

# OPEN COLLABORATION STRATEGY OF INTERNATIONAL RETAILERS: AN ANALYSIS OF CO-CREATOR<sup>1</sup>

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## ABSTRACT

*Nowadays, online channels provide better distribution and communication strategies between companies and consumers. The importance of establishing online tools based on innovations and customer participation, is equally applicable to the international retail sector. Retail companies are able to reach consumers through their online channels, providing better ways to stand out from competitors. The options of joint open collaboration between international retails brands and its consumers implicate a transformation about the traditional communication between customers and companies. The objective of the present work is to analyze how the consumer experience is perceived after its participation in online co-creation actions, proposed by retail brands in the United Kingdom and Spain. The main purpose of this research is to consider how online co-creation initiatives, in the fashion industry sector, have a significant influence on co-creation experience, as well as, on relevant aspects, such as engagement or customer satisfaction.*

## Keywords:

Co-creation experience; Engagement; Satisfaction; Fashion industry; Cultural comparison UK-Spain; Structural equation model

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## **1. Introduction**

In the textile distribution sector, defining customer preferences from a single perspective is highly complex. The wide variety of options in fashion retail and the similarity between the brands in the market, is highly recommended looking for possibilities which offering differentiation to the customers. Therefore, within sectors such as the industrial or service sector, the idea of proposing actions based on innovation (Sørensen, Sundbo & Mattsson, 2013) stands out. Market agents that offer products and services are incorporated into an economy of experience, based on managing new avenues to create differentiation (Binkhorst, 2008) and also, better capture for the customer's attention. The ways of management in the services industry, arises from the research with diverse studies. Some of them are based on the importance of the use of innovation (Brentani, 2001); Others, focus on those results that can be applied by innovation applications (Cainelli, Evangelista & Savona, 2004; Oke, 2007) or how it is relevant to apply innovations during certain periods of time (Nohria & Gulati, 1996). In the importance of applying key elements to create and develop new services (Ostrom, 2010), as are the innovation processes. The evolution of the current markets, has generated that the asset of value is considered by the consumers as a relevant asset, where the brands, become fundamental elements of creation of value, intervening in the levels of confidence and fidelity of the clients (De Chernatony & McDonald, 1992). Online platforms, such as the website of a textile brand, help in a remarkable way so that the brands in this sector can implement alternative connections with their customers, beyond their online sales, applying strategies of innovation and differentiation. In this way, the customer can interact with the textile brand from a closer and participatory approach, which also brings greater identification with it. In the fashion industry, designs are currently managed with new tools that allow the consumer to make decisions (Piller, 2004; Franke & Piller, 2004) and because of this, the consumer is in an opened and personalized environment, being able to better develop their purchasing preferences, with specific collaboration actions with the brand. So the importance is that the consumer, is currently integrated in the processes of development and creation of new products (NPD-process) in an interactive way with the company (Dahan & Hauser, 2002; Yazdani & Holmes, 1999).

## **2. Theoretical Background**

### ***2.1. Co-creation value with new customers***

In the business context, current companies are aware of the importance that their customers have the best experience consuming products or services for any sector. New Technologies of Communication and Information (ICT) are the perfect platform for companies when the role of customer, acquires greater importance and value. The new creation or the design about new products and services and customizing or adding any kind of appearance of them, in company creation processes, are the most important things for new companies strategies. Products or services that consumers want, ensuring a good acceptance in the market, and also, it means a maximization of value according to their preferences, since they are the ones who have given the information for the whole creation process. Currently, changes are appeared in business strategies approach, and consumers are coming by powerful and strength decision over several options of creating new products or services. There are authors who place consumers in the processes of collaboration or help in the design of products, as a new approach in the creation and delivery of messages and information (McConnell & Huba, 2006). Others, indicate that in this type of collaboration and innovation processes, a revolutionary change of consumer takes place adopting a new creator role (Nadeau, 2006), and others, who also point out how any consumer can become a creator and contributor (Tapscott & Williams, 2006). Therefore, new customers' demands, are creating new strategies in companies, based on innovation. Co-creation concept consists in designing between the company and other related agents, the experience environment at each point of interaction between them, creating a mutual value (Ramaswamy & Gouillart, 2010). The environment of experience is understood as the perception that the customer has in a direct or indirect way, during the interaction with the company. There is a

creation of value by means of an approach and an opening process of the dialogue, with the different agents involved (customers, employees or suppliers), which are participating in the creation and innovation processes of the company's products. The traditional marketing perspective considers an internal process everything about development of new products and services in a company because customers are buyers and passive users. However, current companies allow customers to take sides in a more participative role (Ramaswamy et al., 2010). This new approach exposes the importance of “value” in co-creation activities and also, the customer participation in process of generating value.

## **2.2. User experience and co-creation**

Online communications and the broad access to information, are an interactive supports by the role of customers for a breadth of tools, focused on improve customer shopping experiences. The value of individuals in relation to products and services, not derive only from the consumption of them (Prahalad & Ramaswamy, 2004) and therefore, customer participation is the real clue for companies and their value generation. The consumers are widely informed and networked, and they are able to offer value through interaction with companies and getting a better shopping or participation experience, as a consequence. The customers are shifting value to experiences, (Prahalad et al., 2004) in an international market, in which, is becoming in a new space of transmission for ideas, contribution, values and new experiences. These experiences are in a context in which, companies are the main suppliers for customer online contribution activities, generating multiples experience interactions. In addition to this, the role of the customer in the creation of value is an active value based on the experiences and enhancing interactions. As a consequence, the international market is going through a referential change since clients are increasingly aware of their bargaining power, due to the new relationships between the consumers and the companies. We are moving towards a new perspective, in which, value is the result of a negotiation between the individual consumer and the organizations. The result of a complete co-creative process for products, services or brands is a participation experience, and each benefit obtained by the consumer through it. The co-creation experience should be attractive for each user co-creator, because they have worked to obtain the result, participating in each co-creation process decision. As for the benefits to be gained by co-creators consumers, in the creative process, is important to emphasize the satisfaction of be a part in an organization project that will listen co-creator opinions or suggestions and based on them, will develop better products and services (Prahalad et al., 2004).

Focusing on those users who co-create in online platforms expecting to obtain benefits, Nambisan & Baron (2009), explains a categorization of benefits: (1) *hedonic benefits* (in relation to pleasurable experiences); (2) *cognitive benefits* (in relation to knowledge); (3) *social benefits* (in relational to social participation); (4) *personal benefits* (in relation to status and self-efficacy concepts). Moreover, Füller (2010) indicates that customers' expectations are in relation to: (1) entertainment aspects [*hedonic benefits*]; (2) opportunities for new ideas [*cognitive benefits*]; (3) opportunities for new relationships [*social benefits*]; (4) recognition aspects [*personal benefits*]. In addition to this, we focus on the work of Verleye (2015) who explains how the user co-creators can obtain different degrees or influences in their experience of co-creation, according to the benefit obtained or the aim pursued with the co-creation actions. Co-creation experience is determined by six experiential variables: (1) *hedonic experience*; (2) *cognitive experience*; (3) *social experience*; (4) *personal experience*; (5) *pragmatic experience*, (6) *economic experience*. The user co-creator can identify different experiences according to the benefits obtained, because each participation in co-creation activities, is unique and personal and is delimited by the individual context and perception of each user co-creator. Therefore, increasingly, companies seek to offer co-creation actions that may be attractive to users due to the perceived benefit to them. The actions of joint co-creation between clients and companies, allow to offer a multitude of participation actions, from initiatives of joint creation.

### **2.3. Engagement, Satisfaction and intention to co-create again**

A compromise from an affective perspective is the emotional relationship established between clients and organizations (Allen & Meyer, 1990) since it generates an emotional relationship with certain characteristics that are perceived by certain circumstances. If the engagement relationship is developed in a free and participative way with the organization (Anvari & Seliman, 2010), it can lead to an excellent opportunity to establish a new competitive advantage (Omar & Urteaga, 2008) towards market competitors. Those customers who show greater engagement towards organizations are those users who will participate more actively with them, since their perception of the organization has a greater commitment (Yi & Gong, 2013). When any experience is compared with expectations there is a combination between aspects, such as, feelings or benefits. A positive satisfaction evokes a rewarding perception and a more positive report of experience. Satisfaction concept refers between expectation perceived and perceived performance after consumption (Oliver, 1980). Moreover, perceptions of service quality and value satisfaction has an influence towards loyalty and post-behaviours (Bigné, Sánchez & Sánchez, 2001; Chen, 2008; Oliver, 1980). It is necessary for organizations, to maintain high levels of customer satisfaction, due to, their commercial activities and customer services management, are directly related to them. In the retail sector, the importance of online and offline channels, means being able to obtain extensive information on the tastes of their consumers, as well as, their degree of commitment or satisfaction. In the search for maximum customer satisfaction and engagement, the *Webrooming* concept refers how consumers with an online shopping behavior, nevertheless, obtain the product in a physical store (Nesar & Sabir, 2016); and the *Showrooming* concept, refers how those consumers who prefers to see the physical product in a store, then, to buy the product in online channels (Tang, Lin & Kim, 2016). Thanks to these multi-channel options, textile brands can more quickly and effectively identify market needs. In relation to this, the intention to continue co-creating, focuses on the aspects of engagement or satisfaction. The experience of co-creation has an influence in external variables such as satisfaction, (Mathis, Kim, Uysal, Sirgy, & Prebensen, 2016) so, if a higher degree of co-creation satisfaction is detected, the choice for repetition would have more chance.

### **2.4. The differences between countries respect to culture dimensions**

*Hofstede* (1980) provides an empirical base, and numerical evaluations of cultural dimensions for a large number of countries. He analyzes the following culture dimensions: power distance to the extent of inequality between people and the degree in what is considered normal by the population; individualism to the degree to which individuals prefer to act as individuals and not as members of groups; masculinity to the degree to which values considered as masculine such as performance, success and competence dominate among people; uncertainty avoidance to the deals with a society's tolerance for uncertainty and ambiguity; and long-term orientation to the way that each society has to maintain some links with its own past while dealing with the challenges of the present and future. Based on Hofstede model, Alarcón-del-Amo, Gómez-Borja & Lorenzo-Romero, (2015), develop a comparative study between two different European countries (The Netherlands versus Spain). A comparison of typologies of networked Internet users, has been obtained through a latent segmentation approach. Hofstede's cultural framework and it has been strongly supported empirically (Søndergaard, 1994), Also, has been recognized as one of the most influential theory of culture among social sciences scholars (Nakata & Sivakumar, 2001). Based on Hofstede (2017), the main cultural differences between Spain and United Kingdom are the following: power distance dimension is greater in Spain than in United Kingdom (57 vs. 35), meaning that Spanish people more readily accepts an unequal distribution of power. Also, this is the dimension with the least difference between both countries together with long term orientation, which are located near the midpoint. United Kingdom scores higher than Spain on individualism (a value of 89 compared to 51). The high level of individualism of United Kingdom is an indicator that this society has more individualist attitudes and fewer cohesive bonds with others. British people has more self-confidence and are more independent. In the case of Spain, it may be said that relationships are closer, people have stronger bonds with other members of society, and there is greater group cohesiveness. The score for

masculinity is higher in United Kingdom than in Spain (66 compared to 42). Therefore, we observe that Spain is already moving on from its formerly masculine character and is gradually acquiring feminine characteristics (Grande, 2004). Compared to the other countries, Spain ranks 48th, while Netherlands is 67th out of 69, so that we can affirm that Dutch culture is more female. People in Spain or The Netherlands, tend to be informal and goal oriented (Alarcón-del-Amo et al., 2015), while the United Kingdom value punctuality, voluntary associations, progress and innovation.

Regarding uncertainty avoidance, we observe that Spain scores close to the top of the uncertainty avoidance scale (a value of 86), while United Kingdom scores close to less than midpoint of the range (a value of 35). It should also be remarked that this is the dimension with the higher difference between both countries. Thus, we can state that the higher uncertainty avoidance showed by Spanish people means a higher willingness adopt regulations and laws which are intended to minimize uncertainty levels. They attempt to control everything in order to avoid the unexpected. As a result of high uncertainty avoidance, the society is more resistant to change (Hofstede, 2001). With reference to the long term orientation dimension, Spain score is similar to United Kingdom one (48 vs. 51) meaning that Spanish culture tends to maintain traditions and norms and a little more reluctant to social changes, being British people a little pragmatics with easily adaptable traditions to changing conditions.

Finally, the indulgence score for Spain is lower than for United Kingdom (44 vs. 69). These results mean that Spain can be defined as a restrained society with tendency to pessimism and where people think that their actions are restrained by social norms. British people are characterized because they are indulgent, with a higher willingness to realize their needs and desires regarding enjoying life and having fun. They are more optimistic and place a higher importance on leisure time.

### **3. Hypotheses**

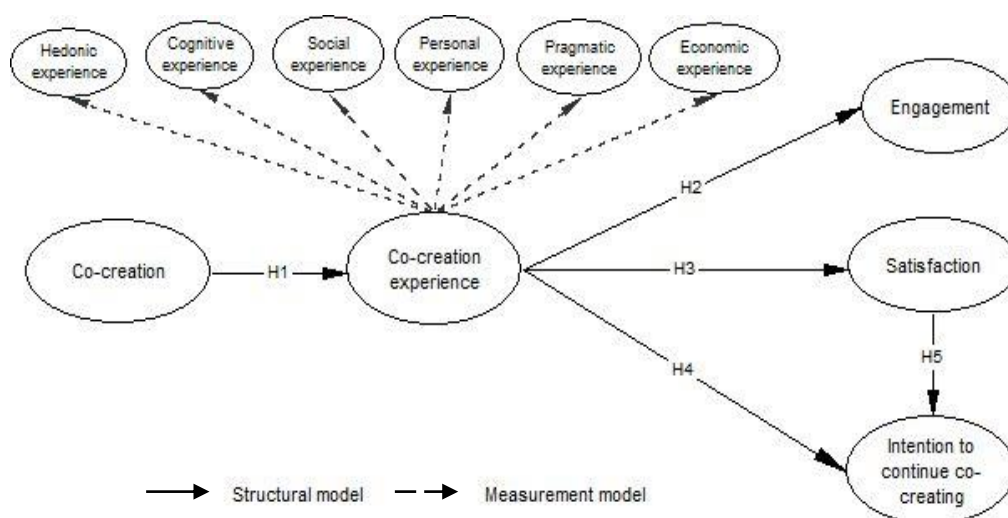
The current research presents a model (Figure 1) shows how online participation by the users, in co-creation actions (Nysveen & Pedersen, 2014; Constantinides, Brünink, & Lorenzo-Romero, 2015) offered by retail sector companies, is a potential to exert an influence on user experience of co-creation, through several experiential variables -hedonistic, cognitive, social, personal, pragmatic, or economic- (Verleye, 2015). In addition to this, this research exposes how the co-creation experience of the individual (Verleye, 2015) has a decisive influence in factors, such as, engagement (Blasco, Jiménez & Hernández, 2014, based on Medlin & Green, 2009 and Sprott Czellar & Spangenberg, 2009), satisfaction (Navarré, Mafé & Blas, 2010; based on Oliver, 1980) or the individual's intention for participate in new online co-creation activities (Blasco et al., 2014), raised by retail companies. Moreover, how the satisfaction influence (Navarré et al. 2010, based on Oliver, 1980) is important for the user intention to continue co-creating (Blasco et al., 2014). The research is carried out in the European countries of Spain and the United Kingdom, regarding a sample of co-creators, who has an active participation on Internet (Constantinides et al., 2015) with brands in the textile sector.

The relevance of establishing a cross-cultural research, is based on the relevance of posing a comparative cultural dimension between countries (Hofstede, 2001), as well as, the nature of studying the moderating effect of the culture on the proposed structural relations proposed. This research presents an approach that brings differentiation in the current consumer behavior on the online channels, related to textile industry. The purpose of this, is to identify if the online co-creation activities, performed by the individual, are relevant to their co-creation experience and, if this one, has an influence on engagement, satisfaction or future online co-creation actions. Also, if the satisfaction, is considered an aspect with influence, on the user intention to continue making online co-creation activities, in a context of international textile distribution. The above arguments, allow us to formulate the following model hypotheses (Figure 1):

- H1. Co-creation actions have a positive influence on the co-creation experience.

- H2. The co-creation experience has a positively influence on user´s engagement.
- H3. The co-creation experience has a positively influence on user´s satisfaction.
- H4. The co-creation experience has a positively influence on the user's intention to continue co-creating.
- H5. Satisfaction after the experience of co-creation, has a positively influences on the intention to continue co-creating.
- H6. Culture exerts a moderating effect on the relationships between variables (H1a, H2a, H3a, H4a, H5a).

FIGURE 1  
Research Model Hypothesis



Source: own elaboration (2016).

#### 4. Methodology

This research was carried out based on an online questionnaire addressed to active online co-creators in the fashion industry in two European countries, it means, those individuals who have sent minimum a comment on the last 3 years on issues related to fashion (Constantinides et al., 2015). With ages between 16 and 74 years old, during the months of May and June 2016. In order to carry out a comparative analysis within international context of fashion industry, we have analysed two countries: United Kingdom and Spain. Eurostat (2016) offers information about the fashion online buying between European countries during 2015. United Kingdom is the first country situated in the ranking, followed by Germany, Netherlands, and Denmark. Spain is situated in the middle of ranking. Nevertheless, in Spain, this sector is located in the second position within the ranking of product bought through the Internet (ONTSI, 2016) and 65% Internet users buy fashion (IAB, 2015). PWC (2015) report related to Total Retail 2015 indicates that, from international perspective, the online store remains the second retail touch point for consumers, very close of physical store and growing. Respect to the online searches, 30% of users intentionally browsed products online, but decided to buy them in-store, being search tools like *Google*, *Yahoo*, etc., the first way to search information about the products on the Web. The sample was obtained from the market research company *Netquest* who have panel of customers in both countries.

#### **4.1. Sampling and data collection**

The sample size was 800 online co-creators in the fashion industry (400 Spanish and 400 British), using a non-probabilistic sampling method by quotas, as our objective was to insure that the different population sub-groups were represented in the sample, regarding the pertinent characteristics and in the exact proportion, and our sample was composed of very similar percentages of gender and age. Likert scales of 7 positions were used to measure the different strategic orientations (where 1 meant strongly disagree, and 7 strongly agree). Co-creation construct was assessed using and adaptation of a scale proposed by Nysveen et al., (2014) and Constantinides et al., (2015). To measure co-creation experience we use the scale proposed by Verleye (2015), who measure it as a second order construct composed by hedonic experience, cognitive experience, social experience, personal experience pragmatic experience and economic experience. Engagement was captured with a scale proposed by Blasco et al., (2014) based on Medlin et al., (2009) and Sprott et al., (2009). To measure Satisfaction we used the scale from Navarré et al. (2010) which is based on Oliver (1980) work. Finally, intention to continue co-creating was measured using the scale proposed by Blasco et al., (2014). The individuals were asked to answer the questions about a specific company with who have co-created most recently. The measures used in the study were taken from previously validated sources. We have used two types of software for data treatment: *SPSS v.15* for descriptive analysis and reliability and one-dimensionality test of the scales and *EQS v.6.1* for analysing our model by means of structural equations.

### **5. Results**

In order to be able to analyze the model proposed in Spain and in United Kingdom, and to study the moderator effect of culture on the proposed causal relationships, a multi-group structural equation model was used, taking into consideration one of the dominant focal points for analyzing the multi-group data (Hair, Black, Babin, Anderson & Tatham, 2006). A SEM model is analyzed and interpreted in two stages: the assessment of the reliability and validity of the measurement model, and the assessment of the structural model. The results obtained allow us to state that there is a clear, positive, direct and significant influence of co-creation activities developed on co-creation experience, and all the co-creation experience is reflect in the sub-constructs proposed. Moreover, co-creation experience has a direct effect on engagement, satisfaction and intention to continue co-creating. At the same time, satisfaction influence on intention to continue co-creating. After studying the culture moderator effect, it can be affirm that do not exist statistically significant differences between the countries.

#### **5.1. Measurement model**

The first analysis carried out was an **analysis of the validity and reliability of the scales** employed in our model in both countries by means of Confirmatory Factorial Analysis (CFA). Co-creation experience is a reflective second order factor measured by six first order factors: hedonic, cognitive, social, personal, pragmatic and economic experience. The other constructs, co-creation, engagement, satisfaction and intention to continue co-creating, are reflective first-order construct. The results of the CFA suggest that our measurement model provides a good fit to the data on the basis of a number of fit statistics. Although the chi-square value was statistically significant, and the Normed Fit Index (NFI) value was a little lower than the commonly accepted value of over 0.90 for both countries, the other goodness of statics are satisfactory, with the  $\chi^2/df$  ratio lower than 3.0, as recommended Marsh et al. (1988), and the values greater than 0.9 on the Non-Normed-Fit Index (NNFI) and the Comparative Fit Index (CFI), and the Root Mean Square of Error Aproximation (RMSEA) took values close to 0.05, indicative of an acceptable fit (Bentler, 1995; Bentler & Bonett, 1980; Hair et al., 2006).

**Reliability** of the constructs demonstrates high-internal consistency of the constructs in both countries. In each case, Cronbach's alpha exceeded Nunnally & Bernstein's (1994) recommendation of 0.70. Composite reliability (CR) represents the shared variance among a set of observed variables measuring an underlying construct (Fornell & Larcker, 1981). Generally,

a CR of at least 0.60 is considered desirable (Bagozzi & Yi, 1988). This requirement is met for every factor. Average variance extracted (AVE) was also calculated for each construct, resulting in AVEs greater than 0.50 (Fornell et al., 1981). Therefore, the ten scales demonstrate acceptable levels of reliability.

**Convergent validity** is verified by analyzing the factor loadings and their significance. EQS provides approximate standard errors for these coefficients which allow large-sample *t* test of the null hypothesis that the coefficients are equal to zero in the population. The *t* scores obtained for the coefficients range from 14.737 through 38.715 for Spain (Table 2), and from 13,936 through 2631.075 for United Kingdom, indicating that all factor loadings were significant ( $p < 0.01$ ). Moreover, the size of all the standardized loadings are higher than 0.60 (Bagozzi et al., 1988) and the average of the item-to-factor loadings are higher than 0.70 (Hair et al., 2006). This finding provides evidence supporting the convergent validity of the indicators (Anderson & Gerbing, 1988).

Evidence for **discriminant validity** of the measures was provided in two ways. First, none of the 95 per cent confidence intervals of the individual elements of the latent factor correlation matrix contained a value of 1.0 (Anderson et al., 1988). Second, the shared variance between pairs of constructs was always less than the corresponding AVE (Fornell et al., 1981), except for engagement scale, which AVE is lower, to the squared correlation with satisfaction ( $0.71 < 0.74$ ). However, it is at the limit, and Bagozzi (1994) argue that discriminant validity exists if the correlations between the variables in the confirmatory model are not much higher than 0.8 points; in this study this finding is supported between each pair of constructs. Therefore, construct validity was verified by assessing the convergent validity and discriminant validity.

**Content validity** is a characteristic of items that are representative and drawn from an established literature (Cronbach & Thorndike, 1971). All the items included in the scale have been analyzed in the literature on Internet and/or co-creation in academia and for this reason we consider that content validity is ensured.

## 5.2. Structural model

Once the validity and reliability of the scales was confirmed, we had to assure the *measurement invariance* of the measurement instrument in order to compare the two groups (Hair et al., 2006). In our case, the differences that could exist between the ratings given by the scales in Spain and in United Kingdom could be the result of real differences between the countries or due to systematic errors produced by the manner in which people in different countries respond to certain items. As Horn (1991) proposed, “without evidence of invariance of the measurement instrument, the study conclusions would be weak” (p.119). In order to analyze the invariance of the measurement instrument, we will follow three steps that correspond to the three invariance levels that we must comply with.

- STEP 1: In the first place, we will evaluate the **loose cross-validation** or **single group solution**. In other words, the least demanding equivalence form, estimating the CFA in each one of the two samples, separately. A good fit in both is required. When we evaluated the validity and reliability of the proposed model in Spain and in United Kingdom, the CFA fit was good for both samples (summarized in Table 6, in the rows of simple group solutions).
- STEP 2: The following step is to check that the factorial structure (number of factors) is the same in the two samples, which is called **equal form** or **factor structure** or **configurational invariance**. The method is very similar to the previous one, the difference being that instead of estimating the model of each sample separately, a multi-group estimation is carried out. In other words, the model is estimated simultaneously in the two groups. This is the model that will serve as a basis for checking if the restrictions that are incorporated deteriorate the adjustment or not. We check how the chi-squared and the degrees of freedom are the sum of the two previous ones (see Table 1) and, while they are still significant, the rest of the robust indicators show that it is more than



reasonable to assume the same factorial structure in the two samples (RMSEA=0.051; CFI=0.930; NNFI=0.925).

- STEP 3: Now we must check the invariance of the factorial loadings (also called **equal factor loadings** or **metric invariance**), which implies that it would be reasonable to assume that in the two samples the factorial loadings that join each factor with its indicator is the same. In other words, we make sure that the concepts have been measured in the same way in both cases. To do this, it is necessary to compare the chi-squared of the 2 steps (equal form) and 3 (equal factor loadings) to analyze if the fit of the new model is not significantly worse. Therefore, in this case, the difference of the chi-squared is 105.75, which is significant (see Table 1). Thus, we can conclude that imposing restrictions of the equality of factorial loadings significantly deteriorates the fit. Therefore they are not plausible. In other words, we cannot affirm the factorial invariance of the measurement instrument.

TABLE 1  
Measurement Invariance Test

Model	$\chi^2$	d.f.	Dif. $\chi^2$	$\Delta g.l$	<i>p</i>	RMSEA	CFI	NNFI
<b>Single group solution</b>								
Spain (n=400)	2299.15*	839				0.050	0.929	0.924
United Kingdom (n=400)	2572.84*	839				0.052	0.932	0.927
<b>Measurement invariance (n=800)</b>								
Equal form	4871.97*	1678				0.051	0.930	0.925
Equal factor loadings	4977.66*	1721	105.75	43	0.0	0.051	0.928	0.925
*p<0.01								

Nevertheless, if a **partial invariance** would exist, in other words that if there were at least two invariable factorial loadings for each factor, we could continue and evaluate the moderator effect of culture on the relationships proposed (Muthén & Christoffersson, 1981; Byrne, Shavelson & Muthén, 1989; Hair et al., 2006; Byrne, 2006). We will analyze this partial invariance with the Lagrange multipliers for each one of the restrictions proposed, and we find that only the restrictions corresponding to 8 factorial loads would improve the fit, if they were eliminated. In other words, it is likely that they are different in the two samples.

The other 35 have significances higher than 5% ( $p > 0.05$ ). Therefore, eliminating the parameter equality restriction does not improve the fit, and therefore it is likely that they are the same in both samples. Also, we found that in these 35, there are at least two loads per factor. In summary, we can affirm the partial invariance and proceed to evaluate the significance of the culture moderator effect in the structural relationships. For this, we estimate the multi-group model, but we also add the structural part now.

### 5.3. Structural model and the learning orientation moderator effect

The fit of the multi-group model in which we have added the structural part is good ( $\chi^2/d.f.=1729=4690.324$  ( $p=0.00$ );  $\chi^2/d.f.=2.7$ ; RMSEA=0.047; NFI=0.878; CFI=0.939; NNFI=0.936), but the important thing is that it will be taken as a reference for comparing the fit with the models in which the restrictions that interest us, referring to the equality relationship between factors, have been added, in order to analyze if that difference is significant and also its moderator effect.

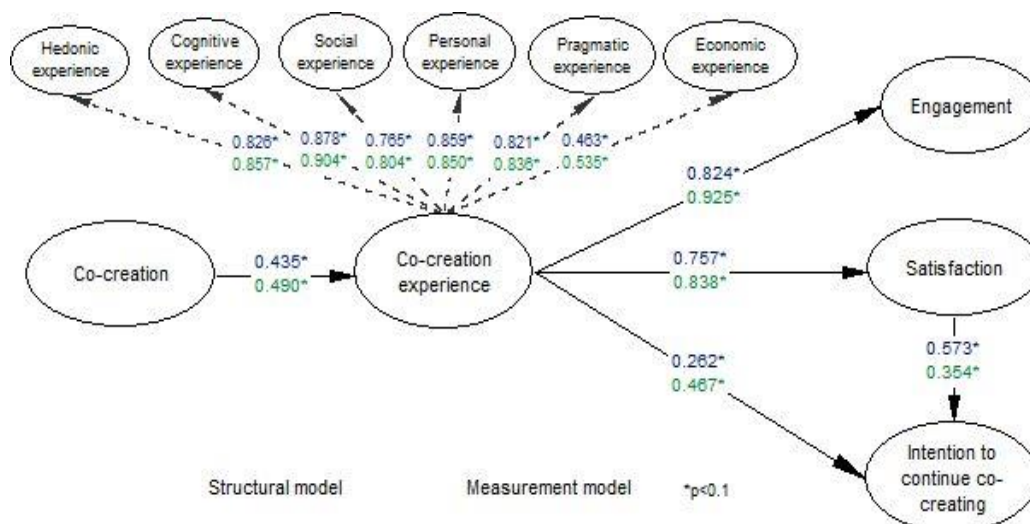
Thus, we have compared the multi-group model without restriction with each of the models with each of the restrictions, in other words, with five different models. Table 2 shows the results of this multi-group analysis. We can see that there is not significant differences, which means that the fit is not significantly different when a restriction with equal parameters is added. Therefore there is sense in considering these restrictions and we can conclude that the parameters are not significantly different, which confirms the non-existence of a culture moderator effect in the causal relationships proposed.

TABLE 2  
Hypotheses Testing

Hypothesis	Path	Spain		United Kingdom		Culture moderator effect	
		Standardized path coefficients	Robust <i>t</i> value	Standardized path coefficients	Robust <i>t</i> value	$\Delta\chi^2$ ( $\Delta$ d.f.=1)	<i>p</i>
H1/H1a	CC→CCE	0.435*	7,113	0.490*	9,904	0.000	1.000 <sup>ns</sup>
H2/H2a	CCE→ENG	0.824*	11,334	0.925*	31,964	0.000	1.000 <sup>ns</sup>
H3/H3a	CCE→SAT	0.757*	9,177	0.838*	15,669	0.000	1.000 <sup>ns</sup>
H4/H4a	CCE→ IC	0.262*	3,642	0.467*	4,667	0.003	1.000 <sup>ns</sup>
H5/H5a	SAT→IC	0.573*	7,379	0.354*	3,734	4.319	0.999 <sup>ns</sup>
CC=Co-creation; CCE=Co-creation experience; ENG=Engagement; SAT=Satisfaction; IC=Intention to continue co-creating / * <i>p</i> <0.01; ns=non-significance.							
Spain: R <sup>2</sup> (ECC) = 0.189; R <sup>2</sup> (ENG) =.678; R <sup>2</sup> (SAT) =0.573; R <sup>2</sup> (IC) = 0.625. Goodness of fit indices: $\chi^2$ (848 df) = 2290.475; $\chi^2$ /df =2.70; NFI= 0.871; NNFI= 0.929; CFI=0.934; RMSEA=0.048.							
United Kingdom: R <sup>2</sup> (ECC) =0.240; R <sup>2</sup> (ENG) =0.855; R <sup>2</sup> (SAT) = 0.703; R <sup>2</sup> (IC) = 0.621. Goodness of fit indices: $\chi^2$ (848df) = 2337.997; $\chi^2$ /df =2.75; NFI= 0.889; NNFI= 0.942; CFI=0.945; RMSEA=0.046.							

Figure 2 shows a synthesis of the results obtained for the structural analysis that were shown in Table 7 and also the data for the second order construct (co-creation experience). In this Figure we include the standardized coefficient for each causal relationship and its level of significance, both for Spain (in blue) as well as for United Kingdom (in green).

FIGURE 2  
Estimated values obtained in the research model



## 6. Discussion and Conclusions

After testing the proposed model, in general, we can conclude that the co-creation activities developed influence in the co-creation experience. Moreover, a positive co-creation experience has a positive effect in the engagement, satisfaction and intention to continue co-creating, and a higher satisfaction influence in a higher intention to continue co-creating. Additionally, it can be confirmed that the culture does not moderate the causal relationships proposed. In both countries, the experience of the customer in the co-creation activity has a stronger influence in the customer engagement, and also, with lower intensity, but also high, in the satisfaction, and much lower in the intention to continue co-creating.

Moreover, an important antecedent of the intention to continue co-creating is the satisfaction experience by the consumers. However, in the United Kingdom there is a stronger influence of the co-creation experience in the intention to continue co-creation than satisfaction, but in Spain the strongest influence is the satisfaction. On the other hand, this research has the potential for practical application in the development and use of co-creation activities. By confirming the proposed model to explain the co-creation process, it suggests that companies from the fashion industry should develop co-creation activities with the customer to generate special engagement with them. These activities generate a high satisfaction by the customers, with also are proactive in developing more of these activities in the future. So, the findings of this study reveal that a positive experience in co-creation activities in the fashion industry is important in predicting engagement and satisfaction, which are variables very important for getting loyal customers. Therefore, fashion companies need to develop strategies to co-create with the customers. Finally, we have found that cultural effects do not moderate the theoretical relationships in the proposed co-creation process. Contrary to other IT use studies, in these activities the culture does not moderate the relationships. This is good news for companies, since currently, thanks to globalization and the use of new technologies, especially Internet, more companies develop international strategies, but, the co-creation process is too similar in Spain and the United Kingdom.

So, companies have to focus on generating good experiences in the customers, which has been demonstrated that influence in the satisfaction and engagement, among others. However, as a future research line, should be very interesting to test this proposed model in other countries, more different culturally, to analyze if also the co-creation process is similar. Moreover, it should be included other variables, specially antecedents, that can explain the factor that can motivate the customers to co-create, or if depending on the kind of co-creating activities developed, the satisfaction, engagement and intention to co-create is higher.

## References

- Alarcón-del-Amo, M.C., Gómez-Borja, M.A. & Lorenzo-Romero, C. (2015). Are the users of social networking sites homogeneous? A cross-cultural study, *Frontiers in Psychology*, 14, doi: org/10.3389/fpsyg.2015.01127.
- Allen, N.J. & Meyer, J.P. (1990). Organizational socialization tactics: A longitudinal analysis of links to newcomers' commitment and role orientation. *The Academy of Management Journal*, 33(4), 847–858
- Anderson, E. & Gerbing, D.W. (1988). Structural equation modelling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103, 411-423.
- Anvari, R., & Seliman, S. (2010). Personal needs assessment approach in strategic training and affective commitment. *International Journal of Business and Management*, 5(7), 144.
- Bagozzi, R.P. (1994). Measurement in Marketing Research: Basic principles of questionnaire design. *Principles of Marketing Research*, 1, 1-49.
- Bagozzi, R.P. & Yi, Y. (1988). On the evaluation of structural equations models, *Journal of the Academy of Marketing Science*, 16(1), 74-94.
- Bentler, P.M. & Bonett, D.G. (1980). Significance tests and goodness of fit in the analysis of covariance structures, *Psychological Bulletin*, 88, 588-606.
- Bentler, P.M. (1995). EQS Structural Equations Program Manual. CA: Multivariate Software, In.
- Bigné, J. E., Sánchez, M.I., & Sánchez, J. (2001). Tourism image, evaluation variables and after-purchase behaviour: inter-relationships. *Tourism Management*, 22(6), 607–616.
- Binkhorst, E. (2008). Turismo de co-creación, valor añadido en escenarios turísticos. *Journal of Tourism Research*, 1 (1), 40-51.
- Blasco, L., Jiménez, J., Hernández, B. (2014). *Los procesos de co-creación y el Engagement del Cliente. Un análisis empírico en medios interactivos*. Doctoral Dissertation. Zaragoza University, Spain.
- Brentani, U. (2001). Innovative versus incremental new business services: different keys for achieving success. *Journal of Product Innovation Management*, 18(3), 169-187.
- Byrne, B. (2006). *Structure Equation Modeling with EQS: Basic concepts, applications, and programming*. New Jersey: Lawrence Erlbaum Associates. Inc.

- Byrne, B.M., Shavelson, R.J. & Muthén, B. (1989). Testing for the equivalence of factor covariance and mean structures: The issue of partial measurement invariance, *Psychological Bulletin*, 105(May), 456-466.
- Cainelli, G., Evangelista, R., Savona, M. (2004). The impact of innovation on economic performance in services, *The Service Industries Journal*, 24(1), 116-127.
- Chen, C.F. (2008). Investigating structural relationships between service quality, perceived value, satisfaction, and behavioural intentions for air passengers: evidence from Taiwan. *Transportation Research Part-A*, 42(4), 709-717.
- Constantinides, E., Brünink, L.A., Lorenzo-Romero, C. (2015). Customer motives and benefits for participating in online co-creation activities, *Internet Marketing and Advertising*, 9(1), 21-47.
- Cronbach, L.J. & Thorndike, R.L. (1971). Educational measurement, test validation, 443-507, Washington: American Council on Education.
- Dahan, E., & Hauser, J. R. (2002). The virtual customer, *Journal of Product Innovation Management*, 19(5), 332-353.
- De Chernatony, L. & McDonald, M.H.B. (1992) Creating Powerful Brands: The Strategic Route to Success in Consumer, Industrial and Service Markets, Oxford: Butterworth and Heinemann.
- Eurostat (2016). Ranking of buying online in Europe 2015. Available at: <http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>
- Fornell, C. & Larcker, D.F. (1981). Evaluating structural equations models with unobservable variables and measurement error, *Journal of Marketing Research*, 18, 39-50.
- Franke, N., & Piller, F. (2004). Value creation by toolkits for user innovation and design: The case of the watch market. *Journal of product innovation management*, 21(6), 401-415.
- Füller, J. (2010). Refining virtual co-creation from a consumer perspective. *California Management Review*, 52(2), 98-122.
- Grande, I. (2004). *Marketing Crosscultural*. Madrid: ESIC.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. & Tatham, R.L. (2006): Multivariate data analysis. New York: Prentice-Hall.
- Horn, J.L. (1991). Comments on issues in factorial invariance. Best Methods for the Analysis of Change. *American Psychological Association*, 114-140.
- IAB (2015). Estudio eCommerce 2015 IAB Spain. Available at: <http://www.iabspain.net/wp-content/uploads/downloads/2015/06/Estudio-ecommerce-2015-IAB-abierta1.pdf>
- Mathis, E.F., Kim, H.L., Uysal, M., Sirgy, J.M., & Prebensen, N.K. (2016). The effect of co-creation experience on outcome variable. *Annals of Tourism Research*, 57, 62-75.
- McConnell, B. & Huba, J. (2006). Citizen Marketers: When People Are the Message. Chicago: IL Kaplan.
- Medlin, B., & Green, K.W. (2009). Enhancing performance through goal setting, engagement and optimism. *Industrial Management and Data Systems* 109(7), 943-956.
- Muthén, B. & Christofferson, A. (1981). Simultaneous factor analysis of dichotomous variables in several groups, *Psychometrika*, 46(4), 407-419.
- Nadeau, R. (2006). Living Brands: Collaboration + Innovation = Customer Fascination. New York: McGraw-Hill.
- Nakata, C., & Sivakumar, K. (2001). Instituting the marketing concept in a multinational setting. *Journal of Academy of Marketing Science*, 29, 255-275.

- Nambisan, S., & Baron, R.A. (2009). Virtual customer environments: testing a model of voluntary participation in value co-creation activities. *Journal of Product Innovation Management*, 26(4), 388-406.
- Navarré, C.L., Mafé, C.R., & Blas, S.S. (2010). Implicaciones de la satisfacción, confianza y lealtad en el uso de los servicios bancarios online. Un análisis aplicado al mercado español. *European Journal of Management and Business Economics*, 19(1), 27.
- Nesar, S. & Sabir, L. (2016), Evaluation of Customer Preferences on Showrooming and Webrooming: An Empirical Study, *Al-Barkaat Journal of Finance & Management*, 8(1), 50-67.
- Nohria, N., Gulati, R. (1996). Is slack good or bad for innovation? *Academy of Management Journal*, 39(5), 1245-1264.
- Nunnally, J.C. & Bernstein, I.H. (1994). *Psychometric Theory*. New York: McGraw-Hill.
- Nysveen, H., Pedersen, P. E. (2014). Influences of co-creation on brand experience. The role of brand engagement. *International Journal of Market Research*, 56(6), 807-832.
- Oke, A. (2007). Innovation types and innovation management practices in service companies. *International Journal of Operations & Production Management*, 27(6), 564-587.
- Oliver, R. (1980). A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions. *Journal of Marketing Research*, 17 (November), 460-469.
- Omar, A. & Urteaga, A.F. (2008). Personal values and organizational commitment. *Enseñanza e Investigación en Psicología*, 13(2), 353-372.
- ONTSI (2016). Estudio B2C 2015 (edición 2016). Available at: <http://www.ontsi.red.es/ontsi/sites/ontsi/files/Informe%20B2C%202015%20%28Edici%C3%B3n%202016%29.pdf>
- Ostrom, E. (2010). Beyond markets and states: polycentric governance of complex economic systems. *Transnational Corporations Review*, 2(2), 1-12.
- Prahalad, C. K. & Ramaswamy, V. (2004). Co-creation experiences: The next practice in value creation. *Journal of Interactive Marketing*, 18(3), 5-14.
- Piller, F.T. (2004). Mass customization: reflections on the state of the concept. *International Journal of Flexible Manufacturing Systems*, 16(4), 313-334.
- PWC (2015). Total Retail 2015: Retailers and the Age of Disruption. Available at: <https://www.pwc.se/sv/detaljhandel/assets/total-retail-2015.pdf>
- Ramaswamy, V., & Gouillart, F. (2010). Building the co-creative enterprise. *Harvard Business Review*, 88(10), 100-109.
- Søndergaard, M. (1994). Research note: Hofstede's consequences: a study of reviews, citations and replications. *Organization studies*, 15(3), 447-456.
- Sørensen, F., Sundbo, J. & Mattsson, J. (2013). Organisational conditions for service encounter-based innovation. *Research Policy*, 42(8), 1446-1456.
- Sprott, D., Czellar, S., & Spangenberg, E. (2009). The importance of a general measure of Brand engagement on market behavior: Development and validation of a scale. *Journal of Marketing Research*, 46(1), 92.
- Tang, Q., Lin, M. & Kim, Y. (2016). Showrooming vs. Competing: The Roles of Product Assortment and Price. *Institutional Knowledge at Singapore Management University. Research collection School of Information Systems*.
- Tapscott, D. & Williams A.D. (2006). *Wikinomics: How Mass Collaboration Changes Everything*. New York: Portfolio.

- Tang, Q., Lin, M. & Kim, Y. (2016). Showrooming vs. Competing: The Roles of Product Assortment and Price. *Institutional Knowledge at Singapore Management University. Research collection School of Information Systems.*
- Verleye, K. (2015). The co-creation experience from the customer perspective: its measurement and determinants, *Journal of Service Management*, 26(2), 321-342.
- Yazdani, B. & Holmes, C. (1999). Four Models of Design Definitions: Sequential, Design Centered, Concurrent and Dynamic. *Journal of Engineering Design*, 10, 25–37.
- Yi, Y. & Gong, T. (2013). Customer value co-creation behaviour: Scale development and validation. *Journal of Business Research*, 66, 1279–1284.