

THE CUSTOMIZATION EXPERIENCE. OBSERVATIONS IN MONITORING WEB-BASED PRODUCT CONFIGURATORS

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Abstract: *The analysis of the gathered data in the Configurator Database Research Project shows dynamic patterns of growth and decline of web-based product configurator offerings over time. Various relevant evolutionary optimizations of these online available customer interaction tools shows interesting trends in reaching a more mature understanding of customer needs and in supporting technological expectations and developments.*

Key Words: *Product Configurator, Status Quo, Mass Customization, Future Trends*

1. INTRODUCTION

The Configurator Database Project started in 2007 and is the biggest online collection of web-based product configurators [1]. Since 2013 a Configurator Database Report has been published regularly, listing recent web-based configurators of various industries in different countries. The collected data of these reports give the possibility to detect patterns of growth, decline or specific trends of web-based product configurators over the time.

Web-based product configurators are crucial for the interaction between customers and companies. They are software applications which enable users to design or create their own products online, matching their needs [2].

In former times the concept of mass customization has often failed by reasons of too complex and costly customizable products or a lack in offering the required configuration options within a configuration process [3]. So it seems important to keep track of the customization market, especially customer needs and successful market participants.

As the mobile usage per day in general is rising and Generation Y, persons born between 1980 and 2000, are the first generation which favors mobile to desktop devices [4], the following paper will also examine the development of device optimized configurations from 2016 to 2017/18.

1.1. Motive of the analysis

As stated in several studies it is crucial for companies that offer web-based customer interaction tools to be aware of possible failures and opportunities or trends that go hand

in hand with the strategy of mass customization. Therefore the need to be up-to-date in terms of growth and decline patterns of web-based configurators as well as availability in certain countries and industries seems indispensable.

1.2. Structure of the analysis

The first part of the analysis will take a look at the overall development of web-based configurators within the defined industries from 2016 to 2017/18. The second part gives an overview of the status quo and ranking regarding countries, industries and product types of the 1250 web-based configurators of 2017/18. In a third part the analysis will take a glance at the top industries in the top countries and last but not least the paper determines the device optimization of the web-based product configurators as this ability is seen crucial for supporting technological expectations of special target groups.

2. CUSTOMIZATION EXPERIENCE

The concept of mass customization - to produce a large number of customized products and services with near mass production efficiency - as a business strategy gained increasing awareness and relevance for providers and customers in the last years which can be seen by the rising number of startups and companies following this trend [5]. To fulfill customers' desires and requirements it is not solely crucial to offer a customized product, but to also regard the entirety of the configuration process. Therefore core success factors of configuration systems in B2C markets are for example providing an appropriate user interface which is easy to understand, allows intuitive handling, gives support in navigating through complex choice sets and guides users to the fitting solution. These factors combined with fun in operating and a well defined solution space lead to a sustainable process satisfaction of the customer [6]. But customization experience may vary between target groups. A quantitative study (n=247) about the acceptance of mass customization by Generation Y demonstrates that this generation is said to have a distinct level of need for uniqueness, self-determination, purchasing power and familiarity to the internet and already 50% of the participants have purchased online customized products. Reasons why customization was not

applied by Generation Y even more often are that there is no dominant necessity for customized products, because there are enough products on the market which fit their needs well enough. Also missing (real life) shopping experience and lack of time as well as high effort by. e.g. downloading a configuration software are drawbacks. Furthermore limited creativity, minor quality and high costs are argued against product configurators [7].

To avoid failures in offering product configurators a software company providing a product configurator management system summed up the lessons learned when setting up configuration projects for companies. It summarized the output in five recommendations that highlight crucial success factors. First it is necessary to define the target group from the very beginning by creating personas and customer journeys. The next step is to start the configurator projects slim and stay flexible after launch. Thirdly is to do rapid prototyping if the success of the strategy is not clear. Fourthly companies should not overestimate their brand and/or product and lastly companies should track and analyse customer data and stay curious [8].

3. RESEARCH SETTINGS

The following analysis is based on the provided data of the Configurator Database Report 2016 [2] and 2017/18 [9]. The Configurator Database Report 2016 contains 1200 web-based configurators whereas the Configurator Database Report of 2017/18 lists 1250 configurators. Both reports classify the configurators in 17 different industry clusters. The defined industry categories are Accessories, Apparel, Beauty & Health, Electronics, Food & Packaging, Footwear, Games & Music, House & Garden, Industrial Goods, Kids & Babies, Motor Vehicles, Office & Merchandise, Paper & Books, Pet Supplies, Printing Platforms, Sportswear & Equipment and Uncategorized.

The companies that provide the product configurators are located in 36 different countries.

4. RESEARCH RESULTS

4.1. Overall development web-based configurators

This chapter gives an overview of the development of configurators within the defined 17 industries from 2016 to 2017/18. Moreover it shows which industries registered a growth (added) or a loss (removed) of web-based configurators.

4.1.1. Ranking industries 2016 vs. 2017/18

Figure 1 shows the number of listed configurators in 2016 compared to 2017/18 in each of the 17 industries. Industrial Goods (+61%) as well as Motor Vehicles (+24%) are the industries with the highest growth from 2016 to 2017/18. Whereas Printing Platforms (-11%) and Apparel (-9%) depict a decline from 2016 to 2017/18. As illustrated in Figure 1 more industries show a growth (10) than a decline (6) of configurators, only one industry remains the same.

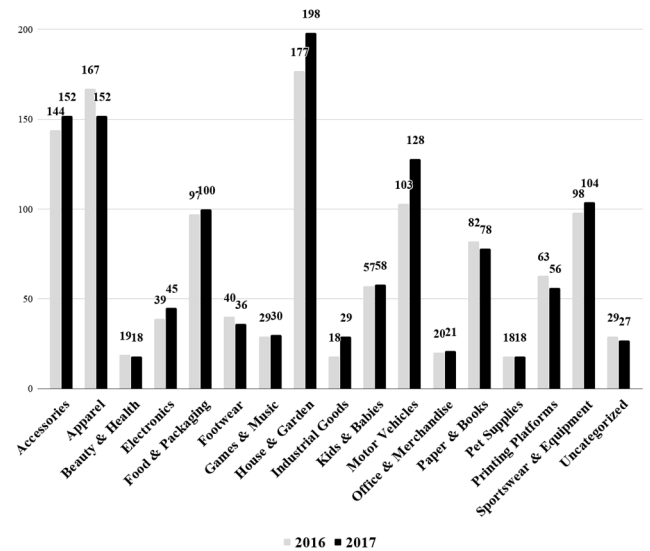


Fig. 1. Number of product configurators per industry in the Configurator Database in 2016 (n=1200) and in 2017/18 (n=1250)

4.1.2. Added configurators 2017/18

The Configurator Database Report 2017/18 registers the amount of configurators which are added within a year or removed. The industry sector Industrial Goods shows the biggest growth with 67%, followed by Electronics (28%) and Motor Vehicles (27%). Figure 2 gives an overview of the growth rates of all 17 industries, whereas apparel is the industry with the least growth (4%).

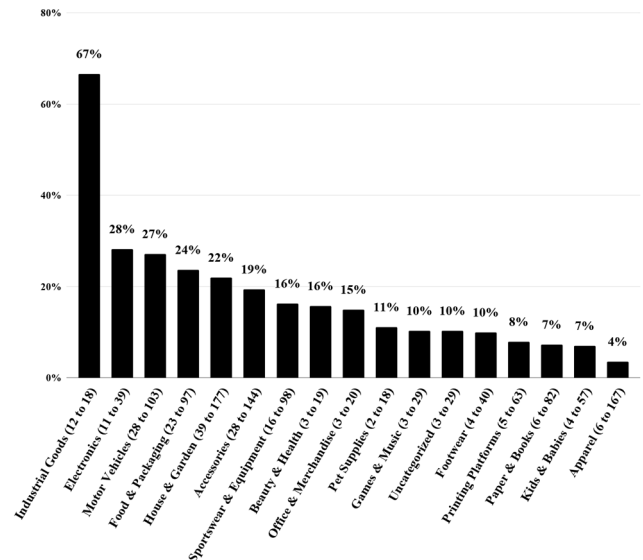


Fig 2. Added configurators 2017/18

4.1.3. Removed configurators 2017/18

Removed configurators are configurators that have been listed in the Configurator Database Report 2016, but are not available in 2017/18 any more. This may have various reasons which are not described in the report. However, Beauty & Health (21%), Uncategorized (21%) and Food & Packaging (21%) are the industries with the most removed configurators.

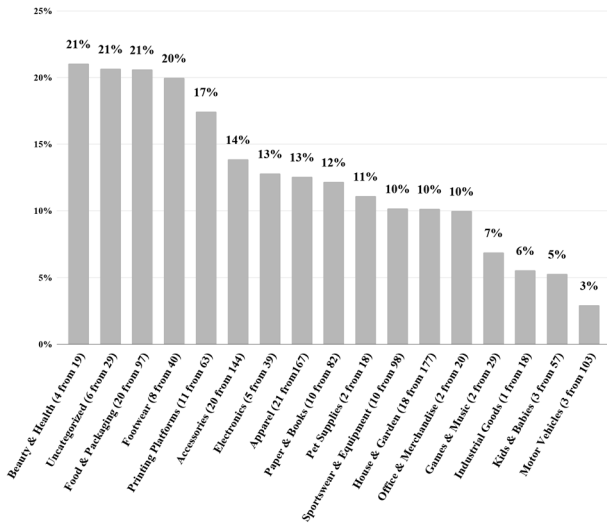


Fig. 3. Removed configurators 2017/18

4.2. Ranking of countries, industries and product types

The following part enables a deeper insight in the ranking of the top countries, industries and product types in 2017/18. It shall give a sense of which country, industry and product type is mainly used for customization purposes.

4.2.1. Ranking of top 5 countries

Germany with 525 entries (42%) and the United States with 400 entries (32%) are the top two countries companies offering product configurators are located.

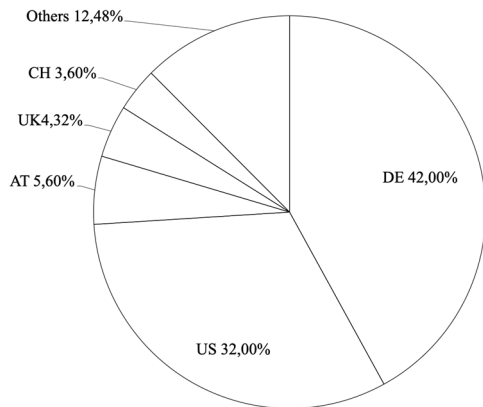


Fig. 4. Ranking countries (n=1250)

4.2.2. Ranking of top industries

The industries covering most configurators are House & Garden, followed by Accessories and Apparel. Figure 5 depicts the ranking of all 17 industries and shows that Pet Suppliers as well as Beauty & Health are the industries offering the fewest web-based configurators.

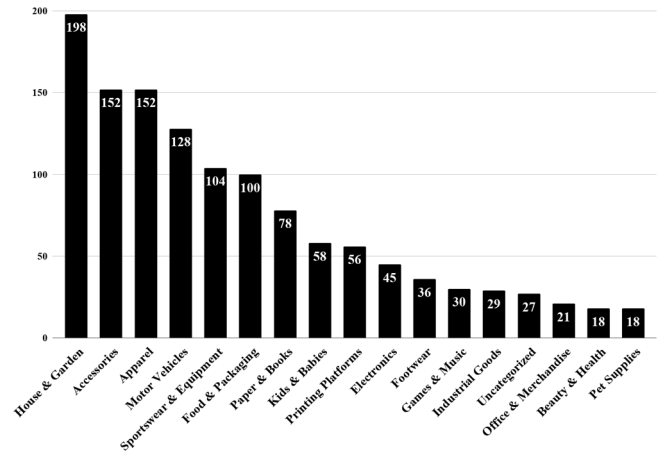


Fig. 5. Ranking industries (n=1250)

4.2.3. Ranking of top 20 product types

Each industry cluster contains a number of products that are offered by the respective company. As illustrated in Figure 6 the analysis of particular product configurators detects that Car is the product type that is found the most in the Configurator Database, although the industry Motor Vehicles, where it is part of, is only on the fourth place in the industry ranking. Further top product types are T-Shirts and Shirts which both belong to the Apparel industry.

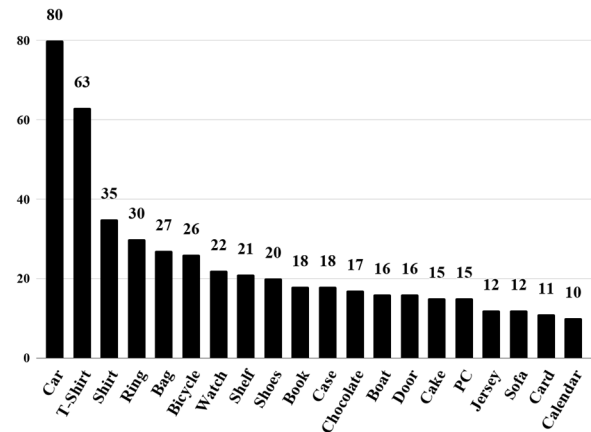


Fig. 6. Ranking product types (n=1250)

4.3. Overview of top industries in top countries

Listing the proportion of each industry in the 6 largest countries by entries enables further analysis of the structure of the mass customization landscape on a national level and allows for a more granular comparison.

The largest differences extracted from this analysis are a 19.05% share of Sportswear & Equipment in the Netherlands compared to only 8.25% in the US, a larger share of House & Garden configurators in the DACH-region with 19.43% in Germany, 24.29% in Austria and 28.89% in Switzerland compared to just 8.25% in the US. Furthermore, almost half (47.62%) of all Dutch configurators listed in the Configurator Database do not fall into one of the 7 largest industries by global average.

Since the United States is considered one of the most mobile countries in the world, whereas Germany has one of the lowest internal migration rates [10], these findings can serve as indications that commercial mass customization undertakings are developed for specific markets with differences in demands and sociocultural nuances. A hypothesis for further research regarding this finding could be that if, generally speaking, home owners in the United States are less emotionally attached to their home itself as their German peers, they might have a weaker desire to customize products from the House & Garden industry to fit their needs as close as possible which in return would decrease the viability for product configurators in said industry cluster in the United States.

Further support for this hypothesis can be drawn from the realisation that consumers who perceive greater extrinsic and intrinsic benefits if the customized product matches their preferences not only feel emotionally attached to the product but also have a positive attitude toward the mass customization program [11].

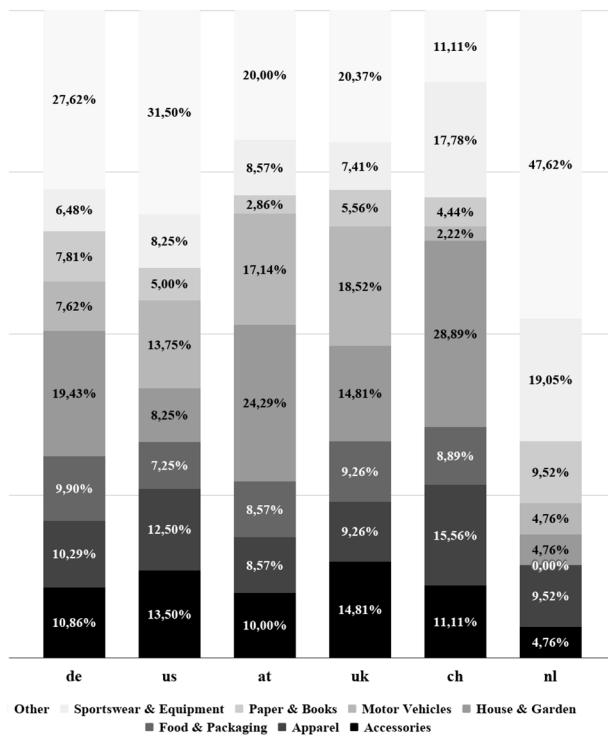


Fig. 7. Top industries in top countries

4.4. Detection of trends concerning customer needs

Chapter 1 and 2 state that mobile devices are becoming more relevant, a claim which is supported by Figure 8 depicting that in each industry the amount of device optimized configurators has been growing from 2016 to 2017/18. Beauty & Health, Pet Suppliers and Office & Merchandise are the industries with the biggest increase of device optimized configurators.

The largest absolute increases of device optimized configurators by industry can be found in Beauty & Health (44.27%-points), Pet Suppliers (41.89%-points) and Office & Merchandise (41.28%-points).

Regarding relative change we see an increase in Sportswear & Equipment from 5.0% to 33.3% (+ 567%),

in Apparel from 5.6% to 31.0% (+ 459%) and Industrial Goods from 9.5% to 42.9% (+ 350%).

The industries with the smallest rate of device optimized configurators in the 2017/18 period are Games & Music (16.7%), Apparel (31.0%) and Sportswear & Equipment (33.3%).

Interestingly a trend can be found where industries that had a above-median device optimization rate in 2016 also show the slowest increase - both in relative change and by %-points (Footwear, Electronics, Paper & Books, Food & Packaging, Accessories). Furthermore, 3 out of those 5 are even below median in 2017/18 (Paper & Books, Food & Packaging, Accessories).

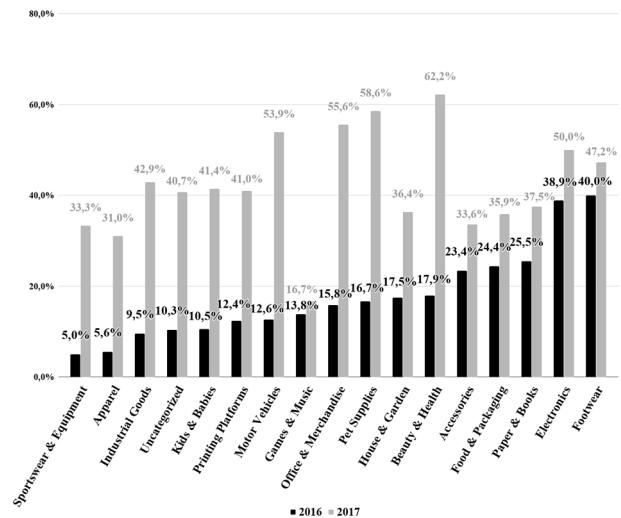


Fig. 8. Rate of device optimization by industry, comparison 2016 (n=1200) to 2017/18 (n=1250)

5. CONCLUSION

The analysis allows a brief insight into the status quo and development of web-based configurators within one year. Almost in each industry a growth or decline of interactive customization tools can be recorded, still in 10 of the 17 industries an increase of configurators is tracked. Although House & Garden is the industry providing most configurators, the product types car, T-shirt and shirt are offered most. Another interesting finding is that in all industries a rise of device optimized configurators from 2016 to 2017/18 has been detected. This may indicate that the relevance of mobile usability is becoming more relevant and may turn into a de-facto standard in the near future.

These results are interesting to look at and may give some space for interpretation, but should be analysed in detail in order to supply valid recommendations and deduction. However companies or startups dealing with customization should have an eye on the recent development of the market and its data in order to detect opportunities or possible barriers. Nevertheless talking to the customer and identifying their needs and requirements is indispensable. Also involving potential customers from the very beginning when designing a web-based configurator should be considered. Although the device optimization seems to become a crucial success factor there may be further interesting topics for research such as VR and AR.

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