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ix

Online footwear customization: Experts' overview

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ABSTRACT: The current era of valuing and sharing experiences results from the assertion of a consumer proudly eager to actively intervene in building his or her sphere of action. This emerging consumer trend is bringing closer and boosting the relationship between consumer and industry, strongly leveraged by new technologies and digital environments, blurring the boundaries between industry and consumer/user. This translates into a profound change in creation, production, and acquisition paradigms. More and more, footwear brands recognize the potential of online customization platforms. Thus, it is imperative to develop collaborative creation tools that can reduce the complexity of this process. To obtain critical information on this type of interfaces, a questionnaire was developed and applied to a group of experts. The objective was to obtain specific and exhaustive data on the researched reality and to contribute to the theoretical reflection of the collaborative design applied to online footwear customization.

1 INTRODUCTION

1.1 Theoretical framework

In recent years the footwear industry has undergone a profound paradigm shift, leaving traditional and outdated mass production to adopt mass customization approaches, giving rise to new business models (World Footwear, 2017). This update is the answer to the growing demands and specificities of the highly competitive market, that presents as key drivers differentiation and customization, in which consumers show an increasing interest in actively intervening in the construction of their sphere of action. In this way, collaborative design increasingly finds more followers supporting customer integration in the design, production, and product acquisition process (APICCAPS, 2016; Pandremenos, Georgoulias, Chryssolouris, Jufer & Bathelt, 2010).

The online footwear customization platforms emerge as interfaces with high potential in guiding and facilitating the collaborative creation process, which, in addition to bringing the customer closer to creation, also foster a more pleasant and seductive shopping experience. In turn, for the brand or manufacturer, this platforms interferes in the complexity of the production, distribution of the products, and interaction with the customer (Sandrin, Trentin, Grosso & Forza, 2017; Tseng, Hu & Wang, 2013; Wang & Tseng, 2011). It is, therefore, imperative to understand how to build these tools properly, to be capable of enhancing the added value and reducing possible obstacles of mass customization (Salvador, de Holan & Piller, 2009).

Portugal is an important player in the production of footwear on the world stage, being, therefore, an international reference with a product with high added value (World Footwear, 2017). Following the global trend, several national brands have been focusing on mass customization approaches, revealing themselves as pertinent case studies in understanding the importance of online customization platforms.

1.2 Objectives

The primary objective is to gather critical information from the industry regarding the mass customization process and, in particular, the development, operation and use of online footwear customization platforms. Thus, based on the contribution of specialists with practice in the production and marketing of customized footwear, we intend to identify the advantages and disadvantages of the process and some key elements of the communication channel.

1.3 Methodology

We decided to carry out case studies based on a questionnaire, supported by the vision and experience in the field of mass customization of a group of three experts. Considering the objective of obtaining specific, exhaustive and in-depth data on research reality, the nature of the study is based on qualitative elements. The use of a group of experts is a methodology used in several scientific investigations in the area of mass customization, namely Consortium EuroShoe (2002) and Thilmany (2009); and in the area of online digital customization and sales interfaces, particularly in Walcher & Piller (2012) and Sandrin et al. (2017). Given the limitations of this research, it was decided to resort exclusively to professionals specialized in the area of footwear customization; in particular, those

related to brands with production and online sale of customizable shoes. In this way, three players of Portuguese brands were selected: Flávio Oliveira Resende of the brand *Ben Goji*, Rafic Daud of the brand *Undandy*, and Sofia Oliveira of the brand *Josefinas*. The questionnaire was built and applied online via the *Google Forms* tool, which minimized constraints, particularly economic factors and speed in the data collection process (Roberts, 2013).

2 QUESTIONNAIRE

The questionnaire contemplated three types of responses: multiple choice, scale, and open response (short and long). All questions allowed an open or semi-open response. The semi-open answers were optional and were associated to multiple choice and scale questions, to allow addition or complementing to the object of study. This decision was made with the anticipation that the responses would reveal a wide range of opinions on the part of the experts. This is considered beneficial for the research objectives, as indicated by Consortium EuroShoe (2002). The survey was divided into four sets of questions: demographic information; mass customization in the footwear sector; implemented customization platform; and future prospects.

2.1 Demographic information

The first group contained five questions to characterize the respondent and the brand. The first two were intended to identify the respondent and their professional relationship with the brand. The remaining questions were intended to characterize the brand, namely whether it was created from the ground up, with the footwear customization approach or not.

2.2 Mass customization in the footwear sector

The second group contained four questions regarding the adoption of shoe customization approaches. Answers were possible according to a 5-level Likert scale [1 Very low - 5 Very high]. Question 2.1 aimed to know the expert's view regarding the adoption and practice of customized footwear approaches when compared to traditional methods regarding complexity, costs, value creation, profits, and viability. Question 2.2 focused on the expert's view on curiosity, trust, self-identification with the product, willingness, and overall consumer satisfaction of customized footwear. Question 2.3 aimed to determine the level of suitability of sales channels for custom footwear – traditional or online. Question 2.4 aimed to know the interest of the experts in the development of fashion communication interfaces, namely through the recognition of their importance in the shoe customization processes, a central element of the present study.

2.3 Customization platform implemented

The third group contained eleven questions related to the footwear customization platform developed and implemented for the brand, using a 5-level Likert scale [1 Very low, 5 Very high, or 1 Not important, 5 Extremely important] and open response. Question 3.1 intended to gauge information about any adversities registered in the development and implementation process. Question 3.2 aimed to determine the importance of creating an engaging experience for the user. Question 3.3 sought to analyze interactivity. Question 3.4 addressed the importance of various elements in the construction of the platform layout. Question 3.5 aimed to analyze customer service requests. Question 3.6 addressed the importance given to the perception of trust and security for the user. Question 3.7 sought to determine the importance given to the convenience of the service provided. Question 3.8 aimed to cover the experts' perception of the contribution of the platform to the building of a consumer emotional connection with the product and brand. Question 3.9 aimed to study the importance of the platform for the brand. Question 3.10 allowed the determination of possible improvement needs of the implemented platforms. Finally, question 3.11 was intended to allow the respondent a final reflection on the issues raised in this group of questions. Although it may refer to the aforementioned elements, this question allowed the expert to add new ideas that result from completing the questionnaire or that may have been omitted until then, an approach similar to that used by Consortium EuroShoe (2002, p. 43).

2.4 Future perspectives

The fourth group contained four questions regarding future prospects of shoe customization, using a 5-level Likert scale [1 Very low, 5 Very high] and open response. Question 4.1 intended to perceive the expert's view regarding the future of footwear customization. Question 4.2 intended to consider their opinion on possible incremental improvements or disruptive innovations in the online footwear customization platforms. Question 4.3 intended to understand the industry's view of the potential of combining footwear customization with 3D printing, advocated by Gandhi, Magar & Roberts (2013) and Tseng, Hu & Wang (2013). Question 4.4 complemented question 3.2 by inquiring about consumer integration actively and collaboratively in the development of the customization platform itself. At the end of the questionnaire, an authorization for disclosure of the brand name was requested for the present study and scientific publications.

3 ANALYSIS AND DISCUSSION OF RESULTS

3.1 Group 1 – Demographic information

Respondent Flávio Resende (FR) is a partner manager of the *Ben Goji* brand, founded in 2016

and introduced in 2017 when implementing customization.

Respondent Rafic Daud (RD) is CEO of the *Undandy* brand, founded in 2015 and with the implementation of customization in the same year.

Respondent Sofia Oliveira (SO) is responsible for marketing and communication of the *Josefinas* brand, founded in 2013 and with the implementation of customization in 2016.

Results: Based on the given answers, the group of experts is validated. The three brands are recent and dedicated to the production and marketing of footwear customization.

3.2 Group 2 – Mass customization in the footwear sector

Question 2.1 - Compared to traditional production methods, what is your opinion about mass customization?

Results: In the experts' responses (Table 1), there is some discrepancy between the answers given by expert SO and those of the other experts, in particular concerning the complexity and costs of the process. This can be justified by the fact that the brand strategy is different. Customization is not *Josefinas'* main approach, although they consider it a very good business opportunity. In general, the experts' response is in accordance with that posited by World Footwear (2017) and by Zhang & Tseng (2007), who indicated that although the collaborative customization allows

to better satisfy the needs of clients and corresponds to good business opportunities, it must be taken into account that it is a quite complex process.

Question 2.2 – How do you describe the consumer's behavior regarding customized footwear?

Results: The experts (Table 2) corroborate the pertinence of the present study and reinforce the conjectures presented regarding the need to restructure the footwear sector and the curiosity and interest of the consumer for customized footwear (Pandremenos et al., 2010). None of the experts left final considerations (optional).

Question 2.3 – How do you rate the suitability of the sales channel for this type of product?

Results: The experts' responses (Table 3) show agreement with other studies regarding the suitability of the online sales channel for this type of product (Chakraborty, Lee, Bagchi-Sen, Upadhyaya & Rao, 2016; Consortium EuroShoe, 2002; Kwon, Ha & Kowal, 2017). None of the experts left final considerations (optional).

Question 2.4 – How do you rate the importance of developing communication tools that assist the industry and the consumer in the footwear customization process?

Results: The experts' answers were unanimous (5 - Very high) and corroborate the pertinence of the present study and the defended conjectures, regarding the imperativeness of customizable products for brands to develop tools and solutions to

Table 1. Responses to question 2.1

	FR Ben Goji	RD Undandy	SO Josefinas
Process complexity:			
- Product design	5	5	3
- Order	3	1	4
- Suppliers	5	5	3
- Production	5	3	3
- Distribution	3	2	1
- Sales	3	2	1
- Customer support	4	4	1
Costs with:			
- Production	5	5	2
- Materials stock	4	3	2
- Production stock	1	3	2
- Distribution	5	3	1
- Sales	3	5	1
- Customer support	3	5	3
Product final price	4	3	2
Brand equity	5	5	5
Overall profitability	3	3	4
Business opportunity	4	5	4

Likert scale: 1 – Very low; 2 – Low; 3 – Moderate; 4 – High; 5 – Very high

Table 2. Responses to question 2.2

	FR Ben Goji	RD Undandy	SO Josefinas
Perception of customer's behavior:			
- Curiosity	5	5	3
- Trust	4	3	3
- Self-identification	5	4	5
- Product receptivity	5	4	4
- Willingness to pay	3	4	3
- Overall satisfaction	4	4	5

Likert scale: 1 – Very low; 2 – Low; 3 – Moderate; 4 – High; 5 – Very high

Table 3. Responses to question 2.3

	FR Ben Goji	RD Undandy	SO Josefinas
Sales channel:			
- Traditional (offline)	5	1	3
- Online	5	5	5

Likert scale: 1 – Very low; 2 – Low; 3 – Moderate; 4 – High; 5 – Very high

support the collaborative creative process, reducing its complexity (Salvador et al., 2009; Sanders & Stappers, 2008). None of the experts left final considerations (optional).

3.3 Group 3 – Customization platform implemented

Question 3.1 – How do you characterize the following possible difficulties and constraints felt in the development and implementation of your customization platform?

Results: The responses (Table 4) show some discrepancy, especially by the expert SO. This is possibly because the *Josefinas'* platform is less complex than those of the other brands. However, in general, the answers corroborate the full relevance of the present study, which proposes to contribute to a better understanding of the development of online platforms for shoe customization. None of the experts left final considerations (optional).

Question 3.2 – Rate the importance of using this type of platform to offer the user an engaging customization experience.

Results: FR and RD ranked 5 - Extremely important, and SO considered 4 - Very important. These responses corroborate the inclusion of involvement and experience as essential elements in the construction of an online shoe customization platform. None of the experts left final considerations (optional).

Question 3.3 – Regarding the interactivity powered by your online customization platform, how do you classify each of the following aspects?

Results: The responses (Table 5) were very balanced and corroborate the inclusion of interactivity as a relevant element in the development of online customization platforms, as advocated by Blasco-Arcas,

Hernandez-Ortega & Jimenez-Martinez (2016). None of the experts left final considerations (optional).

Question 3.4 – Regarding the layout and the elements that make up the current platform, how important is each of the following aspects?

Results: The experts' responses (Table 6) were similar, corroborating the importance that the layout and the elements that constitute the platform represent for the correct operation of the platform, in order to ensure a pleasant experience, as defended by Blasco-Arcas et al. (2016) and Wu, Lee, Fu & Wang (2013). None of the experts left final considerations (optional).

Question 3.5 – Considering the requests that arise from the users in the customer service, how frequent are the issues associated with each phase of the process?

Results: The disparity in the obtained results (Table 7) between the answers given by the expert SO and those of the other experts corroborates the inclusion of customer support as a relevant analysis material for the development of online customization platforms. The platform developed by the *Josefinas*

Table 5. Responses to question 3.3

	FR Ben Goji	RD Undandy	SO Josefinas
User intervention in customization	5	5	3
Product suitability	4	5	4
Relationship between:			
- Brand-Consumer	4	5	5
- Consumer-Brand	5	5	5

Likert scale: 1 – Very low; 2 – Low; 3 – Moderate; 4 – High; 5 – Very high

Table 4. Responses to question 3.1

	FR Ben Goji	RD Undandy	SO Josefinas
Financial investment	5	5	2
Market offering	4	1	2
Subcontracting need	4	5	3
Technical requirement	4	3	4
Time consumed	4	3	3
Difficulty in:			
- Defining the elements to include	4	3	2
- Obtaining the contents	3	2	1
- Defining the way of customization	4	2	2
- Defining the terms and sales policy	4	3	1

Likert scale: 1 – Very low; 2 – Low; 3 – Moderate; 4 – High; 5 – Very high

Table 6. Responses to question 3.4

	FR Ben Goji	RD Undandy	SO Josefinas
Functionality and usability	5	5	5
Navigability	5	5	5
Graphic quality	5	5	5
Information:			
- Integrity	4	5	5
- Update	5	5	5
Contents:			
- Accuracy	4	5	5
- Relevance	4	5	5
Coherence with:			
- Brand concept	5	5	5
- User profile	4	5	5

Likert scale: 1 – Very low; 2 – Low; 3 – Moderate; 4 – High; 5 – Very high

Table 7. Responses to question 3.5

	FR Ben Goji	RD Undandy	SO Josefinas
Associated with:			
- Customization	4	5	3
- Sales	5	5	2
- Cafter-sales	3	5	2

Likert scale: 1 – Very low; 2 – Low; 3 – Moderate; 4 – High; 5 – Very high

brand presents a lower level of complexity. However, it is noted that increasing complexity leads to an increase in the need for eventual support, in accordance with Harris & Goode (2010) and Zou et al. (2016). None of the experts left final considerations (optional).

Question 3.6 – Given your current customization platform and as an online point of sale, what level of importance is attached to each of the following security aspects?

Results: The responses (Table 8) corroborate the inclusion of perceived security, trust, service conditions, and customer support as a matter of analysis for the development of online customization platforms, as advocated by Chakraborty et al., (2016), Ponte, Carvajal-Trujillo & Escobar-Rodriguez (2015) and Zou et al. (2016). None of the experts left final considerations (optional).

Question 3.7 – As an online service provider through the current platform, how important is the convenience of use for each of the following aspects?

Results: The responses (Table 9) were practically unanimous and corroborate the inclusion of the ease of purchase (access, customization, and payment), ease of delivery, and ease of exchange/return as relevant analysis material to understand the development of online customization platforms, in accordance with Jiang, Yang & Jun (2013) and Sandrin et al. (2017). None of the experts left final considerations (optional).

Question 3.8 – How do you qualify the importance of the platform, considering the user´s intervention in the product creation process, in the construction of an eventual emotional relationship of the user with the product and the brand?

Table 8. Responses to question 3.6

	FR Ben Goji	RD Undandy	SO Josefinas
Perceived security	5	3	5
Trust	5	4	5
Perceived credibility	5	4	5
Conditions of use	5	5	5
Customer support	5	5	5

Likert scale: 1 – Not important; 2 – Slightly important; 3 – Important; 4 –Very important; 5 – Extremely important

Table 9. Responses to question 3.7

	FR Ben Goji	RD Undandy	SO Josefinas
Ease of:			
- Access	4	4	5
- Customization	5	5	5
- Payment	5	5	5
- Delivery	5	5	5
- Exchange/return	5	5	5

Likert scale: 1 – Not important; 2 – Slightly important; 3 – Important; 4 –Very important; 5 – Extremely important

Table 10. Responses to question 3.8

	FR Ben Goji	RD Undandy	SO Josefinas
Emotional connection:			
- User-Product	5	5	4
- User-Brand	5	5	5

Likert scale: 1 – Not important; 2 – Slightly important; 3 – Important; 4 –Very important; 5 – Extremely important

Results: The responses (Table 10) were practically unanimous and corroborate the relevance of including the theme of emotional design in the development of online customization platforms, since there is a high emotional involvement with the product/brand. (Patterson, Yu & De Ruyter, 2006; Tonetto & da Costa, 2011). None of the experts left final considerations.

Question 3.9 – How do you rate the importance of the adequate development of the online customization platform concerning the following aspects?

Results – The responses (Table 11) corroborate the pertinence of the development of the present study and agree with Salvador, de Holan & Piller (2009). None of the experts left final considerations (optional).

Table 11. Responses to question 3.9

	FR Ben Goji	RD Undandy	SO Josefinas
Efficiency of the production chain	4	5	4
Customer:			
- Satisfaction	4	5	4
- Loyalty	5	5	4
Brand:			
- Competitiveness	5	5	4
- Awareness	5	5	4
- Success	4	5	3

Likert scale: 1 – Not important; 2 – Slightly important; 3 – Important; 4 –Very important; 5 – Extremely important

Question 3.10 – Would you like to increase some aspect of your current platform?

Results: On the one hand, FR responded 'Mobile Application' considering relevant to take into account the analysis of the existence of mobile applications associated to the platforms, and, therefore, the existence of responsive design – as advocated by Jiang *et al.* (2014). On the other hand, the response given by expert RD 'The realism of the platform' refers to the importance of the graphic quality of the elements included in the platform – in agreement with Randall, Terwiesch & Ulrich, (2005) and Singhal, Pandey, Nagpal & Mehrotra (2016). The expert SO did not respond.

Question 3.11 – In your opinion, what are the main features of the platform that users prefer?

Results: FR replied 'Navigation easiness. Diversity in the choice of textures, leathers, and components,' confirming the importance of the analysis of the navigability and the offer of possible configurations in an online customization platform – in agreement with Weinschenk (2011). RD responded 'The integration of the client in the creative process,' corroborating the principles defended by co-design and that serve as a basis for the present study, defended by Tseng, Hu & Wang (2013). The expert SO did not respond.

3.4 Group 4 – Future perspectives

Question 4.1 – In the short and medium term, how do you predict the trend towards the adoption of mass customization strategies by the footwear sector?

Results: The experts FR and RD answered 3 – Moderate, and SO responded 4 - High. These answers are in agreement with World Footwear (2017). None of the experts left final considerations (optional).

Question 4.2 – How do you imagine the future of online commerce and in particular of footwear customization platforms?

Results: The responses (Table 12) corroborate the current and growing importance of online commerce and footwear customization, as well as the relevance of ongoing research in addressing the above-mentioned growing popularity of consumer collaboration in the creative process, with increasingly more companies adopting co-design measures (Gustafsson, Kristensson & Witell, 2012; World Footwear, 2017).

Question 4.3 – In the short and medium term, how do you consider combining footwear customization with 3D printing technologies?

Results: FR and RD answered 5 - Very high, and SO 4 - High. The answers are in agreement with the present investigation regarding the integration of technology that fosters the development of collaborative approaches of customization – defended by Gandhi et al. (2013), Özkil, (2017), Themes (2016) and Tseng et al., (2013). None of the experts left final considerations (optional).

Question 4.4 – Would collaborative integration of the consumer in the development of the footwear customization tool be considered as an asset? Why?

Table 12. Responses to question 4.2

	Transcription
FR *Ben Goji*	'Studies point to a strong growth in online commerce, particularly customizable products, in response to individual need of differentiation. E-commerce in Portugal is still in the maturation stage compared to other European countries but has been growing significantly in recent years. Consumers are expected to feel more familiarized and secure with e-commerce in the next years. Having said this, it is expected that in the years to come new shoe customization companies will appear.'
RD *Undandy*	'Massified'
SO *Josefinas*	'Nowadays you can no longer put the online in secondary importance.'

Results: The answers of the experts FR and RD (Table 13) indicate full agreement with the question. FR stated that collaborative work fosters the creation of new ideas and ends by indicating that the collaboration between consumer and industry results in a change of production chain paradigm. Namely, the answer indicates that creative professionals come to encompass the function of facilitating the realization of the products idealized by consumers (Sanders & Stappers, 2008). In turn, RD considered important to get contributions based on collaborative work with the user. The responses of the two experts corroborate the pertinence of this study, regarding the growing tendency of adopting co-creative approaches in design (Dubois, Le Masson, Weil & Cohendet, 2014). In turn, although SO did not respond directly to the question, she ended up referring another important aspect considered in the present investigation, namely the importance of making available the adequate

Table 13. Responses to question 4.4

	Transcription
FR *Ben Goji*	'Clearly. We all have different preferences and pretensions, based on this assumption, the active listening on what each one would like, can turn into new ideas/options of customization. Those who idealize and produce the footwear can focus their attention on the details inherent to it, dispersing what is the focus of attention of the customer.'
RD *Undandy*	'Yes, it's very important. The customer is going to use the platform and so it would be very relevant to have his/her insight first.'
SO *Josefinas*	'The consumer thinks he/she wants all the possibilities, but in fact, he/she does not want to. There should only be granted some freedom among something already pre-established (area of customization, colours, fonts …).'

478

amount of customization possibilities to the user, as indicated by Park, Youl & MacInnis (2000), Consortium EuroShoe (2002) and Weinschenk (2011).

4 CONCLUSIONS AND FINAL CONSIDERATIONS

Fashion creation and communication has witnessed significant changes at an ever-increasing pace over the past few years. This is mainly due to technological developments, in particular information systems, and to changes in the way consumers relate to brands and products (Chakraborty et al., 2016; Lee & Chang, 2011). The present study indicates that customization, despite being a complex process, is a current trend for the footwear industry. Several companies and brands provide online digital platforms that allow for collaborative customization (Piller, Lindgens & Steiner, 2012; World Footwear, 2017). We concluded that to enhance the success of a brand intending to invest in mass customization approaches, it is imperative to invest on the correct development of tools that help both the consumer and the industry in the creation, production, acquisition, distribution, and after-sale of customized products. In this sense, the following key elements were identified: the interactivity, the involvement, the layout, the contents, the customer support service, the trust, the security, and the convenience of the service provided by the customization platform. The importance of the investment in the creation of mechanisms that, autonomously, can help and guide the consumer in the construction of their customized model and help the productive efficiency was confirmed. This study is in agreement with those developed by Consortium EuroShoe (2002) and by Kwon, Ha & Kowal (2017), and allowed gathering evidence to support that this type of interactive communication channel reveals a great potential to provide an opportunity to develop a meaningful and closer relationship with customers.

The selected methodology was adequate to meet the proposed objectives. The use of an expert group, based on the questionnaire survey, contributed significantly to a better understanding of the subject under study. It is assumed that this approach is based on case studies and personal statements with subjective content and, as such, is not intended to be representative. It is not intended to draw widespread conclusions for the whole universe of online footwear customization platforms. However, the data obtained allows bringing new elements of discussion and analysis to the study of communication channels geared to the customization of footwear. The present study is expected to be continued, in order to give it a greater foundation and scientific legitimacy, using the relevant data obtained for the development of collaborative models of footwear customization.

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