Value Co-creation in Online Shopping: a Bibliometric Review

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Abstract:
Purpose: The purpose of this research is to develop a critical analysis of the value co-creation research focused in online shopping settings, based on the academic marketing literature from 2007 to 2017. The identification of main theories, paradigms and constructs, as well as research cliques, helps in establishing the theoretical framework necessary for a relatively incipient research field such as this.

Design/methodology/approach: The research was carried out in four stages, involving both quantitative - bibliometric and bibliographic - and qualitative content analyses.

Findings: The content analysis identified four main research lines: customers as co-creators within the interaction with companies (collaboration and innovation); customer-employee co-creation issues; customers’ interaction with other clients resulting in co-creation, based on recommender systems and eWOM; and, finally, the impacts of social network resources on online shopping behavior. A discerning factor regarding co-creation in online settings is that the advances of technology empowered consumers. Besides, customer co-creation is at the core of online shopping innovations. Understanding the latest advances of value co-creation in online shopping, and what lies ahead of it, is essential for both scholars and marketers in grasping the essentials of the digital commerce structure in the service logic era.

Originality/value: The interactivity provided by the online shopping setting is ideal for value co-creation to flourish. Nevertheless, this is still a new research area, whose studies are scarce. Since understanding the value co-creation process in this dynamic technological landscape is considered one of the top research priorities in services (OSTROM et al., 2015), such a bibliometric study is justified.

Keywords: value co-creation, customer co-creation, online shopping, e-commerce, customer empowerment.

1. Introduction

Advances in technology have dramatically changed the way services are delivered and experienced (OSTROM et al., 2015). Interactive settings such as those provided by e-commerce and m-commerce are appealing to the idea of joint value creation between customers and the firm (PAREDES; BARRUTIA; ECHEBARRIA, 2014).

However, research on value creation in the online commerce context is still scarce. As this is a relatively new research area (SEE-TO; HO, 2014), most studies are focusing on developing a theoretical framework and measurement instruments. Understanding the value co-creation process in this changing technological landscape is considered one of the top research priorities in services (OSTROM et al., 2015).

This research aims at shedding light on both traditions and trends in value co-creation in online shopping, by identifying main theories, paradigms and constructs, possible research cliques and research avenues for future studies.

According to Barrutia, Paredes and Echebarria (2016) and Pee (2016), electronic commerce is a particularly interesting context for studying value co-creation giving the interaction it provides. The Web 2.0 technology enabled customers to engage in product recommendations, to provide financial resources for product development and to take part in
strategic decision-making (PEE, 2016), that is, the technology has enabled customers to engage in co-creation of value.

Characteristics of online shopping related to value co-creation are its unique services and personalization, mainly related to the possibility of real-time location based offerings (GUPTA; ARORA, 2017). The systems are already able to adapt their behavior to individual usage, automatically recognizing further information about the customers (PANTANO; PRIPORAS, 2016).

Understanding how value is co-created in online shopping is essential for marketing insights (PANTANO; PRIPORAS, 2016), by interpreting and even discussing with consumers the fundamental meanings attached to their behavior in such setting. Thanks to its unique characteristics such as time and space fluid frontiers, instant connectivity and ubiquity, customer co-creation in e-commerce warrants specific research attention (PEE, 2016).

This article is organized as follows. The next section provides a literature review on co-creation, online shopping and the co-creation of value in the online shopping context. Section 3 clarifies the research methodology applied and section 4 presents the research findings. We conclude with a discussion of challenges and opportunities regarding value co-creation in online business settings.

2. Literature review

The literature revised to build this paper presents the origins of the value co-creation concept and the major approaches that use value co-creation as a stepping stone to marketing development, such as Service-Dominant Logic and Service Logic. Following, the online shopping characteristics are discussed from the value co-creation point of view, focusing on the resources involved in these subjects’ interaction, as proposed by Paredes, Barrutia and Echebarria (2014).

Value Co-creation

The concept of Value in marketing theory was primarily associated with some resultant between cost x benefits from the consumer relationship with the market – with what is left for each side of the commercial operation. Today this concept has evolved and begun to change customer-firm relationships.

From the consumer side, the classical approach considered the existence of a good as proof of value or even a result or a solution, where the value of the transaction could be verified. As Vargo and Lusch (2004) indicate, there was also the notion that only the company was the producer of value and the consumer is just the user or the destroyer of this good.

Since the up rise of the dissemination of Information and Communications Technologies (ICT), the development of market relations began to challenge this punctual notion of value and today we work with more comprehensive representations. An example is the definition proposed by Normann and Ramirez (1993), who argued that value should no longer be seen as a result of a process that occurs during manufacturing, but rather something that consumers rule in their own consumption context.

Specifically coined as Consumer Value, Holbrook (1996, p. 138) presents its definition: "interactive relativistic preference experience". The author clarifies those characteristics indicating that it is interactive because it presupposes interaction between product and consumer, it is relativistic because giving the situational and personal characteristics, it is a preference thanks to its dependence on an evaluative judgment and, finally, it is contained in an experience since it does not come from the purchase, but from the experience of use.

But this already differentiated perspective of value still positioned its creation in the hand of the supplier and judgement with the consumer, considering him outside the value creation process. This view is quite apart from the systems of influence and social networks people live today and what dictates the market dynamics.
It was necessary to widen the notion of value and its form of creation, thus resulting in the Co-creation of Value. Several sources cite the text by Prahalad and Ramaswamy (2000) as the starting point for the consolidation of the term "value creation" in the marketing context, but the term really originated with Kambil, Ginsberg, & Bloch at Stern University in New York, pointing several initiatives like the Ikea model of partnership with consumers which “assigns to them (drive out of town, shop alone, transport their furniture home and assemble it)” as value co-creation (1996, p. 20).

Undoubtedly, Prahalad and Ramaswamy (2000) went further and complemented the idea, clarifying that the role of the client went through an evolutionary process until he reached the stage of leaving his traditional position as consultant and approver of a product (from whom one obtained the needs and then the acceptance or not) to become both a co-creator and consumer of a value (2000). Various terms were used to express this new kind of relationship between clients and firms, such as co-developers, collaborators and even competitors to specify the interaction where, for example, clients are contributors for the education of other clients.

A little later, Prahalad and Ramaswamy (2004) explained that “armed with new tools and dissatisfied with the choices available, consumers want to interact with companies and thereby co-create value” and concluded adding that co-creation became the basis of value. In this sense, they offered the DART model for companies to deal this new reality, the acronym meaning Dialogue, Access, Risk-assessment and Transparency (2004, p. 5–7).

For Payne, Storbacka and Frow (2008) the practical application of the concept of value creation presupposes a three main stages analysis: the process of creation of value of the consumer, the process of creation of value of the supplier and the process of meeting them, which needs to be managed to create real opportunities for value creation.

It is also important to elucidate the scope of co-creation because it could easily be confused with co-production or collaboration, but this, according to Greer, Vargo and Lusch (2016, p. 6) undoubtedly reduce its meaning, as stated below:

"Coproduction is a subset of the co-creation of value in which an exchange partner (customer or firm) is actively involved in developing some of a service offering. Coproduction is optional and includes customers assembling a product (such as with Ikea furniture or Lego with toys) or customers being part of a brand community (e.g. Apple, eBay, Harley Davidson, Nike) and using social media to recommend a brand."

Surely value co-creation is now one of the major topics in marketing, business and management as the research of the terms “co-creation” or “cocreation” at Thomson Reuters Word of Science with 2,642 results illustrates. And it seems that there is still much to learn “about the process of value creation, when it starts, what it includes, [and] when it ends” (GRONROOS, 2011, p. 282)

**Major perspectives using the value creation concept**

**The Service-Dominant Logic**

Vargo and Lusch (2004) presented the Service-Dominant Logic (S-D Logic), as a new perspective at marketing studies in opposition to a product-dominant logic, that treated the products as the basis of change and of the value creation at the beginning of marketing studies.

To differentiate itself from old logic, S-D Logic presents the difference between "operand" or passive resources like raw material or natural resources, in which actions are performed and "operant" resources, which transform passive resources and produce effects such as skills and knowledge (VARGO; LUSCH, 2004), where the latter are, in fact, the basis of the changes occurring in the market.

After some constructive interaction with academics like Grönroos, Edvardsson, Payne and many others, Vargo & Lusch reformulated their earlier eight fundamental premises, further
enhancing to eleven premises and finally resumed in five well-structured and integrated axioms (VARGO; LUSCH, 2016, p. 8):

Axiom 1: Service is the fundamental basis of exchange.
Axiom 2: Value is co-created by multiple actors, always including the beneficiary.
Axiom 3: All social and economic actors are resource integrators.
Axiom 4: Value is always uniquely and phenomenologically determined by the beneficiary.
Axiom 5: Value co-creation is coordinated through actor-generated institutions and institutional arrangements.

The theory evolved to reinforce the role of institutional arrangements and presented the service ecosystem proposal, as stated Vargo and Lusch (2016, p. 20–21):

“it has become evident that the recognition of the central role of institutions and institutional arrangements and the resultant heuristics that emerge that foster cooperative and coordinated behavior among actors in an evolving service ecosystem is central to a more complete and realistic portrayal of markets and marketing”.

**The Service Logic**
Defending a different scope and claiming a better way of dealing with this new market modus operandi, Grönroos (2008) argues that a Service Logics, without the preoccupation of dominance, would be a more suitable approach to deal with the value-creation process.

Grönroos (2008) addresses specifically the concepts of value-in-exchange versus value-in-use, indicating that the value-in-exchange refers to the resources used as the basis of value to enable satisfaction of value-in-use of the customers, somehow matching Holbrooks (1996) definition of consumer value.

To support his reasoning, Grönroos describes three aspects of service: service as an activity (the traditional meaning); service as a perspective on the customer’s value creation (consumer logic); and service as a perspective on the provider’s activities (business logic) and states that the value co-creation only happens when customers enable them to interact and participate in their value-creating activities, otherwise the value is created in use or by the customer (GRONROOS, 2011; 2008). And last, Grönroos & Voima (2013) brings the notion of continuous value creation by accumulating value-in-use over time.

Later Chandler & Vargo (2011) extend this concept to value-in-context until it became value-in-social-context to Edvardsson et al. (2011), clarifying that value co-creation is shaped by social forces, reproduced in social structures and can be asymmetric for the actors involved.

**Value co-creation in online shopping**
From late 1990’s onwards, technologies have advanced in a furious pace (PARASURAMAN; COLBY, 2015), involving online shopping, social media, automation, mobile payments and the rise of mobile commerce. Such technologies are enabling consumers to experience shopping differently, and marketers are increasingly aware of the urge to deliver new marketing strategies (PANTANO; PRIPORAS, 2016). The expansion of internet has enlarged the role of the customer to a creator of demand and driver of innovation (KHANSA; ZOBEL; GOICOCHEA, 2012).

The changes in the shopping experience provided by online/mobile technologies come mainly from a couple of essential online shopping characteristics: interaction and ubiquitous communication. Ubiquity relates to the portability and possibility to accessing information anytime and anywhere. This instant connectivity represents one of the keys advantages of online shopping (HUBERT et al., 2017). Instant connectivity significantly relates to perceived ease of use, showing that time convenience, mobility (HUBERT et al., 2017) and contact immediacy (MAČIULIENĖ; SKARŽAUSKIENĖ, 2016) in the virtual environment are unique benefits to be explored.

Indeed, business-to-consumer (B2C) e-commerce platforms facilitate direct reach to customers (PEE, 2016) and the instant connectivity provided by mobile devices has empowered and motivated consumers to co-create value (KHANSA; ZOBEL; GOICOCHEA, 2012). Value
co-creation involves exchange, a multiplicity of actors in complex settings and resource integration (VARGO; LUSCH, 2016), hence, the interaction and ubiquity of online shopping settings are ideal contexts for co-creation to evolve.

Online shopping, mainly mobile, removed time and space barriers (PANTANO; PRIPORAS, 2016; TANG et al., 2016). It is the anytime-anywhere-shopping era. Mobile shopping allows the customers to purchase when they are on the move, with no temporal or spatial constraints (TANG et al., 2016), whereas e-commerce still requires a sitting area for the PC or notebook. Nevertheless, in any case, shopping is no longer restricted to brick-and-mortar stores in commercial schedules.

This removal of barriers has a direct impact in value co-creation. Customer co-creation in online shopping involves a much larger number of customer participants than other forms of co-creation (PEE, 2016). Technology information has made possible for companies to overcome geographical boundaries. More customers, coming from diverse backgrounds and having different experiences, are more likely to offer a greater variety of ideas (PEE, 2016).

Whereas time and space restrictions were removed, other boundaries were added. There are now technological boundaries, including the ability to use the technology and the consumer’s knowledge to deal with it (PANTANO; PRIPORAS, 2016; TANG et al., 2016). Indeed, what Paredes, Barrutia and Echebarria (2014) refer to as customers’ resources, have a direct impact in the value co-creation process. According to the SDL lenses, an online shopping experience can provide value differently according to the customers’ characteristics and contexts (PAREDES; BARRUTIA; ECHEBARRIA, 2014).

### Resources for value co-creation in online shopping

The active role of customers in the value co-creation process in online shopping settings was long taken for granted, with most researches focusing on the firm resources in co-creation. However, Paredes, Barrutia and Echebarria stress that value creation in e-commerce research should “jointly consider customer resources and firm resources” (2014, p. 112). “Resources are basic and integrate tangible and intangible entities available to firms and customers to co-create value” (PAREDES; BARRUTIA; ECHEBARRIA, 2014, p. 10). Consumer resources refer to technology readiness and navigation skills, whereas firm resources regard vendor reputation and website quality. In this co-joint mindset, both companies and customers contribute to the process, by integrating their resources. Therefore, when customers apply their knowledge/expertise and skills (operant resources according to SDL) to the resources provided by the electronic site, value is co-created in online shopping (PAREDES; BARRUTIA; ECHEBARRIA, 2014).

### 3. Methodology

This research is a bibliographic and bibliometric review of the exploratory type, focusing on the analysis of both quantitative and qualitative content. A bibliometric assessment allows the evaluation of quantity (by assessing the numbers of publications) and quality (by looking at citations received) of the published research (BAKRI; WILLETT, 2011). Bibliometrics aims at understanding the production of knowledge. Dealing with the status quo allows us to envisage advances to be made in certain fields of knowledge (TEIXEIRA; IWAMOTO; MEDEIROS, 2013). The study was conducted in four stages.

First, data was gathered from Web of Science (WoS) Database, which includes journals with high impact factor, in June, 2017. A “Basic Search” was conducted by specifying “co-creation”; “service dominant logic”; “e-commerce”; “online shopping”; “mobile commerce”; “m-commerce” and “big data”, with timespan 2007-2017. The search was further limited to journal articles published in English, resulting in a sample of 46 articles. At this point, the bibliometric analysis started. The bibliometric analysis was performed, in order to spot seminal
articles, as well as the most cited authors in this field of study and collaboration patterns. The research used the BibExcel Software for the bibliometric analysis.

In a third stage of the research, the abstracts of the research sample were analyzed. Those identified as most relevant to the topic (value co-creation in online shopping) were to be analyzed in greater depth, in a total of nine articles. This final selection of papers was separately conducted by two researchers, to increase reliability (HOLBROOK; O'SHAUGHNESSY, 1988). Consensus was achieved in work meetings. Finally, an in-depth qualitative content analysis of the nine selected articles was made, whose contributions will be discussed below.

4. Results

The bibliometric analysis showed that the most cited papers over the 2007-2017 period are as follows in table 1 below.

Table 1: Most cited authors on value co-creation in online shopping.

<table>
<thead>
<tr>
<th>Cit.</th>
<th>Authors</th>
<th>Year</th>
<th>Title</th>
<th>Journal</th>
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<tbody>
<tr>
<td>15</td>
<td>Vargo &amp; Lusch</td>
<td>2004</td>
<td>Evolving to a new dominant Logic for marketing</td>
<td>Journal of Marketing</td>
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<td>12</td>
<td>Vargo &amp; Lusch</td>
<td>2008</td>
<td>Service-Dominant Logic - Continuing the evolution</td>
<td>Journal of the Academy of Marketing Science</td>
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<td>11</td>
<td>Prahalad &amp; Ramaswamy</td>
<td>2004</td>
<td>Co-creation experiences: The next practice in value creation</td>
<td>Journal of Interactive Marketing</td>
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<td>8</td>
<td>Payne, Storbacka &amp; Frow</td>
<td>2008</td>
<td>Managing the co-creation of value</td>
<td>Journal of the Academy of Marketing Science</td>
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<td>8</td>
<td>Zwass</td>
<td>2010</td>
<td>Co-Creation Toward a Taxonomy and an Integrated Research Perspective</td>
<td>International Journal of Electronic Commerce</td>
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<td>7</td>
<td>Vargo, Maglio &amp; Akaka</td>
<td>2008</td>
<td>On Value and Value Co-Creation: A Service Systems and Service Logic Perspective</td>
<td>European Management Journal</td>
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<td>7</td>
<td>Grönroos &amp; Voima</td>
<td>2013</td>
<td>Critical service logic: making sense of value creation and co-creation</td>
<td>Journal of the Academy of Marketing Science</td>
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<td>7</td>
<td>Fuller, Mühlbacher, Matzler &amp; Jawecki</td>
<td>2009</td>
<td>Consumer Empowerment Through Internet-Based Co-creation</td>
<td>Journal of Management Information Systems</td>
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<td>6</td>
<td>Gefen, Karahanna &amp; Straub</td>
<td>2003</td>
<td>Trust and TAM in Online Shopping: An Integrated Model</td>
<td>MIS Quarterly</td>
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<td>5</td>
<td>Fornell &amp; Larcker</td>
<td>1981</td>
<td>Evaluating Structural Equation Models with Unobservable Variables and Measurement Error</td>
<td>Journal of Marketing Research</td>
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<td>5</td>
<td>Eisenhardt</td>
<td>1989</td>
<td>Building Theories from Case Study Research</td>
<td>The Academy of Management Review</td>
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<td>5</td>
<td>Amit &amp; Zott</td>
<td>2001</td>
<td>Value creation in E-business</td>
<td>Strategic Management Journal</td>
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<td>5</td>
<td>Fornell &amp; Larcker</td>
<td>1981</td>
<td>Evaluating Structural Equation Models with Unobservable Variables and Measurement Error</td>
<td>Journal of Marketing Research</td>
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<td>5</td>
<td>Leimeister, Huber, Bretschneider &amp; Krcmar</td>
<td>2009</td>
<td>Leveraging Crowdsourcing: Activation-Supporting Components for IT-Based Ideas Competition</td>
<td>Journal of Management Information Systems</td>
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<td>5</td>
<td>Pavlou</td>
<td>2003</td>
<td>Consumer Acceptance of Electronic Commerce: Integrating Trust and Risk with the Technology Acceptance Model</td>
<td>International Journal of Electronic Commerce</td>
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Such analysis allows identifying the theoretical foundation of this research theme. Vargo and Lusch lead the list of seminal authors since S-D Logic, fundamentally based on co-creation, seems to be the first theory to elaborate on it. Gefen; Karahanna; Straub (2003) analyzed the factors that would build trust in online shopping, since this environment lacked the typical human interaction. As the technology evolved, other forms of interaction were provided, resulting in a context full of multimedia-rich interaction opportunities. Hence, enabling new forms of producer-consumer co-creation experiences (FULLER et al., 2009).

Regarding methods, we have two seminal works. The first is Fornell and Larcker’s (1981) paper on Structural Equation Models. Indeed, the majority of online shopping researches...
are positivistic quantitative papers using such method. The other is Eisenhardt’s Case Study Research (1989). Indeed, value co-creation in online shopping has been addressed in a post positivistic approach, gathering qualitative studies and quantitative data to develop a theoretical framework and measurement instruments in this yet incipient field of work.

Comparing the analysis of citations with the co-citations matrix (table 2), a consistency among the most influential authors is observed. The co-citation matrix allows the identification of how the most cited authors are interrelated in the theoretical basis of the field. In other words, what the intellectual structure in this field of research is. The co-citation matrix in table 2 displays the following main pairing patterns: Vargo and Lusch 2004 and 2008, as they continued evolving S-D Logic theory; Vargo & Lusch and Prahalad & Ramaswamy or Vargo & Lusch and Payne, Storbacka & Frow (regarding co-creation); Vargo & Lusch and Grönroos & Voima (also with co-creation although with different approaches); Vargo & Lusch and Zwass; Zwass and Füller et al (consumer empowerment via co-creation); Gefen, Karahanna & Straub and Pavlou (trust and TAM in e-commerce).

Table 2: Co-citation matrix on value co-creation in online shopping.

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<tr>
<td>Amit &amp; Zott, 2001</td>
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<td>Eisenhardt, 1989</td>
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<td>Gefen, Karahanna &amp; Straub, 2003</td>
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<td>Pavlou, 2003</td>
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<td>Payne, Storbacka &amp; Frow, 2008</td>
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<td>Prahalad &amp; Ramaswamy, 2004</td>
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<td>Vargo &amp; Lusch, 2004</td>
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Regarding the network analysis (figure 2), the ontological characteristic and evolution of the value co-creation study, illustrated by the S-D Logic development path (from the seminal 2004 article to the axioms definition in 2016), would explain why a significant part of the cited articles are exclusively related to it. The first e-commerce-related article, used as reference at the articles selected at this study, presents an initial taxonomy of the co-creation elements at online shopping (ZWASS, 2010), exposing the newness of this line of research. The nodes represent the communication volume amongst the authors in the network.
The content analysis used the tools provided by Paredes, Barrutia and Echebarria (2014) in order to address value co-creation in online shopping. Since customers resources in value co-creation lacks more research (PAREDES; BARRUTIA; ECHEBARRIA, 2014), this will be the driver of the analysis process.

Table 3: Most prominent researches based on value co-creation theory in e-commerce.

<table>
<thead>
<tr>
<th>Year</th>
<th>Constructs</th>
<th>Representative findings</th>
<th>Authors</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>Sponsored co-creation and Autonomous co-creation</td>
<td>Content created spontaneously x the one with firm’s involvement</td>
<td>Zwass; Perks, Gruber &amp; Edvardsson</td>
<td>Intern. Journal of Electro Commerce</td>
</tr>
<tr>
<td>2010</td>
<td>Intellectual Space of Co-Creation Research</td>
<td>Classification of the spaces where the co-creation occurs</td>
<td>Zwass</td>
<td>Intern. Journal of Electro Commerce</td>
</tr>
<tr>
<td>2012</td>
<td>Consumer empowerment; innovation; sponsored and autonomous co-creation</td>
<td>The importance of consumer empowerment and co-creation for innovations.</td>
<td>Khansa, L., Zobel, C. W., &amp; Goicochea, G</td>
<td>Intern. Journal of Electro Commerce</td>
</tr>
<tr>
<td>2014</td>
<td>eWOM, value co-creation and trust; behavioral alignment; empowerment and control</td>
<td>eWOM has an impact on value co-creation through consumers’ trust.</td>
<td>See-To, E. W., &amp; Ho, K. K.</td>
<td>Computers in Human Behavior</td>
</tr>
<tr>
<td>2015</td>
<td>Online social support; social commerce constructs (online forums, communities, ratings, reviews and recommendations)</td>
<td>Social media enables social support for purchasing, transferring the power from sellers to buyers</td>
<td>Hajli, N., &amp; Sims, J.</td>
<td>Technological Forecasting &amp; Social Change</td>
</tr>
<tr>
<td>2015</td>
<td>Multi actor collaborative contexts; customer empowerment and customer-dominant value creation</td>
<td>Understanding value creation is one of the top research priorities for service companies.</td>
<td>Ostrom, A. L., Parasuraman, A., Bowen, D. E., Patricio, L., &amp; Voss, C. A.</td>
<td>Journal of Service Research</td>
</tr>
<tr>
<td>2016</td>
<td>Crowdsourcing; personality; trust; openness; extraversion; trait competitiveness.</td>
<td>User motivation to engage in crowdsourcing involves monetary benefits and personality traits.</td>
<td>Faullant, R., Holzmann, P. &amp; Schwarz, E. J.</td>
<td>Intern. Journal of Innovation Management</td>
</tr>
<tr>
<td>2016</td>
<td>Firm resources and outcome quality; consumer resources and type of product</td>
<td>Consumer expertise, process quality and outcome quality significantly affect value</td>
<td>Barrutia, J. M., Paredes, M. R., &amp; Echebarria, C.</td>
<td>European Journal of Marketing</td>
</tr>
<tr>
<td>2016</td>
<td>Co-creation tasks (idea co-creation and decision co-creation) and new product development</td>
<td>The positive impact of customer cocreation in B2C e-commerce is empirically supported</td>
<td>Pee, L. G.</td>
<td>Electronic Commerce Research</td>
</tr>
</tbody>
</table>
The content analysis identified four main research lines: a) customers as co-creators within the interaction with companies (collaboration and innovation); b) customer-employee co-creation issues; c) customers’ interaction with other clients resulting in co-creation, based on recommender systems and eWOM and d) the impacts of social network resources on online shopping behavior.

a) Consumers as co-creators via interaction with companies (collaboration & innovation)

Consumer co-creation helps the companies do a better job, aligning products with customers’ needs and expectations (KHANSA; ZOBEL; GOICOCHEA, 2012). Particularly when it comes to digital technology, managing service innovation is a strategic priority for companies and researches (OSTROM et al., 2015). Moreover, service innovation is increasingly taking place within complex ecosystems (VARGO; LUSCH, 2016), where clients assume a key role as co-developers. Therefore, managing customers’ and partners’ collaboration throughout the service innovation process is key in the value co-creation process.

One of the earliest studies to report empirical evidence for the impact of customer co-creation in e-commerce was performed by Pee (2016), involving new products development. Interestingly, this research analyzed customer-company co-creation via data of online shopping products. The research was based on the premise that consumer co-creation in product innovation involves two tasks: idea generation and idea selection/decision-making. The findings highlighted that co-creation leads to better new products when both ideas and decisions are co-created with customers. That is because when customers contribute with ideas, they also expect to be involved in the decision of which idea to implement (PEE, 2016).

Allowing the customers to engage in the decision-making process, instills a sense of control (PEE, 2016), constituting a form of consumer empowerment necessary for the co-creation process (SEE-TO; HO, 2014). For Khansa, Zobel e Goicochea (2012) m-commerce contributed even more to consumer empowerment thanks to its ubiquitous connection.

According to See-To and Ho (2014) there are two important dimensions on the value co-creation process in online settings: behavioral alignment and empowerment and control. Behavioral alignment happens when both the customer and the company can communicate effectively and efficiently about new ideas. Whereas empowerment and control regards a willingness to change others for co-creation, in a system that provides for both a perception of control. Khansa, Zobel and Goicochea (2012) also highlight the importance of consumer empowerment and co-creation for online shopping innovations.

As seen previously at S-D Logic axiom 5, there are now actors-generated ecosystems and they seem to vary in shape, origin, constitution and many others features. Thereby to establish resource integration it became important to know the types of involvement adopted by the actors and where to find them. Bendapudi and Leone (2003) listed different opportunities for value creation by the beneficiary, including: the emotional involvement of clients (e.g. through advertising and promotional activities); the initiative itself; customer engagement in an experience; the use of processes to enable the customer to solve their own problems (e.g., self-diagnosis of computer failure on a website); and when the customer actively engages with the supplier to help design a product.

More recently, Zwass (2010) deliver a mapping of the space of co-creation (or the relationship format) from the e-commerce point of view. They are Virtual Communities, Common or Open Access (more used at IT development), Crowdsourcing or Collective Intelligence and Open Innovation initiatives. From the firm perspective, Brand Communities are extremely important because they can elaborate user knowledge about the brand’s products, surface lead users, and create a commitment to the brand that can lead to an intent to contribute to the development of its products (ZWASS, 2010), especially when they have been autonomously created.
Despite this relevant effort, it seems that there is still no consensus on the relationship arrangement. For Faullant, Holzmann and Schwarz (2016) crowdsourcing are powerful instruments to integrate users in product development. The motives for participating in collaborative communities usually involve task fascination, peer-recognition and social and learning benefits, whereas crowdsourcing usually involves monetary benefits and personality traits, such as openness, extraversion and trait competitiveness. For Ostrom at al. (2015) they are one of the tools available for companies to foster service innovation and Pee (2016) present Idea Storm from Dell and Kindle Scout from Amazon as examples of companies interaction with their customers. But other initiatives like Unilever Open Innovation platform actually look for experts on certain subjects to further develop and collaborate solving the companies challenges (UNILEVER’S GLOBAL CO WEBSITE, [s.d.]). Trust affect online purchasing behavior (GEFEN; KARAHANNA; STRAUB, 2003), but does not seem to affect the disposition to engage in crowdsourcing (FAULLANT; HOLZMANN; SCHWARZ, 2016).

Even if the company is engaged in co-creation a less systematic way other than an open innovation or a crowdsourcing initiative, there are still plenty of room for co-creation via customer interaction, i.e., via a strong online presence. The online presence of a brand, such as in a social network as Facebook, encourages the involvement of consumers in value co-creation (SEE-TO; HO, 2014).

All this massive volume of content created by consumers via blogs, reviews, comments and ratings provides companies feedback on “how to improve their products to better meet consumers’ preferences” (KHANSA; ZOBEL; GOICOCHEA, 2012, p. 6). Online comments opens the path to a two-way communication of companies and customers, improving the understanding and thus helping the company enhance product design (SEE-TO; HO, 2014). It is an opportunity for more innovative ideas and insights, the seed for “both sponsored and autonomous co-creation” (KHANSA; ZOBEL; GOICOCHEA, 2012, p. 6; ZWASS, 2010). E-vendors can offer support to customers via social commerce platforms and its constructs (online forums, communities, ratings, reviews and recommendations). This supportive climate enhances co-creation of value (HAJLI; SIMS, 2015). Yet, for this supportive network to actually take place and engage companies in co-creation alongside the companies, other actors, such as employees, must also be engaged in value co-creation.

b) Customer-employee co-creation issues

Value co-creation happens in a multi-actor (OSTROM et al., 2015; VARGO; LUSCH, 2016), networked, complex and collaborative context, involving a range of stakeholders. According to Shankar et al (2016), the online shopping journey involves four key entities, i.e., shopper, employee, organization, and mobile technology; and three broad stages, i.e., before, during and after purchase. Integrating the roles of customers, employees, and technology, in all purchasing stages, is crucial for value creation. Nevertheless, as the social media platforms have strengthened client-to-client interactions, the technology advances have led to a substitution of employees, in a “dehumanization of services” process (OSTROM et al., 2015, p. 8).

“Coordinating the interdependent roles of employees and customers in co-creation” (OSTROM et al., 2015, p. 8) is an important topic companies should address in this rapidly changing technological environment. The management of such interdependencies should include necessary structures, scripts, and shared norms and employees need to acquire new competencies. Managers can establish new rewarding strategies and back office personnel can engage in data analysis. Employees can work as “enablers”, ensuring that customers are able to perform their given roles in co-production and value creation (OSTROM et al., 2015)

c) Clients educating other clients (interaction with other clients)

The interaction of clients with other clients via recommender systems and electronic word-of-mouth (e-WOM) also affects the value co-creation process. Value co-creation affects purchase intention in e-commerce (SEE-TO; HO, 2014) and m-commerce (KHANSA; ZOBEL;
GOICOCHEA, 2012). Since value creation focus on value as perceived by customers (OSTROM et al., 2015), the perceptions customers share with other customers affect their service experience. According to Khansa, Zobel and Goicochea’s analysis (2012) of mobile innovations, co-creation of value with and between customers is essential in innovation efforts, as it makes the process more effective, for it facilitates the inflow of knowledge from external entities (PEE, 2016).

Customers are connected to other customers in real time, through instant messaging, commenting or posting (multiple channels), with more autonomy to co-create experiences (OSTROM et al., 2015), in line with what Zwass (2010) refers to as autonomous co-creation.

Some platforms of social media, such as Twitter, may be regarded as a form of electronic word of mouth (CHEN, 2015). Therefore, marketers can use social media, especially Facebook, as an excellent source of micro-insights in targeted groups, displaying personality traits and cultural backgrounds (CASTRO; MARQUEZ, 2017). In the cyber word, electronic word-of-mouth in social media is quite an inexpensive way for marketers to promote their brands (SEE-TO; HO, 2014), since customers can quickly and easily obtain information from others through social media and Internet searches at any time, often via mobile (OSTROM et al., 2015).

Electronic word-of-mouth is a manifesto form of customer engagement (SEE-TO; HO, 2014) and customer engagement influence purchase intention (PAYNE; FROW; EGGERT, 2017). Consumer reviews add value to other potential customers (Hajli and Sims, 2015). “E-WOM has an impact on value co-creation through consumers’ trust” (SEE-TO; HO, 2014, p. 186), allowing richer buying experience (KHANSA; ZOBEL; GOICOCHEA, 2012).

Empowered consumers make informed decisions. The amount of content and tools available for consumers today lead them to impose their values and beliefs on firms, pressing, for instance, for no child labor in production lines (KHANSA; ZOBEL; GOICOCHEA, 2012). More than influencing purchasing decisions, consumers’ comments actually influence the firm’s position on the market (HAIJLI; SIMS, 2015).

d) The impacts of social network resources on online shopping behavior

The integration of e-commerce and m-commerce with social networking sites address the social side of the online shopping experience (HAIJLI, 2014; KHANSA; ZOBEL; GOICOCHEA, 2012) and social resources from customers have a crucial role in value co-creation (PAREDES; BARRUTIA; ECHEBARRIA, 2014). Social interaction of consumers is one of the bases for co-creation (HAIJLI; SIMS, 2015; ZWASS, 2010).

Besides being a place for social interaction, online communities are considered a source of information for consumers (ANNETT-HITCHCOCK; XU, 2015) and for companies (CASTRO; MARQUEZ, 2017; MAČIULIENĖ; SKARŽAUSKIENĖ, 2016). Virtual communities offer to consumers a place to share their preferences and concerns with people with similar interests and needs, in which it differs from the regular online reviews. Therefore, virtual communities add credibility for consumers (ANNETT-HITCHCOCK; XU, 2015).

The emergence of social network communities has provided a transfer of power from sellers to buyers, since the interaction provided leads to an online social support (HAIJLI; SIMS, 2015). Online social support are “online actions that individuals carry out by collaborating with peers through social media (HAIJLI; SIMS, 2015, p. 352), providing either emotional or informational assistance.

Virtual communities work as an environment for consumers to share personal life experiences (ANNETT-HITCHCOCK; XU, 2015). It is a place of rich human interaction. Anonymity allowed by virtual environment may foster creativity by one hand, but input a sense of loose responsibility on the other (MAČIULIENĖ; SKARŽAUSKIENĖ, 2016).

The perceptions of others affect different stages of the creation of value process. Pre-purchase, electronic word-of-mouth affects the trust on the firm and purchase intentions in different online platforms such as websites, blogs, social media or online forums (SEE-TO;
Indeed, in such online systems, the consumers are the main providers of content (KHANSA; ZOBEL; GOICOCHEA, 2012). Consumers use this content provided by other consumers in social media to support their purchasing decisions (HAJLI; SIMS, 2015). Post purchase, the approval of peers upon the performed action help increase the perception of value-in-context experienced (PAREDES; BARRUTIA; ECHEBARRIA, 2014).

Mačiulienė and Skaržauskiënė (2016) identified three motivation types for participation in online communities: material (financial benefits), intellectual (knowledge) and social (relationships). Indeed, there is a strong social motivation in participating in online communities, related to the bonds and exchanges performed within the group (MAČIULIENĖ; SKARŽAUSKIENĖ, 2016). In these virtual structures, peers provide assistance to peers (ANNETT-HITCHCOCK; XU, 2015). Therefore, online communities can be helpful in solving problems hard to overcome individually (MAČIULIENĖ; SKARŽAUSKIENĖ, 2016).

Three factors influence consumers’ willingness to co-create with producers: experienced tool support; user involvement; and enjoyment (FÜLLER et al., 2009). The social engagement allowed by online shopping (KHANSA; ZOBEL; GOICOCHEA, 2012) enables the reunion in performing the task (BELK; GER; ASKEGAARD, 2000), and perceived enjoyment is a critical requirement for consumer engagement in value co-creation.

The online shopping experience has matured from push strategies to an entertaining social experience (KHANSA; ZOBEL; GOICOCHEA, 2012), where consumers are empowered and have an active role in co-creation of value.

5. Discussion and final considerations

According to the content analysis, customer co-creation is the core of online shopping interactions and their empowerment is a major construct at most of the analyzed researches.

Value co-creation in online shopping happens within a network perspective. This movement from a “bilateral supplier – customer service – value co-creation to a multi-actor perspective” (OSTROM et al., 2015, p. 10) brings the challenge of how to foster and organize such network structures in order to enhance customer experience.

The consumer of today is able to interact with the world on different levels and to accomplish activities unthinkable before, what Zwass (2010) defines as “consumer empowerment” (KHANSA; ZOBEL; GOICOCHEA, 2012; ZWASS, 2010). The technology advances that came along the Internet played a major role on that, changing the clients’ role from consumers to co-creators.

Some limitations stem from the data collection and the methodological approach. For instance, regarding the use of a single database – Web of Science. The use of other databases should provide further insights. Plus, for a more comprehensive framework, a further research could use the snowball technique to broaden the sample including additional referrals.

Since the research on value co-creation in online commerce settings is still incipient and understanding co-creation is one of the top service research priorities (OSTROM et al., 2015), the avenues for future research are wide open. For instance, there is need for further research specifying the operationalization of value co-creation whereas enhancing the company’s profitability. The showrooming behavior - visit offline stores to buy on line (GENSLER; NESLIN; VERHOEF, 2017) also presents itself as a new modus operandi for online shopping. Indeed, Pee (2016) already argued for the development of better and more comprehensive knowledge of the mechanisms through which co-creation impacts financial performance.

Social data activity is a plenteous source of data; a fertile ground for discovering innovative ideas. However, the approaches and methods to explore this ocean of big data remains a challenging research field. Besides design and commerce, customer cocreation could also be stimulated in other stages of the process, such as product testing and product support.
Customers may think that this load of content and interactivity is helpful and pleasant, but on the other hand, they may also refuse to contribute with all that is expected from him as a co-creator of value, thus leading to “codestruction” (OSTROM et al., 2015). This is another fruitful research avenue.

Unlike prior studies, Pee (2016) research found that customer co-creation in the commercialization process had a negative effect on innovativeness (despite a positive effect on sales) and some author focused innovation differentiation basically pointing that incremental ones can naturally come from consumers but radical innovation would hardly be revealed among them (FÜLLER et al., 2009; GUSTAFSSON; KRISTENSSON; WITELL, 2012; ORDANINI; PARASURAMAN, 2011). Further investigation can shed light on this issue.

Ostrom et al. indicates a relevant research path in understanding conflicts between customers’ desire for privacy and their desire for personalized service (2015) which can be related to the co-creation involved in personalizing services. And a direct link to this subject relates to this Grönroos (2008) assertive challenging the notion that co-creation only occurs if the beneficiary allows. In fact, it seems that not all consumers understand properly the extend where they are permitting the online players to interfere at their buying behavior.

Despite all that, we can conclude that the online shopping ubiquity, linked to the interactivity in the generation of photos, videos, audios and content for social media creates a rich opportunity for customer value co-creation where the firm needs to be fully integrated.

**References**


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