Processes and organizational innovation for small businesses

Procesos e innovación organizacional para pequeñas empresas

Processus et innovation organisationnelle pour les petites entreprises

Joaquin Jose Carvalho Proença[1]
PhD Candidate, Universitat Politècnica de València, Spain. e-mail: joacarpr@alumni.upv.es
ORCID iD: https://orcid.org/0000-0002-6423-6034

Fernando Jiménez Sáez[2]
Head Professor, Universitat Politècnica València, Valencia, Spain. e-mail: fjimenez@ingenio.upv.es
ORCID iD: https://orcid.org/0000-0001-5685-3959

Abstract

Dynamic capabilities to innovate can be acquired regardless of the size of a company, but this requires that users participating in innovation processes be identified (value proposition segments) and the way organizations interact with these users be understood (processes). Small businesses can innovate with fewer financial and human resources using Customer Discovery, environment scanning, immersion, customer journey mapping, Customer Validation with validation of ideas and solutions in dynamic group sessions, Gamification, Design Thinking and prototyping workshops. The methodology used herein is that of literature review in the areas of process, products and dynamic capabilities innovation of companies. The objective of this research is to explore innovative processes that take into account and involve greater user collaboration that small businesses can exploit, which are targeted at the end user. Innovation does not have to be uncertain or expensive and can be developed through organizational innovation and innovation of collaborative processes with users.

Keywords: Innovation processes, Product innovation, Service innovation, Dynamic capabilities of SMEs.

Resumen

Las capacidades dinámicas para innovar se pueden adquirir independientemente del tamaño de la empresa, pero eso requiere que los usuarios que participan en los procesos de innovación sean identificados (segmentos de la propuesta de valor) y la forma como las organizaciones interactúan con estos usuarios sea comprendida (procesos). Las

---

pequeñas empresas pueden innovar con menos recursos financieros y humanos utilizando el Customer Discovery, escaneo del entorno, inmersión, mapa de viaje de consumidor, el Customer Validation con validación de ideas y soluciones en sesiones dinámicas de grupo, Gamification, Design Thinking y talleres para realización de prototipos. La metodología utilizada es la revisión de la literatura en los ámbitos de innovación de procesos, productos y capacidades dinámicas de las empresas. El objetivo de la investigación es la exploración de procesos innovadores que tienen en cuenta e implican mayor colaboración de los usuarios que las pequeñas empresas pueden explotar y que están dirigidos al usuario final. Innovación no tiene porque ser incierta ni cara y se puede desarrollar a través de innovación organizativa e innovación de procesos colaborativos con los usuarios.

Palabras clave: Procesos de innovación, Innovación de productos, Innovación de servicios, Capacidades dinámicas de las Pymes.

Résumé

Les capacités dynamiques d'innovation peuvent être acquises quelle que soit la taille de l'entreprise, mais cela exige que les utilisateurs participant aux processus d'innovation soient identifiés (segments de la proposition de valeur) et que la façon dont les organisations interagissent avec ces utilisateurs soit comprise (processus). Les petites entreprises peuvent innover avec moins de ressources financières et humaines en utilisant la Découverte Client (*Customer Discovery*), l'analyse de l'environnement, l'immersion, la cartographie des déplacements des consommateurs, la phase de Validation Client (*Customer Validation*) avec validation des idées et des solutions dans des sessions de groupe dynamiques, la Gamification, la Pensé Design (*Design Thinking*) et des ateliers de prototypage. La méthodologie utilisée est l'analyse de la documentation dans les domaines de l'innovation des procédés, des produits et des capacités dynamiques des entreprises. L'objectif de cette recherche est d'explorer des processus innovateurs qui tiennent compte et impliquent une plus grande collaboration des utilisateurs que les petites entreprises peuvent exploiter et qui visent l'utilisateur final. L'innovation ne doit pas nécessairement être incertaine ou cher et peut être développée par l'innovation organisationnelle et l'innovation des processus de collaboration avec les utilisateurs.

Mots-clés: Processus d'innovation, Innovation produits, Innovation services, Capacités dynamiques des PME.

1. Introduction

Small businesses could benefit from external knowledge flows in projects initiated and controlled by themselves and in service sector innovation since these flows come from user-driven knowledge-generating experimentation processes, processes, and prototypes not necessarily in R&D departments. The absorption capacity of organizations through external sources of innovation takes place with lead users, emerging and traditional users, presumers, prosumers and can occur in different ways, such as co-creation, crowdsourcing, networks, communities and ecosystems.

The objective of this research is seeing co-creation as an active, creative and social process, which involves: 1) Connections: interactions between people, such as companies and customers, not just interactions between consumers and products; 2) Collaboration, rather than just participation; 3) Co-creativity, not simply co-construction or co-production (Coates, Roser, Samson, Humphreys, and Cruz-Valdivieso, 2009). As a hypothesis, although the limitations of financial resources and/or intellectual capital of small companies limit the implementation of multifunction teams into project management, the creation of R&D departments, the creation of a specific lab, an innovation center or knowledge-intensive business consultancy, there are innovative collaborative processes with users that small companies can take advantage of.

The chosen literature review methodology highlights organizational innovation and agile and iterative processes to overcome the one-way value flow from the company to customers. Nevertheless, innovation processes of co-creation with the users are applied more in large than in small companies and vary by sectors. The exclusively-with-users open innovation strategy for the development of new services mainly provides innovations of an incremental nature, while R&D with long-term results, although more costly, plays an important role in the radical innovation of services. In the same way, open innovation in networks, and above all in the ecosystem or systemic activity of the actors, can provide different results.

This paper is structured as follows: After the first section, it presents the methodology used; the second section analyzes the issue of service design centered on the human being, including user collaboration, their level of participation, and organizational

structures in small businesses. The third section examines the exploration of the environment, immersion, validation of ideas, solutions and prototypes used by Lean and Design Thinking methodologies to accelerate innovation and reduce risks when introducing new products and services into the market. The final section will present the conclusions.

2. Methodology

Although the creation and development of products has been associated with marketing, it is the literature on innovation with users wherein the most interesting theories and methodologies for this research are contained. Firstly, there is innovation derived from the processes of co-creation with lead users; these are the people to first identify the need for a product or service, which initiated with Von Hippel (1986). Subsequently, Prahalad and Ramaswamy (2000) define co-creation as users participating directly, and sometimes repeatedly, in the design, development of products, services and innovation processes. It has Brown's (2008) methodology's usage in the company IDEO since 1991 what has highlighted the human approach to innovation consisting of empathy, definition, ideation, prototyping and tests. Ries (2011) refines Steve Blank's Customer Development methodology and initiates the Lean movement based on product development focusing on building a minimum viable product as quickly as possible and by iterative learning. Finally, Vanhaverbeke (2017) highlights important differences between open innovation strategies in SMEs and large companies.

3. Users, structure and organizational culture in innovation

The innovation of human-centered services is neither anticipated by managers, technologists nor market research experts, but generated by users and the community according to their needs and expectations, Bas (2014). The relevance of iterative processes and organizational structures is that they enable a change from a product-and/or efficiency-centered approach to a user or consumer-centered approach without forgetting the environment and context of the organizations.

3.1. Users

Who would be the ideal candidate users for collaborative activities in innovation management? Research on user profile selection at first focused on the individual client as an innovator (Kristensson, Gustafsson, and Archer, 2004; Von Hippel, 2001) and then moved on to exploring distinct client groups, the community as a peer system (Hienerth and Lettl, 2011; Jeppesen, 2005), crowdsourcing or a multitude of clients (Franke, Keinz and Schreier, 2008; Füller, Matzler, and Hoppe, 2008). The latter approach has been directed towards the concept of network and ecosystem (Hienerth, Lettl, and Keinz, 2014; Gemser and Perks, 2015) in West and Bogers (2013).

It is highly important to choose conventional clients or well-informed and latent consumers, such as presumers (*content curators*, *bloggers*, *knowmads*, and influencers), prosumers, *lead users*, and early innovation users within the segments to which the company addresses its value proposition. The results of collaborating with conventional consumers, *lead users* or advanced consumers diverge. Traditional consumers are able to think *"out of the box"* and provide original ideas when compared to advanced customers and professional developers (Kristensson *et al.,* 2004; Magnusson, 2009). On the other hand, in the literature, there is also evidence suggesting that the use of "average" customers can have a negative impact on innovation outcomes, at least for technology-based products. Other studies suggest that the involvement of "advanced" customers, e.g. customers with lead user characteristics, may increase the novelty of co-created knowledge (Mahr, Lievens, and Blazevic, 2014).

There is a category of consumers who are endowed with a unique capability called emergent nature and are therefore able to generate forward-looking ideas and to evaluate and refine concepts from a logical and analytical point of view in a synergistic process (Hoffman, Kopalle, and Novak, 2010). The consumers who meet this profile do not have to be experts in the product category but count with a special ability to visualize how concepts can be developed in a way that will bring success in the marketplace (Hoffman *et al.,* 2010). Kumar and Steenkamp (2007)

refer first and foremost to the willingness of consumers to buy new products and brands at an early stage rather than staying with previous choices and consumption patterns.

Lead users are another category at the forefront of market trends, who expect benefits from a solution to their advanced needs in a specific domain (Von Hippel, 1986). *Lead users* anticipate the benefits of obtaining a solution to their needs are at the forefront of relevant trends in the market under investigation and therefore have needs that will later be experienced by many users in that market (Von Hippel, 1986). In addition, *lead users* are more likely than other customers to modify products and find new uses for them (Berthon, Pitt, McCarthy, and Kates, 2007). Von Hippel (1986) pointed out the importance of the ability to ignore existing thought patterns and creating disruptive innovations, as collaborative processes without *lead users* would only lead to incremental innovations.

Von Hippel's (2004) methodology firstly observes how the market adopts the new innovations by these users and at the same time explores the activities that occur in the peak of a trend through the information that the very user generates in the network with his conversations. The next step would be to select an important and specific market and trend and then use a *Brainstorming* methodology with *lead users*. Within that target market, what kind of people or companies have needs at the forefront of trends and which have a high incentive and resources to solve their peak needs? Outside the target market, what kind of users in other fields and applications face a similar need, but in a more demanding way? *Lead user* search techniques include *screening*, which is a questionnaire to identify people who meet a certain profile; *pyramiding* through recommendations from other people with higher levels of experience; *and signaling through* advertising to evaluate answers from potential *lead users*, (Brem and Bilgram, 2015).

Researchers have identified two key mechanisms that encourage the creation of innovation outside the company's boundaries. The first is to encourage external innovators by offering effective incentives, either monetary incentives (extrinsic benefits) such as innovation prizes and contests (Terwiesch and Xu, 2008) or non-monetary incentives appealing to intrinsic motivation as often found in open source software (West and Gallagher, 2006). The second mechanism is the establishment of formal tools and processes that provide a platform for external stakeholders to produce and possibly share innovations (Gawer, 2010).

3.2. Organizational Structures

Creating a new product or business model requires a new organizational approach, i.e. adaptive innovation that involves operating simultaneously in both learning and creation modes to find solutions and even *disrupt* itself before competitors do (Gupta, 2013). For Kotter (2014), the solution is an organization that works with a dual system: a traditional hierarchy that focuses more on efficiency that coexists with a network operation focused on innovation as a startup. Another well-known solution is ambidextrous organization. According to Duncan (1976), an ambidextrous organization can combine the exploitation of existing capabilities with the exploration of emerging opportunities. As a result, a company can be creative and adaptable and pursue incremental and discontinuous innovation (Tushman and O'Reilly, 1996). The ambidextrous organization is able to combine multiple organizational structures and cultures according to whether it pursues short or long-term goals.

Anca and Aragon (2014) coined the category of new tribes, which function as independent teams coordinated to meet specific needs. There are capable of can recombining in different ways within the organizational structure and are characterized by openness, mobility and renewal of ideas, co-organization, internal and external collaboration, voluntary membership, multiple identities and a common interest. For these authors, the organization can create an environment within these tribes and they can be monitored by reacting quickly to their needs.

In order to develop new business opportunities, the relevance of knowledge management comes in terms of creation, learning and sharing/transferring regarding

relational knowledge (Zack, 1998) and the use or exploitation of knowledge as a set of social and dynamic processes that need to be managed (Landoli and Zollo, 2007). The decision to look for external sources of innovation would normally lead companies to look for the necessary skills to make this strategy effective. Du Chatenier, Verstegen, Biemans, Mulder, and Omta (2010) used exploratory interviews and focus groups to identify organizations' collaborators' individual skills, including interpersonal skills, project management-related and the ability to manage the collaborative innovation process. West and Bogers (2013) refer to the integration of innovations as one of the four steps in innovation-creating processes, along with interaction, external sources and marketing.

3.3. Benefits

The co-creation of value for small companies allows the creation of dynamic capacities in the development of new services, through Design Thinking and Lean methodologies in the exploration, ideation, and validation of ideas co-generated with the client, creation of prototypes and tests. Additional benefits are competitive advantages (faster time to market), process efficiency, lower project costs (Tranekjer and Søndergaard, 2013), high product variety (Al-Zu'bi and Tsinopoulos, 2012), *premium* price (Franke and Piller, 2004), reputation (Fuchs and Schreier, 2011) and the leadership and adaptability of the organizational culture.

Co-creation of value for consumers brings benefits that are tangible such as the possibility of being early users, getting discounts, *royalties*, career opportunities and customization with products tailored to their own needs (Franke, Von Hippel and Schreier, 2006); or intangible, namely, enjoyment, feeling of achievement (Franke and Schreier, 2010), knowledge, social relationships, status, history to share, sense of community (Nambisan and Baron, 2009) and "emotional ownership" (Berthon, Pitt, Kietzmann and McCarthy, 2015), in West and Bogers (2013). Stock, Oliveira and Hippel (2015) are of the opinion that the utilitarian motives of the user positively influence the usefulness of the developed solution, while, on the contrary,

the hedonic motives of the user positively affect the novelty of the solution.

3.4. Small Businesses

Open innovation in small companies is different from open innovation in large companies. Vanhaverbeke (2016) argues that the open innovation framework based on Chesbrough theories is not appropriate for SMEs. He argues that small companies have neither a portfolio nor large innovation projects teams (in fact, innovation is managed by the entrepreneur/founder), moreover their activities are not limited to an innovation funnel. Open innovation is the result of strategic changes in the company and goes hand in hand with its entrepreneurial spirit; on the contrary, Vanhaverbeke (2017) thinks that open innovation research in small companies only makes sense within the broader framework of a(n) (innovative) business model.

As for the limitations to innovate in small companies, these are the lack of absorption capacity (Cosh, Bullock, and Milner, 2007), insufficient knowledge retention (Chen and Fan, 2013), the inability to promote the exploration of new knowledge and the lack of maturity in experiences and commercialization models (Zhang and Chen, 2014), lack of managerial skills and techniques for their effectiveness (Rahah, Rah, and Chen, 2014), lack of managerial skills and techniques for their effectiveness (Rahman and Ramos, 2010) and lack of resources and access to up-to-date scientific excellence (Abouzeedan, Kloften, and Hedner, 2013). Egbu, Subashini, and Renukappa (2005) highlight that the knowledge generated in SMEs is tacit in nature for a variety of reasons. In the context of SMEs, some elements of knowledge management are practiced but in an "ad hoc" way.

Regarding the interaction of SMEs with innovation sources, Hemert, Nijkamp, and Masurel (2013) demonstrated that it is important not only in the initial phase of the innovation process but also in its final phase for the successful commercialization of a product or service. However, other studies suggest that collaboration for SMEs is more important in the commercialization

stage than in the early stages of innovation (van de Vrande, de Jong, Vanhaverbeke, and Rochemont, 2009; Hemert *et al.,* 2013). It is true that this perspective represents a conception of the importance of users as participants in later stages of the innovation cycle, and not being so important in the early stages of innovation or *front-end* for the ideation and validation of *consumer insights*.

As for the type of collaboration, Parida, Westerberg, and Frishammar (2012) emphasize that for small businesses; vertical collaboration is connected to radical innovation, while horizontal collaboration is applicable for incremental innovation. Wynarczyk (2013) believes that SMEs with an open innovation strategy tend to collaborate for the launch of new products, while closed innovation SMEs do so for incremental changes in their existing products. Spithoven, Vanhaverbeke, and Roijakkers (2013) noted that the collaboration of SMEs with external agencies increases their chances of launching products and services. Small business collaboration goes beyond science and technology and includes partnerships in the value chain that bring about new knowledge that can be easily absorbed.

4. Innovation processes

4.1. Capacities

Dynamic capabilities can be defined as routines within the management and organizational processes of a company seeking to obtain, free, integrate and reconfigure resources (Teece Pisano and Shuen, 1997) to create value. In a changing environment, Teece refers to detecting, capturing and reconfiguring assets that involve exploring the environment and responding to opportunities detected with open innovation. Dynamic capabilities have been researched mainly in product- and technology-related contexts, but seem particularly useful for service innovation (Fischer, Gebauer, Gregory, Ren, and Fleisch, 2010; den Hertog, van der Aa and de Jong, 2010; Kindström, Kowalkowski, and Sandberg, 2012), in Ojasalo, Koskelo, and Noinenusia (2015).

Payne, Storbacka, and Frow (2008) suggest restructuring the architecture of knowledge management with systems built around processes and customer experiences rather than products. Value is created in conjunction with customers as a source of competitive advantage (Karpen, Bove, and Lukas, 2012). According to Michel, Brown and Gallan (2008) what defines innovation is the modification of value as defined and used by the customer, not value in production and exchange. *The management of knowledge exchange and development becomes an essential part of innovation management and thereby a part of strategic management* (Liebowitz, 2012).

4.2. Processes

In the initial phase of innovation management, SMEs can use several classic market research methodologies such as ethnography and in-depth user interviews. Then move on to the latest techniques for problem-solving in the development of new products and services such as *Customer Journey Map,* netnography, *Coolhunting*, as well as dynamic group sessions for innovation games, Design Thinking sessions and workshops for *storytelling* and prototyping.

Anticipation and customer trajectory mapping help identify and select users in different activity cycles and several tools for mapping customer processes are mentioned by Payne *et al.* (2008) and include process and customer activity cycle mapping, *service-blueprinting* and customer-company contact point analysis. At the level of *Coolhunting* future trends can be identified at different levels: at the macro level, at the sector-specific level and at the level of a particular service according to Holopainen and Helminen (2011). Trends are defined as long-term changes signaling conditions that will probably have to be dealt with in the coming years and that represent a deeper change than a passing fad (changes that happen very quickly), (Evans and Sommerville, 2007). There are tools such as content analysis, defined by Evans and Sommerville (2007) and Bell (2009) as a systematic and objective study to identify emerging trends by collecting and analyzing information from

sources such as the Internet, newspapers, television, speeches, etc. Digital immersion with social networks, websites and mobile applications will also help to detect customer expectations for subsequent comparison with their perceptions of the service experienced.

The ethnography involved in immersion and observation makes it possible to perceive the needs of clients by understanding users every day through the observation of their behavior in real situations (Moritz, 2005). Silverstain and DeCarlo (2009) reckon that the best way to gain a deep understanding of the client is through ethnography, observation and empathic methods. The empathy map consists of analyzing what the user thinks, feels, sees, hears, says and does to detect needs and frustrations (Gray, Brown, Macanufo, and Benítez, 2012). Empathy is about seeing the world through the eyes of another person, and this ethnographic approach does not try to discover a particular problem in an existing product or service but rather constructs a tacit sense of what another person is like, what they value and how they experience the world (Kolko, 2015). According to Denzin and Lincoln (2000), the broad perspective of actors in a context is captured and analyzed primarily through observation and in-depth interviewing that uses open-ended questions to understand reality. In-depth interviews are an effective way to generate perceptions about customers, behaviors and needs, and to discover their values and opinions (Polaine, Lovlie, and Reason, 2013).

4.3. Skills

Creating value with users involves a physical and/or virtual space environment and the tools, in addition to those mentioned above that include *storytelling*, *value proposition canvas*, prototypes on paper, sketches, drawings or 3D prints. In this context, the competencies and capacities of managers to drive this process may be more important than trying to find users with specific or desirable skills (Kambil, Friesen, and Sundaram, 1999). As Iglesias (2013) points out, unlike some companies assume, creativity does not depend on recruiting the most creative people, it is rather the result of the participation and interaction of all project members. In this sense, the role

of the moderator is essential. Successful projects have very active moderators who without interfering with the functioning of the community, stimulate creativity through questions and activities. The contributions of psychology, consumer behavior and marketing are extensive regarding the profile and identification of users for the co-creation processes but need to be developed in terms of creativity, motivation and skills for the facilitators of the organization to manage co-creation projects. These skills are decisive for the dynamic Gamification group sessions and conclusive Design Thinking for prototyping and testing.

4.4. Design Thinking & Lean

Design Thinking is a method that involves visualization, narration and facilitates engagement with users in experimentation with prototypes, models. Brown (2008) defines Design Thinking as "a discipline that uses the designer's sensitivity and methods to adapt to people's needs with what is technologically feasible and that a viable business strategy can turn into customer value and market opportunities". Design Thinking as a method for innovation and problem solving, driven by creativity, customer empathy, ideation, iterative learning and the prototype approach, is a customer development process, which along with the Lean method that tests the hypothesis and in the pivoting allows adjusting and readjusting concepts, the vision and roadmap of innovation processes, finds solutions that fit the market. The test phase determines whether the company is delivering service design and standards that match the value proposition.

With the Lean method the goal of the MVP approach, the minimum viable product, is speed without wasting time on irrelevant or unnecessary efforts. However, services require additional effort, as they must be considered as a user experience in the context of a system. The iterative and measurable Lean method works around three core principles: building, measuring and learning, and it can be improved with the applied qualitative feedback of Design Thinking. For their part, "tests in Design Thinking are mainly carried out qualitatively... Therefore, the control mechanisms that enable the

quantitative measurement of user feedback must be implemented in the Design Thinking process" (Mueller and Thoring, 2012).

5. Results

In general, innovation programs lack a strategic mission and methods of collaboration due more to insufficient resources, to the organizational culture and the absence of innovative user-centered processes. In most cases, the priorities for companies are the search for and development of efficiency and quality processes through access and exposure to the latest technologies. Although innovation processes of co-creation with users are applied more in large companies than in small companies and may vary according to sectors, for collaboration to develop and establish quality relationships, there is a set of factors such as users - driven by extrinsic benefits or intrinsic motivation - and skills, tools, capabilities within the reach of companies regardless of their size. The research highlights a set of organizational design, team building, agile and iterative processes to overcome the one-way value flow from the company to customers. Several factors have increased the potential for seeking innovation in external sources, which are faster and reduce costs, globalization, and technologies such as the use of 3D printing, software, social networks and Information and Communication Technologies (ICT).

6. Discussion

The contributions of psychology, consumer behavior and marketing are extensive in profiling and identifying users for co-creation processes, but scarce in the abilities of facilitators to manage co-creation projects in the organization such as creativity, proactivity, curiosity, visual thinking and emotional learning. Since the value in services is directly related to providing the experience of interaction and simultaneity between production and delivery, the relevance of user journey mapping and points of contact in the co-creation process is a field that has research implications and needs to be further developed. For that to happen it is necessary to create feedback mechanisms and co-creation processes to help the company continuously improve its operations and strategy.

To some extent, this research focused on the strategy of open innovation exclusively with users which enables ideation, validation, prototyping, testing and soft launching for developing new services is mostly limited to the role of incremental innovation. In the same way, more studies are needed on open innovation within a network of partners and, above all, on the ecosystem or systemic activity of the actors and the competitiveness of small businesses. It is also interesting to note the extent to which small companies can derive greater benefits from open innovation than larger ones because of their reduced bureaucracy, greater willingness to take risks and ability to react faster to changing environments, as suggested by Parida *et al.* (2012).

7. Conclusions

Nevertheless, the open innovation framework in small companies is different from that of large companies; dynamic capabilities can be acquired through organizational design and through collaborative innovation projects especially regardless of the size of the companies. Co-creation requires identifying users and facilitators within an innovative culture of organizations that in turn favor innovations at the level of consumer-centered processes. Organizational innovation is not a sufficient condition, but process innovation is necessary for the development of new services, even though innovation programs may not be fully developed. Scanning, immersion in the environment, dynamic gamification group sessions, Design Thinking, storyboard workshops and prototyping have a practical implication and are capable of driving the development of innovative services and new business models in small businesses. These methods are different from the usual practices in creating and developing new products from Robert Cooper's Stage Gate linear methodology and in the passive cooperation of users in providing information. The ultimate goal of direct value co-production, through pivoting, is to build, test and learn. Small businesses could take advantage of the value of user contributions at a higher level

and a good part of these methods could be attractive to users.

8. References

Abouzeedan, A., Kloften, M., & Hedner, T. (2013). Internetization management as a facilitator for managing innovation in high technology smaller firms. *Global Business Review*, *14*(1), 121-136.

Al-Zu'bi, Z., & Tsinopoulos, C. (2012). Suppliers versus lead users: Examining their relative impact on product variety. *Journal of Product Innovation Management*, *29*(4), 667-680.

Bell, W. (2009). *Foundations of futures studies.* London, UK: Transactions Publishers.

Bas, E. (2014). Educar para innovar: La innovación como cultura. *Revista de Estudios de Juventud, 104,* 11-30.

Berthon, P. R., Pitt, L. F., McCarthy, I., & Kates, S. M. (2007). When customers get clever: Managerial approaches to dealing with creative consumers. *Business Horizons*, *50*(1), 39-47.

Berthon, P., Pitt, L. F., Kietzmann, J., & McCarthy, I. (2015). CGIP: Managing consumer generated intellectual property. *California Management Review*, *57*(4), 43-62.

Brem A., & Bilgram, V. (2015). The search for innovative partners in co-creation: Identifying lead users in social media through netnography and crowdsourcing. *Journal of Engineering and Technology Management, 37,* 40-51.

Brown, T. (2008). Design thinking. *Harvard Business Review, 86*(6).

Chen, Y., & Fan, B. Q. (2013). Relationship between open innovation capability of SMEs and innovation performance. *Research and Development Management, 25*, 24-35.

Coates, N., Roser, T., Samson, A., Humphreys, P., & Cruz-Valdivieso, E. (2009). *Co-creation: New pathways to value (LSE Enterprise).* Retrieved from http://learn.cspace.com/co-creation-new-pathways-to-value.

Cosh, A., Bullock, A., & Milner, I. (2007, February). *Barriers to Innovation and Growth in High technology SMEs: the Role of Absorptive Capacity.* A report from the Center for Business Research for the Council for Science and Technology University of Cambridge, Cambridge, UK.

de Anca, C., & Aragón, S. (2014). Diversity and tribal thinking in the collaborative organization. In *Reinventing the company for the digital era* (p. 75). Madrid, España: BBVA, OpenMind.

den Hertog, P., van der Aa, W., & de Jong M. W. (2010). Capabilities for managing service innovation: towards a conceptual framework. *Journal of Service Management, 21*(4), 490-514

Denzin, N., & Lincoln, Y. (2000). *Handbook of Qualitative Research*. London, UKA: Sage Publications.

Du Chatenier, E., Verstegen, J. A. A. M., Biemans, H. J. A., Mulder, M., & Omta, O. S. W. F. (2010). Identification of competencies for professionals in open innovation teams. *R&D Management, 40*(3), 271-80.

Duncan, R. (1976). The ambidextrous organization: Designing dual structures for innovation. In R. Kilmann, L. R. Pondy & D. Slevin (Eds.), *The management of organization design: Strategies and implementation* (pp.167-188). New York, USA: North Holland, Elsevier Science Publishing.

Egbu, C. O., Subashini, H., & Renukappa, S. H. (2005). Knowledge management for sustainable competitiveness in small and medium surveying practices. *Structural Survey, 23*(1), 7-21.

Evans, M., & Sommerville, S. (2007). A design for life: Futures thinking in the design curriculum. *Futures Research, 23*(3).

Fischer, T., Gebauer, H., Gregory, M., Ren, G., & Fleisch, E. (2010). Exploitation or exploration in service business development? insights from a dynamic capabilities perspective. *Journal of Service Management, 21*(5), 591-624.

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.

Franke, N., Von Hippel, E., & Schreier, M. (2006). Finding commercially atractive user innovations: A test of lead user theory. *Journal of Product Innovation Management*, 23(4), 301-315.

Franke, N., Keinz, P., & Schreier, M. (2008). Complementing mass customization toolkits with user communities: How peer input improves customer self-design. *Journal of Product Innovation Management*, *25*(6), 546-559.

Franke, N., & Schreier, M. (2010). Why customers value self-designed products: The importance of process effort and enjoyment. *Journal of Product Innovation Management*, *27*(7), 1020-1031.

Füller, J., Matzler, K., & Hoppe, M. (2008). Brand community members as a source of innovation. *Journal of Product Innovation Management*, *25*(6), 608-619.

Fuchs, C., & Schreier, M. (2011). Customer empowerment and new product development. *Journal of Product Innovation Management*, *28*(1), 17-32.

Gawer, A. (Ed.). 2010. *Platform, markets and innovation*. Cheltenham, UK: Edward Elgar.

Gemser, G., & Perks, H. (2015). Co-creation with customers: An evolving innovation research field. *Journal of Product Innovation Management*, *32*(5), 660-665.

Gray, D., Brown, S., Macanufo, J. (2010). *Gamestorming: A Playbook for innovators, rulebreakers and changemakers.* Sebastopol, USA: O´Reilly Media.

Gupta, A. (2013). Adaptive innovation: Create, learn, repeat. *Rotman Management*, Winter 2013, pp. 97-100.

Hemert, P., Nijkamp, P., & Masurel, E. (2013). From innovation through commercialization through networks and agglomerations: analysis of sources of innovation, innovation capabilities and performance of Dutch SMEs. *The Annals of Regional Science, 50*(2), 425-452.

Hienerth, C., & Lettl, C. (2011). Exploring how peer communities enable lead user innovations to become standard equipment in the industry: Community pull effects. *Journal Product Innovation Management*, *28*(s1), 175-195.

Hienerth, C., Lettl, C., & Keinz, P. (2014). Synergies among producer firms, lead users and user communities: The case of the LEGO producer-user ecosystem. *Journal of Product Innovation Management*, *31*(4), 848-866.

Holopainen, M., & Helminen, P. (2011). Used-based service innovation including a futures perspective: a case study with four methods, In J. Sundbo, M. Toivonen (Eds.). User-based innovation in services. Cheltenham, UK: Edward Elgar.

Hoffman, D., Kopalle, P., & Novak, T. (2010). The "right" consumers for the best concepts: a methodology for identifying emergent consumers for new product development. *Journal of Marketing Research, 47*(5), 854-865.

Iglesias, O. (2013). Estrategias de cocreación: cómo conseguir que los clientes sean parte clave del equipo de innovación. *Harvard Deusto Marketing y Ventas*, *119*(11), 6-11.

Jeppesen, L. B. (2005). User toolkits for innovation: consumers support each other. *Journal of Product Innovation Management 22*(4), 347-362.

Karpen, I. O., Bove, L. L., Lukas, B. A. (2012). Linking service-dominant logic and strategic business practice: a conceptual model of a service-dominant orientation. *Journal of Service Research 15*(1), 21-38.

Kambil, A., Friesen, B., & Sundaram, A. (1999). Co-creation: A new source of value, *Outlook*, (2), 38-43.

Kindström, D., Kowalkowski, C., & Sandberg, E. (2013). Enabling service innovation: a dynamic capabilities approach. *Journal of Business Research, 8*(66), *1063-1073.*

Kolko, J. (2015). Lean doesn't always create the best products. *Harvard Business Review*, (May 14).

Kotter, J. P. (2014). The Organization of the future: A new model for a faster-moving world (p. 375). In *Reinventing the Company in the Digital Era.* Madrid, España: *BBVA.*

Kristensson, P., Gustafsson, A., & Archer, T. (2004). Harnessing the creative potential among users. *Journal of Product Innovation Management*, *21*(1), 4-14.

Kumar, N., & Steenkamp, J-B. E. M. (2007). *Private label strategy. How to meet the store brand challenge.* Boston, USA: Harvard Business Review Press.

Landoli, L., & Zollo, G. (2007). *Organizational cognition and learning, Building systems for the learning organization*. New York, USA: Information Science Publishing.

Liebowitz, J. (ed) (2012). Knowledge Management Handbook - Collaboration and Social Networking. Boca Raton, USA. CRC Press, Taylor & Francis Group.

Mahr, D., Lievens, A., & Blazevic, V. (2014). The value of customer cocreated knowledge during the innovation process. *Journal of Product Innovation Management*, *31*(3), 599-615.

Magnusson, P. R. (2009). Exploring the contributions of involving ordinary users in ideation of technology based services. J*ournal of Product Innovation Management*, *26*(5), 578-593.

Michel, S., Brown, S. W., & Gallan, A. S. (2008). Service-logic innovations: how to innovate customers, not products. *California Management Review 50*(3), 49-65.

Moritz, S. (2005). *Service design—practical access to an evolving field.* Köln, Germany: Köln International School of Design.

Mueller, R. M., Thoring, K. (2012, August). *Design thinking vs. lean startup: A comparison of two user-driven innovation strategies.* 2012 International Research Conference p.151. Design Management Institute. Boston, USA, DMI Design Management Institute.

Nambisan, S., and Baron, A. R. 2009. Virtual customer environments: Testing a model of voluntary participation in value co- creation activities. *Journal of Product Innovation Management, 26*(4), 388-406.

Ojasalo, K., Koskelo, M., & Nousiainen, A. K. (2015). Foresight and Service Design Boosting Dynamic Capabilities in Service Innovation. In R. Agarwal. W. Selen, G. Roos, R, Green. (Eds.). *The Handbook of Service Innovation* (pp. 193-212). London, UK: Springer-Verlag.

Parida, V., Westerberg, M., & Frishammar, J. (2012). Inbound open innovation activities in high-tech SMEs: The impact on innovation performance. *Journal Small Business Management*, *50*(2), 283-309.

Payne, A. F., Storbacka, K., & Frow, P. (2008). Managing the co-creation of value. *Journal of the Academy of Marketing Science*, *36*(1), 83-96.

Polaine, A., Lovlie, L., Reason, B. (2013). *Service design—from insight to implementation*. Brooklyn, USA: Rosenfeld Media.

Prahalad, C. K., & Ramaswamy, V. (2000). Co-opting customer competence. HBR, *Harvard Business Review,* (January-February).

Rahman, H., & Ramos, I. (2010). Open innovation in SMEs: From closed boundaries to networked paradigm. *Informing Science and Information Technology*, 7, 471-487.

Ries, E. (2011). *The lean startup.* New York, USA: Crown Publishing Group.

Silverstain S., y DeCarlo, N. (2009). The innovator's toolkit. 50 + techniques for predictable and sustainable organic growth. New Jersey, USA: Wiley.

Spithoven, A., Vanhaverbeke, W., & Roijakkers, N. (2013). Open innovation practices in SMEs and large enterprises. *Small Business Economics*, *41*(3), 537-562.

Stock, R. M., Oliveira, P., & Hippel, E. (2015). Impacts of hedonic and utilitarian user motives on the innovativeness of user developed solutions.

Journal Product Innovation Management, 32(3), 389-403.

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, *18*(7), 509-533.

Terwiesch, C., & Xu, Y. (2008). Innovation contests, open innovation, and multiagent problem solving. *Management Science 54*(9), 1529-43.

Tranekjer, T. L., & Søndergaard, H. A. (2013). Sources of innovation, their combinations and strengths – benefits at the NPD project level. *International Journal of Technology Management*, *61*(3/4), 205-236.

Tushman, M. L., & O'Reilly, C. A. (1996). The Ambidextrous Organization: Managing Evolutionary and Revolutionary Change. *California Management Review*, *38*(4), 8-30.

van de Vrande, V., de Jong, J. P. J., Vanhaverbeke, W., & de Rochemont, M. (2009). Open innovation in SMEs: Trends, motives and management challenges. *Technovation, 29*(6-7), 423-437.

Vanhaverbeke, W. (2017). *Managing Open Innovation in SMEs.* Cambridge, UK: Cambridge University Press.

Von Hippel, E. (1986). Lead users: A source of novel product concepts, *Management Science*, *32*(7), 791-805.

Von Hippel, E. (2001). Perspective: User toolkits for innovation. *Journal of Product Innovation Management, 18*(4), 247-257.

von Hippel, E. (2004). *15.356 How to develop "breakthrough" products and services.* Spring 2004. Massachusetts, USA: Massachusetts Institute of Technology: MIT OpenCourseWare.

Wynarczyk, P. (2013). Open innovation in SMEs: A dynamic approach to modern entrepreneurship in the twenty-first century. *Journal of Small Business and Enterprise Development, 20*(2). 258-278.

Zack, M.H. (1998). What knowledge-problems can information technology help to solve? Proceedings of the 1998 Conference of the Association for Information Systems, 644-646. Baltimore, USA

Zack, M. (1998, MES???). What knowledge-problems can information technology help to solve. In E. Hoadley, I. Ben-Basad (Eds.), *Proc. 4th Americas Conference on Information Systems. Baltimore, USA:* Association for Information Systems.

Zhang, J., & Chen, L. (2014). The review of SMEs open innovation performance, *American Journal of Industrial and Business Management*, *4*(12), 716-720.

West, J., & Bogers, M. (2013). Leveraging External Sources of Innovation: A Review of Research on Open Innovation. *Journal of Product Innovation Management 31*(4), 814-831.

West, J., & Gallagher, S. (2006). Challenges of open innovation: The paradox of firm investment in open-source software. *R&D Management, 36*(3), 319-31.