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Designing for Omnichannel Experience and Application to a Book Retailer

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To my parents.

Abstract

The technology boom enabled the availability of new channels, changing the experience that customers have when in contact with service providers. Research shows that these channels should not only exist but also be integrated in order to provide a coherent experience for the customer. Moving from a multichannel towards an ominchannel perspective implies that each interaction becomes a seamless extension of their previous interaction, allowing each customer's journey to continue where it left off; enabling customers to use the channel of their choice for each step along the journey. Therefore, our goal to the project was focused in the implementation of an omnichannel context, seamlessly integrating all the channels. Building on service quality and customer experience literature we adopted a customer-centric approach where we explored the customer experience in several channels to hereinafter, improve current services and design new ones using service system design approaches.

Our methodological approach included a qualitative study, using Grounded Theory, to understand the current customer experience across several channels. Then, service design methods were used and adapted in order to support the design of the service, considering the data gathered in the qualitative study.

We provide an application to a company that sells books and edits technical magazines where we applied an omnichannel approach, closing the gaps between the multichannel and omnichannel service experiences.

For this research, we interviewed fifteen participants from several professional fields, and gathered essential data in order to understand their experience requirements and how they perceive service quality in this specific context. This provided the necessary inputs to design and improve the existent company services. We followed the steps presented in the Multilevel Service Design method (MSD) using several models to perform the design of the service. As part of the MSD method, Service Experience Blueprints (SEB) were used to illustrate both the actual state (as-is) and the proposals for the future state (to-be) of the new service. The SEB was also adapted in order to meet the omnichannel approach requirements.

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GDP – Gross Domestic Product

BDJUR – Base de Dados Jurídica do Grupo Almedina (Juridical Data Base)

SDS – Service Delivery Systems

MSD – Multilevel Service Design

CVC – Customer Value Constellation

SSA – Service System Architecture

SSN – Service System Navigation

SEB – Service Experience Blueprint

QR – Quick Response

FAQ – Frequently Asked Questions

1   Introduction

The world economy is increasingly characterized as a service economy. This is primarily due to the increasing importance and share of the service sector in the economies of most developed and developing countries. Economic history tells us that all developing nations have invariably experienced a shift from agriculture to industry and then to the service sector as the mainstay of the economy (Boundless 2016).
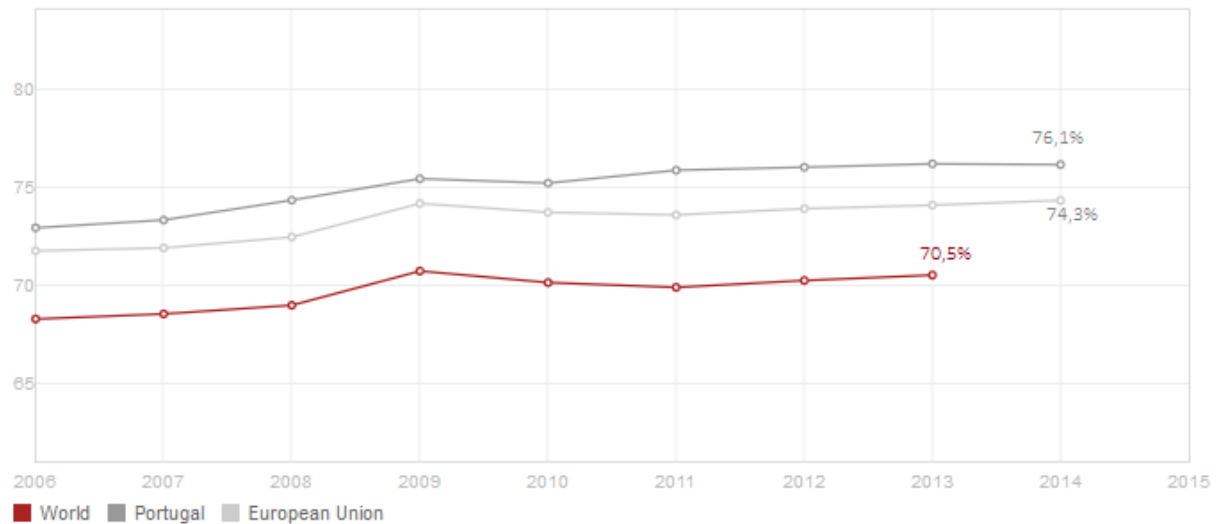
Figure 1 - Percentage of service GDP (Source: The World Bank)

As seen in Figure 1, the services sector adds the most value to most countries in the world and, in particular, in Portugal. According to the World Bank, in 2014, services represented more than 76% of the Portuguese gross domestic product (monetary measure of the value of all final goods and services produced in a period) which highlights the importance this sector has to our economy.

Following the services sector growth, research about this topic started also to increase and, nowadays, Service Science Management and Engineering (SSME) is gaining visibility and attracting the attention of leading university researchers (Siegel et al. 2008) and it is considered as an important field in order to study, design, and implement services.

The technology boom enabled the entry and availability of new channels. These channels should not only exist but also be integrated in order to provide a unified experience among them. Therefore, this research explores and applies Service Design methods and tools to the design of an omnichannel service with a customer-centric approach. When referring to omnichannel, we have the aim to provide a seamless experience among all the company channels and breaking the barriers between them. For this, we cooperated with a book retailer in order to test this methods in a more practical context.

Next, in this section, we will present the company with whom we cooperated and the research objectives, introducing and presenting a context to the project.

1.1   The company: Grupo Almedina

Grupo Almedina started as a small bookshop founded in 1955 at Coimbra, in front of the famous Almedina arch. Joaquim Machado, entrepreneur and founder of the *Grupo Almedina*, started working as cashier at *Livraria Atlântida* with 15 years old and *Livraria Coimbra Editora* some years later, where acquired know-how about the books business. In this way and like many Portuguese publishing companies at the time, *Almedina* has been established as a family business and is today one of the most important publishing companies in Portugal.

The proximity to the university environment and the lack of edition of academic textbooks soon has put *Almedina* in the publishing business. Coimbra University always had a big tradition in legal field and Joaquim Machado saw the opportunity to fill a gap that always have existed - adding books to the equation. In his official biography, he refers that he would give credit to some students with financial needs, so they could get the books they needed for their studies, with the only condition to complete the course (Machado 2015). Many of this students became customers and even authors of *Almedina*. Nowadays, *Edições Almedina* is recognized as the most important Portuguese publishing company in legal area.

The boost of *Almedina* in this area happened in 1966 when, following the relevant legislative changes, it published the new Civil Code which became the first bestseller of the bookstore (Portela 2009).

However, with the advent of *Grupo FNAC* in the 90's and the entrance of hypermarkets in this sector making available their first bookshelves, the publishing market has undergone a revolution. At the same time, the Internet and information technologies came to intensify that revolution, forcing *Almedina* to adapt this new era.

Therefore, in 1995, *Almedina* starts the implementation of a restructuring process of management and information methods and, simultaneously, the legal reorganization of several companies linked to *Almedina*. It was created a Holding Company (company that owns other companies' outstanding shares) and thus they separate the activities carried out in two business areas: the publishing business, under the name of *Edições Almedina, S.A.,* and the bookseller retail designated as *Joaquim Machado, S.A.* (Portela 2009).

Nowadays, *Almedina* operates in several areas of knowledge standing out, among others, the areas of Economy and Management and Human and Social Sciences. In order to improve and enhance this operation areas, *Grupo Almedina* acquired two new publishing companies – the *Actual Editora* in the field of Economics and Management, and *Edições 70* in the field of Social and Human Sciences. In addition, the group also created the *Minotauro* project which presents a new collection of Spanish narrative in the fiction field.

Regarding to the bookselling network, *Grupo Almedina* currently owns 12 bookshops, including the online shop and *Almedina Camões,* the bookshop in Rio de Janeiro. The remaining 10 bookshops are located in Coimbra, Lisbon, Porto and Braga. The intention of expanding the group to foreign countries is notorious and besides Brazil, *Almedina* also created partnerships in Angola and Mozambique markets through distribution contracts and without physical presence.

Besides the traditional bookselling and publishing business, *Grupo Almedina* offers, through the website, e-books and magazines in digital format. In addition, it also provides three other services: Congresses, *ALMEDINAmais* and BDJUR. *ALMEDINAmais*, an *Edições Almedina* brand, is a project that grew out of a formal partnership between *Edições Almedina* and

ConSenso – Certified Company of training in the legal field – combining expertise in the legal and management areas and implementation of training sessions (ALMEDINAmais n.d.)

BDJUR is an integrated database in Almedina.net platform that provides, through a paid subscription, legislation and other legal content organized by a team of legal experts, with easy navigation and search (Almedina n.d.).

In January of 2000, *www.almedina.net* was introduced by *Grupo Almedina* as the extension of their physical stores. Initially, the site was intended exclusively to the sale of the editorial collection published by *Almedina* but, subsequently, the site also integrated, at that time, the only legal online store in Portugal, providing news of all Portuguese legal publishers (Portela 2009). Nowadays, in addition to the service of online book selling, the site also provides the purchase of e-books and magazines, information about congresses and training (provided by *Grupo Almedina*) and access to the legal database (BDJUR) through a paid subscription.
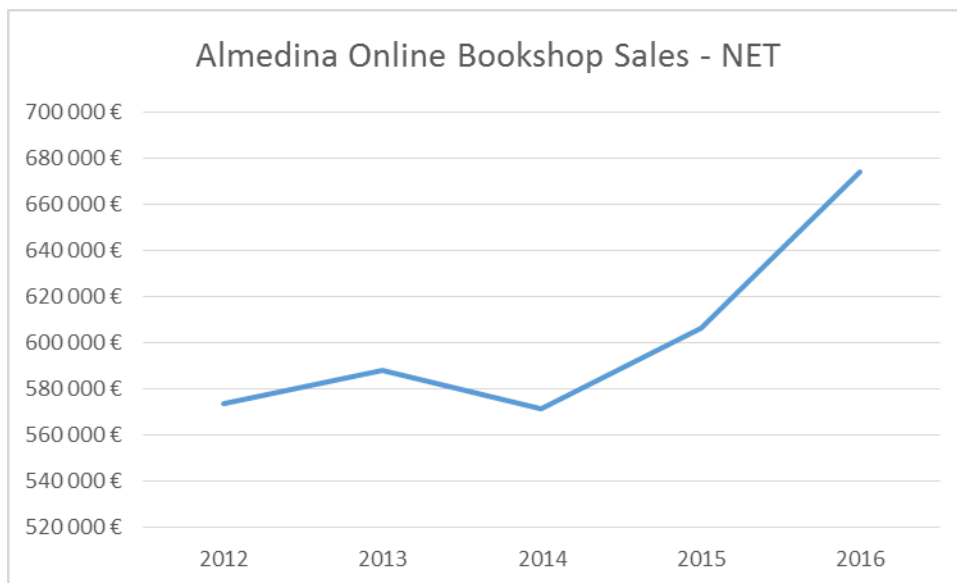
Figure 2 – Almedina Online Bookshop Sales

Almedina always had a traditional approach giving greater attention to the physical stores. Nevertheless, the company has been trying to modernize and follow the trends.

According to Marktest Netpanel meter results, 92% of the Portuguese internet users have accessed e-commerce websites in 2015 and, in the same year, 40% of those users performed online shopping while 54% of this value represents the books business (Fonseca 2015). Hereupon, *Almedina* perform occasional upgrades in the website and, in addition, also provide a mobile version to the smartphone and a mobile application – this one is only used as an information site to clients with customer card. Currently, as we can see in Figure 2, the online bookshop is a very profitable sector (3rd most profitable channel) in *Grupo Almedina* having, in 2015, the highest sales since 2012. The expectations to the future is that this value will increase (data provided by *Almedina*).

1.2   The Almedina Project for omnichannel experience

This research supported a project that Almedina is developing in order to improve their customer experience across channels. Almedina's project is called "The Omnichannel experience - Restructuring an online bookshop" and, as the name implies, it aims to diagnose

and restructure the existing online bookstore in accordance to the group's retail strategy, ensuring the coherence across different channels. The core company channel is still the physical one and this stems from a traditional approach that was always emphasized by Almedina. However, with this project, Almedina aims to integrate the virtual channels with the physical one, breaking the barriers between them.

Almedina uses its URL www.almedina.net as an online bookshop, but also as a showcase of its products and services, namely, workshops, congresses and digital products. One of *Almedina*'s objectives is also to reorganize the bookshop – it has too much noise – in order to fulfil the customer's needs and expectations, and working as an extension of the physical bookshops.

To address the challenges posed by *Almedina*, we followed a Service Design approach to understand the company's current situation and its customers experience and we propose a solution to seamlessly integrate available channels, which should include a non-functional prototype for future development. Following the company's objectives we introduce next the theoretical challenges addressed by this work.

1.3   Dissertation Project and Report outline

As part of the *Almedina* project and focusing on omnichannel experience, we studied the customer experience following a customer-centric approach and later redesign the service according with the collected results.

This research's aims to solve several practical and theoretical issues related with omnichannel context. This gains greater emphasis due to the fact that literature and studies about the theme are still lacking (Hansen 2015). Therefore, we aim to solve two general problems: in a theoretical perspective, we aim to find an approach to create a seamless experience between all channels, which can be replicated in further studies. This represents a major challenge in the sense that introduces an omnichannel approach in a specific context - book Publisher Company and retailer with a juridical focused segmentation – without any practical cases to follow or research showing how to implement and design it. In a practical perspective, we aim to design new services that support an omnichannel perspective for customer experience.

As mentioned before, our goal to the project was focused in the implementation of an omnichannel context, integrating all the company channels. For this, we divided the research in three stages: 1) collect knowledge about the research fields required to the project; 2) Follow a methodological approach in order to collect data and analyse the customer experience and the context in which it appears; and 3) Design of the new service taking into account the data gather in the stage 2 and relating with the knowledge collected in the stage 1.

The first stage and next section of the project concerns the gather of information in order to gain knowledge to the next sections. In the literature review we addressed subjects related to multichannel and omnichannel, service quality, customer experience and service design. We believe this themes can give the supporting ground required to the next research stages.

In order to meet our goals, we followed several methodologies that supported our framework. The next stage – methodology - is related with the collection of essential data for our project. For this, we followed a qualitative research supported by Grounded Theory methodology (Charmaz 2006). Several semi-structured interviews were performed to *Almedina* customers and a further analysis was undertaken, supported by NVIVO software. In this way we were

able to acquire important information about the customer experience requirements and about the service quality perceived by the customer.

In the following section, we present the results of the project. Following the data analysis we were able to discover key categories that would frame our work. After a study of this categories, we performed the redesign of the service using Multichannel Service Design methodology (Patricio et al. 2011), more specifically, the Customer Value Constellation model, Service System Architecture, Service System Navigation and Service Experience Blueprints. Prototypes were also provided in order to capture the appearance and functionalities of the desired new service system.

The last section discusses the practical and theoretical contributions of this project, the conclusions and future research.

2   Literature Review

This chapter reviews the literature relevant to this research. Considering the research goals, the literature review focused in three main directions: 1) The differences between a multichannel and an omnichannel approaches; 2) the study and understanding of customer experiences and service quality perceived by the customer; and 3) service design methodologies that support the last stage of this project - designing of the service according with the customer experience requirements collected before.

2.1   Multichannel to Omnichannel

The proliferation of internet and e-services has changed the consumer behaviours and, thus, the way companies provide their products/services. Nowadays, the downfall of traditional "brick and mortar" companies is obvious and the adoption of a "brick and click" approach is a necessity in order to avoid extinction.

Today, most of the companies operate in a multichannel environment, combining the physical presence with the internet and other virtual channels of service delivery. It is proven that companies that complement their traditional channels with Internet-based channels will be more successful than single-channel companies (Sousa & Voss 2006)

We can define multichannel service as a "service composed of components (physical and/or virtual) that are delivered through two or more channels" (Sousa & Voss 2006, p. 358). According with Payne (2005) and Frow (2004), a multichannel system is a combination of channels to manage organizational activities for customer interaction and positive customer experiences within and across channels (Banerjee 2014, p. 460).

In most of the multichannel services, some online service components are also performed through physical channel. This happens with the logistic part of the e-commerce service (Sousa & Voss 2006, p.358). An example of this is what happens, for instance, at Almedina.net, when a customer orders a book in the internet, the delivery will be performed through a physical channel (in most of the cases, through outsource of the delivery service using a transportation company).

Different channels have different characteristics that have implications for the customer and the provider (Sousa et al. 2016). Regarding to the customer, the virtual channels provide more information, convenience and privacy, whereas physical channels offers a higher level of security, enable richer and more complex interactions and enable the product/service testing before purchase (Harrison McKnight et al. 2002). From the provider's perspective, the virtual channels are more effective for the delivery of simple services, while the physical channels tend to be more effective for the delivery of complex ones and this can have a considerable impact in some key performance indicators, such as cost (Sousa et al. 2016).

To have a successful multichannel customer segmentation, it is important to acknowledge that customers use different channels to multiple phases (information search and product purchase) of their decision process and according with product category (Konus et al. 2008). For instance, the purchase process of a book can involve only one channel while shopping for a TV can comprise a wider range of channels.

As we can see, there is a clear trend in many industries toward the use of multichannel approaches to engage with customers. But in focusing on multichannel, companies may be

neglecting a more fundamental need—for a seamless, omnichannel approach that provides a single, unified experience for the customer across all channels (Carroll & Guzman 2015). Compared to a multichannel approach, an omnichannel one focuses on enabling a seamless customer experience, where the different channels become blurred as the natural borders between them begin to disappear (Verhoef et al. 2015).

In a omnichannel approach, each interaction becomes a seamless extension of their previous interaction, allowing each customer's journey to continue where it left off; enabling customers to use the channel of their choice for each step along the journey, including product research, product comparison, buying and paying; and giving customers access to all the promotions, discounts and loyalty points they have acquired, regardless of channel (Carroll & Guzman 2015). Shoppers now frequently use the "showroom" practice where they search for information in the store and simultaneously search on their mobile device to get more information about offers. Webrooming is also very frequent nowadays, that is, shoppers seek information online and buy offline (Verhoef et al. 2015).

The challenge of creating a seamless experience is heightened by the idea that service customers' experience is being affected by their growing autonomy and the increasingly open nature of service co-creation involving networks of actors, information sharing, and technology-enabled search. Furthermore, besides the customer's dynamic expectations, customers also have the opportunity to quickly and easily obtain information from others, for example, through social media and Internet searches at any time, often on mobile devices that can affect how they navigate and perceive a service experience (Ostrom et al. 2015).

Today, we can find significant research on multichannel experience but, regarding to omnichannel approach, the existent research is very limited and the studies focusing on omnichannel topics are still lacking.

2.2 Service Quality in Multichannel

The traditional definition of Service Quality is related to the quality of all non-Internet-based customer interactions and experiences with the companies (Parasuraman et al. 2005). Other authors suggested that Service Quality results from a comparison between customer expectations of what the companies offer and the actual service performance carried out by companies (Sasser et al. 1978; Lewis & Booms 1983; Lehtinen & Lehtinen 1982; Gronoos 1982).

Service in offline stores depends on the interactions between customer and service providers. In the opposite way, online services do not involve these direct interactions. In this physical environment, some traditional service quality dimensions that determine customer satisfaction, such as the tangibility of facilities, employees, and equipment, and employee's responsiveness and empathy are unobservable (Zhang & Prybutok 2005, p.464).

A group of American authors, Parasuraman, Valarie Zeithaml and Len Berry (1988), conducted several studies having developed the service quality model SERVQUAL, an instrument that quantifies customer's global assessment of a company's Service Quality. This model measure Service Quality along five dimensions: reliability, responsiveness, assurance, empathy, and tangibles. SERVQUAL was created considering the traditional definition of Service Quality. Therefore, Gefen (2002) has extended this instrument to the electronic context, collapsing the five service quality dimensions into three with online service quality: tangibles; a combined dimension of responsiveness, reliability, and assurance; and empathy

(Parasuraman et al. 2005). Zeithmal et al. (2002) define e-service quality as the extent to which a web site facilitates efficient and effective shopping, purchasing and delivery of products and services.

Thereafter, several instruments were developed in an electronic context. In 2000, WebQual was created with the aim of rating and evaluate Web sites. WebQual uses as scale of 12 dimensions: informational fit to task, interaction, trust, response time, design, intuitiveness, visual appeal, innovativeness, flow-emotional appeal, integrated communication, business processes, and substitutability (Loiacono et al. 2000). However, the main goal of this instrument is to generate information for Web site designers and not to measure service quality to customers (Parasuraman et al. 2005). Barnes and Vidgen (2002) created a new version of WebQual (also called WebQual) to measure an organization's e-commerce offering. This different scale provides an Index that gives an overall rating of an e-commerce Web site that is based on customer perceptions of quality weighted by importance. The analysis of the data set identified five factors: usability, design, information, trust, and empathy (Vidgen & Barnes 2002). However, the methodology used to this instrument was quantitative and the scale is designed to be answered without a respondent needing to complete the purchasing process and is therefore a transaction-specific assessment of a site rather than a comprehensive evaluation of the service quality of a site (Parasuraman et al. 2005). In 2001, Yoo and Donthu created SITEQUAL, a nine item survey instrument used to measuring web site quality on four dimensions: ease of use, aesthetic design, processing speed, and security. Like WebQual, this instrument does not evaluate an web site in a service quality point of view because it doesn't capture all aspects of the purchasing process (Parasuraman et al. 2005). Szymanski and Hise (2000) examine the role that consumer perceptions of online convenience, merchandising (product offerings and product information), site design, and financial security play in e-satisfaction assessments. They find that convenience, site design, and financial security are the dominant factors in consumer assessments of e-satisfaction (Szymanski & Hise 2000). This study did not include aspects of customer service or fulfilment, rather, it gave a greater importance to the aspects of the Web site. Furthermore, it measured satisfaction rather than service quality (Parasuraman et al. 2005). Wolfinbarger and Gilly (2003) developed a 14-item scale called eTailQ. The analysis they made, suggests that four factors - website design, fulfilment/reliability, privacy/security and customer service - are strongly predictive of customer judgments of quality and satisfaction, customer loyalty and attitudes toward the website.

On the basis of a comprehensive review and synthesis of the extant literature on e-service quality, Zeithaml, Parasuraman, and Malhotra (2002) detailed five broad sets of criteria as relevant to e-service quality perceptions: information availability and content; ease of use or usability; privacy/security; graphic style, and reliability/fulfilment. In 2005, the same authors came up with the conceptualization and construction of a multiple-item scale (E-S-QUAL) for measuring the service quality delivered by Web sites on which customers shop online (Parasuraman et al. 2005). During this study, they conclude that to different scales were necessary for capturing the electronic service quality. The basic E-S-QUAL is a 22-item scale of four dimensions: efficiency, fulfilment, system availability, and privacy. The second scale, E-RecS-QUAL, aims only customers who had non-routine encounters with the sites and contains 11 items in three dimensions: responsiveness, compensation, and contact (Parasuraman et al. 2005).

Previous research in e-service quality has had an implied single channel, front office orientation. Sousa and Voss (2006) claimed that in a multichannel approach, service quality

needs to take into account all moments of contact with the company through several channels as well as contemplating the full scope of the service delivery systems - SDS (front and back offices). Multichannel service quality can be defined as the quality of the overall service experienced by a customer, encompassing all the existing physical and virtual components (Sousa & Voss 2006).

According to the framework developed but Sousa and Voss, multichannel service quality comprises three components: virtual (e.g., Web site), physical (people-delivered, including logistics), and integration quality (seamless service experience across channels – omnichannel experience).

2.2.1 Virtual Quality

Zeithaml, Parasuraman and Malhotra (2000) conducted a series of focus group interviews to understand consumers' motivations for shopping on the Web rather than through other physical channels. In those interviews, participants mentioned that convenience of online shopping, the ability to buy unusual items, the ease of comparison shopping, and lower prices were key points during the usage of virtual channels (Web site in this case). The authors discovered that ease of navigation, flexibility, efficiency, site aesthetics, and price knowledge were critical in the online environment (Zeithaml et al. 2000).

In reflecting on what constitutes virtual quality, Sousa and Voss (2006) used the Web site as the present main virtual channel of service delivery. However, other virtual channels have a large impact nowadays (e.g. the use of smartphones and tablets; Apps).

Sousa and Voss (2006) propose that the construct domain for Web site quality should comprise the dimensions of virtual fulfilment, ease of use, speed, system availability, and privacy. This are relevant quality dimensions for virtual service in general and thus, can be applicable to virtual channels other than the Internet.

Regarding to the efficiency dimension (ease of use and speed), because of the wide customer reach of the virtual channels and the associated large potential volume of users, the design of the virtual interface (e.g., the Web site) needs to pay particular attention to the fact that it has not only to take into account the needs of the end user but also the efficiency of the supporting virtual and/or back-office operations (Sousa & Voss 2006).

System availability is determined by the virtual back-office. A common challenge is achieving integration between customer contact technologies associated with virtual channels and the supporting back-office systems. The integration of a Customer Relationship Management (CRM) with an Enterprise Resource Planning (ERP) systems, is solution to fight this problem (Xu et al. 2002). It is also important to ensure that the technical compatibility between the SDS and the devices employed by end users to access the services (e.g., mobile devices) (Dave 2008, p.122).

Concerning the privacy dimension, Sousa and Voss (2006) refer that conveying privacy requires both adopting a suitable design for the virtual interface as well as the adequate operation of the associated back office. Within the first category, service providers may resort to avoiding to collect personal customer information during virtual service unless otherwise explicitly authorized by the customer, employing third-party seals of approval, creating customer communities, or displaying adequate site endorsements (Urban et al. 2000). Within the second category, service providers need to design technically secure virtual back offices, adopting adequate security technologies and standards (Urban et al. 2000).

2.2.2 Physical Quality

During the interviews conducted by Zeithaml, Parasuraman and Malhotra in 2000, participants mentioned that physical product interaction, service, security, and privacy were key points during the usage of offline shopping. The authors discovered that reliability, responsiveness, access, assurance, and customization/personalization were critical in the offline environment (Zeithaml et al. 2000). In this context (service fully provided through a physical facility), traditional service quality conceptualizations apply.

However physical service can also be a component that occur as a complement to virtual service components. In this way, physical service may be of two types: without human contact (logistics fulfilment) or interpersonal (provided via human interface, e.g., face-to-face at a physical facility, by phone, etc.) (Sousa & Voss 2006).

According to Sousa and Voss (2006), customers may resort to interpersonal service as a routine service (being one of the available service delivery channels) or as an exception service in the form of customer support/service recovery, typically as a result of a previous engagement in a virtual service component (Meuter et al. 2000).

Concerning interpersonal service as a routine nature, there is no reason to expect that quality issues will differ from the traditional conceptualizations of service quality (Sousa & Voss 2006). The SDS challenge (physical front and back office) for this physical quality dimension is to provide several possible combinations of services and channels available to customers because the managers need to be prepared to fill the different needs of customers that engage in a pure single-channel service and also the ones engaging in multichannel service.

Physical customer support in the context of a multichannel service acquires a different nature, being very important for the overall perception of service quality and considered key for performing service recovery when a failure occurs during virtual service provision (Meuter et al. 2000; Shaw & Craighead 2003). When a situation of service recovery happens (in any virtual channel), three important service quality dimensions were identified: responsiveness, compensation, and contact (Parasuraman et al. 2005). To provide good levels of quality for interpersonal service of an exception nature, the SDS must provide an effective recovery system for failures occurring in virtual service provision (Meuter et al. 2000).

Concerning logistics fulfilment, this is also considered key to overall service quality. Rabinovich and Bailey (2004) have defined physical distribution quality for Internet retailers in terms of three dimensions—inventory availability (ability to readily source inventory ordered by a consumer), timeliness (related to delivery time after shipment), and reliability (ability of service providers to match distribution service performance and performance expectations). In terms of SDS, The fulfilment process is associated with orders placed through virtual channels, comprising two components taking place in the physical back office: inventory sourcing (activities taking place from order placement to shipping) and delivery (activities taking place from shipping to the arrival at the final destination) (Rabinovich & Bailey 2004; Sousa & Voss 2006).

2.2.3 Integration Quality

As the name says, integration quality refers the integration between virtual quality and physical quality. Sousa and Voss (2006) proposed this third component of quality in multichannel service and they define it as the ability to provide customers with a seamless

service experience across multiple channels. As mentioned previously, this component is related with the omnichannel experience.

Sousa and Voss (2006) suggested two dimensions of integration quality: Channel-service configuration and Integrated interactions. Channel-service configuration refers to the quality of the available combination of services or service components and the associated service delivery channels, while integrated interactions is defined as the consistency of interactions across channels, resulting in a uniform service experience.

2.3 Customer Experience

Philipp Klaus and Stan Maklan (2013) argued that service quality is an outgrowth of the Total Quality Management movement of the 1980s and suffers from that movement's focus on the provider rather than the value derived by customers. As mentioned before, the most popular measure of service quality – SERVQUAL – usually assesses the functional delivery of service during a single episode. The increasingly settled view of researchers is that customer experience is generated through a longer process of company-customer interaction across multiple channels and is generated through both functional and emotional clues (Klaus & Maklan 2013).

We can argue that service quality has evolved to a broader perspective, considering the overall experience that a customer has with a service. This happens because service quality approach is not enough stimulate customer loyalty. Nowadays, the client wants more than a product or service purchase, he wants an experience (advices from the employee, the smile of the employee, etc.). Several authors posit customer experience as a key determinant of customer satisfactions and loyalty (Caruana 2002) and that drives word-of-mouth (Aksoy et al. 2007).

Customer experience is a holistic concept that encompasses every aspect of a company's offering (Zomerdijk & Voss 2010) and create a consistent experience across all activities and points of contact with the company (touchpoints) (Teixeira 2010). Meyer and Schwager (2007) define customer experience as the "internal and subjective response customers have to any direct or indirect contact with a company". Direct contact generally occurs in the course of purchase, use, and service and is usually initiated by the customer. Indirect contact most often involves unplanned encounters with representations of a company's products, services, or brands and takes the form of word-of-mouth recommendations or criticisms, advertising, news reports, reviews, etc. (Meyer & Schwager 2007). Following the logic of Vargo and Lusch (2004) customer experience is not designed, rather it is co-created through customer interactions with the several service elements (Teixeira et al. 2012).

Buttle (2009) enumerate several methods for companies to improve their insights into customer experience:

- Mystery Shopping: recruitment of paid shoppers to report on their customer experience. They might also perform a comparative shop (with competitors).

- Experience Mapping: Process that strives to understand, chart and improve what happens at customer touchpoints (methods like focus groups, face-to-face interviews or telephone interviews are normally conducted in this technique).

- Process Mapping: Use of blueprinting to represent graphically the business processes;

- Customer Activity Cycle (CAC): Aims to show the processes that customers go through in making and reviewing buying decisions.

- Ethnographic methods: Used to gain a better understanding of the socio-cultural context of customer experience.

- Participant or Non-participant observations: used to a better understanding of customer experience by participating or observing in the customer experience at various touchpoints.

It is important to know how to ensure the quality of each channel and improve the customer experience to each channel, but also how to deliver a good overall omnichannel experience. This is a critical subject to be explored in this report and to further researchers.

2.4 Service Design

Service design research acknowledges the importance of experience when designing a new service (Mager 2009; Moritz 2005). Following a holistic approach, service design orchestrates service elements such as the physical environment, people (customers and employees), and service delivery process to help customers co-create their desired experiences (Teixeira et al. 2012).

Through the service design process, several elements take part in shaping the customer experience but it is unlikely that the customer recognizes any structure behind it, instead perceiving each experience as a complex but unitary feeling (Gentile et al. 2007). In this context, customer experiences cannot be designed by the organization, but services can be designed for the customer experience (Patricio et al. 2011).

The services intangibility and the need for differentiation, make the services market very competitive and highly unpredictable. Consequently, create or improve a service cannot be considered as "there is just one way to do it" and thus, Service Design aims to enhance the creation and improvement of services applying known and proven design methodologies. When designing complex systems, thinking with models helps bridge the gap between problem and solution (Dubberly et al. 2008).

Some trends, such as the growing complexity of service systems, emergence of multichannel services, customer co-creation of service experiences, and the need for interdisciplinary methods, led to the emergence of service design as a new field (Mager 2009) which takes a more holistic view of the service system (Patricio et al. 2011) that considers in an integrated way strategic, system, process, and touch-point design decisions (Saco & Goncalves 2008).

Nowadays, service design field uses a human-centered approach that focuses on customer experience and the quality of service encounter as the key value for success. It is a systematic and iterative process that integrates user-oriented, team-based interdisciplinary approaches and methods in ever-learning cycles (Saco & Goncalves 2008).

Edvardsson et al. (2000) consider three main components of service design: the service concept, the service system, and the service process. More recently, Patrício at al. integrated these three layers into a service design approach creating a set of interrelated models, each one addressing a different layer (Teixeira 2010).

The service concept defines the benefits a service offers customers (Edvardsson et al. 2000). This component begins with the study and analysis of the customer experience. The Customer

Value Constellation (CVC) is model used to design the service concept and it represents the set of service offerings and respective interrelationships to meet the customer's need.

The service system can be viewed as an integrated whole that enables customers to co-create their service experiences according to the positioning of the service concept. Service System Architecture (SSA) and Service System Navigation (SSN) are models that represent this service system. This models support the design of the service system enabling customers to follow multiple patterns of navigation across service interfaces (Patricio et al. 2011).

Finally, service process is related with the design of the service encounter and can be described with the Service Experience Blueprints (SEB). SEB is used to map the existing service encounter, but is also used to explore other design alternatives that may enhance the service encounter experience (Patricio et al. 2011).

The purpose of service design methodologies is to design the service according to the needs of customers and these three steps are essential to accomplish that goal. It is also important to aggregate all the areas of the service as an overall system, involving all the sectors of the company.

2.5   Service Blueprint

Service Blueprint was initially presented by Shostack (1984) as a process control technique for services, mapping all the key activities involved in service delivery and production, specifying the linkages between these activities (Patricio et al. 2011). Just as firms have evolved to become more customer-focused, so has service blueprinting (Bitner et al. 2008). Service Blueprint has also evolved to include other aspects of service delivery, such as the distinction between frontstage and backstage and the physical evidence (Patricio et al. 2011).

The intangible nature of services and their complexity offers big challenges to the service design process. Therefore, "Blueprinting helps to create a visual depiction of the service process that highlights the steps in the process, the points of contact that take place, and the physical evidence that exists, all from a customer's point of view" (Bitner et al. 2008).

A typical Service Blueprint has five components (Bitner et al. 2008):

- Frontstage: physical evidence, customer actions and visible contact employee actions.

- Backstage: invisible contact employee actions and support processes.

In the frontstage, the "physical evidence" refer all the tangibles that customers are exposed to that can influence their quality perceptions. The "customer actions" include all of the steps that customers take as part of the service delivery process. Finally, the "visible contact employee actions" are the actions of frontline contact employees that occur as part of a face-to-face encounter with the customer (Bitner et al. 2008).

In the Backstage, the "invisible contact employee actions" are all the other contact employee actions, both those that involve non-visible interaction with customers (e.g., telephone calls) as well as any other activities that contact employees do in order to prepare to serve customers or that are part of their role responsibilities. "Support processes" are all the activities carried out by individuals and units within the company who are not contact employees but that need to happen in order for the service to be delivered (Bitner et al. 2008).

Furthermore, Service Blueprint also include different lines that are important features when considering designing a service. The line of interaction separate the visible contact employee

actions from the customer. The line of visibility separate the invisible contact employee actions (backstage) from the frontstage actions. Finally, the line of internal interaction happens in the backstage and is crossed when a customer interacts with a service interface.

Despite of the advantages, Service Blueprint has several limitations. The need to handle conveniently a multi-interface service and to incorporate technological components, provided motivations to develop the Service Experience Blueprint (SEB). Resorting to research methodologies from Marketing and methods from Human-Computer Interaction and Software Engineering, Service Experience Blueprint (SEB) is a multi-disciplinary method for multi-interface and technology-enabled service experiences (Patricio et al. 2008). SEB is an "upgrade" of the Service Blueprint and it also represent all the actions defined previously in the Service encounter (frontstage and backstage), divided by lines of interaction and visibility. It also have points of failure or waiting and the actions are linked.

The SEB method systematically incorporates customer experience requirements, providing a modular service design that enables customers to co-create their unique service experiences (Patricio et al. 2008).

The SEB method includes three main phases. The first one is related with the assessment of the service experience for different service activities of the service encounter, using qualitative and quantitative research to identify and analyse customer experience requirements and afterwards, assess the interfaces to satisfy the customer needs. The second phase comprises the design of the service at the multi-interface level and involve the development of a Goal Oriented Analysis based on the results of the previous stage. The third phase is related with Service design. Using SEB diagrams, this last phase designs each interface to better satisfy the customer experience requirements.

The SEB method was developed specifically for designing multi-interface service experiences (Patricio et al. 2008) and its application to an omnichannel context is yet to be made. The same applies to other service design methods, such as the Multilevel Service Design – MSD (Patricio et al. 2011).

3   Summary and Research Gaps

The evolution from multichannel to omnichannel requires companies to offer a seamless experience to the customers, among all the different channels, this means, provide an omnichannel experience. Throughout the literature review, research about omnichannel service experience was found lacking. To pursue an omnichannel approach companies need to understand and capture the customer experience, what contributes to that experience and how to integrate that knowledge in the restructuring of the available channels (online bookshop, physical store …) in order to obtain a seamless experience. Like many businesses nowadays, *Grupo Almedina* uses a multichannel approach with several different channels and services to reach their clients (e.g. physical store, online store, mobile version to smartphone, workshops and data base). The goal is to offer a seamless experience to the customers, among all the different channels, this means, provide an omnichannel experience. This work will contribute to advance research on designing omnichannel services.

Edições Almedina is recognized as the most important Portuguese publishing company in legal area and the majority of the customers are from the legal field. However, the company wants to reach more clients from other technical fields and the ones that purchase non-technical books. This creates a big challenge, how can *Almedina* provide an omnichannel experience without focusing in one specific technical area and without neglecting the most profit segment (the legal one)? Since *Almedina* is a very strong publishing company regarding technical books, particularly in the legal field, how should the company engage in an omnichannel approach? Should the company do it to different segments? This would be a paradox. In this kind of services – with a lot of focus in one segment - the omnichannel approach may be harder to implement. This subject will also be explored in this project.

Finally, throughout the service design process, several methods and models were used in order to improve the customer experience and identify their requirements (e.g. SEB). This model was developed having in mind, the designing of multi-interface service experiences. Since this project is focused in the implementation of an omnichannel component, can the previous models be adapted to this approach? This is the final gap to be addressed in this project.

This project aims to explore the gaps founded during the literature review, using a qualitative methodology and several service design methods. These topics will be covered in the next chapters.

4   Methodology

To achieve the research objectives, we conducted a qualitative research supported on grounded theory methodology (Charmaz 2006). In order to perceive the customer experience, we performed semi-structured and recorded interviews to fifteen participants and *Almedina* customers. During the data analysis, we used the software NVIVO11 to assist the coding process and thus, find the main categories used to frame this project.

Firstly, in this section, we introduced in a theoretical way the approaches underlying this work, namely, Design Thinking and MSD to structure the work and Qualitative Research and Grounded Theory as methodologies to understand the customer experience. Then, we explain how this theoretical approaches were used in practice (through interviewing, sampling …).

4.1   Design Thinking and Multilevel Service Design

According to Tim Brown (2008), design projects must ultimately pass through three spaces: Inspiration, Ideation and Implementation. Projects will loop back through these spaces - particularly the first two - more than once as ideas are refined and new directions taken

As an extension of the Tim Brown research, Stickdorn & Schneider (2010) mentions that service design is a creative human-centered discovery process followed by iterative cycles of prototyping, testing, and refinement process that passes through four stages: inspiration, ideation, reflection and implementation. The inspiration phase requires the understanding of the experience and behavior of the customers and all stakeholders. This is a crucial step for human-centered service design and feeds the subsequent process of ideation, reflection and implementation (Patrício & Fisk 2013). Ideation is the process of generating and developing new ideas that may lead to service solutions and is closely related to the stage that follows – reflection. Ideation explores new service concepts while reflection prototypes and tests them in an iterative process. Finally, the last stage refers to the implementation of the new service (Patrício & Fisk 2013).

In order to complement and as part of this design thinking stages, we followed the steps presented in the Multilevel Service Design method (MSD) (Patricio et al. 2011). MSD is an interdisciplinary method for the integrative design of service systems and synthesizes contributions from interaction design, service science, management and engineering to build an interdisciplinary approach to service design. The MSD comprises four steps (Patrício & Fisk 2013):

- Step 1: In this stage, an in-depth study of the customer experience is undertaken.

- Step 2: Based on the study of the customer experience, the Customer Value Constellation model (CVC) enables designing the service concept. CVC model is a mapping tool introduced by Normann & Ramirez (1993) and represents the set of service offerings and respective interrelationships that create a value added offering.

- Step 3: In this stage, the firm's service system is designed through the service system architecture (SSA) and service system navigation (SSN). The SSA portrays the structure of the service system, providing an integrated view of the multi-interface offering and support processes across the service experience. The SSN provides, comparing to SSA, a more dynamic view of the service system, mapping the

alternative paths customers may take across different service encounters in the service experience.

- Step 4: Finally, at this phase, the design of each concrete service encounter will take place, using the Service Experience Blueprint (SEB) (Patricio et al. 2008). SEB maps the actions of the different participants in the service encounter, both frontstage and backstage (Patricio et al. 2011).

Following the stages proposed by Brown (2008) and Stickdorn & Schneider (2010) in combination with the MSD method proposed by Patricio et al. (2011), we were able to devise a work plan to the design of the new service.

4.2 Qualitative research and Grounded Theory

In the study of the customer experience, several methods can be used to the gathering of data. Neuman (2005) mentions two different categories for data collection: quantitative and qualitative research. Quantitative research is considered to have as its main purpose the quantification of data, that is, data in form of numbers. Qualitative research is considered to be particularly suitable for gaining an in-depth understanding of underlying reasons and motivations, providing data in form of words and pictures.

Quantitative methods should not be neglected and, in some situations, they should even be complemented with the qualitative ones. Nevertheless, they fail to take account of people's unique ability to interpret their experiences, construct their own meanings and act on these (Creswell 1994) and, as we mentioned in previous sections, understand and capture the customer experience is essential to this project. Therefore, considering the challenges and objectives of this work, qualitative research was the method chosen to this project. This method is typically exploratory and/or investigative in nature and its findings are often not conclusive and cannot automatically be used to make generalizations. However, it is indispensable in developing a deep understanding of a given thematic complex and sound rationale for further decision making (ATLAS.ti n.d.). In contrast to what happens in a quantitative research, the researcher in a qualitative approach is integral part of the research process and assumes an active role in all aspects of the study (Marshall 1996).

In the 60s, quantitative research methods had taken an upper hand in the fields of research and qualitative was not seen as an adequate method of verification (Strauss & Corbin 1994). To legitimize the qualitative research, Barney Glaser and Anselm Strauss developed the constant comparative method, later known as Grounded Theory Method. Stated simply, grounded theory methods consist of systematic, yet flexible guidelines for collecting and analysing qualitative data to construct theories 'grounded' in the data themselves (Charmaz 2006). These methods can be used with quantitative or qualitative data but, usually they are adopted in qualitative researches.

For Glaser and Strauss (1967; Glaser, 1978; Strauss, 1987), the defining components of grounded theory practice include (Charmaz 2006):

- Simultaneous involvement in data collection and analysis; in grounded theory, the analysis begins as soon as the first bit of data is collected, this helps to reveal relevant issues that must be incorporated in the next set of interviews and observations. Every concept brought into the study or discovered in the research process is at first considered provisional. Each concept earns its way into the theory by repeatedly being

present in interviews, documents, and observations in one form or another-or by being significantly absent (Corbin & Strauss 1990).

- Constructing analytic codes and categories from data, not from preconceived logically deduced hypotheses; Charmaz (2006) define coding as "naming segments of data with a label that simultaneously categorizes, summarizes, and accounts for each piece of data". According to the logic of grounded theory, we create our own codes by defining what we see in the data, separating it into categories that crystalize participants' experience. Coding full interview transcriptions gives ideas and understandings that you otherwise miss.

- Using the constant comparative method, which involves making comparisons during each stage of the analysis; Coding distils data, sorts them, and gives us a handle for making comparisons with other segments of data (Charmaz 2006) Noted incidents should be compared against other incidents for similarities and differences. Making comparisons assists the researcher in guarding against bias (Corbin & Strauss 1990)

- Advancing theory development during each step of data collection and analysis; the aim of a grounded theory research is to construct theory and all the iterations should follow an analytic purpose, so to create higher-level concepts and, with them, theory (Teixeira 2010).

- Memo-writing to elaborate categories, specify their properties, define relationships between categories, and identify gaps; Memos are extended notes aiming to compare data, to explore ideas about the codes, and to direct further data-gathering. Memos catch your thoughts, capture the comparisons and connections you make, and crystallize questions and directions for you to pursue (Charmaz 2006).

- Sampling aimed toward theory construction, not for population representativeness; the theoretical is a type of grounded theory sampling and it involves starting with data, constructing tentative ideas about the data, and then examining these ideas through further empirical inquiry. In this type of sampling, the researcher do not randomly select representative distributions of a particular population, instead he or she seeks people, events or information to illuminate and define the boundaries and relevance of the categories (Charmaz 2006). Since the data collection and analysis is simultaneous, the researcher may change the direction of his sampling with the aim of obtaining new insights.

- Conducting the literature review after developing an independent analysis; The literature review and theoretical frameworks are ideological sites in which you claim, locate, evaluate, and defend your position (Holliday 2007; Charmaz 2006). Furthermore, field work literature helps to avoid the possible bias induced by the researcher (Corbin & Strauss 1990).

Grounded theory methods have proven to be very suitable for exploring, understanding and learning more about people's experiences and events in their lives, as they allow the openness needed to see data in new ways and explore new ideas (Charmaz 2006). Therefore, and combined with the fact that provide guidelines to collect and analyse data, this methods were suited to be adopted in this project.
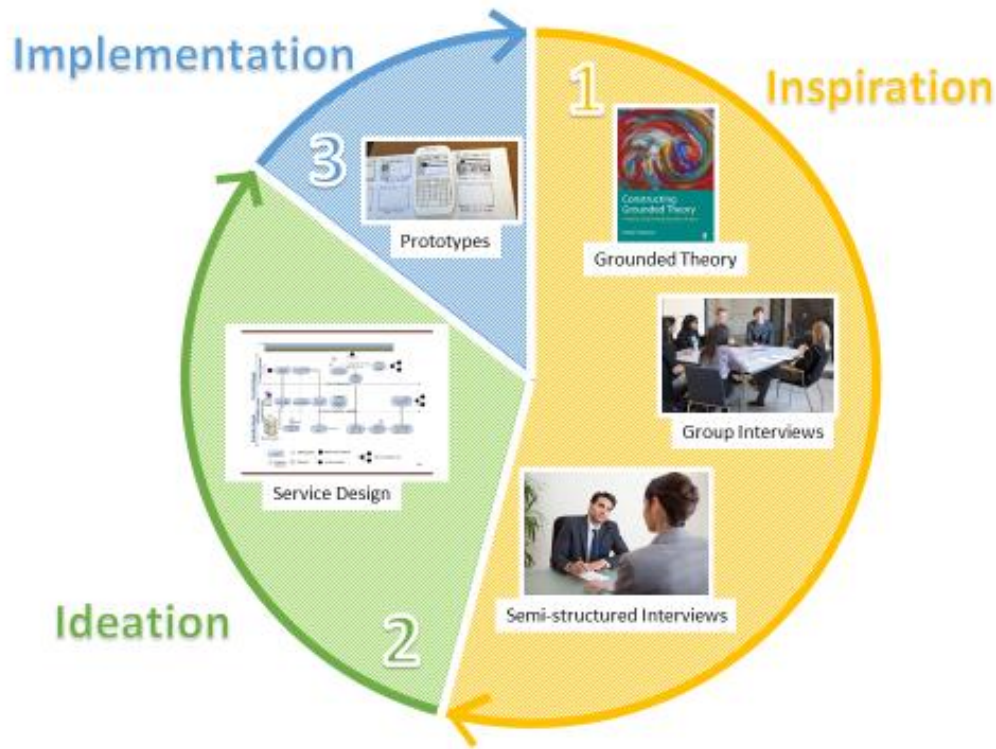
4.3   Methods used in the project

Figure 3 - Project Design Thinking Cycle (adapted from Tim Brown work)

Following the stages proposed by Brown (2008), we were able to form a work plan to this project (see Figure 3). In the Inspiration phase we executed, as stated before, a qualitative analysis of the service experience, using grounded theory methodology. During the data collection, two types of techniques were performed at different phases of the project: Interviews and usability tests. In order to acquire more knowledge about the company processes, how it works and which are the main goals for the project, some semi-structured interviews and unstructured group interviews were performed to employees, in the early stages of the project. In a semi-structured interview there is an incomplete script where the researcher may have prepared some questions beforehand, but there is a need for improvisation. In a group interview two or more people are interviewed at once by one or more interviewers (Myers & Newman 2007). The information gathered in this interviews was crucial to the development of the next stage of data gathering - interviews with customers. The data collection with customers was conducted through semi-structured interviews and usability testing using the think aloud method.

In the Ideation phase, we used the MSD method in order to design the service offerings, according with the data gathered in the inspiration stage. Several models will be used since it helps to visualize and communicate ideas and efficiently explore a diverse set of possible design solutions (Patrício & Fisk 2013). Firstly, we used the CVC model to design the service concept, followed by the SSA and SSN to design the service system and ending with the SEB to design the service encounter. Two different versions of this models were created – As-Is models to the current situation and To-Be models to the desired one. In this way, we can easily understand the differences between the two versions and which implementations need to be performed.

In the Implementation stage, we test the concepts and ideas generated in the previous stages using the prototyping method. Prototyping can bring service ideas to life, integrating all the pieces of design in a holistic unit so that customers and other stakeholders can understand how the service will look and can see if it works (Saffer 2010). Several prototypes of different activities and channels were created in this stage of the project.

4.4 Sampling

Since we used a qualitative approach to the data collection phase, a random sampling would be inappropriate. Martin Marshall (1996) states that a "random sample provides the best opportunity to generalize the results to the population but is not the most effective way of developing an understanding of complex issues relating to human behaviour". The same author refers three broad approaches to selecting a sample for a qualitative study: Convenience sample (selection of the most accessible subjects); Judgement sample (based on the researcher's practical knowledge of the research area, the available literature and evidence from the study itself); and Theoretical sample (defined as the research develops, it adapts itself from the emerging data – new samples can be elaborated through the process).

The theoretical sample is the principal strategy for the grounded theory (Marshall 1996) and thus, was the chosen one to be used. Using this strategy, the researcher analyses data and decides what data to collect next and where to find them, in order to develop a theory as it emerges (Glaser 1978). The researcher begins by identifying some key concepts and features which will be the foundation for the research, impacting the sampling for the project (Glaser 1986). A desired sample was created considering the goals of this project and, during the interviews execution stage, this pre-defined sample was taken into account. However, due to constraints related with time issues and contacting the customers, the initial sample was not entirely applied.

Testing within a small and well-chosen sample set of users can help create a revolutionary product (Brown & Wyatt 2015). Thus, initially, a sample of 20 persons was defined as a suitable number of interviews. The target audience for this sample was the following: Law related customers (*Almedina* has a big presence in legal business); and clients in the stores.

Sample of 10 law related customers	*Sample of 10 clients in the physical stores*
Sample of 5 law students - Most of law students are young people and they are more likely to use new technologies. Due to the fact that *Almedina* is a business with a lot of history and with a more traditional vision comparing with other book retailers (e.g. FNAC), this can decrease the *Almedina* visibility to this kind of audience.	**Older physical store customers** – *Almedina* online bookshop should be prepared to people with less knowledge of new technologies and Internet, in the way that should be more intuitive and facilitate the interaction with the user.
A sample of 5 office lawyers - The higher buying power of this kind of audience increases the probability to purchase technical books, which is important to this study. Besides, this kind of audience is also interesting in the sense that can acquire other services (e.g. BDJUR).	**Clients from other areas -** Legal field is a very small market niche so, it is important to increase *Almedina*'s presence in the others subject areas. Therefore, it would be important to reach this clients in order to improve our service to this kind of audience.

As we can see at Table 1, the interviews were performed to a final sample of 15 participants – instead of 20 - where only 2 were from the physical stores.

4.5 Interviewing and data analysis

For the actual data gathering and considering the constraints mentioned above, 15 interviews were performed during the time period of one month. In addition to the customers gathered in the store, the remaining were provided by *Almedina* and contacted by the researcher to schedule the interview, at the customer's time and day of choosing. Several interviews were performed through video chat using the application Skype. Each interview was audio recorded and analyzed later. Every customer agreed to be subjected to these recordings and signed an informed consent form created by the researcher (see APPENDIX C).

Before every interview, the researcher started with an introduction about the project and the goals associated to it. The interviewee was also given an informed consent, stating his rights and what it was expected from him/her, reducing a possible nervousness.

Ulwick (2002) argues that we should not approach a customer expecting to obtain solutions, instead we should ask them for desired outcomes. Customer do not have the knowledge to come up with new ideas, which is the researcher work. With this in mind and with the guidance of the Charmaz work (Charmaz 2006), we tried to create an interview guide with open-ended, non-judgmental questions encouraging unexpected stories to rise. During the interview, the researcher tried always to express interest and wanted to know more about what the customer would have to say.

Concerning the structure of the interview guide (available in APPENDIX A), it started with general questions related with the books purchase habits of the customer (offline and online). Following, more specific questions about the different *Almedina* channels (with focus in the online ones) were performed, gathering feedback about those channels. The last section gave greater focus to questions related with the other services provided by *Almedina*. During the first interviews, several new subjects and outcomes were founded, changing and introducing new topics in the following ones.

According with the *Almedina* goal of reaching a wider range of customers, we tried to cover all the different types and segments, selecting a sample with very different characteristics. The Table 1 represents the socio-demographic information of our sample. Most of the customers interviewed have between 20 and 30 years old and were from the juridical field.

Table 1 - Participants Socio-Demographic Information

Age	Male	Female	total
20-30	4	6	10
31-40	2	1	3
41-50	0	0	0
51-60	1	0	1
61-70	1	0	1
Total	8	7	15

Occupation field	Total
Juridical	8
Management & Economy	4
Philosophy & Social Studies	1
Other	2
Total	15

Concerning the data analysis, we used the grounded theory coding process using the software NVIVO 11. Coding means categorizing segments of data with a short name that simultaneously summarizes and accounts for each piece of data. Codes show how you select, separate, and sort data to begin an analytic accounting of them (Charmaz 2006). NVIVO 11 was used to handle the audio recordings of the interviews and segment them in fragments, it was important in the coding and analysis processes phase. When all data is coded, the analysis process began, emerging new outcomes and ideas that will be described in the next sections.

As suggested in the Grounded Theory, the coding process started with an initial phase – initial coding (Charmaz 2006) – involving naming each word, line or segment of data and code that data as actions. The initial coding was followed by a focused, selective phase – focused coding (Charmaz 2006) – that uses the most important and frequent initial codes to sort and organize larger segments of data, consolidating developed categories and finding new ones.

4.6   Usability testing

From our sample (see Table 1), four participants had never used any *Almedina* virtual channel. For this smaller sample, and as a complement to the more thorough data collection gathered through the interviews, we performed a usability tests, using the think aloud method (Kushniruk & Patel 2004).

Usability testing is a technique used in user-centered interaction design to evaluate a product or system by testing it on users (Nielsen 1994). In other words, it refers to the evaluations of information and comprises testing of participants who are representative of the target population, as they perform representative tasks using an information technology (Kushniruk & Patel 2004). The think-aloud is a method to gather data in usability testing. Using this approach, participants are instructed to verbalize their thoughts as they interact with the computer systems. The set of specified tasks performed to the participants is available in APPENDIX B.

As mentioned before, four participants had never used the *Almedina* virtual channels and thus, we used this method with to catch the participants' feedback about usability, design and satisfaction regarding the *Almedina* virtual channels. The think-aloud method was performed to test the website and mobile version and the results were coded jointly with the semi-structured interviews. The four tests were recorded and analysed using NVIVO11 software.

5   Results

In this section we present and explore the main findings obtained during the interview's analysis and coding. We begin by introducing the main categories that will frame this research and then we explain each one, taking into account the data collected in the previous section. While we address the categories, we also provide potential improvements as well as customer proposals.

Next, we performed the design of the service system supported by Multilevel Service Design (Patricio et al. 2011) methodology and according with the study of each category.

5.1   Categories

Following the coding phase and continuing to use the fundamentals of Grounded Theory methodology, we defined several categories grounded in the data provided. These categories arose from the interview analysis. When explaining the categories, we also provide coding trees and citations from the customers to add further detail.

Firstly, we present the category related with the services provided in order to give an overall framework of the *Almedina* services and present the As-Is CVC to complement it. Next, we present which channels – physical and virtual - will aid the provision of these services. Afterwards, we discuss the quality aspects related with these channels and that affect the customer experience – what is being done and what should improve to deliver a good omnichannel experience. Finally, before the design of the service, we presented the categories related with customer segmentation and suggested improvements. Each section presents the data collected, crossing it with the theory and presenting how it will reflect in the design of the new service.

5.1.1   Services provided

Several services are delivered by *Almedina*, some associated to the act of purchasing a product (book, E-book, magazines) and others are independent (BDJUR, congress, workshops). Throughout the interviews it began to be evident a sharp division of channels used to deliver this services and this should not happen in a omnichannel experience – the customer should not be aware of the different channels used, the experience should be seamless across all channels.

During a study performed by Accenture UK concerning retailers struggling to meet omnichannel expectations, it was found that the lack of technology is a significant barrier to meeting the challenge of omnichannel - 35% of retailers cited a lack of technology spanning ecommerce, mobile and the store as a barrier to success (Rossi 2014).

Concerning the *Almedina* Company, one of the most problematic aspect founded in the interviews performed with shareholders and customers, was the *Almedina* client card. This card can be obtained in any physical store of the company and it offers advantages when purchasing books. A mobile application and a website is also available to access the client card info (e.g. the balance available). This card is a good addition and aims to enhance customer satisfaction and loyalty but it is very bad implemented and it does not fit in an omnichannel experience.

"The Almedina client card has to be reviewed because no one understands the advantages of the card. I buy books online and I do not recall having used that card in a proper way."

<div align="right">Female, 27 years old, economist, about the experience with the client card</div>

The client card cannot be created online and customers cannot take advantage of the card when they perform online shopping at *Almedina*. From an omnichannel perspective, this should not happen. We can relate this topic with the service quality stated in the literature review, in the sense that the physical quality is being provided, but the virtual quality is lacking and it should be integrated.

In order to display the different services and benefits that are expected to be offered, we followed the Patricio's work with the Customer Value Constellation (CVC) model (Patricio et al. 2008). The As-Is CVC (see Figure 4) shows the existing services and channels provided by *Almedina* and the relations between them. In the next section we will present the To-Be version of CVC in order understand the changes performed with the aim of provide a seamless experience between the channels and a better customer experience.
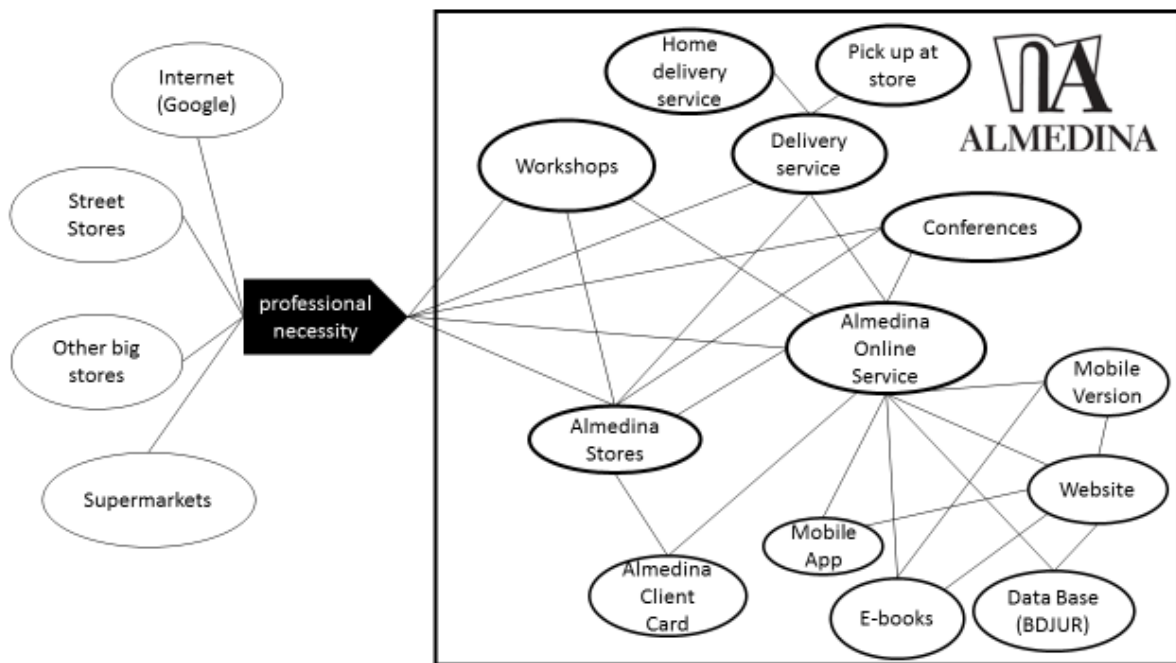
Figure 4 - Customer Value Constellation (As-Is version)

5.1.2 Service delivery channels

Nowadays, most of the companies operate in a multichannel environment, combining physical and virtual channels of service delivery and *Almedina* is an example of that. Nevertheless, the integration of this channels is a weak point at *Almedina* and should be reviewed. This ends up having greater importance due to the current trend of omnichannel in the retail business.

Table 2 – Coding Tree for Almedina channels: type of use

	Sources	%
Multi Channels Usage	**15**	**100%**
Mobile App		
Doesn't know	7	47%
Don't use it	9	60%
Use it	1	7%
Mobile Version		
Doesn't know	2	13%
Don't use it	6	40%
Search only	5	33%
Physical Stores		
Purchase	11	73%
Website		
Never Used	1	7%
Purchase	4	27%
Search	10	67%

In the literature review we referred several times that customers use different channels to multiple phases of the decision process (information search and product purchase). During the data collection phase we gather evidences of this. Actually, 67% of the participants uses the website to seek information and the physical store to perform the purchase – webrooming (Verhoef et al. 2015) (See Table 2).

> *"I do not use the website to buy the books. I just use the website to search about the book and to see the prices."*

<div align="right">Female, 25 years old, student of law, about the website usage</div>

As we can see in the As-Is CVC (see Figure 4), the company offers several channels to deliver the services: Physical store, website, mobile version, mobile application, delivery service and, although is not in the CVC, also has customer support (telephone and e-mail) and social network accounts. Despite the various channels, *Almedina* uses them separately and thus, a better integration of this channels is crucial to the company and this project goals. The interviews performed to customers are the evidence that supports this claim.

> *"I think it is useless. I always get redirect to the website, I cannot buy anything."*

<div align="right">Female, 20 years old, student of law, about the Almedina mobile version</div>

Almedina has a website mobile version to access using a tablet or a smartphone but, in addition to the bad design, it fails to perform most of the tasks that the user does in the normal website. This mobile version just allows the user to perform a product search (in a worst way than the website) and to find in which physical store that product is available. Everything else needs to be done in the website and that is not adapted to browsing through smartphones.

Similarly, the mobile application has a restrict set of tasks. The app just allows the user to login using the client card number and to access the information of their own client card account. In addition, to create this account you need to access a different website – you cannot do it in the mobile app. It is natural that most of the participants do not use or are not aware of a mobile version and/or mobile application (see Table 2).

In a service that offers an omnichannel experience, all the channels would be integrated and the experience would be the same regardless of the channel used. In this project we will propose a way to achieve this, introducing several new features to different channels.

Firstly, with the feedback received during the data collection, we can conclude that the participants that used the mobile version consider this channel "useless". The same happens with the mobile app. So, as starting point, we propose the removal of the mobile version and instead, the introduction of a responsive website with a better design and the creation of a complete mobile application. Responsive website is a trend that uses a responsive web design (RWD) approach and provides an optimal viewing and interaction experience across a wide range of devices (computers, tablets, smartphones …) (Kim 2013). Thus, we do not need to provide a mobile version, we just need to provide one version of the website that will adapt to all devices. In addition, to fulfil the omnichannel experience requirements, we propose to create a mobile app that allows the user to do almost all the same activities as the responsive website.

"They should invest in smartphones, nowadays everybody uses smartphones and the information should be available in a similar way as in the computer. Have an app that allow to easily search and purchase, would be crucial."

Male, 38 years old, lawyer, about the need of a proper application

The addition of virtual kiosks placed in the physical stores, are a feature that we also propose, having two distinct purposes: Firstly, it will work as an information point where the user can perform the "search" part of the decision process step. This means, the user can search information about books or themes and where they are situated in the store. Secondly, the virtual kiosk will display the user account information through the reading of a Quick Response (QR) code. QR code is a two-dimensional optical label that contains information about the item to which it is attached (Wave 2010). In turn, the QR code will be generated when the user creates the client card account (in the responsive website or mobile application) and is displayed through the mobile application. From this point on, all the channels will know who this user is. In this way, every customer can access their account information anytime, anywhere and using several channels, in a seamless way, breaking the barriers between those channels.

A practical implementation of omnichannel approaches is lacking in current research about this topic. Therefore, we introduce this new feature as an incremental way to fill that gap. In a simplistic way, it can be summed up as the introduction of a channel that will work as a passport to all the channels, seeking their harmonization. In this case, the mobile application would work in the same way as the responsive website and as a key to the virtual kiosk (through QR code). If the user change anything in their account using, for instance, the website, the information will be updated in all the channels (e.g. account info, last searches, last items purchased, and client card balance). However, due to some technology resistance, it would be also possible to use the client card account data in the virtual kiosk, introducing the code number and password.

"I do not use smartphone to buy. It is very complicated to me."

Male, 51 years old, engineer, about the use of smartphones

As stated in the literature review, customer experience encompasses every aspect of a company's offering (Zomerdijk & Voss 2010) and create a consistent experience across all

activities and points of contact with the company (Teixeira 2010). With this implementations, we are trying to reach that consistency.

To implement this changes, an effort would need to be performed by the marketing team in the sense that it would be necessary to inform about the new features and help the customer to co-create their service and to enhance the experience.

5.1.3 Service Quality Aspects

When asked about relevant aspects when enter in contact with different channels, participants referred several different characteristics (see Table 3) that influence their experience with the company. These aspects have a greater importance when customers use the physical channel - participants mentioned more the physical store - as the chosen channel but, as we are trying to create a seamless experience among all *Almedina* channels, it would be important to adapt or introduce some of this relevant aspects of the physical channel to the virtual channel and vice-versa and strengthen their connection as seamlessly as possible.

Table 3 – Coding Tree for important aspects using both channels

Relevant during purchase	Sources	%	Relevant during usage	Sources	%
Physical Store	**15**	**100%**	**Website**	**15**	**100%**
Assistance	8	53%	Comfort	5	33%
Store organization (layout)	5	33%	Reading	3	20%
Feel book	4	27%	payment methods	1	7%
Watch book (read)	4	27%	Variety +	1	7%
Comfort (silent)	3	20%			
Environment	3	20%			
Store Location	2	13%			
Watch Index	2	13%			
Information	1	7%			

This and other characteristics can be seen in both virtual and physical channels (read book, payment methods, information, assistance …) but would be important to introduce new ones in the missing channels. As mentioned in the literature review, physical quality dimensions can determinate and influence the customer satisfaction (Zhang & Prybutok 2005) but they are not enough to stimulate loyalty by the client. To achieve this, the company should provide a good customer experience through, for instance, the back and front office employees (assistance). Indeed, "assistance" is an important aspect to more than a half of the participants and, in *Almedina* case, the general feedback is very positive.

> *"When I have a question, I call them directly. They are very helpful and friendly."*

> Male, 22 years old, marketing student, about his experience with Almedina customer support

Even though the assistance using non-physical channels (telephone, e-mail) in *Almedina* is very positive, this aspect could be less necessary if the amount of information provided in the virtual channels was bigger and structured in a better way.

> *"If the information available in the website and mobile apps is good, the customer support would not be so needed."*

> Male, 38 years old, lawyer, about the information provided in the Almedina website

Unlike the others, the virtual channels at *Almedina* are undeniably very poor in terms of available information. To fight this, some incremental solutions were analysed and, ultimately, the adoption of a FAQ (Frequently Asked Questions) was the most viable solution.

"Watch book" (reading) was other aspect that was very focused by the participants during the interviews. They highlight this topic because, while in the physical store you can read the book and see if it is the intended book, in the virtual channel it is very hard to have the same perception. It was also mentioned in a large number of interviews that, concerning technical books, the most important part of the book is the index since it is an essential feature to understand the content.

"When you are purchasing a book in Almedina website, it is very difficult understand the content of the book. Sometimes they provide the executive summary of the book, but we cannot understand if it will satisfy my needs. The index, in my opinion, is the most important part."

Female, 26 years old, lawyer, about the search of a book phase

As we can see in Table 3, comfort is an important aspect when participants are using the website. This is an important feature in the sense that should be provided in all the channels.

"I like to have a good place for me to seat and search and read the book in silence. The physical space is extremely important and the physical store in Arrábida Shopping worsened a lot."

Male, 38 years old, Lawyer, about Almedina physical store

In order to provide the same comfort that customers have when they are using virtual channels quietly at home, the physical stores should provide also a quiet place where customers can seat and read in piece. This is an important aspect and it does not happen in every store (e.g. Arrábida Shopping).

Despite of this, as we can see in Table 4 , the virtual channels also need a lot of work in order to provide a good omnichannel experience.

Table 4 - Coding Tree for Virtual Channels feedback

	Source	%
Negative Website Feedback	**15**	**100%**
Search ability	11	73%
Information	5	33%
Purchasing Problems	3	20%
Frustration	3	20%
Coherence	3	20%
Book Content -	2	13%
Immaterial	1	7%
Security Doubts	1	7%
Design		0%
Info Overload	3	20%
Small letters	3	20%
Scrolling	3	20%
Division	1	7%
Small Images	1	7%

	Source	%
Negative mobile version feedback	**15**	**100%**
Useless	4	27%
Not Suitable	4	27%
Hard to use	2	13%
Search ability	2	13%
Reliability -	2	13%
Book Information	1	7%
Design -	1	7%

Zeithaml et al. (2000) discovered that ease of navigation, flexibility, efficiency, site aesthetics, and price knowledge were critical in the online environment. Therefore, the problems highlighted in Table 4 will be consider when designing the service – next stage of this project.

"The first time I searched a book in the Almedina online store, I did not find what I wanted. I tried the same in the WOOK store and I found it easily. For that moment on, I just used WOOK to purchase and search online."

Male, 37 years old, Civil Engineer, about the online store

The majority of the participants pointed several filtering and searching problems in the *Almedina* website. Consequently, and taking into account that a lot of users perform webrooming, the feature of filtering should be improved in the virtual channels.

The suggestions we proposed are an incremental part of this project but are important to achieve a better service quality and deliver a better experience to the customer.

5.1.4 Customer's segmentation

As previously mentioned, *Almedina* has a big presence in the legal field and most of their clients are from this area. Despite that, *Edições 70* and *Actual Editora* were acquired in order to segment to other areas – Social studies and Management and Economy, respectively. This means that *Almedina* is trying to expand the fields of expertise, reaching customers from other sectors. However, emphasis in technical books (more in the legal field) is still a reality. Nevertheless, in the future, the goal is to segment to all the areas and reach all types of customers. Therefore, in the As-Is CVC (Figure 4) the main activity is called "professional necessity" connecting to the technical face of *Almedina* nowadays, while in the To-Be CVC (Figure 5) it was changed to "stay up to date" reaching a broader meaning.

Table 5 - Type for type of books purchased

	Source	%
Type of books	**15**	**100%**
Non-technical Books	7	47%
Technical Books		
Legal Field	9	60%
Management and Economics	3	20%
Others	2	13%
Social studies	2	13%

How can we deliver an omnichannel experience to all customers if *Almedina* has a strong technical presence, with more emphasis in the juridical field? That is one of the challenges that we face in this project. Since most of the *Almedina* customers are judges, lawyers or law students, how can we provide a seamless experience to the other segments?

"It has too much information that is useless for me, it would be easier to have 2 or 3 highlights that would interest me. It would be good to erase all the infinity of information that adds nothing to me."

Female, 27 years old, economist, about the Almedina website

The participants with other interests complain about the way how the website is structured. The juridical field is highlighted in the virtual channels and even the additional services

provided are also just aiming the customer from this segment (BDJUR, congresses …). To design a virtual interface it is very important to take into account the needs of all the end users (Sousa & Voss 2006). Therefore, we propose the implementation of customized accounts. This means, when customers create an account in the website or mobile application, they can customize the account, adding their interests (e.g. favorite themes, favorite authors). In this way, the website will be adapted to their interests – for instance, BDJUR would not appear in a user without juridical interests.

"In the App I would take the suggestions more into account. In the e-mail, sometimes I do not see the newsletters and they are also directed to juridical field and that doesn't matter to me."

Male, 22 years old, marketing student, about the Almedina newsletters and advertisement

Customer experience should be co-created through customer interactions with the several service elements and across multiple channels (Teixeira et al. 2012). Therefore, as an extension of customized accounts, it would be easier and important to customize the newsletters that customers receive by e-mail and, at the same time, introduce adapted notifications through mobile application. In this way, users are always aware of the updates about their favourite themes or authors, using several channels.

With these new features, customers have the power to co-create their experiences in the way that suited them better. On the other hand, *Almedina* needs to provide a good service to deliver the best experience possible.

5.1.5 Suggested Improvements

Ulwick (2002) argues that we should not approach a customer expecting to obtain solutions, instead we should ask them for desired outcomes. Nevertheless, we should consider these suggestions because they can provide some additional value do the service design.

Most of the improvements suggested by participants are concerning usability and design aspects of the website, as we can see at Table 4. Even though, we can find some interesting suggestions that should be considered.

"It would be helpful to have a rating part from the other readers. Book feedback would be important. A place to do reviews of the book."

Male, 25 years old, student of Portuguese and Lusophony studies, giving suggestion

A section to comment and rate the book would be also a good addition to the virtual channels and it would improve the customer's experience.

"A quiet space in a bookshop is always important, a reading space with coffee service would be pleasant."

Male, 27 years old, lawyer, giving suggestion

Although *Almedina* already provided this service, it is not a usual service for the company. This should be rethought because it is important to customers and add value to their experience.

"Normally I choose FNAC to purchase online because it has an area of usage books where the prices are way more accessible and it is good because the technical books are normally very expensive. It would be a good thing for Almedina"

Female, 27 years old, economist, giving suggestion

The last suggestion was the implementation of a new business – usage books. It is an idea that should be considered by the company.

5.2 Designing the Service

This section of the project aims the design of the service taking into account all the categories addressed before. In order to do that, we will base our work in the MSD model developed by Patricio et al. (2011).

It is important to mention that the following models represent an iteration and, as Tim Brown (2008) stated, all the project stages should be repeated more than once, in order to refine the ideas and discover new directions to take.

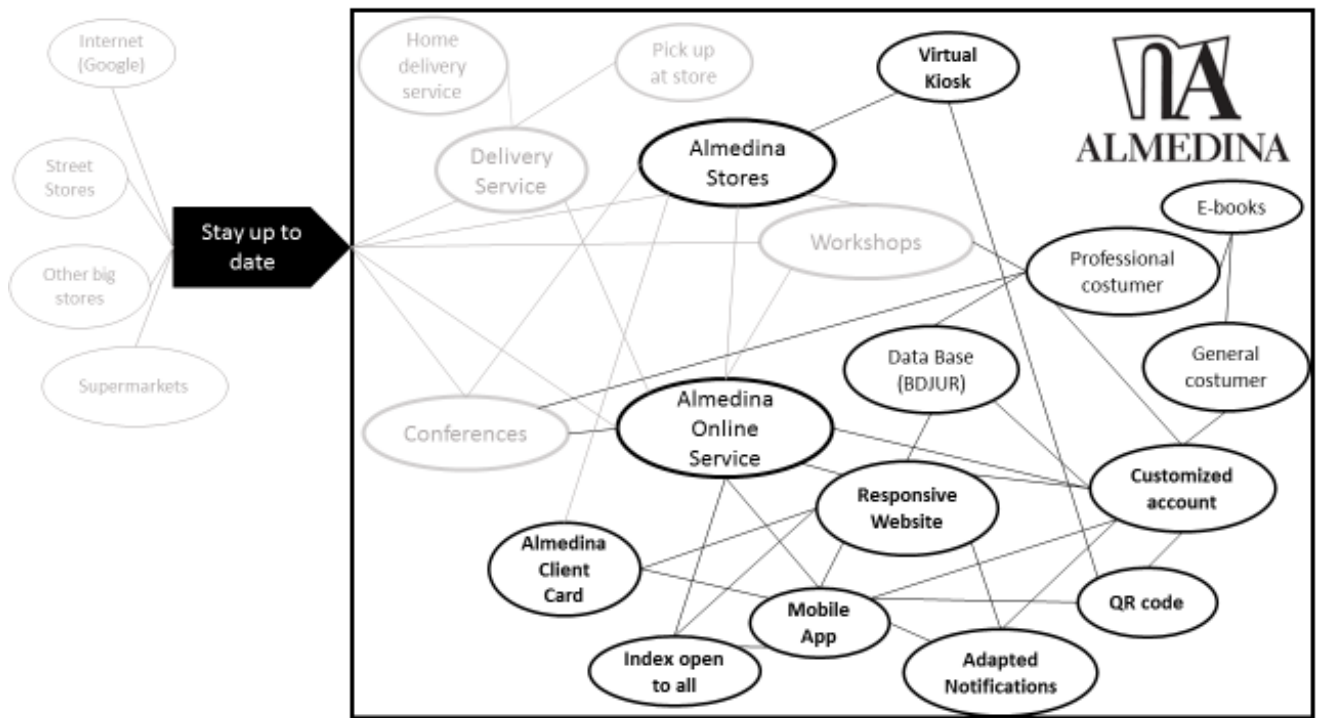The first step is the introduction of the new service concept with a To-Be CVC model (Figure 5).

Figure 5 - Customer Value Constellation (To-Be version)

The To-Be CVC present, in a schematic way and based on the results of the customer experience study, the new services presented in this project, taking in account the categories presented before. With grey colour we can find services that are part of the *Almedina* existing service concept (see Figure 4), while with black livid colours, we present the services correspondent to the new *Almedina* service concept. The links between them are also presented in the model.

Next, we present the design of the service system through the SSA and SSN models. As mentioned before, the SSA provide a view of the multi-interface offering and support processes across the service experience, while the SSN maps the alternative paths customers may take across different service encounters in the service experience.
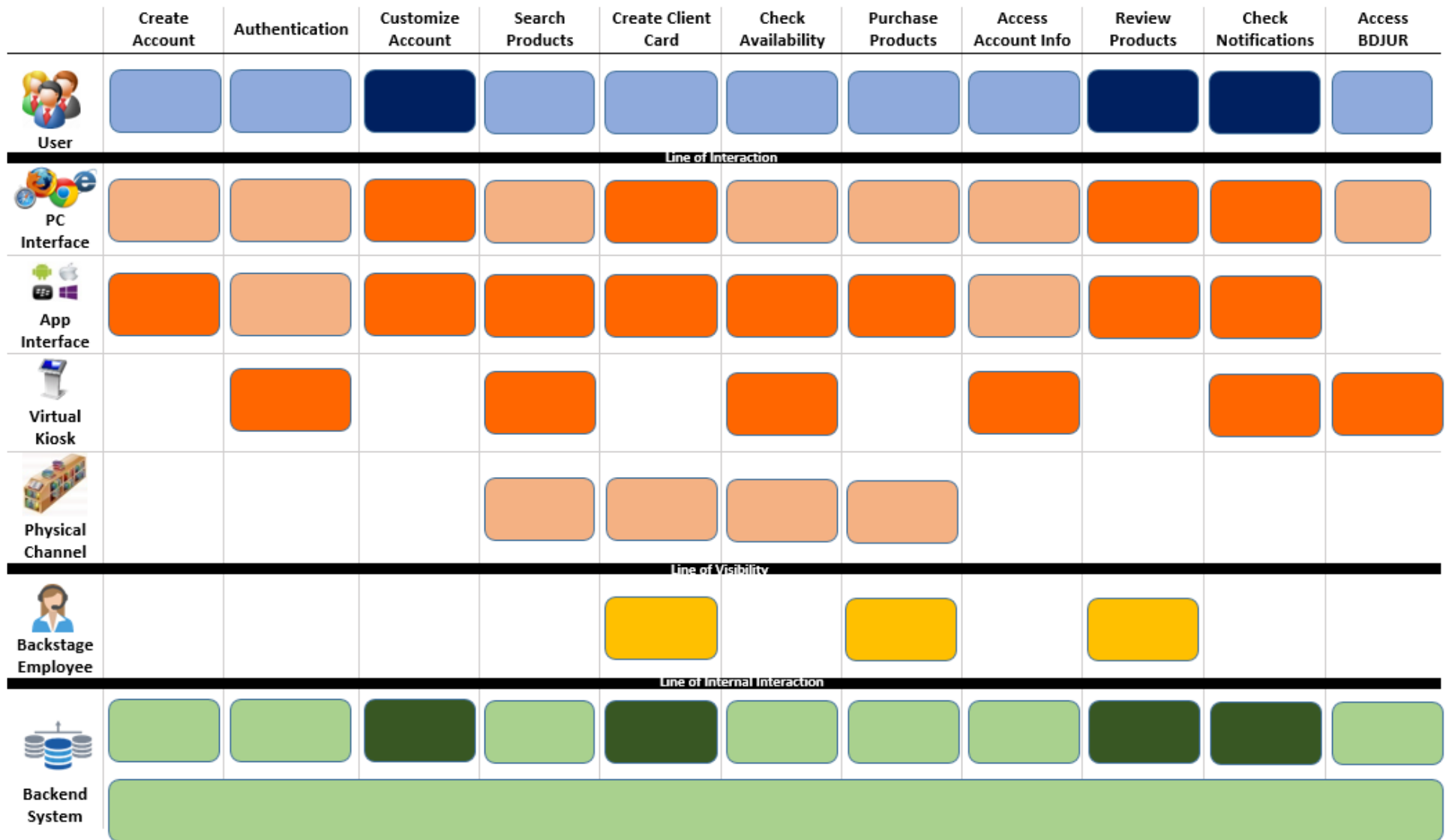
	Create Account	Authentication	Customize Account	Search Products	Create Client Card	Check Availability	Purchase Products	Access Account Info	Review Products	Check Notifications	Access BDJUR
User											
Line of Interaction											
PC Interface											
App Interface											
Virtual Kiosk											
Physical Channel											
Line of Visibility											
Backstage Employee											
Line of Internal Interaction											
Backend System											

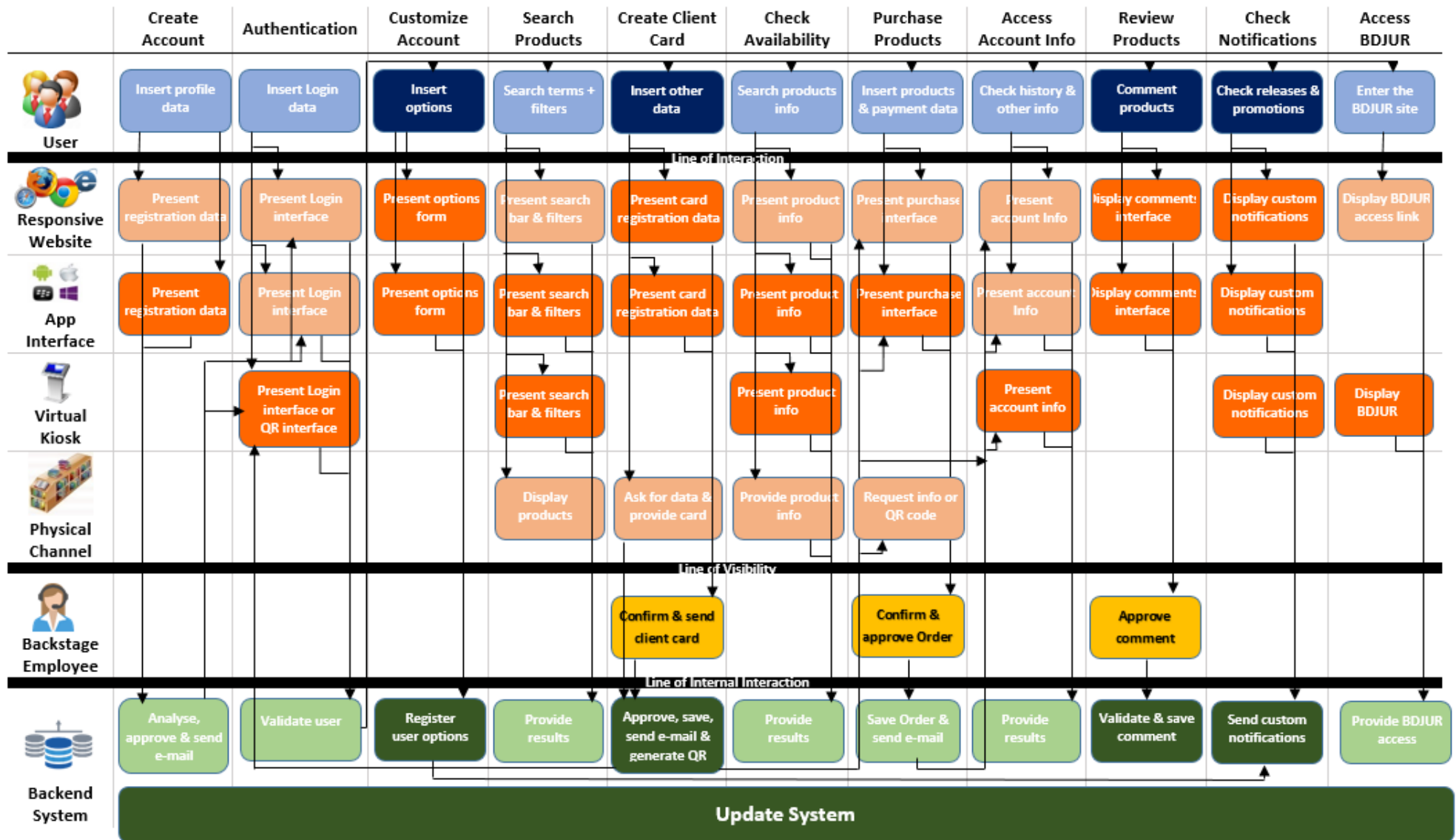**Figure 6 - Almedina Service System Architecture (To-Be)**

Figure 7 – Almedina Service System Navigation (To-Be)

As we can see, several changes were performed relating with the present SSA (see APPENDIX D). New channels, activities and processes were added, according with what was referred in the categories. The new processes are highlighted with brighter colours while the old ones have not so vivid colours. As mentioned before, the mobile version was erased giving way to a new mobile application performing the same actions as the website (excluding BDJUR). A responsive website should be created instead of the mobile version and the Virtual kiosk channel added. Concerning the activities, some new features were also taking into account: "customize account", "review products" and "check notifications". Comparing with the present service offerings, we can conclude that this new service will allow users to perform more activities between several channels, in a seamless way.

Following, we will give a brief explanation of some processes presented in the SSA and SSN (see Figure 7):

- When the user inserts the login data to authenticate the account, the system will validate the user. After this validation, the system allows the user to perform all the other activities presented in the models. Some activities (namely "create account", "search products" and "check availability") do not need authentication to be performed.

- After authentication, the user can customize the account, answering a form displayed by the interfaces and the system will register the user options. This process is connected with the feature "check notifications" because, in order to receive notifications adapted to each user, the account customization need to be performed beforehand.

- When a user creates a client card, the system will send a confirmation e-mail and generate a QR code associated to that user. That process is connected with the virtual kiosk in the sense that, from that moment on, the user can access the kiosk channel using the QR code (the code is displayed in the mobile application). In any case, the client card will be delivered to the customer. The client card or QR code will also be used during the product purchase because it provides advantages, according to each user account.

- The new activity "review products" takes place when a user inserts a comment about a book. Before the system validates and saves the comment, the backstage employee needs to approve it.

- During the interviews, several participants addressed search problems in the virtual channels. As such, the search process will be similar to the present one, but it will have more filtering options.

- The BDJUR will also be able to be accessed through Virtual kiosk, after authentication using the QR code or the authentication data.

Next, we perform the designing of the service encounter. For this, we used the Service Experience Blueprint (SEB) method (Patricio et al. 2008) and we considered the scenarios of interaction and the touchpoints illustrated in the SSN (see Figure 7). In the To-Be versions we introduced red dots to highlight the new actions. Simultaneously, we present some prototypes in order to complement the SEBs and to provide a visual perception of how the system should be presented. The SEB notation is expressed in Figure 8 and it is all based in Patrício's work. The scenarios used to design the service encounter are the following: Create account (As-Is

and To-Be versions); Purchase products (As-Is and To-Be versions); Review products; Access account in the Virtual kiosk using QR code; and Pick up at store using Mobile App.
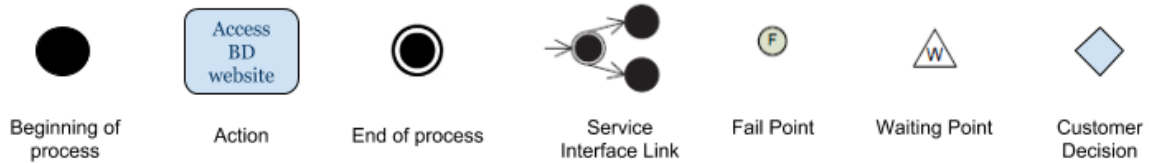

Figure 8 - SEB notation (Patricio et al. 2011)

The first scenario to be designed using SEB method is the "create account". An As-Is (Figure 9) and To-Be (Figure 10) version of this scenario were created in order to easily demonstrate the differences.
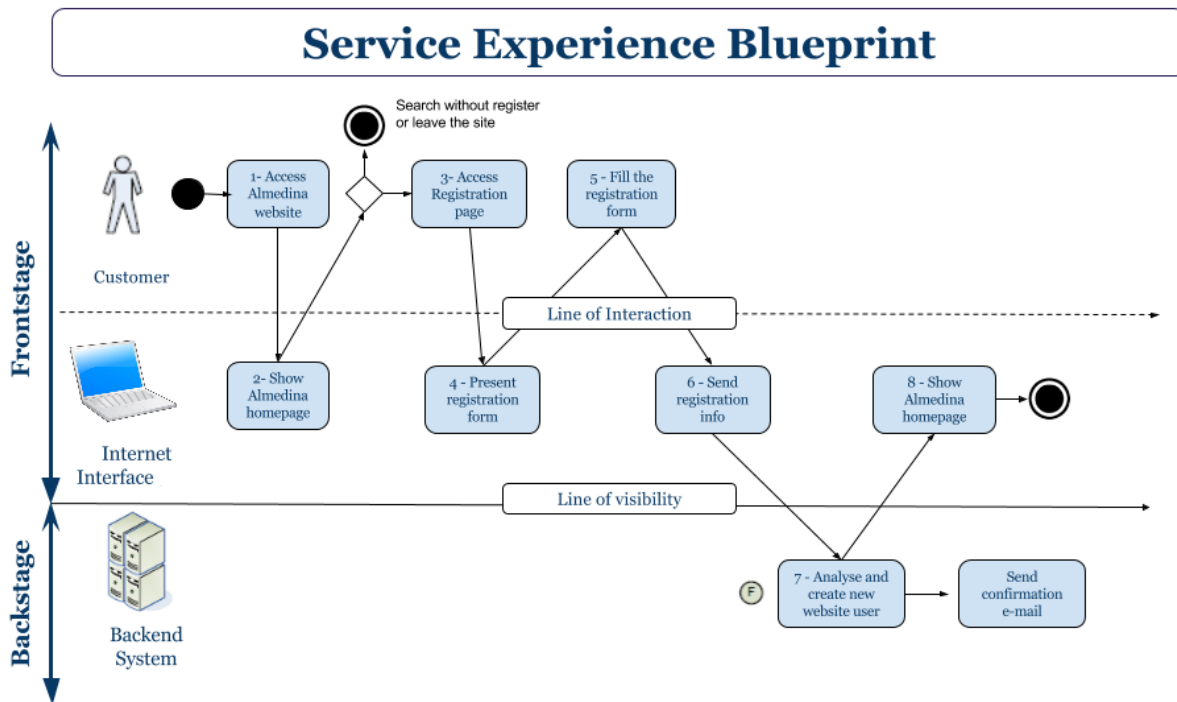

Figure 9 - SEB for create account (As-Is version)

Almedina currently perform this scenario similarly to any other retail website. As we can see, between the actions [2] and [3], users can continue using the website without register or login, but the amount of tasks they are able to perform, is very low. The fail point is related with the creation of the user in the sense that, the data introduced can incorrect or the user already exists. During the usability tests, all the participants found very easy and intuitive to create an account. Therefore, we did not change the process of register, instead we added the new feature "customized account" – as mentioned in the categories stage.
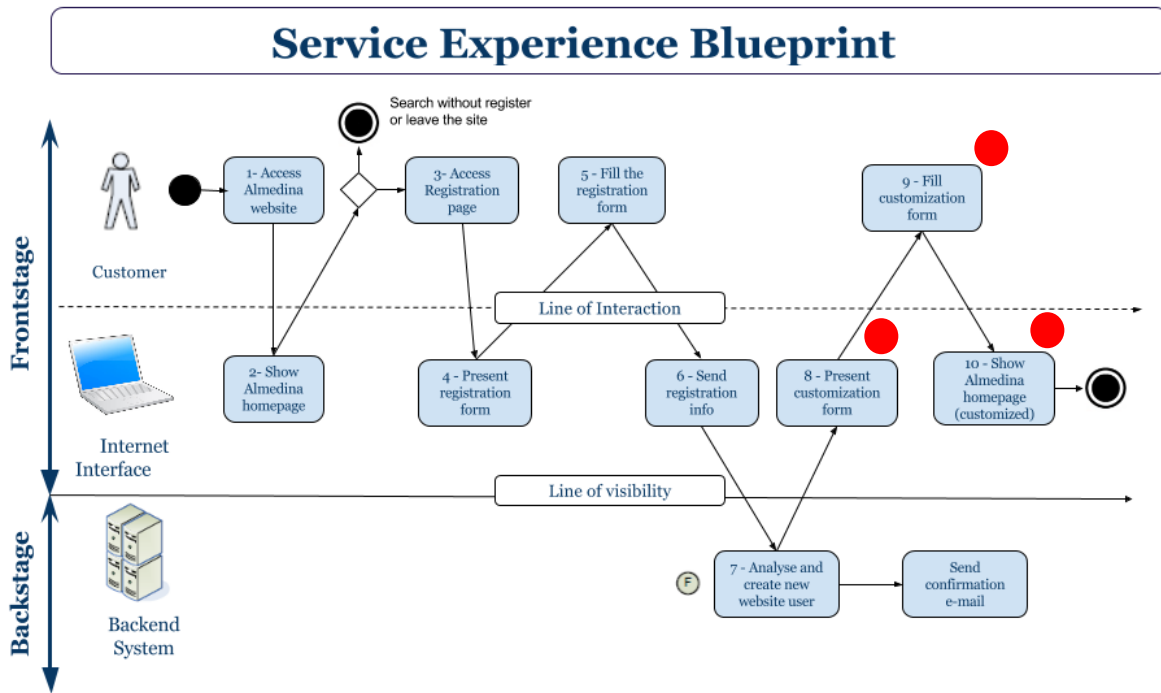
Figure 10 - SEB for create account (To-Be version)

In Figure 10, we maintain the process and add the customization form, where the user can customize the account to be adapted to their interests. In the Figure 11, we can find the prototype for an example of a page with the customization form.
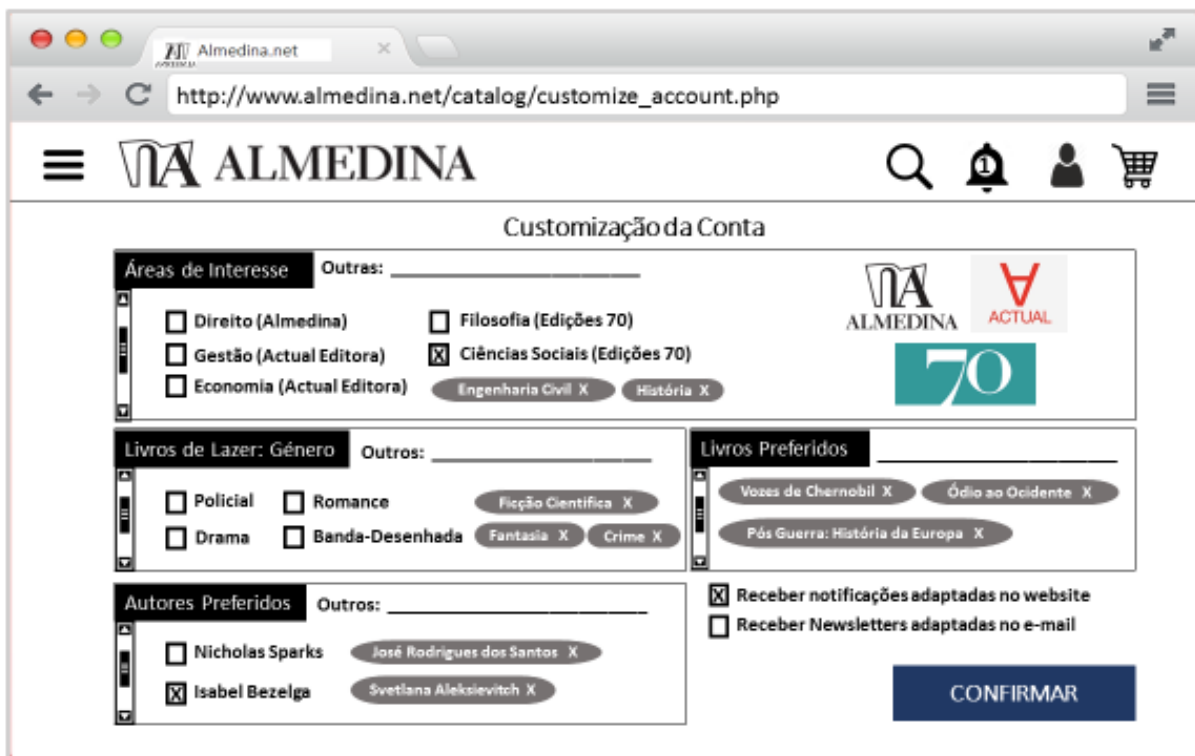

Figure 11 - Prototype of Customization form in the Website

Next, we present the process for performing the purchase of a product. In the Figure 12 we can find the As-Is version while in the Figure 13 we find the To-be version.
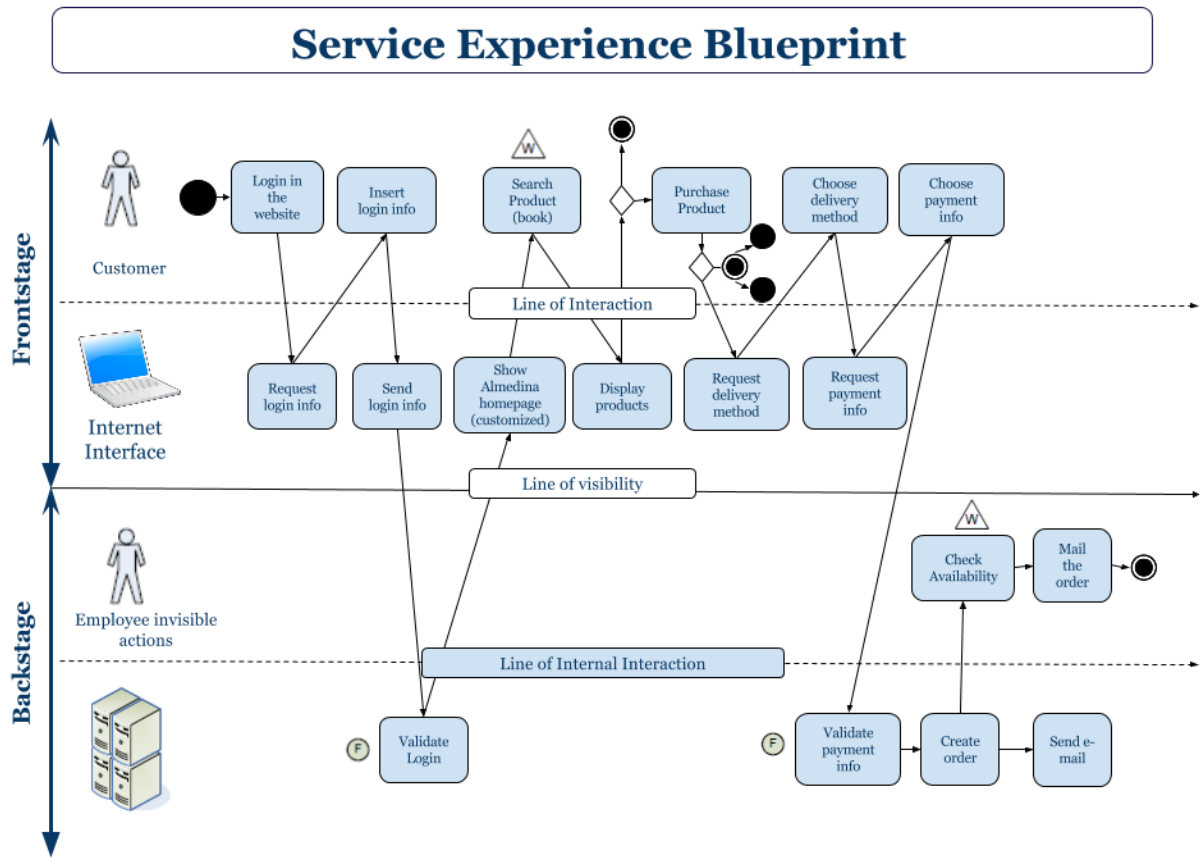

Figure 12 - SEB for Purchase a product (As-Is version)

The As-Is Blueprint is also very standard in the sense that it is similar to what happens in other websites. After the action "Display products", the process can end because the user can fail to find the desired product. As we could see in the interviews, the website has a lot of filtering issues and it is not so easy to search. This would be a problem to be reviewed by the company in the sense that the system should provide more filtering options to the search process. After the action "Purchase product", we introduced a service interface link because the user can choose to continue the typical purchase in the website or can use the "pick up at store" service. This means, the user can order the product in one store of his choice to pick it up afterwards. The fail points are related with the validation, by the system, of the introduced data. The waiting points are associated with two situations: The first, as discussed before, relates with the searching of the product and this part should be improved by *Almedina* and the second is linked with back office activities in the sense that, the delivery time will depend of the location of the product (in which store it is located) and the delivery address.
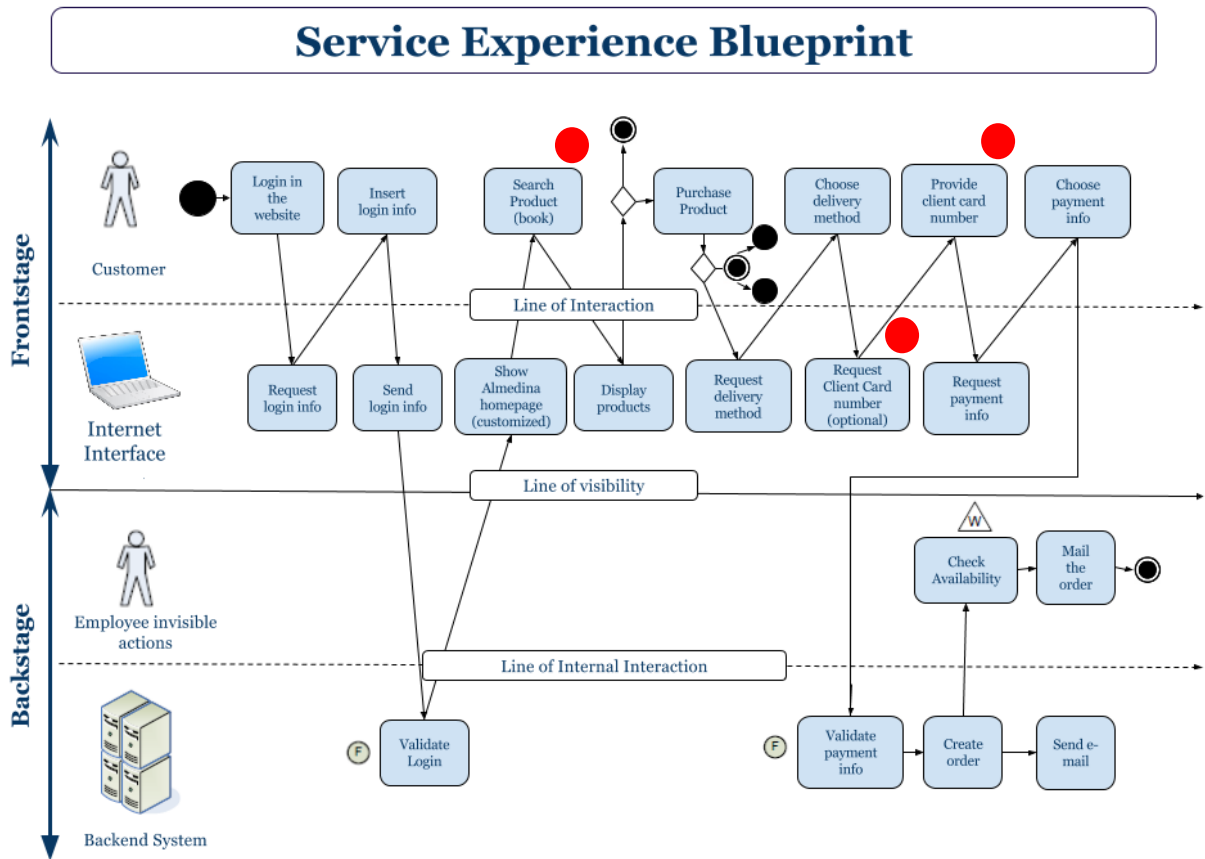
Figure 13 - SEB for Purchase a product (To-Be version)

Since most of the participants refer the purchasing process as intuitive, the changes performed in the To-Be blueprint were not vastly. The waiting point in the "search product" action was removed in the sense that, with the introduction of an improved filtering system, the search of a book will be easier. The other modification is related with the client card. As we mentioned in the categories stage, the usage of the client card should start to be online too (instead of just in physical channels as currently) and thus, the user can introduce the client card number in order to obtain the card advantages in virtual channels.

Next we present the Blueprints related with the new features mentioned in the categories: "Review products" and "Access account in the Virtual kiosk using QR code".

This blueprint is related with one of the new improvements suggested in the interviews, by some participants.

> *"In the website, they should give us the opportunity to comment the books."*

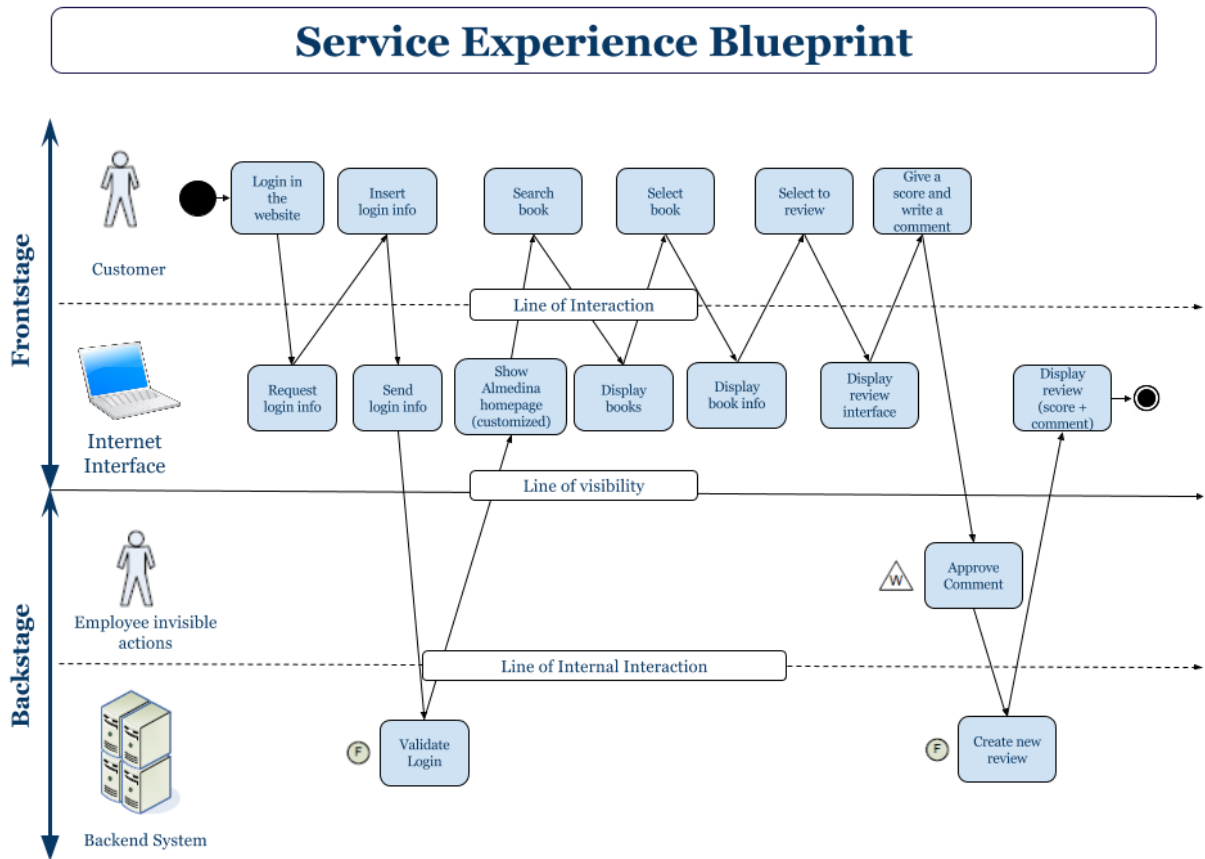Male, 22 years old, marketing student, suggesting improvements

Figure 14 - SEB for review products

As we can see in Figure 14, when the user access the book information it has the chance to introduce a review. After submit the comment, the employee needs to approve it in order to avoid unrelated or unwanted reviews. This is a waiting point in the sense that it will depend of the back office employee availability. The creation of the review will depend of the employee's approval and, thus it is a fail point if the comment is not approve. In the APPENDIX E we can see the prototype of a website page when we see the info of a product and, as we can see, in addition to the different design, it also allows the user to insert comments and review the book.

The next blueprint we present is related with the Virtual kiosk, the new channel we introduced in order to support the creation of an omnichannel experience (see Figure 15).

We propose a modification to the Patricio's (2008) work in order to adapt to our project objectives. As mentioned before, the mobile application will work as an intermediary channel. The user information can be accessed at the physical store, using the QR code displayed in the smartphone/tablet (in the mobile app) and the virtual kiosk. Therefore, we use 2 channels interact with the user and with each other (the mobile app and the virtual kiosk). We also introduced a new line between the two channels – Line of transitional action – in the sense that the information will shift from one channel to the other.
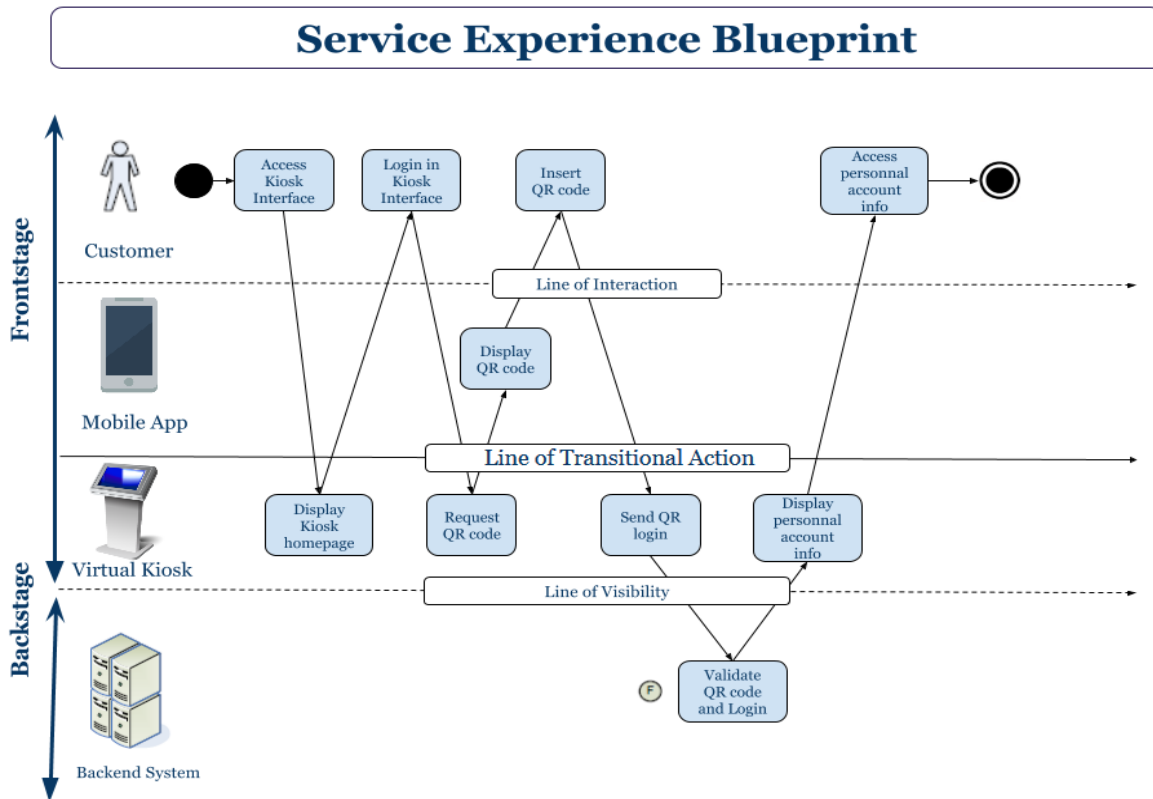
Figure 15 - SEB for Access account in the Virtual kiosk using QR code

As the blueprint shows (see Figure 15), in order to login in the virtual kiosk, the QR code is requested and introduced using the mobile app channel – that will display it. After login, the user can access the account information – for instance, to see the preferences and search in the store afterwards. In the Figure 16 we can find a simple prototype of the virtual kiosk interface, showing that the user can login with the QR code and perform other tasks (search products, access BDJUR). In the APPENDIX E, we can find another prototype related with the virtual kiosk where you can access the info of a product and find it in the store.

Figure 16 - Prototype of Virtual Kiosk Interface

Finally, the last Blueprint is also related with the new features introduced in this project: Mobile App and QR code. It shows how a user can search for a product in the virtual channel – in this case, mobile app – and purchase it at the physical store (webrooming) using the QR code displayed in the mobile. It is an easy way to perform this service and it shows how the different channels complement each other providing a seamless experience to the customer.
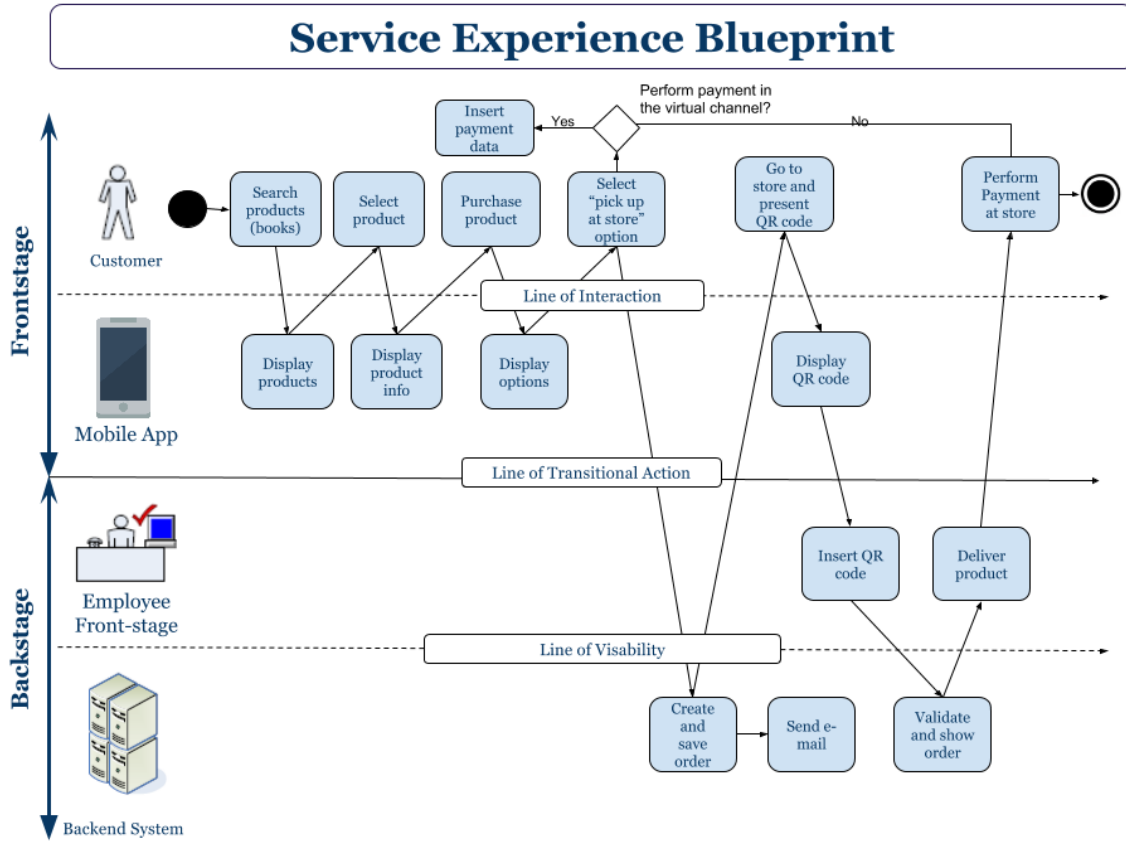

Figure 17 - SEB for "Pick up at store" service using the Mobile App

As we can see in Figure 17, the customer can use the mobile application – this can also be done using the responsive website – to search the desired product and choose the option to pick it at the store, creating a new order in the Backend system. In the store, the customer present the QR code – displayed through the mobile app – to the front-stage employee in order to read the code. The system shows the order and the employee deliver the product. The payment of the product can be completed in the virtual interface or in the physical store with the employee. In the Figure 18, we provide a prototype that shows us visually how this service should work in the mobile App. In this figure, we can also see that the client card advantages can be used online, as we mentioned before. The QR code – if you press in it - can be expanded to an easier reading by the QR reader, as we can see at APPENDIX E.

Figure 18 - Prototype of "Pick up at store" service at Mobile App

These functionalities are examples that can aid in the provision of an omnichannel experience, in the sense that they help to break the barriers between channels, allowing customers to perform several different tasks in all the channels at anytime and anywhere.

6 Project Contributions

Referring the literature review about service quality, we can argue that in the *Almedina* particular case, the physical and virtual perspective are present providing a multichannel experience to the customers. However, we want an omnichannel experience and for that, we need to integrate the both perspectives and end with the channel barriers in order to deliver a seamless experience between them. For that, we propose a set of theoretical and practical contributions.

From a theoretical perspective, first of all, the literature related with omnichannel topics is lacking and thus, this project provides an approach to deal with the challenges posed by omnichannel. We tried to adapt and integrate the service quality and customer experience literature in an omnichannel oriented approach.

The other theoretical contribution is related with the inclusion of an integrator channel. We provide an example of how to apply an omnichannel approach and this is lacking in the literature. We propose the addition of a channel that, due to their characteristics, breaks down the barriers of others. We found literature about omnichannel experience but we cannot find literature about how actually apply it and thus, we present this example of how to implement omnichannel in a book retail context. We take this into account when designing the service and our last contribution is related with this part. We suggest an adaptation of the SEB created by Patricio et al. (2008) in order to meet our new goals. To do this, we create a new version of SEB with two channels (instead of one) and a new line of interaction (line of transitional action).

In a practical perspective, we can refer three new contributions to this theme. Firstly, as we saw, the several *Almedina* channels were not integrated in the sense that the website, mobile version, mobile application and physical channel are completely distinct and perform different tasks. In this way, we decided to remove the mobile version and instead we introduced a responsive website (provide adaptation to any interface) and a more complete mobile application. Secondly, the user can now perform almost all the tasks in all the different channels. Example of this is the client card that can be created and used online, unlike what happens in the present service offering. Finally, the last contribution is related with the company segmentation. As mentioned before, *Almedina* is very focused in the juridical field but, simultaneously, is trying to reach clients from other fields. This introduces complexity to the creation of an omnichannel approach in the sense that we want to deliver a seamless experience to completely different types of customers. To fight this, we proposed the creation of a customized account where each user insert his preferences, adapting the website to his own needs. In this way, for instance, the *Almedina* homepage of a social studies student will not present products, services or publicity that are aimed to juridical area customers.

7   Conclusion and future research

For this research, we adopted a customer-centric approach where we explored the customer experience in the several channels of the company to hereinafter, improve and design new services using service design methods. The research main objective was to implement a omnichannel approach in the services provided by *Almedina*, integrating all the channels. To achieve our goals, we firstly conducted a qualitative study following a Grounded Theory methodology. The data collection and coding led us to find the important categories that would forge our research. A number of 15 participants it is satisfactory but it was not ideal for the purpose of the research. Unfortunately, due to time related issues and poor adhesion of the *Almedina* customers, we could not extend this sample, which is a limitation of this research.

The design of the new service was performed taking into account the data collected in the interviews and the categories founded. To accomplish this, we used MSD (Patricio et al. 2011) as a framework and since it is a flexible methodology, we adapted it to meet our project goals. This adaptation was focused on the SEB (Patricio et al. 2008) method.

This research shows, following a qualitative research, how we can accomplish a service design project in a omnichannel context. However, since the literature and application cases about this subject are lacking, it would be important that future research would validate this approach and continue to improve the work developed herein. Our research is just one case and it is applied in a very specific context (book retailer) so, as future research, it would be essential to see if this can be applicable in other contexts.

Despite of the work undertaken in this research, the new service should be tested. Using MSD methodology, we introduced new service systems and features and created prototypes to show it. It would be important to validate the proposed services with customers and, if necessary, perform a redesign of the service.

In conclusion, despite the limitations and the need for future work, we have met the goals of this research. The qualitative research based on Grounded Theory methods used along the project provided valuable insights in order to understand the customer experience and their needs. The MSD methods were important to design the service according with the needs and experiences collected in the previous phase.

In this project we advanced towards closing the gaps between the multichannel and omnichannel literature and approaches and we developed a real-world application with an omnichannel perspective. Even though we managed that, it is important to pursue further research in this field, including in different contexts.

References

Aksoy, L. et al., 2007. The value of different customer satisfaction and loyalty metrics in predicting customer retention, recommendation, and share-of-wallet. *Managing Service Quality: An International Journal*, 17(4), pp.361 − 384.

Almedina, BDJUR - Base de Dados Jurídica Almedina. Available at: http://bdjur.almedina.net/index.php [Accessed March 1, 2016].

ALMEDINAmais, ALMEDINAmais : Home. Available at: http://www.almedina.net/mais/ [Accessed March 1, 2016].

ATLAS.ti, Comparison of Qualitative and Quantitative Research. Available at: http://atlasti.com/quantitative-vs-qualitative-research/ [Accessed June 6, 2016].

Banerjee, M., 2014. Misalignment and Its Influence on Integration Quality in Multichannel Services. *Journal of Service Research*, 17(4), pp.460–474.

Bitner, M.J., Ostrom, A.L. & Morgan, F.N., 2008. Service Blueprinting: A PRACTICAL TECHNIQUE FOR SERVICE INNOVATION. *California Management Review*, 50(3), pp.66–94.

Boundless, 2016. The Service Economy. Available at: https://www.boundless.com/marketing/textbooks/boundless-marketing-textbook/services-marketing-6/the-importance-of-services-48/the-service-economy-241-7992/ [Accessed June 20, 2016].

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

Brown, T. & Wyatt, J., 2015. Design thinking for social innovation. *Annual Review of Policy Design*, 3(1), pp.1–10.

Buttle, F., 2009. *Customer relationship management: concepts and technologies*, Routledge.

Carroll, D. & Guzman, I., 2015. The New Omni-Channel Approach to Serving Customers. , pp.1–16. Available at: https://www.accenture.com/id-en/~/media/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Industries_2/accenture-new-omni-channel-approach-serving-customers.pdf.

Caruana, A., 2002. Service loyalty: The effects of service quality and the mediating role of customer satisfaction. *European journal of marketing*, 36(7/8), pp.811–828.

Charmaz, K., 2006. *Constructing Grounded Theory A Practical Guide Through Qualitative Analysis*,

Corbin, J. & Strauss, a, 1990. Grounded Theory Research: Procedures, Canona and Evaluative Criteria. *Zeitschrift fur Sociologie*, 19(6), pp.418–427.

Creswell, J.W., 1994. Qualitative and Quantitative Approaches.

Dave, C., 2008. *E-business and E-commerce management*, Pearson Education India.

Dubberly, H., Evenson, S. & Robinson, R., 2008. The analysis-systhesis bridge model. *Interactions*, 15(2), pp.57–61. Available at: http://portal.acm.org.www.library.gatech.edu:2048/citation.cfm?id=1340961.1340976&coll=ACM&dl=ACM&idx=J373&part=magazine&WantType=Magazines&title=interactions&CFID=3074871&CFTOKEN=70262400.

Edvardsson, B. et al., 2000. New service development and innovation in the new economy.

Fonseca, A.N., 2015. *Business 3 . 0 : E - Commerce and The Future of Retail*,

Gefen, D., 2002. Customer Loyalty in E-Commerce. *Journal of the Association for Information Systems*, 3(1), pp.27–51.

Gentile, C., Spiller, N. & Noci, G., 2007. How to Sustain the Customer Experience:. An Overview of Experience Components that Co-create Value With the Customer. *European Management Journal*, 25(5), pp.395–410.

Glaser, B., 1986. Strauss (1967): The Discovery of Grounded Theory: Strategies for Qualitative Research. *London: Wiedenfeld and Nicholson*, 81.

Glaser, B.G., 1978. *Theoretical sensitivity: Advances in the methodology of grounded theory*, Sociology Pr.

Gronoos, C., 1982. Strategic Management and Marketing in the Service Sector. *Helsingfors: Swedish School of Economics and Business Administration*.

Hansen, R., 2015. *Critical Challenges for IT and Business Alignment in Omnichannel Retailing*,

Harrison McKnight, D., Choudhury, V. & Kacmar, C., 2002. The impact of initial consumer trust on intentions to transact with a web site: A trust building model. *Journal of Strategic Information Systems*, 11(3-4), pp.297–323.

Holliday, A., 2007. *Doing & writing qualitative research*, Sage.

Kim, B., 2013. Chapter 4: Responsive Web Design, Discoverability, and Mobile Challenge. *Library Technology Reports*, 49(6), pp.29–39.

Klaus, P. `Phil¿ & Maklan, S., 2013. Towards a better measure of customer experience. *International Journal of Market Research*, 55(2), pp.227–246.

Konus, U., Verhoef, P.C. & Neslin, S.A., 2008. Multichannel Shopper Segments and Their Covariates. *Journal of Retailing*, 84(4), pp.398–413.

Kushniruk, A.W. & Patel, V.L., 2004. Cognitive and usability engineering methods for the evaluation of clinical information systems. *Journal of Biomedical Informatics*, 37(1), pp.56–76.

Lehtinen, U. & Lehtinen, J.R., 1982. *Service quality: a study of quality dimensions*, Service Management Institute.

Lewis, R.C. & Booms, B.H., 1983. The marketing aspects of service quality. *Emerging perspectives on services marketing*, 65(4), pp.99–107.

Loiacono, E.T., Watson, R.T. & Goodhue, D.L., 2000. WebQual: a web site quality instrument.

Machado, A., 2015. Almedina: uma história que começou há 60 anos - Sábado. Available at: http://www.sabado.pt/dinheiro/detalhe/almedina_uma_historia_que_comecou_em_coim bra_ha_60_anos.html [Accessed March 1, 2016].

Mager, B., 2009. Service design as an emerging field. *Designing services with innovative methods*, pp.28–42.

Marktest, Marktest.com : Estudos de Mercado, Audiências, Marketing Research, Media - Grupo Marktest. Available at: http://www.marktest.com/WAP/default.aspx [Accessed March 7, 2016].

Marshall, M.N., 1996. Sampling for qualitative research. *Family Practice*, 13(6), pp.522–525.

Meuter, M.L. et al., 2000. Self-service technologies: understanding customer satisfaction with technology-based service encounters. *Journal of marketing*, 64(3), pp.50–64.

Meyer, C. & Schwager, A., 2007. Understanding Customer Experience Understanding Customer Experience. *Harvard business review*, pp.1–12.

Moritz, S., 2005. *Service design: Practical access to an evolving field*, Lulu. com.

Myers, M.D. & Newman, M., 2007. The qualitative interview in IS research: Examining the craft. *Information and Organization*, 17(1), pp.2–26.

Neuman, W.L., 2005. *Social research methods: Quantitative and qualitative approaches*, Allyn and bacon Boston, MA.

Nielsen, J., 1994. Usability inspection methods. In *Conference companion on Human factors in computing systems*. ACM, pp. 413–414.

Normann, R. & Ramirez, R., 1993. From value chain to value constellation. *Harvard business review*, 71(4), pp.65–77.

Ostrom, a. L. et al., 2015. Service Research Priorities in a Rapidly Changing Context. *Journal of Service Research*, 18(2), pp.127–159.

Parasuraman, A., Zeithaml, V.A. & Berry, L.L., 1988. Servqual. *Journal of retailing*, 64(1), pp.12–40.

Parasuraman, A., Zeithaml, V.A. & Malhotra, A., 2005. E-S-QUAL: A Multiple-Item Scale for Assessing Electronic Service Quality. *Journal of Service Research*, 7(Feb.), pp.1–21.

Patricio, L. et al., 2011. Multilevel Service Design: From Customer Value Constellation to Service Experience Blueprinting. *Journal of Service Research*, 14(2), pp.180–200.

Patrício, L. & Fisk, R.P., 2013. Creating new services. In *Serving Customers: Global Services Marketing Perspectives*. pp. 185–207.

Patricio, L., Fisk, R.P. & Cunha, J.F. e, 2008. Designing Multi-Interface Service Experiences: The Service Experience Blueprint. *Journal of Service Research*, 10(4), pp.318–334.

Portela, J., 2009. *relatório de estágio em edição nas edições almedina*.

Rabinovich, E. & Bailey, J.P., 2004. Physical distribution service quality in Internet retailing: Service pricing, transaction attributes, and firm attributes. *Journal of Operations Management*, 21(6), pp.651–672.

Rossi, B., 2014. Retailers struggle to meet omnichannel expectations. Available at: http://www.information-age.com/it-management/strategy-and-innovation/123457982/retailers-struggle-meet-omnichannel-expectations.

Saco, R.M. & Goncalves, A.P., 2008. Service Design: An Appraisal. *Design Management Review*, 19(1), pp.10–19. Available at: http://doi.wiley.com/10.1111/j.1948-7169.2008.tb00101.x.

Saffer, D., 2010. *Designing for interaction: creating innovative applications and devices*, New Riders.

Sasser, W.E., Olsen, R.P. & Wyckoff, D.D., 1978. *Management of service operations: Text, cases, and readings*, Allyn & Bacon.

Shaw, N.G. & Craighead, C.W., 2003. Technology enablers to recover from failures in e-services. *Communications of the ACM*, 46(6), p.56.

Shostack, G., 1984. Designing services that deliver. *Harvard Business Review*, pp.39–133.

Siegel, J. et al., 2008. Legitimizing SSME in Academia: Critical Considerations and Essential Actions. In pp. 3–9. Available at: http://link.springer.com/10.1007/978-0-387-76578-5_1 [Accessed June 20, 2016].

Sousa, R. et al., 2016. Multi-channel deployment: a methodology for the design of multi-channel service processes. *Production Planning & Control*, 27(4), pp.312–327. Available at: http://www.tandfonline.com/doi/full/10.1080/09537287.2015.1125031.

Sousa, R. & Voss, C.A., 2006. Service Quality in Multichannel Services Employing Virtual Channels. *Journal of Service Research*, 8(4), pp.356–371.

Stickdorn, M. & Schneider, J., 2010. This is Design Thinking.

Strauss, A. & Corbin, J., 1994. Grounded theory methodology. *Handbook of qualitative research*, pp.273–285. Available at: http://cms.educ.ttu.edu/uploadedFiles/personnel-folder/lee-duemer/epsy-5382/documents/Grounded theory methodology.pdf" onmousedown="return scife_clk(this.href,'gga','gga','2').

Szymanski, D.M. & Hise, R.T., 2000. E-satisfaction: an initial examination. *Journal of Retailing*, 76(3), pp.309–322.

Teixeira, J. et al., 2012. Customer experience modeling: from customer experience to service design. *Journal of Service Management*, 23(3), pp.362–376.

Teixeira, J., 2010. *Understanding the Customer Experience for Service Design*.

Ulwick, A.W., 2002. Turn customer input into innovation. *Harvard Business Review*, 80(1), pp.91–97.

Urban, G.L., Sultan, F. & Qualls, W.J., 2000. Placing trust at the center of your Internet strategy. *MIT Sloan Management Review*, 42(1), p.39.

Verhoef, P.C., Kannan, P.K. & Inman, J.J., 2015. From Multi-Channel Retailing to Omni-Channel Retailing. Introduction to the Special Issue on Multi-Channel Retailing. *Journal of Retailing*, 91(2), pp.174–181.

Vidgen, R. & Barnes, S., 2002. An integrative approach to the assessment of e-commerce quality. *Journal of Electronic Commerce Research*, 3(2), pp.114–127.

Wave, D., 2010. QR code features. *QR Code. com*.

Wolfinbarger, M. & Gilly, M.C., 2003. eTailQ: Dimensionalizing, measuring and predicting etail quality. *Journal of Retailing*, 79(3), pp.183–198.

Xu, Y. et al., 2002. Adopting customer relationship management technology. *Industrial management & data systems*, 102(8), pp.442–452.

Zeithaml, V.A., Parasuraman, A. & Malhotra, A., 2000. Conceptual Framework for understanding e-service quality: Implications for future research and managerial practice.

Zeithaml, V.A., Parasuraman, A. & Malhotra, A., 2002. Service quality delivery through web sites: a critical review of extant knowledge. *Journal of the academy of marketing science*, 30(4), pp.362–375.

Zhang, X. & Prybutok, V.R., 2005. A Consumer Perspective of E-Service Quality. *IEEE Transactions on Engineering Management*, 52(4), pp.461–477. Available at: http://ieeexplore.ieee.org/lpdocs/epic03/wrapper.htm?arnumber=1522699.

Zomerdijk, L.G. & Voss, C.A., 2010. Service design for experience-centric services. *Journal of Service Research*, 13(1), pp.67–82.

APPENDIX A: Interview to customers

1. Can you tell me your age, occupation and academic education?

2. What kind of books you usually buy?
   - Gender
   - Almedina or other stores? Why Almedina or why the other stores?

3. What it is important to you during the act of buying a book in a physical store?
   - Environment? Assistance?
   - The online stores can provide a similar experience or some of the features refered before?

4. What would make you to use an online store rather than the physical store?

5. Do you use Internet/online stores to make your purchases of books?
   - Why? Do you prefer the physical stores or online stores?
   - In which stores? Why in those ones?
   - Do you use or ever used the Almedina online store?
   - Do you buy E-books? You think it is easy the process?

6. Do you feel difficulties in the use of online stores?
   - If yes, in which way?
   - Do you have complains or problems to refer?
   - Specify Almedina store

7. What do you think of the logistics service and Almedina help desk?
   - Have you ever use it?
   - Did you already had any problems?

8. Do you use your phone to make online purchases?
   - Versão Mobile?
   - Have you ever used to buy books? In which store?
   - What is your opinion regarding the mobile versions? Easier than the site?
   - Specify Almedina

9. Do you use your mobile Apps to make online purchases?
   - If yes, which stores?
   - Why not?
   - Do you think it can be an advantage? Would you use it?
   - Specify Almedina

10. Refer suggested ideas and try to get feedback

11. Do you know the publiser Almedina?
    - Do you know "Edições 70" and "Actual Editora"? Did you know that those companies belong to Almedina group?
    - When you use the online store, do you feel those a stronger focus of those brands?

12. What is your opinion regarding the online store Almedina?
    - Positive and negative aspects.
    - Frequency of use
    - sufficient and clear information?
    - Ease to use and search?
    - Do you prefer other store? Why?
    - Suggestions?

13. Do you know the other services that Almedina provides? (conferences, workshops, BDJUR)
    - Which ones? How do you know them? Because of the online store? Is it easy to find?
    - Opinion about the location in the online store.

14. Do you receive advertising from Almedina?
    - If not, would you like to receive?
    - Which channels?
    - It is suitable for you?

APPENDIX B: Usability Test performed to some customers

The participants were asked to perform the following tasks, supported by the Almedina online bookshop:

1. Find information about the products delivery time.
2. Register in the website.
3. Search for the book "Vozes de Chernobyl". If you do not know how to write, you can just use the Almedina website.
4. Search for the best-selling book in criminal law field.
5. Purchase the book.
6. Purchase the magazine "Revista Anatomia do Crime".

The participants were asked to perform the following tasks, supported by the Almedina online bookshop mobile version:

1. Search the book "Vozes de Chernobyl".
2. Search the most best-selling book in the criminal law field.
3. Find a physical location to purchase the book
4. Buy the book online

Post study:

1. Ask for comments about the website and mobile version.
2. Ask for recommendations for the website and mobile version.

APPENDIX C: Informed Consent

Consentimento Informado

Eu, _____ aceito participar de livre vontade no estuda da autoria do aluno Diogo Cardoso, orientado pelo professor Jorge Teixeira, no âmbito do protocolo de colaboração para o projeto "Restruturação de uma loja online – perspetiva omnicanal" estabelecido entre a Faculdade de Engenharia da Universidade do Porto e o Grupo Almedina.

Este estudo tem como principal objetivo a realização de um diagnóstico à loja online da Almedina, sob o ponto de vista da organização da plataforma e processos, para que haja coerência entre todos os restantes canais do grupo Almedina.

Foram-me explicados e compreendo os objetivos principais deste estudo que constam do protocolo de consentimento informado anteriormente assinado por mim. Entendi e aceito responder a uma entrevista que explora questões acerca dos meus hábitos de compra de livros e da minha experiência com a Almedina.

Compreendo que a minha participação neste estudo é voluntária, podendo desistir a qualquer momento, sem que essa decisão se reflita em qualquer prejuízo para mim.

Permito que a entrevista seja gravada de forma a poder ser referenciada no processo em estudo, podendo revogar a permissão a qualquer momento.

Entendo que a informação recolhida neste estudo é estritamente confidencial e será apenas utilizada no âmbito do mesmo. Entendo, ainda, que a minha identidade nunca será revelada em qualquer relatório ou publicação, ou a qualquer pessoa não relacionada diretamente com este estudo, a menos que eu o autorize por escrito.

Assinatura do investigador: _____ Data: _____ / _____ / _____

Assinatura do entrevistado: _____ Data: _____ / _____ / _____

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APPENDIX D: Service System Architecture (As-Is Version)

	Create Account	Authentication	Search Products	Purchase Products	Check Availability	Access BDJUR	Access Account Info	Create Client Card
User	■	■	■	■	■	■	■	■
Line of Interaction								
PC Interface	■	■	■	■	■	■	■	
Mobile Version			■		■			
App Interface		■					■	
Physical Channel			■	■	■			■
Line of Visibility								
Backstage Employee				■				
Line of Internal Interaction								
Backend System	■	■	■	■	■	■	■	■

APPENDIX E: Other Prototypes