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Additional Information

Bringing your customers and suppliers to the lab. Co-innovation in the retail sector.

Introduction

Innovation in the consumer retail sector, and especially the grocery sector, takes place primarily in areas related to infrastructures, such as shelf positioning, product arrangement, and information technology, and less frequently in new product development. The main reasons for this lie in the conflictive relationships between retailers and their suppliers, the inherent innovation risks, and the multinational structure of suppliers [8]. This article thesis is that product co-innovation in the retail grocery sector is possible when it is based in cooperating with customers and suppliers in an organizational context based in a strong customer focus and an agile and lean approach to innovation. It will then discuss the case of a leading grocery retailing firm in Spain, Mercadona, which has launched an original co-innovation initiative with its customers and suppliers

New transformational models are the base of this co-innovation experience, as we will discuss below. Agile and lean innovation, and open-source innovation offer elements that the company uses to capture needs and ideas from their consumers. This article aims to show how customers and suppliers can be involved in the co-innovation process by learning from the journey undertaken by Mercadona over the last twenty years.

Theoretical context

Innovation barriers and enablers in retailing.

There is ample literature on barriers and enablers of innovation in the retail sector. The appropriateness of innovations and ease of copying and, as a consequence, their focus on incremental and softer aspects of innovation has been outlined as a barrier [25, 22]. The relationship between retailers and their suppliers has been considered crucial for the former innovation efforts [12, 29]. Sectoral studies have confirmed the above conclusions outlining the need of cooperation in the retail industry [22, 26]. The development of private retailer brands has undoubtedly contributed to innovation in new products [22, 26].

Although less discussed in the retail literature, technology support in the grocery supply chain facilitates lean management innovation and improves customer service and knowledge on demand [11, 2].

A customer-centric attitude from retailing firms acts as a driver for innovation while the opposite is a barrier [26,18]. A strong retail culture centred on the consumer has been identified as the main driver for innovation [1]. There are three main vital drivers for innovation within the retail industry: changing customers' demand for innovation, including technologies supporting interactivity; availability of new tools for market research, including those to match customer behaviour; and the uncertainty of adopting innovations [23]. Other authors have identified how developing emotional links with consumers contributes to an innovation facilitator [1, 24].

Are there enabling management approaches that can contribute to overcome these barriers?

Lean and agile innovation

Lean innovation is defined as a set of management tools "focused on increasing efficiency by capturing customer feedback early and often and minimizing waste in the product development cycle. The process prioritizes experimentation over elaborate planning and celebrates continuous, incremental improvement" [33]. There are three essential elements in the tools: a permanent focus on the customer, utilizing quick iterative learning cycles and eliminating wastes of time and resources [10].

In practice, lean innovation is based on three methodologies. The first is the ability to use design thinking. This method facilitates an in-depth understanding of customers' needs through careful observation and by understanding them in their natural environment. The second is the ability to develop, prototype, learn, validate, and implement successful solutions rapidly with the minimum resources. The third is the application of lean processes, based on the minimization of waste and the use of continuous improvement [33].

Agile innovation is a complementary approach based on the efficient management of knowledge by firms [35]. The assumption is that companies require three basic types of knowledge: 1) explicit, codified, and easy to transfer; 2) embedded, related to its context, and difficult to characterize; and 3) existential, context-dependent, systemic, and only learned by doing. The fact is that these different types of knowledge require different involvement to be accessed and integrated into the organization. Thus, explicit knowledge may be obtained from a distance, while on the other hand; existential knowledge requires full immersion in the context. An agile organization will adopt a contingent method to access and absorb each kind of knowledge. When the knowledge needed is explicit a retailing company can attract it in a virtual environment [24]. If the knowledge is embedded in a local context (we must

understand user behavior), it will have to be accessed in situ by building a laboratory or either deploying expeditions to capture it in its real context. Finally, in the third case, existential knowledge (systemic, locally entrenched) that is not attributable to a specific owner, will have to be accessed via long-term local impact in the form of an innovation center [35].

An agile firm will integrate the three methods and their particular knowledge management processes [19]. However, it must be emphasized that agile innovation does not work in every environment and it requires training, organization behavioral change, and often new information technologies [27].

Open-source innovation

Open innovation is another fundamental paradigm to overcome the cooperation need pointed out in retailing [26]. It is defined as "… *the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation,..*" [4] This paradigm presumes that firms must use external or internal ideas, as well as internal and external paths-to-market in their pursuit of competitive innovation. Open-source innovation poses risky challenges to firms, among them innovation appropriateness [9].

Direct involvement of consumers in innovation

Is it possible to involve our consumers in our innovation program? How can we accomplish it? Academic literature has outlined the importance of involving consumers in the early phases of exploration, and the significance of crowd sourcing ideas and applying ethnography in innovation [16, 28]. Some authors [3, 15] suggest the use of toolkits for product concept translation between design and production in the food product development industry.

The previous methods were based on the lead user concept [34]. Thomke and Von Hippel [30] proposed a customer focused approach to develop custom products where a supplier provides customers with tools so that they can design and develop the applications in a trial-and-error iteration process.

A most recent and applicable concept for incorporating users into innovation is that of living labs, which have been applied primarily to ICT innovation and later to social innovation [6]. Living labs are built settings similar to real life where users can test, propose, and develop innovations. We believe this school of thought, although not yet focused to consumer goods, offer a closer approach to our problem. An emerging approach in the retail

sector proposes the use of smart interaction technologies which facilitate emotional and collaborative scenarios [24].

Concluding remarks

Figure 1 depicts our holistic approach to the theoretical analysis. Three management paradigms facilitate enabling retailing innovation and overcome its barriers. A lean approach of management will facilitate an adequate customer focus and the challenge of customer changing needs with design thinking and flexible learning cycles. As discussed above, agile innovation supports an efficient knowledge management to capture these customer changing needs, the appropriateness of innovation, and the knowledge cycles with customers and suppliers according to the helix iterative model with new experiments [5]. Finally, the open innovation approach broadens knowledge capture to facilitate innovation with customers and suppliers.

These paradigms contribute to the implementation of customer co innovation experiments involving the retailer suppliers. As the figure indicates all these changes will need and will also influence an organizational transformation [7]. Organizational commitment and innovation training is paramount for the firm's innovative focus [21, 20].

The main contribution of the model, as we explain in the following sections, is the importance of the cooperation of the triad customers-suppliers-retailers in this process, involving them in all of its phases in order to generate a more clear-cut product for the customer.

Figure 1. Theoretical context schematic approach
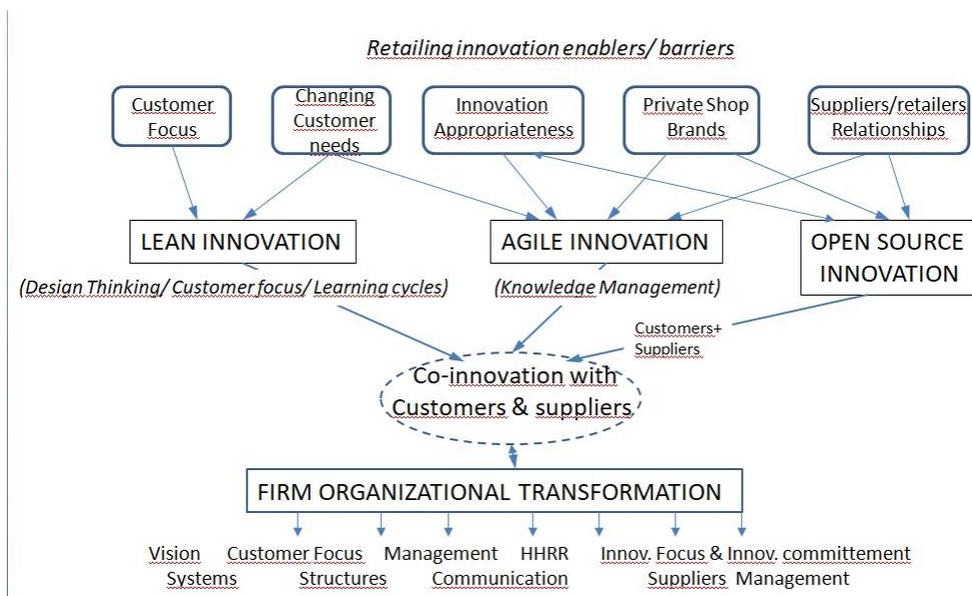
Research methodology

We followed a single case study as a research method. This method is justified by the large size of the selected firm, its high market penetration, and the ethnographic strategy followed.

Forty interviews were performed in June 2014-July 2015 and March-December 2017 to co innovation monitors and managers directly involved in the innovation process. We analysed how participants were selected, the goals of the program, and the method followed for the co-innovation sessions. A content analysis approach has been followed to interpret all the data collected.

Moreover, in 2015 and 2017, we visited 35 supermarkets to observe the workplace, how the clients interacted there, how the staff handled the customers, and how innovative products were exhibited. We also visited six co-innovation centers and attended sessions there, we spoke with the participants and enquired about their motivations and expectations.

A third way to gather more information from the customers was online ethnography participating in the social network profiles of Mercadona (YouTube, Facebook and Twitter), during the first semester of 2017, and Mercadona competitors' social networks.

Regarding the suppliers, we visited ten of the more active in the co-innovation projects. We interviewed their R&D managers to analyse their roles in the process and their point of view about the results.

On the other hand, secondary information has been used. Mercadona supplied comprehensive data and reports on the developed innovations. However, part of the data supplied by the company was competition-sensitive, and we were asked to deal with it carefully. Additionally, we collected information from news excerpts, business case analysis and Kantar World Panel annual national reports.

Mercadona Case Study

Background and evolution

Mercadona is a family-owned firm. The majority shareholder, Juan Roig, bought the firm from his parents in 1981. In 2018, Mercadona ranked 47th in the Deloitte 2018 list of global retailers. Mercadona is a pure retailer relying in their suppliers entirely.

The success of the firm (see figure 2) seems to be related to a specific culture based on strong leadership from the owner and CEO, and the development of flexible strategies throughout the business [32]. The company's culture could be defined by a statement made by Roig, "An office is the wrong place from which to view reality. If the customers and the

employees are at the grocery store and if you, as the employee, want to learn, innovate, and stay ahead of the customers' needs, you need to be near them, listening to them and watching them".

Figura 2. Mercadona evolution milestones

1981	1982	1988	1989	1993	2005	2008	2009	2011	2018	2019

Acquisition 8 stores | Barcode Readers & Shop cards | Computerized logistics | Implementation of TQM — HHRR new policies | "Always low prices" Shop Brands | | Economic crisis Lean philosophy — massive IT investment | Shop monitors Innov. meetings with customers | "Apron Strategy" Coinnovation — "Ready to eat products" | Expansion to Portugal — New model of coinnovation center | Revamp of web store

The Mercadona vision, addresses five critical business elements. First, they consider the customer as the "boss" at the top of their organization chart. Prices are essential to serve these customers, and, consequently, should be kept as low and as stable as possible. "Prices are always low" became a company motto in 1989 following a similar statement by Walmart. It incorporated in the stores the concept of dedicated sections, i.e., butchers, fish counter, bakery, fruit and vegetables, cosmetics, deli, and cleaning supplies [32]. Since 1993 they have a customer service system dedicated solely to channeling all of the concerns raised by customers via email, a free phone service and later through social networks. They don't spend money in publicity but its approach has an emotionally engaging form of brand communication. According to an employee, "change is the only permanent issue here".

A second element is its focus on employee relations, emphasizing employee commitment with dedicated resources to training. Its average salaries always lead the retailing sector rankings. Two-thirds of its employees are women, and 46% of managers are female. There are 500 promotions per year although there are also demotions (lowering employee job categories). Employee turnover is 3.5% versus a 4.5% average in the sector [31]. However, some employees recognize certain tension due to the firm pressure for efficiency.

Suppliers are a third essential element in the innovation process. Mercadona has 2,000 suppliers, of which approximately 125 are integrated suppliers. The latter have exclusive agreements with the company, such as long-term contracts, cooperation in innovation, support for cost-control, procurement services, and logistics, and in return, they have exclusivity agreements with Mercadona. This, being a crucial element in the appropriateness of developed innovations. Suppliers are connected to Mercadona through a Just-in-Time system embedded in their logistics supply chain, thus reducing inventory with a lean pull philosophy [13]. The firm holds an annual meeting with its integrated suppliers where new policies and experiences are discussed. Some suppliers have played a leading role in the launching of successful store brands. They also have a unique position in the co-innovation effort, as will

be discussed later. Since 2017 Mercadona has incorporated a third type, specialist suppliers. These are selected and contracted for developing and supplying special products with exclusive agreements. According to an independent research report [14] integrated supplier firms (of which 39% are SMEs) show outstanding innovation ratios compared to their Spanish counterparts. However, some managers accepted that there was certain tension in their relationships due to the exclusivity agreements.

Society is the fourth element and Mercadona considers it a relevant stakeholder and part of its social strategy, including environmental practices, neighbourhood relationships and social policies. The Roig family performs philanthropic activities in Spain as well as a business management school in Valencia which includes a start-up accelerator.

Finally, capital constitutes the fifth element, given that Mercadona (which is a privately-owned company) aims for long-term profitability and its growth relies on reinvesting profits rather than external financing leverage.

In 2008, Spain underwent a severe economic crisis. Mercadona initiated a robust lean approach. It reduced its inventory of product references from 9,500 to 8,000 in one year, based on the shelf turnover of these products. As a consequence, sales grew by 8% though profits dropped. The lean movement progressed with the reduction of packaging and logistics waste. Product packaging design was enhanced to reduce transport space and weight. Some suppliers claimed they had made cost savings of up to 5%. Managers and suppliers had a framed one cent coin on their desks as a symbol of their commitment to reducing waste.

Mercadona innovation challenges

Roig defined the mission of the firm as "recommending the necessary solutions so their customers can do all their shopping." Traditionally, innovation suggestions were made by employees, managers and integrated suppliers. Roig and his managers often paid visits to their competitors to scrutinize them and learn. In 2009, the company created a new employee role in the shop, "monitor" (in the firm language), to strengthen the close relationship with its customers. These monitors had precise functions. "observing their preferences, their needs, their wishes and values, and their likes and dislikes, on the spot" and, finally, transferring the information gathered to the Innovation Department coordinators experts working in different product categories in charge of choosing the products for sale after defining users' needs" according to the Innovation Manager. In 2010, more than 250 monitors were commissioned. These monitors held periodic meetings with customers as well.

Mercadona also initiated six innovation test benches located in shops. These were based on customer experiences and were supervised by monitors. The results obtained,

including successes and failures, were evaluated and analyzed, before decisions were made about implementing them throughout the retail chain. For example, butcher and deli sales counters started to serve on demand instead of in fixed-size packaging as before. The number of bread varieties was increased and sold by weight. These experiences were focused exclusively on perishable goods.

In June 2011, Mercadona's innovation department, which is in charge of the monitors mentioned above, launched a new program called the "Apron Strategy" in order to improve substantially the innovation process. <u>The previous experience lacked real interactivity with customers.</u> According to the company, "Mercadona has put on an apron to do the cooking, cleaning, washing, and pet care alongside its customers." Through this strategy, the company intended to learn exactly how its clients used its products and involved its integrated suppliers in the process. The policy of the company is to innovate, to improve, and to launch new products. For this purpose, new facilities were designed within some of its stores, dedicated exclusively to this purpose and letting the customers lead the innovation (Mercadona, 2012).

The innovation program relies on monitors working in the innovation department but located in the shops. Their functions are to capture, define, and communicate users' needs. They are experts in the products they are managing. Their job includes carrying out surveys and interviews to quantify the habits of the "bosses". Eleven independent co-innovation centers or hubs <u>were launched in 2011 each specialized in various products categories</u>, such as cooked and ready-made food, personal hygiene, cosmetics, textile cleaning and home maintenance, breakfast, aperitifs and snacks, baby and child care, water and soft drinks, pet care, and clothing and shoe care. These centers replicate a home environment to recreate everyday situations in which the "bosses" interact with the products. As an example, the personal hygiene and cosmetics center resembles a mix of a home bathroom and a hairdressing salon. <u>Later, some centers left some categories to be handed by another center</u>.

The process begins at the retail store. Two monitors explained the process, saying, "First we have to differentiate between buyers and consumers. This involves identifying those who buy products to consume themselves, not for others to consume." The monitors explained that a conversation is then established with the consumer to find out if she or he is "in love" with a particular product, consumes it frequently and is willing to "seek out the product" instead of changing to another product. They continued by stating that these consumers "are extremely knowledgeable about each product, and when you talk to them you get an enormous amount of information." According to monitors "when you talk to bosses in love, they can notice all the differences in flavour, aroma, texture, size, format, and

presentation of a product" and, therefore, to distinguish and assess improved attributes. As a result of the increasing use of Facebook in Mercadona's social network presence, many new consumers want to join the initiative, but they have to follow the same routine to prove they are consumers who are "in love with the product."

Once obtained the customer's consent, their details are incorporated in a database of the "bosses in love" including contact details, and their availability to cooperate with Mercadona identified by Category/Product (i.e.: Desserts/Ice creams). Data recording is organized and centralized by the Innovation Department.

Consumers who are "in love" may be invited to the co-innovation centers. Their cooperation is voluntary and receive no compensation. "They are willing to participate in our co-innovation sessions," says a monitor. "There is a certain emotional connection here, to compete for consumer preferences we must give people more reasons to connect emotionally to our business and brand." These consumers' profiles show "fidelity, brand knowledge, and commitment." According to one monitor, "this is why…their choice proves to be critical in the process."

The Co-innovation Centers may adopt three alternative approaches. The "boss (es) in love" tests an existing product and gives his /her opinion, and improvement or change suggestions. Either, he/she tests a new product prototype suggested by one of Mercadona's suppliers. Thirdly, members of the staff have proposed some product suggestion for trial. The role of the monitor is crucial to be attentive but not too suggestive and clearly emphatic with the customer.

In these centers, products are placed as they are on the shelves. Then Mercadona monitors evaluate in detail how these "bosses" buy and how they consume, to provide them with the best products and everything they need. Sessions are typically individual or with a maximum of two consumers. Everything is tested: new recipes, new packaging designs, format and sizing variations, and so on. Consumers can also suggest new ideas for products. After examining the product, they give their impressions to the monitors. Subsequently, the information obtained is interpreted and organized, and needs and observations are transmitted to the Innovation Department in the form of detailed reports. In general, two monitors participate in each process: one helps the customer, while the other observes and takes notes. The procedures have been standardized, so some routines are reproduced in each co-innovation center. These sessions may be videotaped with the customer´s consent.

These co-innovation meetings generate a significant amount of embedded information. One participant commented: '… they asked me to use the product as if I was at home and

observed how I did it, taking note of all my movements, including how I opened the hair coloring capsules and asked about ways to improve and change their design." But interpreting consumer comments sometimes proves to be difficult. Sometimes they will also visit the "bosses'" homes to get first-hand information about their habits and routines in relation to the products in question (existential knowledge). It must be outlined how these experiments leverage users' experiences and consumption in real contexts capturing implicit and existential knowledge. Thus, the agile approach becomes essential here [35].

The innovation department develops and completes a product concept statement that fulfils the requirements and functional requisites detected. The concept is sent to Mercadona's Procurement Department to identify integrated suppliers (manufacturers of Mercadona's shop brands), and specialist suppliers with the skills to develop the product improvements identified or create and materialize new or improved solutions.

The Procurement Department possess detailed knowledge of the manufacturers of each product category, to search for the best (integrated or specialist) supplier of each specific product. These suppliers must be able to assimilate all the information received from Mercadona as well as the R&D and manufacturing, means to enable them to define the best alternative at the lowest price for a successful solution. Thus, integrated or specialist suppliers play an important role in the process. It is also critical for integrated suppliers to have distinct innovation interpreting and implementing skills for developing product concepts that are pointed out in the co-innovation sessions. Additionally, as mentioned, integrated suppliers contribute to 30% of the ideas and concepts tested in the co-innovation labs. An integrated supplier noted, "the information provided in the co-innovation sessions is precious for our innovation process... especially the feedback in the second and third rounds."

The ideas are conveyed to the integrated suppliers R&D as product concept statements where they are transformed into prototypes and then brought back to the co-innovation centers for trial with customers following an iterative process, which may include up to 6-10 cycles. The first trials are carried out with those consumers who suggested the improvements or new ideas. Finally, once the prototype is in its final form, tests are carried out with 20 consumers and, if they approve it, the supplier launches a short production batch of the new product and it is tried in various pilot shops. An idea may take one to six months to implement, depending on its complexity following this "stage-gate helix process". The success indicators set up for an innovated product are threefold: sales ratios must be higher than the existing product line, the market share must also improve, and savings must be achieved in the manufacturing firm. But the process does not end with the final product

launch since the staff is required to observe closely customer's reactions to the new products, as well as their comments and suggestions for improvement, re-initiating again the entire process.

An example which made the Kantar Panel Spanish top 10 in 2019 is the Mini Chocolate Bars with crunchy seeds. This product was the outcome of a co-innovation session with consumers where the need for a chocolate snack with a healthier content was detected. The development entailed an R&D effort to achieve a novel and attractive mixture between ingredients of different density such as chocolate, sesame and brown flax cereals by a supplier from Seville, and it stands out mainly for expanding the category of children´s snacks. Failures are not uncommon either but the firm learns from them as well. It was outlined that centers dealing with cosmetics, personal hygiene, breakfast and dairy products, and snacks were the most productive related to novelties.

In 2018 the co-innovation experiments were redesigned and a new type of co innovation center was launched in Valencia. With almost 6,000 sq. meters and an investment of 3,5 mill. Euros it includes a supermarket and a home setting area. Co innovation sessions are carried out there but also training of new employees in a real shop context. In this way, in a single point, the entire product development process can be carried out and managed, from the start to its final launch in the real stores and, at the same time, implementing decisions on the assortment and on the sales space. In these new centers retailers may be included from the very beginning of the process.

Figure 3. Action in the personal care center (left) and view of the Canary Islands center (right)

According to data recorded in the marketing department, based on sector statistics (Kantar World Panel, Consumer Spain, 2017), 70-80% of the innovative products introduced onto the shelves by Mercadona during 2012-2015 remained successfully on the shelves after 48 weeks, compared to the 24% average in the retail consumer market. Thus, it seems to be that the investments have been productive. Table 1 shows the global innovation results. According to some innovation managers the variation in the number of sessions and results

are due to changes and reorganization of the routines during 2014-2016. Financial information has been included to clarify the firm´s context. The table shows the number of novelties that made the top 10 Kantar Innovation list in Spain. This ranking identifies the most successful innovation launched in the grocery consumer market in Spain according to its market penetration in its category.

Table 1. Results of co-innovation (Dunn Bradstreet, Mercadona reports and Kantar World Panel)

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total product improvements/ novelties	150	100	150	400	450	400	350	240	300
Novelties introduced by co innovation		24	34	91	100	101	150	105	75
Consumer participation		1,200	7,000	9,000	6,000	5,500	6,100	9,000	9,000
Co innovation centers		11	11	12	12	12	13	16	19
Made Kantar innovation top 10 panel		1	2	2	2	0	3	1	2
Staff	63,500	67,208	71,333	74,082	74,228	75,00	79,000	84,000	85,800
Sales Turnover (mill. €)	16,485	17,831	19,077	19,812	20,161	20,831	21,623	22,915	24,305
Sales units (mill. kiloliters)	8,532	9,101	9,647	9,845	10,103	10,649	11,071	11,586	11,848
Gross Profit (mill. €)	564	669	710	718	738	810	803	402	767
EBITDA	1,000	1,040	1,060	1,082	1,070	1,120	1,092	754	1,195
Shops	1,310	1,356	1,411	1,467	1,521	1,574	1,614	1,627	1,636

Customers participate in these experiences due to intrinsic motivations. We discussed this question with a consumer taking part in the personal care co-innovation center, and she said: "I want a hair color that is long-lasting, looks good, and makes my home hair coloring easier, and I hope Mercadona can develop it… I don't mind doing my hair coloring here if I can contribute to that. Furthermore, I leave the shop with that task done… They care about my problem and will come back with improvements... because I feel committed to the brand… The co-innovation center is clean and well equipped."

One advantage of the approach is that of singling out small geographic, cultural differences among consumers. Thus, the co-innovation centers in the Canary Islands identified local consumers' penchant for yogurts with tropical fruits, which sell tenfold

compared to the same yogurts on the Spanish mainland. Mercadona has also opened a new co-innovation center in Portugal, where the firm is expanding.

Conclusions

According to the Kantar World Panel annual report (2017), retail brands in Spain only contributed 4% to innovations in the grocery retail sector in 2017 compared to a majority of manufacturer brands. This case shows that successful product co-innovation is feasible in the grocery retail sector. A crucial point is the collaboration of the triad consumers-retailer-supplier, in an open innovation context, which is the main contribution of this research. The experiment corroborates Thomke and Von Hippel [30] iterative approaches to innovation as well as the helix model proposed by Cooper and Edgett [5].

The theoretical paradigms discussed in the article are an essential base of the process. Lean innovation facilitates customer-focus, design thinking and the firm learning cycles so required in the iterative co-innovation process. On the other hand, an agile innovation focus can facilitate accessing and capturing embedded and existential knowledge so critical in the retail sector with a suitable experimental background (supermarkets and co-innovation labs).

This global approach helps the retailer to confront the retail innovation barriers responding to changing consumer needs, cooperating with suppliers, and solving the innovation appropriateness barriers.

The case shows how the company carried out an organizational transformation and change and how co-innovation forced a closer relationship with suppliers and employees. Active and employee-oriented human resource management must support the whole structure's commitment to quality and customer-driven innovation. Aligning incentives for shoppers, retailers and manufacturers has been pointed out as a critical challenge in the sector, and the case study proves that it is part of the solution.

The fair administration of profits has facilitated Mercadona´s growth and the necessary investment required by innovation, especially considering its internal financing. Finally, the social approach to its stakeholders by having environmentally friendly and philanthropic initiatives with an added positive presence in social networks has resulted in a public reputation of the Mercadona shop brand.

Management implications

Are these innovation experiments replicable? In one of our sessions we coincided with two IKEA innovation coordinators who were asking themselves this question. When we questioned the Mercadona innovation managers on the challenges encountered during the co-

innovation program they agreed on the following: (a) adequate listening to the consumer, it requires patience, experience and learning to capture the knowledge that a consumer can bring to the session: (b) a self-critical and challenging attitude on the part of staff, they must be prepared to question status quo, recognize and accept failures and challenge every situation, and this sometimes is difficult when tension builds around achieving success; (d) being able to prioritize objectives between costs, quality, focus, and novelty, (e) the limitations of space in a lean environment; and (f), interpreting consumer wishes or demands and suitably managing the enormous amount of information collected.

In the case of the integrated supplier's management, listening to them it became clear the tensions involving the longtime exclusivity agreements, the reducing costs pressure, and the risks involved in changing their strategy to opt for a single client despite the advantages. Eight large integrated suppliers decided to abandon the cooperation after some years experience. Searching and negotiating exclusive agreements with suppliers and managing the relationships with them proved to be a complex challenge. As a consequence, Mercadona has been evolving recently towards a new figure of supplier where exclusivity may be obviated. The procurement department, as a consequence, has been expanded to cope with this task. The launching of shop brands with suppliers is another difficult challenge.

The case shows that it pays to shift the supplier-centered model to a consumer-centered as proposed by Thomke and von Hippel [30]. Consumers can be creative and those being "in love" with a product are a good example. Given their contribution to the innovative process, active and brand-knowledgeable consumers are comparable to lead users, even though they do not have the sophisticated needs required by the latter. Participating consumers are driven by personal needs and do not necessarily anticipate future demands as lead users do. Their benefit to innovation is intrinsic or based on self-satisfaction. Managing consumers and consumers "in love" requires special skills and resources and the number of innovation monitors has expanded recently. Training of new employees has become a new task of the new co-innovation centers.

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