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The Drive concept in Spain: Keys to the success of iquodrive

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Abstract

In the face of the new electronic sales formats, the French distribution chains in the grocery retailing sector have been developing the Drive concept (Auchandrive, Chronodrive, E.LeclercDrive) with remarkable success and acceptance. This business model is not a simple store delivery service but rather a concept that offers the customer the speed and convenience of buying online in a cheaper and freer way. In contrast to the success of this model in France and the UK, Spain seems to be keeping out of this new channel. This article presents the Bon Preu group's iquodrive success story.
Factors such as the clear identification of the potential customer, web design, efficiency in operations management, consumer-oriented product offerings, suitable geographical location, quality of service and delivery, all linked to a clear reduction in the structure of costs, thanks to their particular format, have been instrumental in turning this shopping experience into a pioneering success story across the country.

Keywords: e-commerce, grocery retailing, drive, distribution, dark store.

JEL codes: M1, M3.

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西班牙的Drive概念：iquodrive成功之关键

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文章摘要

面对各种新颖的电子销售模式，消费业中的法国大型连锁零售企业不断发展Drive概念 （Auchandrive, Chronodrive, E.LeclercDrive），这个商业模式获得显著效益及深受欢迎。该商业模式并不单单是一种送货到店服务，而是一个能够为客户提供方便快捷的网上购物体验的概念，而且价格便宜，自由度高。与在法国及英国通过该模式所获得的效益相比，西班牙就像纯粹停留在这一项新渠道的边沿。这篇文章介绍有关Bon Preu集团iquodrive成功的例子。
成功的因素包括清楚确定潜在客户、网页的设计、营业管理的效率、迎合客户喜好的产品优惠、良好的地理位置及客户服务与送货服务的质量， 该独特的模式简化了以上所有因素总体的成本， 这些都是把购物经验转化为为国家开创成功例子的决定性因素。

关键词: 电子商务、消费业、drive、零售企业、幕后店。

JEL 分类号: M1，M3。

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1. Introduction

E-commerce was one of the main players in the grocery retailing sector (which includes food, beverages and everyday products that we buy in supermarkets and hypermarkets to consume at home) in Spain in 2016, as is clear from the conclusions of the report, "Trends in distribution 2016" presented by the leading consultancy in consumer panels, Kantar Worldpanel, official source of the Household Food Consumption Panel within the Spanish Ministry of Agriculture and Fisheries, Food and Environment since 1997. Although the proportion in Spain is still small compared to other countries in our closest environment, such as France and the UK (PwC, 2016), online purchases in Spain have been progressively increasing and already account for 1.1% of the turnover in the grocery retailing sector, or 6.9% in the UK and 5.3% in France (Kantar Worldpanel, 2016). This boom can largely be attributed to the proliferation of digital platforms such as Ulabox, Deliberry or Tudespensa.com, the so-called pure players that only use the online channel for their sales, and are setting a trend for the rest of the traditional sector as regards the usability of the platform and added value to the customer (Bardet, 2015). The spread in the use of smartphones and tablets, as well as 4G mobile technology, is another of the factors that influence this increase in online sales.

The emergence of Amazon Spain in the large-scale distribution sector, placing itself as a direct competitor of Carrefour, Mercadona or El Corte Inglés, is perhaps the necessary wake-up call that the sector was lacking to invest definitively in the online channel. Amazon presents a real threat and its tentacles are stretching out to cover an increasing number of product types. Its distribution power grows day by day, thanks to the usability of its website and the ease of payment, as well as its logistics of super-fast deliveries (Montoya, 2016). In addition, Amazon continues to work on the optimisation of the delivery process by testing out the distribution of packages with drones, customer cars and, lastly, Amazon Go and Amazon Pickup points, based on a model called Pure Drive, where the customer picks up their own packages. The fact that our online market is one of the least developed in Europe can be attributed to various factors, such as the customer preference for physical shopping, related to the difficulty of changing shopping habits, the general good weather in this country and the excellent physical proximity of goods on offer, that has succeeded in providing value for money (Diaz, 2017). To these factors we should add the perception of insecurity in online commerce, the fear of providing personal information on purchase, or the possible difficulty of returning products, among others (Loop Market, 2015). In any case, more and more, the consumer sector in this country sees e-commerce as a business model that benefits all parties involved, as an easy, fast and available channel for the consumer; generating loyalty and additional sales to those of the direct channel for distributors; and capturing high-quality shoppers who benefits manufacturers. It should be borne in mind that the millennial generation is currently the goal of all companies and these buyers are responsible for boosting digital habits and the use of price comparators such as

Carritus or Soysuper. They also represent the current trend of buyers termed ROPO (Research Online-Purchase Offline), so they are the public to foster loyal with. Currently there are successful experiences in online shopping in different distribution chains, such as E.LeclercDrive in France or Tesco in the UK, where setting up specialised collection centres, the so-called Pure Drive, has triumphed in these countries, since it enables prices to be compared with other less efficient formats.

This article presents the success story of iquodrive, belonging to the Bon Preu group which, in December of 2012, launched the first experience of the pure Drive format in Spain Thus, based on a review of the literature, the objective of this article is to explore and understand the Drive model in depth, identifying the key factors for its success and analysing whether or not these are replicated in the case of iquodrive, based on the pure Drive format. The interest of this successful case study is that the model has so far not been greatly analysed in terms of practical experiences in this country.

Thus, based on a review of the literature, the objective of this article is to explore and understand the Drive model in depth, identifying the key factors for its success and analysing whether these are replicated in the case of iquodrive, considering the pure Drive format. The interest of this success case study is that the model has so far not been analysed greatly in terms of practical experience in this country.

In the following section, the Drive model is described within the frame of reference of the different models applied by operators in the consumer sector, taking as a key reference point, logistic aspects.

2. The Drive Model

The spread in the use of digital technology, coupled with an increase in the intensity of competition, have forced a substantial majority of companies to introduce a multichannel sales approach. To ensure that their products are more easily accessible to consumers, these companies seek new approaches to growth and aim to boost competitiveness by developing potential synergies between different channels, and companies that distribute consumer products are no exception (Lapoule and Cola, 2016). These companies try to combine different approaches to store, gather and prepare online orders, either in dedicated stores or in the same store; adopting different models of delivery: home delivery, in-store or at a specialised collection centre. The latter formats (Gill, 2015) avoid having to make home deliveries and pay substantial costs associated with the so-called "last mile" (Esper et al., 2003, Hubner et al., 2016), and also present multiple challenges from a strategic, logistics and marketing point of view.

Several authors (Colla and Lapoule, 2011, Fernie and Sparks, 2014; Palmer, 2005) have analysed successful models, such as that of E.LeclercDrive in France or Tesco in the UK and in them what stands out as one of the keys to success is the introduction of warehouses that also function as specialised collection centres,

adopting the dark store format. These establishments, halfway between physical stores and distribution centres, differ from shops in that they have no customers; and there are no boxes or advertising or promotional material (Merino, 2016). Orders are prepared in the dark stores to be sent out to or collected by customers (Treasure, 2014). The so-called pure Drive model, based on the preparation of the order in a dark store and collection by the customer, is proving a success in these countries as it enables tighter prices compared to other less efficient formats. Specifically, in the case of Tesco, the automation of the order preparation process stands out as one of the keys to success (Wulfraat, 2014).

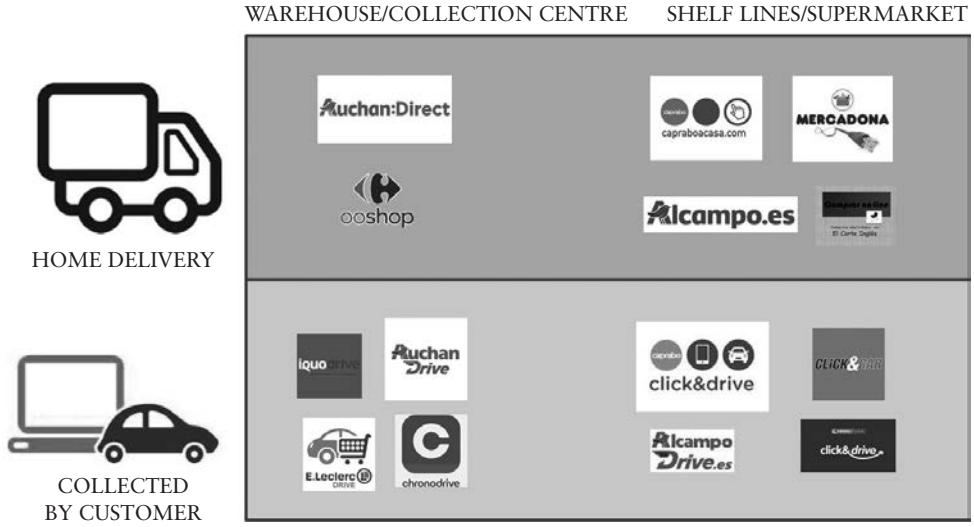
If we focus on Spain, Alcampo was the pioneer in the adoption of the pure Drive model in 2008, which invested six million euros in, however with little success then, paralysing it to wait for the right moment. Subsequently, few companies have made progress in this regard in this country (Arce-Urriza et al., 2015), because they have not succeeded in fully implementing the specific strategy that Pure Drive must develop. This concept is not a simple service of delivery in the shop: it is an independent format that must mark down its policy strictly, as far as prices, cost of collection, schedules or design of the web page is concerned, couped with the logistic aspects associated with the preparation of the orders in the collection centre, the dark store.

The logistics in e-commerce is structured around two key factors: the storage and the preparation of the orders, and the process of delivery to the customers. For each of the factors, two models of operation can be identified (Marouseau, 2005; Colla and Lapoule, 2012).

The first operating model for the storage and preparation of orders consists of picking the products directly from the store's lines, the so-called "picking" model. In the second model, the orders are prepared in a warehouse or centre devoted specifically to this task. In reference to the process of delivery of the order to the customer, this can be done directly to the customers' homes or the customer can be responsible for collecting the item (the basis of the Pure Drive concept). Therefore, it is possible to identify four models: home delivery from a warehouse; home delivery from a store; customer collection in the store, or collection by the customer in a store or dedicated collection centre, the dark store.

Figure 1 shows this classification, based on some examples of the consumer sector in France and Spain.

Figure 1. Operational models for preparation and collection in e-commerce logistics



Going more deeply into the Drive concept, the following is a description of its variations, as identified in the literature (Fernie et al., 2010):

- Pure Drive, a standalone facility also called dark store, specifically designed as a dedicated warehouse and collection point, located at strategic nodes or transit areas to large shopping centres. They function as small warehouses, where the products are organised in an optimal manner so that employees can prepare the orders in record time. This format has been adopted mainly by French operators such as E.Leclerc, Chronodrive, Drive Intermarché or Auchandrive and is the model that the Catalonian chain, Bon Preu, has also opted for.
- Attached Drive, is based on positioning an independently managed warehouse with the references with the highest turnover near the brand's supermarket, as a supplement to the traditional offering. Its biggest advantage is accelerated preparation of orders by shortening the preparers' walking distance.
- Mixed Drive, also known as "store inside a store". In this case, the customer accesses a point of sale located inside the supermarket itself, or at a different entrance. The shop employees are the ones who select the products for the order from the supermarket lines and deliver them to customers during specific time slots. This has the disadvantage that productivity is much lower than in the previous model, since the employee has to walk great distances to collect different products. This format has been most developed by British operators such as Tesco or Asda, as well as in Spain (Eroski, El Corte Inglés, Carrefour or Alcampo).

Of the three models, Pure Drive appears to be the most interesting one for both the distributor and the customer. From the distributor's point of view, the model enables them to compete against the pure players and, at the same time, to sell more cheaply. A Pure Drive collection centre uses much less space and manpower, while the products are sold at the same price as in the usual shop, so the profit is significantly higher. From the customer's point of view, the main advantage of the model is the time-saving, since they can go to collect the order when it suits them, avoiding the waiting time at home for delivery of the order, and without paying any supplement of any kind.

This win-win type model is still very new in this country and, although Amazon's burst into the market may force the major distributors to also adopt this model (as happened in France with Auchan, which burst into the French market with Chronodrive in 2004), these distributors should strive to optimise their logistics costs, derived from working at three different temperatures for dry, fresh and frozen products.

In the following section, a literature review lists the existing studies on the keys to the success of this Drive model.

3. Review of the literature: key factors for the success of the Drive model

Below are the results obtained after a literature review of the papers that identify the key factors for the success of the Drive models, also called Click & Collect, in the field of e-commerce in the consumer sector in general. In this review only one study has been identified which actually analyses the keys to the success of the Drive model.

Table 1 shows a summary of this review, indicating, in each case, the geographical scope of the study and the key factors identified.

Table 1. Summary of the review of the literature

AUTHOR (YEAR)	SCOPE	METODOLOGY	KEY FACTORS IDENTIFIED
Tanskanen, K., Yrjola, H., Holmstrom, J. (2002)	Finland	Direct Consumer Experiences in the Helsinki Area.	- Population Density. - Customer loyalty built. - Competitive pricing policy. - Efficiency in operations. - Fast shipping. - Functional Web. - Large number of references.
Marouseau, G. (2005)	France	Empirical study of French supermarkets (G20, Intermarché, Hyper U, Leclerc, Marché-Plus, Télémarket, Ooshop, Auchan-direct, Houra).	- Large number of references available. - Efficiency in operations. - Reduction of delivery costs.
Colla, E., Lapoule, P. (2011)	UK	Case study of success (TESCO.com)	- Large number of references. - Competitive pricing policy. - Functional webpage. - Strong customer focus. - Multi-channel approach. - Efficiency in operations (preparation of orders in dedicated centres). - Low stock-out.
Colla, E., Lapoule, P. (2012)	France	Qualitative study of the Drive model based on interviews with sector entrepreneurs, consumer focus groups and consultation of secondary sources.	- Strong orientation towards customers. - Multi-channel approach. - Functional webpage. - Fits the number of references to demand. - Competitive pricing policy. - Low stockout. - Efficiency in operations (reduced preparation times).
Wulfraat, M. (2014)	UK	Case study of success (TESCO.com)	- Warehouses devoted exclusively to processing and handling online orders. - Investment in storage and order preparation systems (ASRS). - Controlling the whole process right to the end customer. - Efficiency in operations (Efficient provisioning and management of stocks from dedicated warehouses).
Hirogaki, M. (2015)	Japan	Survey among consumers, users of online supermarkets in Tokyo (400 replies).	- No delivery charges. - Broad delivery schedule. - Fast delivery.

After the literature review, the following factors are highlighted as the ones most often pointed to by the authors analysed:

1. Identifying and understanding the motivations and needs of the buyer, i.e. a highly customer-oriented approach.
2. Providing a web experience with high quality design and ergonòmics.
3. Developing diversified, efficient and service-oriented logistics, in short, seeking maximum efficiency in operations.
4. Offering a diversified product range.
5. Taking advantage of the multi-channel approach.

Thus, the aim of this paper is to analyse whether the factors pointed to in the literature are also key to the success of the case study, and whether or not new ones can be identified there. The following section presents the methodology followed for the iquodrive case study.

4. Methodology

To achieve the aforementioned objective, we have used the case methodology usually adopted in the field of operations management for validation, and subsequent refinement of an existing theory. In this particular case, given the frequency and scale of changes in technology and management processes, the use of this method is justified (Voss et al., 2002). Also, the introduction of radical changes in key concepts, such as lean management, for the strategy of operations or electronic commerce for distribution, entails the need to research into more open methods, escaping from the limitations of questionnaires and confirmatory models. Voss et al. (2002) cite three relevant points from their case research in the review of the literature: (1) This phenomenon can be studied within its natural environment and produces a significant and relevant theory on the basis of the understanding gained through observation. (2) The case study method enables us to answer the questions of why, what and how, with a relatively thorough understanding of the nature and complexity of the phenomenon, and (3) the case method lends itself to exploratory research in the early stages, where the variables are still unknown and the phenomenon is not fully understood.

Qualitative research methodology, in the case of iquodrive, has been as follows. In the first place, the literature has been reviewed to identify the key factors of success in the pure drive model in the general consumer sector. In addition, the review has been extended to secondary sources of information, since the research topic has not yet been dealt with in more academic settings. Secondly, the company has been selected for study while complying with the objectives of the study: iquodrive has been chosen since it is the first to use the channel exclusively for internet purchase and collection by the customer at a dedicated centre, a dark-type store, with no

alternative to this offered. Thirdly, through semi-structured interviews with company managers, site visits, and through the use of customer opinion groups at the Girona and Mataró collection centres, we have identified the key factors indicated in the literature review, as well as other sources, which have determined the success of this company but have not been considered in the literature so far.

5. The iquodrive case

In December 2012 the Bon Preu group's iquodrive launched its first experience of the pure Drive format in Spain, with an investment of €300,000 per centre. By adopting this format, with the motto "shopping on wheels" and its major push, sales in the channel already stand at 1.5% of the group turnover and have succeeded in providing a value proposition that has achieved customer loyalty. The three iquodrive centres analysed belong to the Catalonian family-based distribution company, Bon Preu, which is currently also the owner of 122 Bon Preu supermarkets, 46 Esclat hypermarkets and 40 EsclatOil petrol stations. The group has solid experience in the Catalonian market and ended FY 2015 with net sales of €986.1 million.

The model of analysis is based on case study methodology to present the experience of these iquodrive centres. The choice of this methodology lies in the fact that it is the most appropriate when the objective is to explore and understand the Drive model in depth, so far little analysed in practice. Iquodrive has been chosen as a success case, with the desire to spread the Drive practices of this company wider, while also identifying the keys to its success.

The iquodrive brand with its slogan, "The new way to buy easily, quickly and comfortably" has perculated down through Catalan households in an unstoppable way since 2012, and the brand currently has three Drive centres in Catalonia located on the main access roads to Girona, Mataró and Reus. Its users are mainly well-educated young people, with or without children, impressed by a simple, fast and practical service that also saves them a lot of time.

The shopping system that iquodrive provides enables purchases to be made from any location where there is an internet connection. The customer chooses the day and the time (from Monday to Saturday between 9am and 10pm) when they want to pick up their purchase (from 2 hours after placing the order until 10pm the following day) and picks it up by car. After identification using the purchase number or customer card, in less than 5 minutes an iquodrive worker loads the purchase into the car. The purchased item can be reviewed and can also be exchanged or returned. The system is totally free since the customers only pays for the products that they buy, without there being any minimum purchase amount stipulated.

The iquodrive centres are areas with very easy access and are clearly identifiable by their colourful design (see Figure 2). In all the drive centres there is a customer service area and an EsclatOil petrol station with the most competitive prices in the area, which are even cheaper if you use the iquodrive or Bonpreu Esclat customer card.

Figure 2. Girona iquodrive centre

This model is designed for people who have little time; possess their own vehicle; and who take advantage of their usual routes to collect their purchase. Because the process is very fast and there is no getting out of the car, it is a particularly useful system for families with difficulties in reconciling family and working life. The model solves the problems posed by other options such as the extra charge for home delivery; the minimum purchase amount; uncertainty in the delivery schedule or the state of the products bought.

The shopping process in this supermarket is the same as other online shops: the customer can browse the website for all the products, sorted by categories. The information on each product is defined by photos, size and weight, etc. When the buyer chooses to purchase a list of products (the usual products in the weekly family shop) they have to log into the system and add the products to the virtual trolley.

When the order is completed, the invoice is presented for payment. The cost of the shopping list is midway in the sector (OCU, 2016) and there is no additional charge or minimum amount charged. The drive collection centre is a dark store that is supplied in the same way as the traditional supermarket, that is, through the production of procurement orders and the parameters marked down by the management of the particular order point.

6. Results

After a study of the practices associated with the drive model, based on semi-structured interviews with the manager of the company and the opinions of customers interviewed at the collection centre's pick-up point, we present the key factors of success identified in the iquodrive case study, some of which are different from other drive options.

6.1. Customer identification

From the outset, Bon Preu made it clear that its Drive model was focussed on a very specific type of customer, which enabled the company to clearly define the value proposition of the business. This virtual shop focusses on people who do not want to waste their time on the weekly shop because they value their time highly or because their main concerns are in other areas: work, family or leisure. This is the message that the model is committed to and which is echoed by the advertising campaign in the press, on television and very intensively on the radio, a very popular medium for all those who use their own vehicle to get from work to home.

It is important to take into account the purchasing power and level of training of the drive's potential users and their access to internet. They are people who are familiar with e-commerce and use their car for daily mobility, usually make the same shopping list, and consume the same products regularly. The profile of iquodrive users is currently that of working people, usually women, between the ages of 38 and 40, who live in a family of 3 or 4 members. Therefore, the value proposition is a service of "having time" and the model ensures no wasted time at home, waiting for the moment of order delivery, as in the case of the models of home delivery.

6.2. Webpage Design

Currently, more than 100,000 customers are registered on the iquodrive website, which records a satisfaction level of 97% (according to data from the customer satisfaction survey conducted by the company in May of this year, based on a sample of 439 users). To achieve these results the ergonomics of the website and a quality design are fundamental. Loading should be fast, the quality of the photos good, and the information on the products practical and complete. In the case of iquodrive, it is very friendly, with very intuitive browsing and automatic product search. It also has the possibility of accessing an already pre-set product list, with preferred products and regular consumption, as well as all the lists of purchases made previously.

Another facility of the web design is the grouping into categories of products, since in addition to the usual ones (food, drinks, fresh food, frozen, pet food, baby food, etc.) there are also other products in great demand at present (dietary products,

lactose-free, gluten-free) or those related to specific celebrations such as Christmas. All the promotions are also grouped within a category and it is very easy to look at them. The customer also has all the information associated with their most recent orders, and can consult them at any time, giving them the option of making standard purchase lists following different parameters depending on their particular needs.

Another important aspect of the iquodrive case is that the provision of goods on offer for the shopping trolley is based on the actual availability of the products, i.e. if a product is not available, it appears with a notification of temporary unavailability and therefore cannot be included in the list.

Shopping in iquodrive also enables you to tot up points and obtain discount vouchers for future purchases.

6.3. Efficiency of the operations management model

The main move to obtain a competitive advantage over other alternatives is to be more efficient at the operational level: this means monitoring operational tasks such as replenishing the shelves, picking customers' purchases, delivering orders to customers, and other support tasks such as the management of stock levels or knowledge of customer behaviour. This clear definition of the different operations involved enables the information system to standardise the job, maintain a pace for personnel, and assign the tasks to be gone through in order to standardise warehouse management operations: the so-called *heijunka* system (Womack and Jones, 2003; Shook, 2003).

The study of the operations followed through in a warehouse have been extensively studied in the literature (Gu et al., 2007) and algorithms have also been developed to optimise the space and time of operation. However, for decision-making it is crucial to have all the information collected and processes clearly standardised and parameterised.

Producing the operations to be assigned to the different operators is the key task of the computer system that controls replenishment orders, customer orders, inventory control and picking orders (the main difference from the traditional model). Inventory control has to be strict as this enables the customer to select the products that actually exist in the warehouse through the web application, solving some of the biggest inconveniences, such as the use of substitute products when the inventory is out of stock.

This assignment of operations optimises human resources, and also ensures the levels of service required in the value proposition. There are models in the literature to optimise these assignments (Ernst et al., 2004). The layout of the building is also a fundamental aspect in the optimisation of picking times. The coding on all the shelves, as well as the control of stock level for the different products, is key for data input in the computer system.

Based on all this information, iquodrive controls the inventory levels of each product on the shelves and monitors all the operations that the staff has to go

through in the operations process. The dried products are distributed in shelf lines from lower to higher turnover, and fresh and frozen products in cold storage at 2 to 4°C, fruit and vegetables at 6 to 8°C, and frozen at -25° C. Until the customer arrives at the iquodrive facility, the product does not leave the fridge. As a result, iquodrive service levels are currently less than 2 hours from the time the order is placed and 5 minutes for delivery.

6.4. Supply of products tailored to consumer needs

The literature indicates that the number of references in the drive model usually varies between 6,000 and 13,000 (Colla and Lapoule, 2012). The offering of products in iquodrive is tighly adjusted to demand and currently stands at more than 8,000 references, enough to maintain an supply of goods on offer which is able to satisfy all the customers' needs - and fully identified, since all the information is available through queries on their consumption information. This factor enables a company to configure customised marketing strategies. Another aspect valued by users is that the system facilitates carefully thought-out purchases, based on real needs and avoids impulse buying. All these aspects provide the user with a shopping basket which is more valuable than actual physical shopping, a fact that the customer of iquodrive values very positively.

Guaranteeing the quality of fresh and proximity-based products, while also identifying them with the region, is for iquodrive, another fundamental aspect of the model since the drive centres' customers values this fact very positively.

Also, iquodrive takes advantage of all the information stored in its databases to adapt both the policies on provisioning references and its order management policies to each of its drive centres, following a more efficient model.

6.5. Geographical location

The geographical location of the iquodrive centre is another key aspect of the success of the model, since the purchase must be collected by the customers and there is no possibility of home delivery service. The chosen location is always at a road junction (motorway entrance, access to large shopping centres, etc.) easily accessible and a passing place for customers on their journey from work to home, since the majority of users pick up their order at that time, not exceeding 10-15 minutes driving time.

Another key aspect of this success case is the criterion followed to locate centres near populations of over 80,000 inhabitants, to make them viable. Figure 3 shows the location of the three existing iquodrive centres. The selected populations were Girona with 97,586 inhabitants, Mataró with 124,867 inhabitants, and the population of Reus with 103,194 inhabitants (Statistics Institute of Catalonia, 2016).

Figure 3. Location of iquodrive centres

Lastly, and to give more support to the iquodrive locations, each centre has an EsclatOil petrol station next to it, with some of the lowest fuel prices in the country, and where, using the iquodrive or Bonpreuesclat card, customers get the benefit of an additional discount. This card is free and is delivered to the customer when they collect their first purchase.

6.6. Quality of service and delivery

The convenience and speed of the purchase process is another of the aspects most valued by iquodrive customers (according to data from the satisfaction survey provided by the company, and also from the surveys carried out by the collection centre, conducted by the authors of the study). Once the order has been placed, the only moment of "physical" contact with the customer is extremely short and timely. It is at this moment - delivery of the purchase - when iquodrive employees must ensure the highest level of service, striving to make the shopping experience as pleasant and convenient as possible for the user. To this end, the heads of the iquodrive centres diversify the employees' tasks in order to motivate them and provide them with an overview of the entire business, demonstrating that all the processes are important

(reception of products from suppliers; preparation of orders; resolution of unforeseen events or nonconformity; warehouse cleaning; and order delivery to customers) to ensure a pleasant drive shopping experience. In total, 98% of the employees have a permanent contract, which also contributes towards the identification and involvement of the worker with the company.

When the customer arrives at the iquodrive site they are identified by their purchase number (which they have also received on their mobile phone by SMS) or using the customer card. At this moment an employee at the drive picks up the purchase corresponding to the customer and loads it into the boot of the car in a maximum of 5 minutes, without the customer having to get out of the car at any point. Also, at this moment the user can check the contents of the bags, return a product, or make possible comments or suggestions to employees. The purchases are distributed in non-returnable plastic bags, avoiding handling returnable containers that can complicate life for the user.

Another important aspect that the customer of this service values is the certainty of obtaining the products that the customer has chosen since, in other models of e-commerce, the substitute product is used as an alternative to the lack of availability of the original product at the time of delivery. Tight stock control makes it impossible to offer products that are not available.

Finally, users value very positively the fact that payment is only made when the order is picked up, since unexpected work or family problems can often arise that make it impossible to collect the purchase on the agreed day and time.

6.7. Structure of costs and revenues for the dedicated centre or dark store

The costs and revenue structure in the iquodrive model differs from the traditional model. In terms of income, this comes from sales, taking into account that the unit prices of all references are identical to those of any supermarket in the group. Since there is neither a minimum purchase price nor an additional cost for online sales, it is important to understand the margin from the other side of the coin: costs.

The difference in the direct cost of operations in the traditional model, as compared to iquodrive, based on dark stores, is related to the preparation of orders and the receipt of payment in the cash registers, and is similar to that of procurement operations and filling the shelves.

As for indirect costs, there is an increase in the maintenance of the computer system - key to the supermarket's operational performance - however there is a clear reduction in the costs associated with obsolescence, waste or theft of the inventory, since stock rotation is guaranteed and it is not possible to actually access the site. In turn, the cost associated with supplies such as heating or lighting is also lower (iquodrive uses presence-controlled lighting systems). However, the most important cost reduction that we would like to emphasize is the efficiency of the operations carried out in the warehouse, as already mentioned, through *heinjuka*. It is thus possible to programme the operations to be carried out by the operators in smaller

workloads, and to alternate them so that the sequence is oriented to serving the customer. By clearly determining the operations to be handled and the criteria imposed to prioritise them, it is possible to eliminate waste and misplacement, undertaking operations at times that add value. Thus, the assignment of the different operations is a fundamental aspect in the reduction of costs in the pure drive model in a dedicated centre or dark store, as compared with the traditional supermarket, and a key point in its quality, where three different temperatures have to be managed for dry, fresh and frozen products.

7. Discussion and conclusions

Comparing the results obtained with the contributions suggested in the review of the literature, it can be stated that in the case study analysed, four of the key factors made reference to in the literature have been identified: clear identification of customers; design of the website; the efficiency of the model for determining and managing the operations at the collection centre; the dark store; and a supply of products tailored to the needs of the consumer.

Also, three additional factors which also determine its success have been identified in the strategy followed in the iquodrive model. These are: the geographical location chosen; the quality of the service and delivery; and the structure of costs and revenue of the collection centre, as pointed out by those in charge of iquodrive.

We stress that iquodrive seems to have consciously opted not to take advantage of the multichannel approach. Proof of this is the choice of the trade name for its drive strategy, iquodrive, clearly differentiated from the brand, Bon Preu or Esclat.

The model adopted by iquodrive makes it possible to compete against the pure-players in the online business, at the same time as selling more cheaply. The model also solves the usual problems of buying consumer goods on internet, and home delivery, such as the extra charge that the customer has to pay; the minimum purchase amount required; or the uncertaintly of the delivery schedule. However, it also goes beyond the inconvenience of mixed drives with their definitive collection time slots at supermarkets with an inefficient process of order picking. A collection centre with a dark store format and with different working conditions to those of a regular supermarket, with fewer workers, and operations and processes which are clearly identified, sequenced and optimised, and with products that are sold at the same price as in the usual store, produce a significantly greater profit.

Finally, we should mention the limitations of the study presented here, where existing contingency relationships may affect extrapolation of the results, although these may be useful for future studies in the same field.

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