Research article

Co-creation in conventional and collaborative businesses

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Abstract
This study sought to understand how consumer predisposition to co-creation varies between conventional and collaborative fashion businesses. To this end, an inductive research of quantitative nature was performed through a quasi-experiment in which two scenarios were constructed: collaborative business and conventional business. Data were obtained through a questionnaire that measured the consumer's perception with regard to dialogue, access, risks and benefits and transparency (DART) following the experiment's design. Statistical analysis consisted of descriptive, reliability, factorial and means comparison. Data analysis indicated the rejection of some hypotheses. It was concluded that there are differences in the two types of business in terms of their predisposition to co-creation, with conventional businesses exhibiting a greater predisposition to co-creation than collaborative businesses.

Keywords: collaborative consumption, co-creation, fashion business.

La co-creación en negocios convencionales y colaborativos

Resumen
Este estudio buscó entender cómo la predisposición del consumidor a la co-creación varía entre los negocios de moda convencionales y colaborativos. Para esto, se realizó una investigación inductiva, de naturaleza cuantitativa, por medio de un cuasi-experimento en el cual se construyeron dos escenarios: negocios colaborativos y negocios convencionales. Los datos fueron obtenidos a través de un cuestionario que midió la percepción del consumidor en relación al diálogo, acceso, riesgos y beneficios y transparencia (DART) después del proyecto del experimento. El análisis estadístico consistió en análisis descriptivos, de confiabilidad, factorial y comparación de medias. El análisis de los datos generó el rechazo de algunas hipótesis. Se concluyó que existen diferencias en los dos tipos de negocios acerca de la predisposición para la co-creación, encontrando que los negocios convencionales muestran mayor predisposición a la co-creación que los negocios colaborativos.

Palabras clave: consumo colaborativo, co-creación, negocios de moda.

Co-criação em negócios convencionais e colaborativos

Resumo
Este estudo buscou entender como a predisposição do consumidor à co-criação varia entre os negócios de moda convencionais e colaborativos. Para isto, foi realizada uma investigação indutiva, de natureza quantitativa, por meio de um quase-experimento em que foram construídos dos cenários: negócios colaborativos e negócios convencionais. Os dados foram obtidos por meio de um questionário que mediu a percepção do consumidor em relação ao diálogo, acesso, riscos e benefícios e transparência (DART) após o projeto do experimento. A análise estatística consistiu em análise descritiva, de confiabilidade, fatorial e comparação de médias. A análise dos dados gerou a rejeição de algumas hipóteses. Conclui-se que existem diferenças nos dois tipos de negócios quanto à predisposição para a co-criação, constatando que os negócios convencionais mostram uma predisposição à co-criação do que os negócios colaborativos.

Palavras-chave: consumo colaborativo, co-criação, negócios de moda.

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JEL classification: M30, M31, M39.


DOI: https://doi.org/10.18046/j.estger.2019.151.3055

Received: 18-jul-2018
Accepted: 25-apr-2019
Available on line: 25-jun-2019

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1. Introduction

In today’s post-industrial society, consumption can take on multiple facets; this study focuses specifically on collaborative practices. This collaborative consumption would then be motivated by the possibility of having access to goods and services in a temporary and market-mediated way, without the need for permanent purchase and possession. This configures a consumption that exploits to the maximum the potential of goods and services, besides providing engagement and social interaction (Bardhi & Eckhardt, 2012). If, on one hand, the variety of products and ease of access are the cause and effect of global markets, on the other, modern social and technological changes have also led consumers into seeking out alternative practices, meaningful consumption and a search for the meaning of life (Sawhney, Verona & Prandelli, 2005).

Because of their cultural and industrial features, businesses search for organizational solutions to improve the consumer experience and consequently create value for the consumer (Cietta, 2012; Lipovetski, 2009; Nunes & Da Silveira, 2016). Thus, one of the phenomena of adding value to something is known in marketing studies as co-creation of value, in which people express behavioral attitudes to contribute new ideas to the production of new products and, consequently, to their marketing strategies. Realizing that their ideas have been accepted, consumers relate to products in an affective manner, seeking experiences and therefore feeling that they have co-participated (Galvagno & Dalli, 2014; Prahalad & Ramaswamy, 2004a).

In the business context, environments that are open to the co-creation of value gain strength, as innovation and flexibility are the main drivers of value. To forge this path of co-creation, Prahalad and Ramaswamy (2004b) propose that building blocks for high-quality interaction be constructed based on Dialogue, Access, Risk-Benefit Assessment and Transparency (DART).

On the other hand, among market segments and considering the meanings attributed to the act of consumption, Lipovetsky (2009) highlights fashion as an important social phenomenon, in that a fashion item represents more than a consumer good (Cietta, 2012) and can take on several roles in the consumer’s mind. Fashion can be used as a tool for communication, integration, self-esteem and/or transformation (in a “therapeutic” sense, in the search for affective compensation), among others (Miranda, Marchetti & Prado, 1999; Nunes & Da Silveira, 2016).

In view of the versatility and representativeness of the fashion sector, and going into more depth regarding the context of co-creation, this study had as an objective to understand how interest in co-creation is manifested in the clothing industry. To this end, the experimental method compared how interest in co-creation is manifested in the clothing fashion sector, and going into more depth regarding the context of co-creation, the blocks that can promote it as well as the studies on collaborative consumption are explained ahead in order to substantiate the article.

2. Theoretical framework

The theoretical contribution of this study lies mainly in the analysis of the combination of concepts and practices of co-creation of value and collaborative consumption. Therefore, clothing businesses are inserted in the conceptual presentation in order to complement the pillars that guide the objective of the research. In this direction, the co-creation of value, the blocks that can promote it as well as the studies on collaborative consumption are explained ahead in order to substantiate the article.

2.1. Co-creation of value

In academic terms, the process that allows companies and consumers to interact in the creation of value is known as co-creation of value. This type of experience has led companies to focus their attention on the creation of value from the perspective of customers’ experiences (Ikeda & Modesto Veludo-de-Oliveira, 2005). Co-creation of value occurs when an organization that had previously been
product-centered, changes its perspective to focus on the consumer’s expectations.

In this direction, the consumer starts to play a fundamental role so that this service is shaped taking into account their needs and desires, and the perceptible attributes of the service or product are maximized. Therefore, the role of mediated digital networks, especially the internet, is important as it potentializes the contact between companies and consumers in an agile and direct way. This occurs when, for example, through the internet the consumer is able to maintain a dialogue with the company which, in turn, is willing to use this channel to collect information, suggestions and the like from its public about a determined service or product.

This transition, however, does not represent a transfer of activities to the customers nor customization of goods and services (Prahalad & Ramaswamy, 2004a). Co-creation of value allows producers and consumers to interact in a productive interface with an ongoing capacity to innovate and generate profits for the company (Prahalad & Ramaswamy, 2000; Vargo & Lusch, 2004). With co-creation, customers and suppliers interacting side by side, creating value in the development of new business opportunities, in which the manner in which value is created, distributed and paid for, runs counter to the traditional model of demand versus supply (Galvagno & Dalli, 2014).

The discussion about this change in roles, in which the consumer operates in partnership with the supplier, was introduced by Prahalad and Ramaswamy (2000). It concerns the collaborative interaction between customers and suppliers, and it considers value as going beyond the price system that mediates the relationship between supply and demand to a perception of intangible attributes permeated by experience, recognition, participation and personalization. Later, Prahalad and Ramaswamy (2004a, 2004c) problematized and noted the various manners in which co-creation can provide improvements, whether they are in the experiences of consumption and use (Gentile, Spiller, & Noci, 2007; Payne, Storbacka & Frow, 2008) or by spurring innovation of new goods and services (Bittner, Ostrom & Morgan, 2008; Sawhney et al., 2005).

Many studies have used the term co-creation in various areas, extending the range of theoretical approaches and perspectives in the field. To summarize and classify existing research and to understand the past and the present state of studies regarding co-creation, Galvagno and Dalli (2014) undertook a bibliographic review of the literature and identified three main theoretical perspectives.

The first is the perspective of the science of services, in which co-creation is considered intrinsic to the service, “as if service could not exist without co-creation” (Galvagno & Dalli, 2014, p. 650). For the authors listed in this line of thought, every service implies co-creation, this being the center of the theoretical development of the science of service oriented to innovation (Vargo, Maglio & Akaka, 2008; Ostrom et al., 2010; Maglio, Vargo, Caswell & Spohrer, 2009; Bittner et al., 2008). The second is the perspective of innovation and technology management, which studies structural engineering and the flow of interaction with consumers in service, innovation and value creation (Nambisan & Nambisan, 2008). The third is the perspective of marketing and consumer research, which examines the role of the consumer in the process of co-creation and his or her motivations for engaging and interacting with businesses (Bolton & Saxena-Iyer, 2009; Dong, Evans & Zou, 2008).

Although they adopt different approaches, these perspectives share a common perception of the consumer as a collaborator who interacts with the business to create mutual value for the participants, and they all perceive the need for a support system that can process these entries and convert them into actionable information (Grönroos, 2012). Based on these approaches, this study considers studies related to the culture of consumption, in which co-created value represents meaning (Peñaloza & Mish, 2011).

Consulting consumers’ opinions (Han, Seo & Ko, 2017) to obtain insights into the development of new products or marketing strategies is nothing new (Bendapudi & Leone, 2003). What is new is that businesses operate in a network environment, which increases involvement with larger groups of consumers and provides interaction with them through continuous exchanges of value (Prahalad & Ramaswamy, 2002). In this direction, Gupta, Karb, Baabdullah & Al-Khowaiterd (2018) observed in a survey that analyzed the integration of co-creation with the use of big data in fashion retail organizations that such interactions, based on knowledge between customers and the sales force of these organizations, are what actually form the core of co-creation. The findings revealed that big data can actually assist in the co-creation of knowledge, which, in turn, can properly lead to the making of decisions based on evidence, effectively and efficiently, for better commercial returns in this business.

From the perspective of fashion, competitive advantages derive from constant interaction with consumers through environments focused on experience. Since the consumer is satisfied with the consumption experience in this integrated environment, companies increase their ability to spread through their networks of contacts, identifying opportunities to have a greater effect on them (Morais, 2014). Then, the companies can develop methods of sharing, including interactive virtual spaces, communities and platforms for engagement in which consumers express their views regarding how goods and services can be improved or customized and even the feelings they have while consuming.

In this sense, Prahalad and Ramaswamy (2002, 2004b, 2004c) note the need to create an environment of experience in which consumers can create their own customized and unique experiences. It is impossible to put a price on this type of experience, which represents a source of competitive advantage. This environment should be built essentially from four key building blocks that promote co-creation: Dialogue, Access, Risk-Benefit Assessment and Transparency (DART).
2.2. DART: Building blocks of co-creation

Activities related to the DART co-creation building blocks (Figure 1) constitute a systematic process that can transform consumer efforts into exclusive competitive advantages (Taghizadeh, Jayaraman, Ismail & Rahman, 2016). Understanding these dimensions or building blocks makes it possible to evaluate a company’s institutional readiness for co-creation of value and reflect on the use of internal structures and policies suitable for a co-creation environment (Albinsson, Perera & Sautter, 2016).

The first building block, Dialogue, is about replacing traditional one-way communication with processes that promote a two-way flow of information, encourage greater interaction and enable the consumer to take an active role in creating experience (Callegaro & Brasil, 2012) in a relationship of mutual equality in the search for solutions to problems. According to Taghizadeh et al. (2016), this interaction is not only about stating the company’s views or predisposition to listen to the consumer; rather, “it requires deep involvement, animated interactivity, empathic understanding and a will on both parts to act, especially when they are in disagreement” (Prahalad & Ramaswamy, 2002, p. 10). Therefore, dialogue promotes not only knowledge sharing but also, above all, understanding and a good relationship between a company and consumers. It is also dialogue that provides an opportunity for taking into account the consumers’ view of value in the process of co-creation (Prahalad & Ramaswamy, 2002).

The second building block, Access, is designed to mediate and facilitate Dialogue such that the company can clarify when, where and how consumers can co-create value (Prahalad & Ramaswamy, 2001). Access concerns the ease with which the consumer can consult and have access to the processes and resources by which value is created and products delivered (Albinsson, Perera & Sautter, 2016). This facility involves developing channels of communication between the company and the consumer, which should be performed in a manner that encourages participation and involvement by the consumer in this interactive environment (Callegaro & Brasil, 2012).

The third building block, Risk-Benefit Assessment, aims to ensure the consumer’s safety in the co-creation process, because as the consumer’s involvement in this process increases, he or she may be willing to take on additional responsibility, provided the company provides information about the risks or benefits associated with the consumption, delivery and production of specific goods and services (Taghizadeh et al., 2016).

Although traditional companies consider that this disclosure could pose a threat to their relationship with the consumer, strategic co-creation suggests that the consumer should be observed as a partner working together to optimize processes and add value. This proactive action offers companies new opportunities to stand out from their competition (Albinsson et al., 2016; Prahalad & Ramaswamy, 2002). Additionally, the act of informing the consumer of potential risks and benefits strengthens the relationship of trust between the company and consumers (Taghizadeh et al., 2016) and reduces the perceived asymmetry of information (Callegaro & Brasil, 2012).

Finally, the fourth block, Transparency, entails providing consumers with information about business operations. In strategic co-creation, companies share data considered confidential, as they reveal aspects of the company’s inner workings. This information can be of various types, including profit margins, details of product development, and even transaction fees and security operations (Albinsson et al., 2016; Prahalad & Ramaswamy, 2002). From the point of view of traditional commerce, making this information public could mean giving up the process of value creation (Albinsson et al., 2016; Prahalad & Ramaswamy, 2002).

These building blocks therefore rely on building a suitable environment for strategic co-creation. For effective Dialogue to occur, the consumer must understand the Access and the Transparency of the company. Similarly, Access and Transparency imply the need for information about the Risks and benefits associated with goods and services.

2.3. Collaborative consumption

In recent years, consumer choices have been undergoing changes motivated by changing values, as some consumers pay more attention to the fact that resources are limited. In the fashion market, this reorientation toward consumption that is more socially engaged at a socio-political and environmental level has led to the incorporation of these value proposals. This has evolved into “a holistic, sustainable and shared market approach” (Morais, 2014, p. 105).

In their attempt to conceptualize collaborative consumption, Felson and Spaeth (1978) view this process as constituting events in which people consume goods or services together. However, this definition focuses only on coordinated consumption, overlooking the acquisition and distribution of resources, which, according to Belk (2007), are elements necessary for collaborative consumption, as they involve some type of remuneration, such as bartering, trade or other types of non-monetary compensation.

Subsequently, Botsman and Rogers (2011) expanded...
the concept, considering that collaborative consumption is a means for combining needs and desires from a more sustainable and less costly perspective, taking into account the exhaustion of resources and seeking to obtain the most use possible out of products. Approaching this argument, Iran, Geigerb and Schrader (2019) highlight the resizing of the price awareness in those involved in this modality of consumption.

This concept constitutes consumption that makes the best use of a good’s or service’s potential and provides social engagement and interaction. Access-based consumption may relate to systems for commercial sharing (Lamberton & Rose, 2012), product service systems (Tukker; 2004), systems based on use rather than possession (Leismann, Schmitt, Rohn & Baedeker, 2013), or financial leasing contracts (Fisk, 1973), in which access to resources is more important than ownership (Ostrom & Hess, 2007).

In time, Baumeister and Wangenheim (2014) highlight that one of the main differences between the access and the ownership is in the format of the transaction and its final consequence. While the ownership is defined when the good actually becomes a possession of the buyer, the access gives only the provisional right to use it. Although both can occur through monetary trade or other exchanges.

In addition to these aspects, Belk (2014) considers mediation by the Internet one of the principal features of collaborative consumption and states that what collaborative ventures have in common is “an ability to help people find things through the Internet” (Belk, 2014, p. 1598).

Thus, collaborative consumption allows two forms of participation: the “provider partner” or “loaner,” that is, the person who furnishes goods for rent, sharing or loaning and the “user partner” or “obtainer,” who consumes the available goods and services (Botsman & Rogers, 2011). The key feature of collaborative consumption is that the same person can play both roles, which, in Scaraboto’s opinion, means that consumers have the ability to “change roles, engage in embedded entrepreneurship and collaborate to produce and access resources” (Scaraboto, 2015, p. 166).

The consumer’s decision to engage in this type of consumption may vary according to their motivations. According to Pizzol (2015), these motivations are mainly related to transcendence (in particular, universalism) and openness to change, whereas values related to power (status, prestige, control) and tradition are also motivators but express themselves with less intensity. In the same way, another study of Barnesa & Mattssonb (2017) indicates that consumer intentions to rent, for example, are driven primarily by perceived economic, environmental and social benefits through the mediator of perceived usefulness, in turn driven by a sense of belonging to the sharing community. The social influence did not play a role. When making word-of-mouth recommendations, in addition to these factors, consumers also take website trust into account, underpinned by the structural assurances of the website.

Finally, there are numerous forms of collaborative consumption that serve each type of motivation.

In a study by Lang and Armstrong (2018), the authors observed that retailers who provide clothing rental services, for example, may provide the rental of clothes from new collections soon after they are released into the market, that is, consumers can use these new fashions earlier by renting them. The results, in this study, indicated that three personality traits - fashion leadership, need for uniqueness, and materialism - significantly influence the intention to rent and swap clothing; “Further, personality indirectly influences the intention to adopt collaborative consumption through attitude, perceived behavioral control, and past sustainable behavior” (Lang & Armstrong, 2018, p.1).

Nevertheless, despite the many variations in scale, maturity and purpose, Botsman and Rogers (2011) argue that collaborative consumption can be organized into three systems.

The first is the product service system (PSS) through which a company transforms products it owns into a service by loaning them (Botsman & Rogers, 2011). According to Lamberton and Rose (2012), these systems are also characterized by rivalry, exclusivity and availability of the shared products. The second type is redistribution markets, in which goods that are not being used are redistributed to places where they can be useful. Social networks and the use of the Internet have broadened the scope of these markets through free or paid exchanges or donations, which entail transfer of ownership and co-ownership (Belk, 2007). The third type, collaborative lifestyles, involves the sharing of less-tangible assets by people with similar interests. These forms of sharing include local sharing of workspaces, tasks, time, messages, food and skills. Through the use of the Internet, these forms of sharing extend beyond the local level. The focus of exchanges in this system is social interaction (Botsman & Rogers, 2011).

Although there is a growing concern that collaborative consumption is increasingly following a conventional rationality of payments and market profits, thus harming its early social and civil society aspects (Fraange & Spaargaren, 2019), in these three systems, once can perceive a strong interaction between the final consumer and the agent who mediates the relationships, making it a suitable environment for co-creation. Thus, regarding collaborative fashion consumption, several initiatives fit these systems. In fashion, which has historically emphasized individualism and values focused on the need to feel unique, these collaborative principles aim at collectivism and connection through relationships, while expressing new meanings that encourage consumers to become more involved in the cause through a relationship of co-creation.

3. Methodological procedures

3.1. Research hypotheses

In the first construct of co-creation related to Dialogue, Albisson et al. (2016) highlight the need for the company to provide various communication channels and show an interest in contacting consumers to dialogue and hear their views on how to improve the supply of goods and services.
The perceived need for ongoing dialogue in collaborative consumption gives rise to hypothesis H1.

- **H1**: Collaborative clothing businesses have more dialogue with consumers than do conventional businesses.

The second hypothesis addresses the ease of Access, through which consumers identify how, when and where they can co-create value with the company, with a view to stimulating consumer engagement in this interactive environment, with online interaction being widely used in collaborative consumption (Aigrain, 2012). Moreover, there is a versatility of roles in which a single subject can be both consumer and provider (Ertz et al., 2016). The second hypothesis arises from these premises.

- **H2**: Collaborative clothing businesses give consumers more access than do conventional businesses.

In the third building block, which concerns the perception of Risks and Benefits, Albinsson et al. (2016) and Ramaswamy (2008) emphasize that the company should present the risks and/or benefits associated with the business and with consumption of the goods and services. As a general rule, to strengthen trust among people who do not know each other, collaborative businesses generally place a high value on making these issues clear, with monitoring and communication systems to provide the consumer with more security (Bardhi & Eckhardt, 2012; Ostrom, 2000). However, the collaborative fashion business has been on the market for less time than traditional businesses and thus has less experience with consumer interaction in terms of the risks and/or benefits involved in consumption (Morais, 2014). Thus, the study’s third hypothesis (H3) arises:

- **H3**: Conventional clothing business offer greater awareness of the risks and benefits than do collaborative businesses.

Regarding the fourth building block, Transparency, Albinsson et al. (2016) and Prahalad and Ramaswamy (2001) highlight the company’s willingness to provide information about itself and about consumption such that the consumer feels safer and more confident. The fact that collaborative clothing consumption is based on relationships involving a great deal of trust and that the company’s transparency has a strong influence on these relationships, gives rise to the study’s fourth hypothesis.

- **H4**: Collaborative businesses are more transparent than conventional businesses.

### 3.2. Experimental design and building of the scenario

The study was conducted with two groups, the first of which was controlled by the second, given the nature of the phenomenon studied, which does not lend itself to the technique of using a control group. A quasi-experimental design was therefore chosen in which each task was applied to a separate group, and the group’s behavior was controlled via statistical comparison (Shadish, Cook & Campbell, 2001). Given the non-probabilistic nature of the quasi-experiment, the number of study participants was decided by the practical standards of convenience and access (Hair Jr, Celsi, Ortinau, & Bush, 2014).

Research participants were exposed to two scenarios, a simplified version of reality that allows for greater experimental control. **Scenario 1** represented a co-creation experience in a virtual environment of collaborative clothing consumption, specifically, the House of Bubbles’ website [http://www.houseofall.co/bubbles](http://www.houseofall.co/bubbles). This company describes itself as collaborative consumption, as it provides the customer access to clothing items without the obligation to own them (Bardhi & Eckhardt, 2012) and allows the user to be a provider: that is, the same individual can rent someone else’s clothes and make their own clothes available for rental (Ertz et al., 2016). House of Bubbles works through a subscription model, with three plans whose prices are determined by the amount of clothes the consumer can exchange during each store visit. The client can visit the store and exchange items of clothing as many times as he or she wishes.

**Scenario 2** represented a co-creation experience in a virtual environment of conventional clothing consumption, specifically, the website of the company King55 [http://www.king55.com.br/](http://www.king55.com.br/). To control other variables that could threaten the experiment, a conventional business that has a concept very similar to the collaborative business was chosen. In its concept, King55 advocates preserving the environment, with some parts hand-made from sustainable and environmentally responsible raw materials.

The two businesses are similar in terms of the types of clothing, promotion of environmental sustainability, attractive environment and presentation of cultural events that allow for greater interaction and a distinctive consumption experience.

#### 3.3. Methodological precautions

To avoid threats that could compromise the internal and external validity and the experiment’s conclusions, several precautions were taken in designing the experiment, according to table 1 (Shadish et al., 2001; Wainer, 2012).

#### 3.4. Data collection, organization and analysis

The experiment consisted of four episodes of application during the months of October and November 2017. The procedure was performed by the researcher herself, together with undergraduate students, at the computer laboratory at a private university in João Pessoa, Paraíba State, Brazil.

Each participant received a task that asked him or her to try out co-creation in the scenario corresponding to his or her group. The task consists of actions the participant undertakes on the website: 1) observe the whole virtual environment, especially the company’s “who we are”
section; 2) send a message to the company (the participant is free to compose the content of the message, as this section is intended to measure the ease of using the communication channels; 3) seek specifications of the goods and services without highlighting the price; and 4) identify the limitations declared by the company (lease of use, service, product, service, logistics, etc.).

Subsequently, the subjects answered questionnaire items according to the DART Scale (Albinsson et al., 2016). A Likert scale was used, with responses from 1 to 10, as this type of assessment is widely used and easily understood by the respondent. In each application, a task list was randomly distributed with instructions to be performed and a link to the online form with the questions to be analyzed and developed in Google Forms. The scale questions used were also randomly distributed on the form, such that no item would influence another item’s response. The application lasted on average 30 minutes, as foreseen in the methodology. There were a total of 144 respondents, divided equally between the stimuli.

The data were analyzed via statistical techniques performed using the R and SPSS software packages, including descriptive analyses (frequency and mean), reliability analysis (Cronbach’s alpha), factorial analysis and comparison of averages (Mann-Whitney U test and the Kruskall Wallis test).

4. Results and discussion

Regarding gender, the collaborative business group contained an equal number of female and male respondents; in the conventional business group, males (63.8%) outnumbered females. Regarding income, most of the respondents have monthly incomes between BRL 2,005.00 (US$ 518.08 approximately – April/2019) and BRL 8,640.00 (US$ 2,232.55 approximately – April/2019), but the other income ranges also accounted for a significant percentage. The sample was largely made up of young people, under the age of 24 (table 2).

4.1. Psychometric analysis of the constructs

To aggregate the items related to the scale constructs (Dialogue, Access, Risk-Benefit Assessment and Transparency), an initial analysis of the feasibility of using exploratory factorial analysis was undertaken, and the factorial analysis itself was then performed, considering the measures of variance and the factorial scores. In addition, reliability analysis was performed with the aim of verifying the internal consistency of the scale.

Factorial analysis made it possible to detect whether any of the construct items were measuring factors differently than the other items. The Kaiser-Meyer-Olkin (KMO) test and Bartlett’s sphericity test were performed for each construct to verify the data’s adequacy for factorial analysis. Cronbach’s alpha test was used to analyze the internal reliability of each construct and how much the exclusion of any item impacted the coefficient.

The KMO index values, which indicate that Factorial Analysis is appropriate, vary from one author to another. This study used the approach adopted by Hair, Anderson and Tatham (1987), which considers values between 0.5 and 1.0 to be acceptable; a value less than 0.5 therefore indicates that factorial analysis is unacceptable.

4.1.1 The Dialogue construct

First, the results of the KMO test and Bartlett’s sphericity test were observed. In the Dialogue construct, the KMO was 0.825, and the test of sphericity was statistically significant (chi-square = 294.272; 10 degree of freedom [gl]; p-value = 0.000), which indicated its adequacy for factorial analysis (table 3).

Despite these adjustments, the item “the business promotes dialogue with consumers” presented a value much less than considered acceptable (< 0.6). This could be explained by this item’s great similarity to other items. The choice was made to exclude this item, which did not compromise the scale’s reliability, as Cronbach’s alpha was 0.849, and significantly increased the total variance.

<table>
<thead>
<tr>
<th>Table 1. Summary of the experiment</th>
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<td><strong>Item</strong></td>
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<td>Dependent variable</td>
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<td>Stimulation and instruments</td>
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<td>Design Scenario</td>
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<td>Experimental group</td>
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<td>Control group Test units</td>
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<td>Task</td>
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Source: own elaboration.
4.1.2. The Access construct

The KMO test yielded a result of 0.500, and Bartlett’s test of sphericity revealed sufficient statistical significance of the data to perform the factorial analysis (chi-square = 12.394, 1 gl, p-value = 0.000). However, this construct consists of three items from the original scale, one of them being eliminated by face validity due to its similarity to the others. The construct was thus left with only two items, communality and factor scores (Table 4).

Pearson’s correlation test was also performed (0.290, p = 0.000) and revealed a low correlation between the items, meaning that this construct was not suitable, as proposed on the original scale, given that the indicators in the factorial analysis were not satisfactory, as indicated in the table above. This inadequacy can also be observed in Cronbach’s alpha, which was less than 0.7. Despite the inadequacy of the construct, it was decided to keep it in the analysis in light of the fact that the results may have been due to the absence of other items on the scale that adapt to the Brazilian context.

4.1.3. The Risk-benefit construct

For the Risk-Benefit construct, the KMO test yielded 0.668, and Bartlett’s test of sphericity was considered acceptable (chi-square = 93.132, 3 gl; p-value = 0.000). The factorial analysis was therefore performed, yielding the data reported in Table 5.

One factor alone obtained an eigenvalue greater than 1, explaining 65.3% of the total variance. Although they appear appropriate for factorial analysis, the items “the business showed me the drawbacks of its service” and “I was informed about the benefits of the business so that I could make decisions” presented communality rates below the acceptable level. The items were therefore excluded, as they contained text similar to that in other items. The exclusion did not compromise the scale’s reliability, as it obtained a Cronbach’s alpha of 0.717 and increased the total variance.

4.1.4. The Transparency construct

Analysis of the Transparency construct yielded an acceptable KMO of 0.6, and it was considered adequate for

Table 2. Sample profile

<table>
<thead>
<tr>
<th>Gender</th>
<th>Category</th>
<th>Frequency (Freq.)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Collaborative</td>
<td>Conventional</td>
<td>Collaborative</td>
</tr>
<tr>
<td>Female</td>
<td>36</td>
<td>50</td>
<td>26</td>
</tr>
<tr>
<td>Male</td>
<td>36</td>
<td>50</td>
<td>46</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Category</th>
<th>Frequency (Freq.)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Until 24 years</td>
<td>112</td>
<td>77,8</td>
</tr>
<tr>
<td></td>
<td>25-34 years</td>
<td>26</td>
<td>18,1</td>
</tr>
<tr>
<td></td>
<td>Above 34 years</td>
<td>6</td>
<td>4,2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Income</th>
<th>Category</th>
<th>Frequency (Freq.)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Until BRL*1,254</td>
<td>36</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>BRL1.255 – BRL 2,004</td>
<td>32</td>
<td>22,2</td>
</tr>
<tr>
<td></td>
<td>BRL 2.005 – BRL 8,640</td>
<td>52</td>
<td>36,1</td>
</tr>
<tr>
<td></td>
<td>BRL 8.641 – BRL 11,261</td>
<td>9</td>
<td>6,3</td>
</tr>
<tr>
<td></td>
<td>Above BRL 11,262</td>
<td>15</td>
<td>10,4</td>
</tr>
</tbody>
</table>

* BRL - Brazilian Money (Exchange April/2019 – BRL3.87 = US$1.00)

Source: own elaboration.

Table 3. Communality, factor scores and Cronbach’s alpha of Dialogue

<table>
<thead>
<tr>
<th>Item</th>
<th>Communality</th>
<th>Factor Scores</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>The business seems receptive to suggestions about how to improve my experience with the service.</td>
<td>0.695</td>
<td>0.834</td>
<td>0.849</td>
</tr>
<tr>
<td>I see that the business is interested in communicating with consumers about the best ways to plan and deliver a high-quality service.</td>
<td>0.620</td>
<td>0.788</td>
<td></td>
</tr>
<tr>
<td>I see that the business uses a variety of channels of communication to encourage exchanges of ideas with consumers.</td>
<td>0.529</td>
<td>0.727</td>
<td></td>
</tr>
<tr>
<td>I feel like I can talk to the business about how to add value to the service they are going to deliver.</td>
<td>0.575</td>
<td>0.756</td>
<td></td>
</tr>
<tr>
<td>I see that the business makes it easy for me to communicate my opinion about the service.</td>
<td>0.722</td>
<td>0.849</td>
<td></td>
</tr>
</tbody>
</table>

Source: own elaboration.
factorial analysis by Bartlett’s test of sphericity (chi-square = 139.591; 6 gl and p = 0.000). Factorial analysis was therefore undertaken, as reported in Table 6.

Because all the items presented scores greater than 0.6 in the factorial analysis, no exclusion was necessary. A single factor exhibited an eigenvalue greater than 1, explaining 56.8% of the total variance. Cronbach’s alpha was 0.735, reinforcing the internal reliability of the construct items. Considering the analyses and adequacy resulting from factorial analysis, the items were aggregated by calculating the average score.

4.2. Descriptive measures

Position measures (mean, median, first and third quartiles), a dispersal measure (standard deviation) and a form measure (kurtosis asymmetry) were employed. In the analysis, the following parameters were used for the position measures: 1-4 (low), 5-7 (moderate) and 8-10 (high). For the standard deviation, up to 2 was considered low dispersion, between 2 and 3 was considered moderate dispersion, and above 3 was considered high dispersion. The form measures followed the SPSS standards, in which variation from -1 to 1 indicates a variable with a normal distribution.

Table 7 presents the descriptive statistics of the Dialogue construct. In general, both groups exhibited moderate-to-high level means and medians, with low standard deviation and a slightly funnel-shaped distribution. Considering the groups, it was observed that the mean and median indicated that respondents perceived a greater willingness to Dialogue in the conventional business than in the collaborative business, with less dispersion in the conventional group; the same result appears in the third quartile, in which 75% of the respondents in the collaborative group answered up to 8.95, whereas in the conventional group, 75% responded up to 9.20.

In general, the data from the descriptive analysis of the Access construct revealed position measures in the moderate-to-high range (between 7 and 8) with low dispersion (1.86) and form measures within the normal range, as reported in Table 7. Regarding the groups, in both mean and median values with low dispersion, the respondents consider that conventional businesses are more open to hearing the opinions of consumers in the co-

<table>
<thead>
<tr>
<th>Table 4. Communality, factor scores and Cronbach’s alpha for Access</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item</strong></td>
</tr>
<tr>
<td>The business presents several options for society to decide how to participate.</td>
</tr>
<tr>
<td>It is easy for people to participate in the business as much as, wherever and however they want to.</td>
</tr>
</tbody>
</table>

Source: own elaboration.

<table>
<thead>
<tr>
<th>Table 5. Communality, factor scores and Cronbach’s alpha of Risk and Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item</strong></td>
</tr>
<tr>
<td>I was informed of the risks of the business.</td>
</tr>
<tr>
<td>I received information about the benefits of the business.</td>
</tr>
<tr>
<td>The information I received from the business is sufficient to decide whether or not I want to support it.</td>
</tr>
</tbody>
</table>

Source: own elaboration.

<table>
<thead>
<tr>
<th>Table 6. Communality, factor scores and Cronbach’s alpha for Transparency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item</strong></td>
</tr>
<tr>
<td>I understand the information about the business.</td>
</tr>
<tr>
<td>I see that the business is willing to give me more information about the service if I ask.</td>
</tr>
<tr>
<td>I believe my opinions about the business will be respected.</td>
</tr>
<tr>
<td>The business reports the costs involved in the design and delivery of the service to society.</td>
</tr>
</tbody>
</table>

Source: own elaboration.

<table>
<thead>
<tr>
<th>Table 7. Description of the “Dialogue” construct</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item</strong></td>
</tr>
<tr>
<td><strong>Groups</strong></td>
</tr>
<tr>
<td>Collaborative</td>
</tr>
<tr>
<td>Conventional</td>
</tr>
<tr>
<td>Overall</td>
</tr>
</tbody>
</table>

Source: own elaboration.
creation process, characterizing greater Access. The third quartile (75%) confirms this proposition, as conventional businesses achieved values close to the maximum score.

Regarding the Risk-Benefit construct, Table 8 indicates that overall, the means and medians were moderate, with a moderate score of 6.00 in the 25% quartile and 8.33 in the 75% quartile. The data dispersion was low in relation to the construct, and the form measures converge on a normal distribution.

As with the other constructs, the scores of the position measures of the Risk-Benefit factor was greater in the conventional consumption group, with a more pronounced difference in the median (more robust measure than outliers), which scored 8.0 in the conventional group and 6.33 in the collaborative group. Regarding the standard deviation, the value obtained also indicated less dispersion of opinions [1.63 in the conventional business versus 2.11 in the collaborative business]. It can be inferred that the respondents consider the conventional business to be more forthcoming about the risks and benefits involved in the consumption of their product (Table 9).

Table 10 presents the descriptive analysis of the Transparency construct. Overall, the mean and median were high, with a moderate standard deviation and a form tending to that of normal distribution. Breaking down the analysis by group, it is clear that the mean and median of this construct also indicated that respondents perceived greater transparency in the conventional business than in the collaborative business, with less dispersion of opinions in the conventional group; 75% of the responses in this group were close to the maximum value of the scale, according Table 10.

Finally, the descriptive analysis of the co-creation aggregate variable, which was the mean of the four constructs, was performed. The data are presented in Table 9, which reveals a higher mean and median in the conventional consumption group, with a lower dispersion of opinions among the respondents. The 25% quartile obtained a moderate score of 6.37 and the 75% quartile was almost 8.45 in the group that received the collaborative stimulus. In the conventional consumption group, the 25% quartile had a moderate score of 6.94, and the 75% quartile was almost 9.04 (Table 11). Although the differences between the groups were small, being less than 1.0 in the position measures, the respondents were found to be more engaged with the conventional business in all constructs.

This analysis was able to identify the behavior of the sample’s respondents in terms of each of the co-creation-scale constructs. It was also possible to compare the differences in the responses between the people who accessed the website of the collaborative clothing company (House of Bubbles) and those who accessed the website of the conventional clothing company (King55).

In all the constructs, the mean and median were greater in the group that received the conventional business stimulus, with the greatest differences found in terms of the Risk-Benefit construct and the Transparency construct. However, the descriptive differences in a study may only be due to differences in the sample, meaning that if the study were repeated with a different sample, the results might be different.

Therefore, to determine whether these differences are merely quantitative or statistically sound, non-parametric
tests were performed to assess whether the groups are actually different, as explained below.

4.3. Analysis of the differences between the groups

Two non-parametric tests were performed to assess whether the variables had different responses in the two collection contexts. The first was the comparison of means, which Malhotra (2012) says is best evaluated using the Mann-Whitney U test. The Kruskal-Wallis test was also performed; this test is an extension of the U test and is used to compare two or more independent samples in terms of the similarity of distribution.

Table 12 presents the results obtained, and when the null hypothesis is rejected, it means that differences exist between the groups. When the null hypothesis is retained, no significant differences are identified.

The tests indicated that the only construct that did not differ between the groups was Access. This can be justified by the inadequacy of the items, as demonstrated by the factorial analysis. The other items exhibited differences between the groups, which implies that the predisposition to co-creation is different between conventional and collaborative clothing businesses.

4.4. Analysis of the hypotheses

Regarding the study’s first hypothesis (H1), although the tests identified significant differences between the groups, these differences indicated that consumers perceived greater potential for dialogue in conventional consumption. Three of the four basic principles of collaborative consumption proposed by Botsman and Rogers (2011) – critical mass, belief in the common good, and trust among strangers – point to the need for strong communication between the consumer and the company. However, hypothesis (H1) was rejected by this study’s analysis. This result indicates that collaborative businesses in the fashion industry still need to open more communication channels and promote greater contact between the company and the consumer, as it is likely the consumer may not be familiar with this business model, requiring more contact between the company and the consumer to explain it. Another aspect to be considered is that because this type of good has many specific characteristics, it may raise questions in the consumer’s mind about its size, state of conservation and so forth, in addition to questions about the operation of the business model, which highlights the greater need for dialogue.

Hypothesis (H2) was rejected in the context of clothing, which indicates that in addition to making use of various means of communication, the sharing of clothes requires more engagement and responses to the consumer, to explain and promote the manners in which the consumer can communicate with the company. It is worth considering that although this construct was revealed to have limitations in the factorial analysis and did not present significant differences in the tests performed, it was decided to maintain it and consider the descriptive measures to reject the hypothesis. This clarifies that reformulating or adding items to the constructs analyzed may generate different results.

Hypothesis (H3) was accepted, indicating that conventional businesses are better at pointing out the possible externalities involved in the consumption of goods. Although it is clear that collaborative businesses need to develop expertise in these aspects to strengthen their fundamental principles, conventional businesses are observed as having greater experience in the management of Risks and Benefits, especially in terms of the fashion industry. It therefore follows that in establishing communication with consumers, collaborative businesses should provide more detailed information to help the consumer perceive how that business could harm or benefit him or her. To this end, the two previous constructs [Dialogue and Access] could work together to improve risk management.

Finally, hypothesis (H4) was rejected by the study’s findings, as the researchers found the conventional business studied to be more transparent than the collaborative business. It is worth keeping in mind that this level of transparency cannot always be found in all conventional fashion companies, being more common in companies with

<table>
<thead>
<tr>
<th>Item</th>
<th>Position Measures</th>
<th>Dispersion Measure</th>
<th>Form Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups</td>
<td>Mean</td>
<td>Median (Q2)</td>
<td>Q1</td>
</tr>
<tr>
<td>Collaborative</td>
<td>7.129</td>
<td>7.33</td>
<td>6.370</td>
</tr>
<tr>
<td>Conventional</td>
<td>7.919</td>
<td>8.23</td>
<td>6.941</td>
</tr>
</tbody>
</table>

Source: own elaboration.

Table 11. Description of the aggregate ‘co-creation’ variable

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Mann-Whitney U Test</th>
<th>Kruskal-Wallis</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dialogue</td>
<td>0.045</td>
<td>0.045</td>
<td>Reject the null hypothesis</td>
</tr>
<tr>
<td>Access</td>
<td>0.321</td>
<td>0.321</td>
<td>Reject the null hypothesis</td>
</tr>
<tr>
<td>Risk-Benefit</td>
<td>0.000</td>
<td>0.000</td>
<td>Reject the null hypothesis</td>
</tr>
<tr>
<td>Transparency</td>
<td>0.023</td>
<td>0.023</td>
<td>Reject the null hypothesis</td>
</tr>
</tbody>
</table>

Source: own elaboration.
more clearly defined value proposals that encourage co-creation.

Of the study’s four hypotheses, only one was accepted. It is worth noting that in the fashion industry, the type of business is a comparatively less important factor in determining predisposition to co-creation, as it is necessary for managers to develop strategies to broaden the scope of information about the business and the goods it sells, in addition to being open to dialogue with the consumer.

5. Final considerations

This study addressed the subject of consumer behavior with regard to the co-creation of value in the fashion segment. It sought to assess differences in consumer perceptions of conventional and collaborative businesses.

By testing the hypotheses, it was observed that consumers have a different perception of these aspects of co-creation in conventional businesses than they do in collaborative businesses. The descriptive analysis revealed that consumers identified more channels of communication, better access to these channels, more detailed information about the positive and negative impacts of consuming the products, and greater transparency regarding the company’s purposes and limitations in conventional businesses than in collaborative businesses.

Although the differences are relatively small, the hypothesis tests indicated that they are statistically significant, indicating less Dialogue, Access, Risk-Benefit Assessment and Transparency in the conventional business than in the collaborative business.

These findings lead to the conclusion that as the consumers’ perception of value is more closely tied to the company’s value proposal than to the good itself, collaborative businesses need to articulate their means of interacting with the consumer in the digital environment for the consumer to be willing to co-create. Even if collaborative businesses are based on principles that promise to generate an enhanced benefit in relation to other consumption formats, these premises need to be more clearly highlighted, such that the consumer better understands how it works, and feels like a participant.

A comparison between collaborative and conventional clothing business with regard to DART showed that conventional fashion shops seek to develop the building blocks of co-creation with consumers, in the hope of instilling meanings in the consumption that extend beyond the perception of value as a price, providing value of experience also. In this manner, new forms of consumption, such as collaborative consumption, need to devote more effort to focusing on the fundamental principles of collaborative consumption proposed by Botsman and Rogers (2011) and in the consumer’s motivations for this type of consumption, according to Pizzol (2015). In addition, efforts should be focused on effective, accessible and transparent communication that contains a detailed description of the company and its products in a manner that makes the consumer a co-participant in the business, as he or she has the opportunity to collaborate in the business [Scaraboto, 2015].

It was concluded that there are differences in the two types of business in terms of their predisposition to co-creation, with conventional businesses exhibiting greater predisposition to co-creation than collaborative businesses in terms of all constructs. These differences are related to strengthening the relationship with the consumer to present their value proposal and provide the means and information that allow the consumer to feel safe and interested in co-creation. It was observed that in the respondents’ opinion, the conventional business studied developed the four building blocks of co-creation (DART) more than the collaborative business did.

The management implications involve issues of valuing the consumer’s opinions, communicating with the consumer and instilling consumption meanings in the generation of value. In this manner, collaborative clothing businesses can further explore the value proposal, the social impacts of bringing strangers together and sharing lifestyles, the social impacts of reducing excessive production and taking fuller advantage of a product’s potential, increasing short-term access to high-value products at affordable prices and introducing opportunities to generate extra income (Belk, 2007, 2014; Botsman & Rogers, 2011).

In academic terms, the study contributed to the research regarding collaborative co-creation and consumption by systematizing its evolution and lines of thought, thereby contributing to future studies. In addition, the Albinsson et al.’s scale (2016) was tested in the contexts of both conventional and collaborative clothing consumption.

As a limitation, the two businesses were not compared in the scenarios in terms of the businesses degree of DART. Therefore, a more consistent analysis was not possible in this optical. In the same way, only one business was used in each condition (collaborative or conventional business). Increasing the number of businesses in future surveys, other results may emerge.

Conflict of interest

The authors declare no conflict of interest.

References


