rating of 1), we randomly selected the headlines from those which were tied.

Calculating Value and Willingness to Pay (WTP)

In the third step, we confronted the subjects with the experimental stimuli, namely the simulated “newspapers”, each of which comprised a selection of ten headlines in random order. We then measured the value these newspapers generated for the subjects. The key measure was the participants’ willingness to pay for the newspapers offered.

Before turning to the results, let us reflect on the conservative nature of this experiment. We first have to note that the potential effects of customization are heavily constrained. The simulated newspapers only consisted of ten headlines taken from a set of 90 (in order to ensure that the task remained manageable for subjects). In reality, most newspapers consist of approximately 100 to 300 articles, and the pool of possible news is also considerably larger (e.g. the Austrian Press Agency releases about 600 articles, the German Press Agency

about 800, and the Associated Press releases about 20 million words of news per day). In addition, our stimuli had no other content such as advertisements, weather forecasts, movie schedules or other features of potential value to some consumers. Thus, the participants in our experiment were only able to customize their newspapers to a very limited degree. The segmentation strategy, by contrast, enjoyed a far better starting position due to the considerable number of segments defined. Segmentation in real life and in much larger populations is more parsimonious. Second, we provided each individual with their “optimum” segment, that is, the segment we knew came closest to their preferences. However, in real life companies do not enjoy the privilege of such pervasive knowledge. In sum, the contest was designed in such a way that it was quite challenging for customization to outperform its rivals.

» Customers might not be able to communicate their preferences correctly. Therefore the individual preference statement may contain a large error term. «



Figure 1:
THE EXPERIMENT ON PREFERENCE FIT



The Customized Newspaper Wins

The results were highly significant. The clear finding is that newspapers customized on the basis of the customers' stated preferences won the contest. The average willingness to pay was highest for this group at 1.05 euros on average, suggesting that the above-mentioned arguments against customization can be refuted. Segmentation came in second at 94 cents, and mass marketing lost the race with 92 cents. (Figure 1)

As argued above, we could not expect huge differences in this heavily constrained setting. Against this background, the value increment of 12 % achieved by customization relative to segmentation is remarkable. For comparison purposes, consider the difference between the willingness to pay for the "so long as it is black" mass marketing newspaper and for the segment-specific newspaper. It is only 2 %. In reality, however, we can be reasonably sure that a single uniform newspaper would not fit the different preferences of the readers of USA Today, the New York Post and the Washington Post in the US market or the readers of Frankfurter Allgemeine Zeitung, Bild, and Main Echo in the German market particularly well. Seen in this light, 12 % is a large difference. It means that the benefit gain from customization relative to segmentation is *six times higher* than the gain from segmentation relative to mass marketing — which is already considerable.

Generalization into Other Markets

Is this finding — that customization outperforms segmentation so clearly — specific to newspapers, or does it point to a general pattern? In order to analyze this question, we conducted another study using a separate sample. We confronted each subject with two stimuli: one was a standard product in the relevant product category, while the other was a (simulated) customization configurator that would allow the subject to tailor the respective product to specific personal preferences. We then measured the willingness to pay each subject associated with the two products. The study was conducted independently in the product categories of fountain pens, kitchens, skis, and breakfast cereals. These products differ in terms of price level, hedonic value, and privacy of consumption. Again, we used a representative sample with a total of 1,039 subjects answering the questionnaire completely.

» Our findings show that customization also creates higher benefits than segmentation strategies in other markets — thus indicating that the superiority of customization over segmentation is independent of the specific market. «

Our findings show that customization also creates higher benefits than segmentation strategies in other markets — thus indicating that the superiority of customization over segmentation is independent of the specific market. (see Figure 2 on page 32)

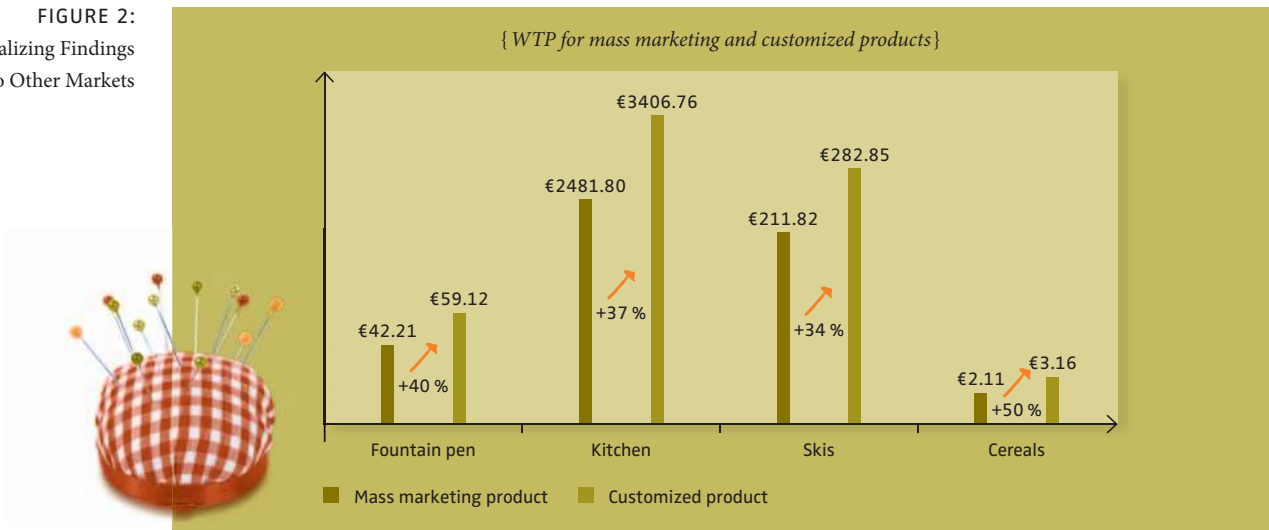
Is Customization the Best Strategy for any Customer?

Despite these clear differences, the "customization effect" depends on specific conditional variables. Customization is not the best strategy for any customer in any situation. We subjected the findings described above to statistical moderator analyses in which we examined the WTP of specific sub-groups. Based on the findings (which we do not report here), we can formulate three conditions for the value of customization:

1. *Customers must have sufficient preference insight.*

The measurement of preferences (which forms the basis for customization) can only be effective if consumers actually have reasonably well-defined preferences and are sufficiently aware of them. If consumers do not really know what they want, they will be more inclined to construct preferences based on situational cues when asked to specify product requirements — which will bring about a high error term in their preference measurements. A product constructed on the basis of this

FIGURE 2:
Generalizing Findings
to Other Markets



measurement will be of less value to the customer than in cases where a customer has clear insight into her preferences. Furthermore, a customer with low preference insight might also be less able to evaluate whether an offering truly fits her preferences.

2. Customers must be able to reveal their preference information to the company.

The famous dictum “We know more than we can tell” points to the problem that communication is not always an easy task. An individual who has difficulties expressing her preferences will again create a potentially high measurement error. Preference insight and the ability to reveal one’s preferences might be positively correlated, as both refer to the clarity of the preference system. However, these dimensions might differ in many cases, for example when an individual’s verbal skills or communication technology skills are particularly high or low.

3. The customer must exhibit high involvement in the product category.

Even if two individuals have an identical level of insight into their preferences and identical abilities to express them to the manufacturer, the benefit they derive from customization can be very different. Individuals with high product involvement put far more effort (in terms of time, ambition, and cognitive effort) into the product definition task than those with low involvement. Hence,

the preferences they express might contain a smaller error term, which in turn results in higher benefits from customization. Individuals with high product involvement might also respond more negatively (i.e., experience higher disutility) if the product does not fit their preferences.

Conclusion

> **Customized products may deliver clear consumer benefits**

In our two studies, we found that products customized on the basis of measured customer preferences deliver clear benefits to the customer. This finding is highly relevant as it provides evidence of a critical relationship which has only been assumed up to now and can be regarded as the foundation of management concepts such as mass customization, one-to-one marketing, customer relationship management, personalization, and smart agents. The relatively large increase in derived benefit (despite identical technical quality) suggests that there is a great deal of “money on the table” — customers are willing to pay far more for products that fit their preferences.

> **Cost reduction for customized production is a hot topic**

This finding underscores the high relevance of research on ways to reduce the costs of customization and indicates that such efforts are indeed highly promising.

Cost reductions can come in various forms, including further improvements in flexible production technologies, lower process costs for customers through design toolkits which are easier to use, and through more effective recommender systems. Given further progress, this suggests that individual marketing will indeed gain considerable importance relative to the traditional practices of segmentation and mass marketing, as several scholars have predicted.

> **Success depends on consumer characteristics**

However, we also show that the benefits of customization are contingent upon characteristics of the customer, namely the level of insight into personal preferences, the ability to express those preferences, and product involvement. This challenges the tendency in the popular press to advocate customization as the best possible strategy for any consumer in any situation. If customers have difficulties conveying preference information to the company (either because they are unaware of what they want or because they are not able to express their preferences properly) or they have a low level of involvement, the benefits of customization will be considerably lower.

> **Facilitating preference articulation should help**

Our finding that customization is particularly beneficial to customers with clear preference systems does not necessarily mean that customization strategies do not make sense in the opposite case. However, it does indicate that customization processes should be designed differently. In our studies, we focused on a customer-active means of preference transmission in which customers had to actively specify what they wanted. At the same time, there are alternatives which require less skill and effort from the customer than a laborious self-design process, such as smart agents or recommender systems (which require little or no customer effort). The extent to which these systems provide benefits in such situations remains a question for future empirical research. In addition, it is important to bear in mind that interaction with a customization toolkit might actually help the consumer understand and articulate personal preferences better, as it involves trial-and-error learning with simulated feedback on the outcome. •

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