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SHOPPING ACROSS CHANNELS:

THE ROLE OF NEED FOR TOUCH

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This thesis is dedicated to my parents, always on my back! You are the source of my passion and determination and I will never stop thanking you for what you do for me every day.

I would also like to dedicate this thesis to my sister, my muse and my everything. I am lucky to have you!

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CONTENTS

ACKNOWLEDGEMENTS	II
CONTENTS	III
ABSTRACT - Italiano	1
ABSTRACT - English	3
1. INTRODUCTION	5
2. THE DIGITAL REVOLUTION	11
2.1 THE SPREAD OF THE INTERNET	11
2.2 THE EUROPEAN CONTEXT	14
2.3 THE SPREAD OF SMARTPHONES	17
2.3.1 THE IMPACT OF THE SMARTPHONE IN THE MARKETPLACE.....	20
2.3.2 WHO ARE SMARTPHONE USERS?	21
2.3.3 THE SMARTPHONERS: AN EMPIRICAL ANALYSIS	22
2.4 CONCLUSIONS	28
3. ONLINE CHANNELS IN MULTIPLE PERSPECTIVES	29
3.1 DISTINCTION BETWEEN CHANNELS AND DEVICES.....	29
3.2 ELECTRONIC vs MOBILE CHANNELS	32
3.2.1 THE ELECTRONIC CHANNEL	34
3.2.2 THE MOBILE CHANNEL	35
4. MULTICHANNEL RETAILING	39
4.1 SHOPPING THROUGH CHANNELS: CHANNEL MIGRATION	42
4.2 MULTICHANNEL vs OMNICHANNEL	43
4.3 GROCERY SHOPPING IN MULTIPLE CHANNELS	45
4.4 ADVANTAGES AND DISADVANTAGES OF A MULTIPLE CHANNEL STRATEGY.....	50
5. LITERATURE GAPS AND RESEARCH QUESTIONS	56

5.1	DIFFERENCES BETWEEN ELECTRONIC AND MOBILE COMMERCE	56
5.2	THE GROCERY MULTICHANNEL RETAILING	57
5.3	ANTECEDENTS OF CHANNEL CHOICE.....	58
5.4	THE MODERATING ROLE OF THE HAPTIC TRAIT	59
6.	THEORETICAL FRAMEWORK.....	62
6.1	REFERENCE THEORY	62
6.2	THEORETICAL BACKGROUND.....	65
6.2.1	CUSTOMERS' ENGAGEMENT AND CHANNEL STICKINESS.....	66
6.3	RESEARCH HYPOTHESES AND STRUCTURAL MODEL.....	69
6.4	THE MODERATING ROLE OF THE CONSUMER PERSONALITY TRAITS: NEED-FOR-TOUCH (NFT)	80
7.	EMPIRICAL ANALYSES.....	84
7.1	METHODOLOGY	84
7.1.1	STRUCTURAL EQUATION MODELS (SEM).....	84
7.1.2	STUDY DESIGN	87
7.1.3	SCALE MEASUREMENT	87
7.2	PILOT TEST.....	90
7.2.1	ANALYSIS OF THE SAMPLE.....	90
7.2.2	SCALE VALIDITY	91
7.3	MAIN STUDY	92
7.3.1	DATA COLLECTION.....	92
7.3.2	CHECK OF THE VALID QUESTIONNAIRES.....	93
7.3.3	ANALYSIS OF THE SAMPLE.....	94
7.3.4	SAMPLE'S GROCERY SHOPPING HABITS.....	95
7.3.5	MOBILE SHOPPING	96
7.4	MODEL IDENTIFICATION	97
7.4.1	EXPLORATORY FACTOR ANALYSIS	97
7.4.2	CONFIRMATORY FACTOR ANALYSIS.....	99

8.	THE STRUCTURAL ANALYSES	102
8.1	THE MOBILE GROCERY MODEL	102
8.2	THE WEB GROCERY MODEL	104
8.3	THE STORE GROCERY MODEL.....	105
8.3.1	THE RELATIONSHIP BETWEEN CHANNEL ENGAGEMENT AND CHANNEL STICKINESS	107
8.3.2	THE MEDIATING ROLE OF SHOPPING ENJOYMENT AND SHOPPING CONVENIENCE	107
8.4	THE MULTIGROUP ANALYSIS.....	109
8.4.1	METRIC INVARIANCE	109
8.4.2	CHANNELS DIFFERENCES	112
8.5	THE MODERATING EFFECT OF CONSUMERS’ NEED FOR TOUCH	113
9.	CONCLUSIONS AND IMPLICATIONS	120
	REFERENCES	126
	APPENDIX A.....	144
	METHODOLOGY SMARTPHONERS SEGMENTATION	144
	MEASURES CORRELATIONS.....	146
	CHANNEL ENVIRONMENT	146
	SHOPPING ENJOYMENT	146
	SHOPPING CONVENIENCE.....	147
	CHANNEL ENGAGEMENT	147
	CHANNEL STICKINESS	147
	EFA – Factor Analysis.....	148
	HAPTIC TRAIT ANALYSES	149
	KOLMOGOROV-SMIRNOV TESTS	149
	HAPTIC FREQUENCIES IN THE OVERALL SAMPLE.....	149
	KRUSCAL-WALLIS TEST FOR HAPA IN INDIPENDENT GROUPS	150
	KRUSCAL-WALLIS TEST FOR HAPI IN INDIPENDENT GROUPS	151

MANN-WHITNEY U TEST FOR INDIPENDENT SAMPLES – MOBILE CHANNEL.....	152
MANN-WHITNEY U TEST FOR INDIPENDENT SAMPLES – WEB CHANNEL	152
MANN-WHITNEY U TEST FOR INDIPENDENT SAMPLES – PHYSICAL CHANNEL.....	154
APPENDIX B.....	156
ONLINE QUESTIONNAIRE	156

ABSTRACT - Italiano

Lo sviluppo delle nuove tecnologie sta rivoluzionando il modo in cui i consumatori interagiscono, ricercano informazioni e acquistano prodotti e servizi. Uno studio, indipendente dal tema principale di questa tesi, è presentato nella seconda sezione della stessa, per sottolineare come l'utilizzo dello smartphone da parte delle persone, stia mettendo in luce l'esistenza di un differente target di utilizzatori che richiedono un'offerta customizzata per essere soddisfatti. Di conseguenza, questa tesi di ricerca si focalizza sulla comprensione di come la digitalizzazione stia influenzando la vita dei consumatori e quale impatto questo fenomeno abbia sulla gestione dei retailers che intendono operare su più canali distributivi. Infatti, in linea con la recente letteratura sulla distribuzione, il mercato attuale e le sue dinamiche competitive sono fortemente influenzati dallo sviluppo dei canali di vendita online. In questa prospettiva questo lavoro di ricerca, basandosi sulla letteratura del comportamento di consumo e su quella distributiva, si propone di indentificare il processo d'acquisto del consumatore in un contesto di vendita omnicanale basato sia sul canale fisico che sui canali online, specificatamente: fisico, elettronico e mobile.

La tesi presenta un'analisi teorica ed empirica sul comportamento d'acquisto attraverso più canali di vendita. Nello specifico uno degli scopi della tesi è mettere in luce le differenze tra i canali online, evidenziando che i consumatori acquistano in maniera differente nel canale elettronico e in quello mobile. In secondo luogo, vorremmo dimostrare che i canali online possono rappresentare un'alternativa al canale fisico, sebbene con alcuni limiti, in quanto sono costantemente accessibili dai consumatori e sono caratterizzati dalla convenienza. Di conseguenza, anche nel contesto dell'acquisto di prodotti alimentari, i distributori possono offrire ai loro consumatori un'esperienza d'acquisto integrata attraverso più canali. Inoltre, in questo studio analizziamo come la propensione dei consumatori al contatto tattile dei prodotti possa influenzare la loro intenzione ad acquistare online prodotti grocery. Infatti, l'assenza di un'esperienza d'acquisto che stimoli i sensi è uno dei principali limiti per la vendita online dei prodotti alimentari.

Un questionario strutturato, precedentemente testato su un campione di 55 rispondenti, è stato sviluppato e usato su un panel di 935 acquirenti grocery inglesi per verificare le domande di ricerca e le ipotesi poste nella tesi. I risultati dimostrano che:

1. L'acquisto di prodotti alimentari non è più solamente legato al canale fisico in quanto sono stati individuati nuovi gruppi di acquirenti grocery online.

2. Il canale elettronico e il canale mobile possono essere considerati come due canali indipendenti.
3. Il canale mobile soddisfa la propensione personale dei consumatori al tatto e può essere considerato una coerente alternativa al canale fisico per l'acquisto di prodotti alimentari.

I risultati portano a chiare implicazioni per i distributori multicanale: oggi, i distributori alimentari possono proporre ai loro clienti un'esperienza d'acquisto integrata attraverso più canali, quindi anche online.

Parole chiave: Acquisto attraverso i canali; Comportamento di consumo; Elettronico vs mobile; Propensione al tatto; Modelli di equazioni strutturali.

ABSTRACT - English

The spread of digital technologies and of the internet is reshaping the way in which consumers interact, as well as search for information and buy products and services. A study, independent from the main theme of the thesis, is presented in the second section, in order to highlight people usage of smartphones, evidencing the existence of different targets of users that need a customized offer to be satisfied. Accordingly, this research thesis focuses in understanding how digitalization is influencing consumers' lives and which impact this phenomenon has on retailers' management of multiple retailing channels. In fact, in agreement with the recent retailing literature, the actual marketplace and its competitive dynamics are increasingly affected by the spread of online retailing channels. In this perspective, this research work is grounded in the consumer behaviour and retailing literatures and aims to identify the consumer shopping process in an omnichannel retailing context based on both physical and digital channels, namely: physical, electronic and mobile.

The thesis presents a theoretical and empirical analysis on consumers' shopping behaviour across multiple retailing channels. Specifically, one of the aims of the thesis is shed the light on differences between online channels, evidencing that consumers buy in electronic and mobile channel differently. Second, we would to prove that, although with some limitations, the online channels could represent an alternative to the physical channel, considering that they are constantly accessible by consumers and are characterized by convenience. In this agreement, also in the context of grocery shopping, retailers can offer to their customers an integrated shopping experience across multiple channels. Furthermore, in this study we investigate how consumers' personal proclivity for touch may influence their intention to buy groceries online. In fact, the absence of a sensorial shopping experience is one of the main limit for sale groceries online.

A structured questionnaire, pre-tested on a pilot sample of 55 respondents, was developed and used on a panel of 935 British grocery shoppers to assess proposed research questions and hypotheses. Results show that:

1. The grocery shopping is no longer linked to the physical channel as new groups of online grocery shoppers are identified.
2. Electronic and mobile channels can be considered as two independent channels.

3. The mobile channel suits consumers' personal proclivity for touch and can be considered a consistent alternative to the physical channel for grocery shopping.

Results have clear implications for omnichannel retailers: nowadays, grocery retailers could propose to their customers an integrated shopping experience across multiple channels, included online ones.

Keywords: Shopping across channels; Consumer behaviour; Electronic vs mobile; Need for touch; Structural equation models.

1. INTRODUCTION

The tremendous development testified by Information and Communication Technology (ICT) during the last 30 years has redesigned not only the society and ways in which people stay in contact and share opinions and rewards, but also, consumers shopping behaviour. The underpinning of these changes are mainly rooted in the spread of the internet (Zinkhan and Watson, 1998). The spread of the internet is strongly related with the development and diffusion of technological devices that allow its access. Among others, the cell phone is becoming the most disruptive technology of the last century. In fact, due to the unusual innovations that augmented the original functions of cell phones with new capabilities and facilities enhanced with the spread of the wireless connectivity (Zheng and Ni, 2006), the cell phone has recently become the smartphone. These implementations brought a revolution in lifestyles, changing people's live, work and learning (Hamka et al., 2014) to the point that, nowadays, almost one over three people worldwide owns a smartphone (Statista.com, 2016a), and use it daily (De Canio and Pellegrini, 2015). The smartphone is an instrument that can change people's routines in many ways. Among others, it is acting on the way people communicate, interact and shop. Thus, starting from the analysis of the spread of mobile devices and their evolution to suit consumers' needs, we take into consideration two of the main aspects of consumers' daily activities: social interaction and grocery shopping. In fact, mobile technologies are creating opportunities for companies that can exploit their relationship with final consumers using a constant and direct access to the user life through his/her mobile device.

Accordingly, due to the growing importance of the smartphone in people's lives and in companies' strategies, in the next section, a study, independent from the main theme of the thesis, is presented in order to highlight how people are even more under the effect of new technologies. In the empirical analysis, a sample of 264 current Italian smartphone users was collected asking them to rate ten main functionalities identified in the smartphone usage literature. A web-based questionnaire, posted on Facebook over a period of two weeks in May 2015, was used to collect data. Results of the empirical analysis presented on chapter 2.3.3 confirm the growing usage of smartphones in our society, and show the existence of five groups of smartphone users. Findings show that a part of the population clearly evidences a negative response to the smartphone usage (*e.g.* Unfriendly and Utility users) although it continues to use the mobile device. For these users the usage of the

smartphone is considered as a condition imposed by the technologized society rather than a personal choice. Moreover, results highlight the spread of two groups of users, namely Supersmartphoners and Gamers, that probably due to their young age, show an intense usage of the handheld device. In both cases, implications for operators in digital context are relevant in proposing a device, as well as mobile applications that suit consumers' needs based on their usage characteristics. Nevertheless, results of this study could be important also in the context of the omnichannel retailing in which this thesis settles. In fact, understand how consumers use their smartphone could help retailers to manage their omnichannel offer developing mobile apps able to encounter consumers' needs.

In fact, the importance of ICT is growing also in the retailing literature. Due to the development of online channels (*i.e.* electronic and mobile), which are offering an alternative shopping context to the physical channel, many scholars are increasingly studying the retailing dynamics also from a digital perspective. However, even in the presence of a substantial literature on the influence of ICT on the shopping process, many scholars in both ICT and consumer behaviour (CB), emphasise the existence of significant gaps in the understanding of digital shopping (Lim, 2015; Lim and Ting, 2012). Furthermore, even if a growing number of scholars start to study the effect of mobile devices on lifestyle, the recent spread of the mobile device due to the continue evolution of technologies, calls for more studies. Thus, this thesis contributes to the ICT and CB literature by investigating how consumers shop across multiple channels, namely: physical, electronic and mobile.

The correct management of multiple retailing channels allows retailers to obtain higher revenues (Kumar and Venkatesan, 2005) and profitability (Kushwaha and Shankar, 2013), as well as a higher customer loyalty (Ansari, Mela and Neslin, 2008; Zhang and Wedel, 2004). Moreover, retailers that operate in multiple channels can provide a better customer service (Kuan and Bock, 2007), extending their service level (Alba et al., 1997). Furthermore, the opportunity to manage multiple channels enables retailers to integrate data among channels and coordinate strategies across channels (Neslin et al., 2006). When retailers manage multiple channels in an integrated way, they are adopting an omnichannel strategy (Rigby, 2011). Accordingly, it is important for retailers understand what the main aspects that influence consumers' migration across channels are, in order to propose an offer coherent with the channel's characteristics.

Nevertheless, to our best knowledge, in the literature it is not clear which are the main aspects that consumers evaluate in channel choice. Consequently, the main question this

research project aims to disclose is as follow: which main drivers are influencing the consumer purchasing channels?

With a focus on aspects such as channels design and usability, emotions enhanced by channel usage and the convenience related to shop in a specific channel, we theoretically and empirically would to demonstrate how the influence of those aspects change across channels in determining consumers engagement with the channel and their intention to continue to use the channel, as means to stick to the channel.

Taking in consideration the British grocery market as it represents the most developed and novel grocery market in the EU, we aim to highlight the increasing shopping of groceries in online channels. In fact, as found in the literature, in the UK, nowadays, the online grocery shopping is becoming the norm (Dawes and Nenycz-Thiel, 2014). In fact, many retailers - such as Tesco, Sainsbury's and Waitrose, as well as Morrisons and Asda, among others - are managing in an integrated way the online and the offline channels, acting today as bricks and clicks retailers, increasing the competition with their online rivals (*e.g.* Ocado and Amazon) (O'Hare, 2016). Thus, we consider the British grocery market a good research field to investigate consumer's grocery shopping across multiple channels.

Eventually, as one of the main limitations that the literature pointed out for the online grocery shopping is the perishable nature of products and the absence of a sensory shopping experience that helps consumers in getting information about the product they are going to buy (Levy, Weitz and Grewal, 2013; Levin, Levin and Weller, 2005; Dholakia, Zhao and Dholakia, 2005; Citrin et al., 2003) we investigate the effect of the need for touch across channels.

Research methodology consists in a Multi-group Covariance Based Structural Equation Model (CB-SEM) on an online survey conducted on panel of 935 British grocery shoppers. The pre-tested questionnaire is based on scales deriving from both the retailing and technological acceptance and adoption literature. The online questionnaire was submitted to grocery shoppers between August and September 2016. The study leads to the identification of differences and communalities between the multichannel grocery retailing context.

Three main objectives were achieved administering the questionnaire:

1. Highlight the existence of perceptual differences between online channels, distinguishing peculiarities in the online shopping process between websites and mobile applications.

2. Pinpoint differences between the online vs the offline shopping process of grocery products.
3. Identify the effect of consumers' haptic trait on antecedents of the consumers' choice to buy groceries in each specific channel.

Findings evidenced that, the smartphone is reaching a growing importance in people's lives to the point that it is used in day-by-day activities, from communication via social networks, applications and email, to the listening of music, playing of games, taking of pictures, as well as online shopping.

Accordingly, the main contribution of this research thesis is in highlighting and forecasting the growing usage of this new technology that is reshaping lifestyle, not only in situations directly connected with the device itself, but also with increasing alternatives that marketers are proposing to users.

Managerial implications, related with the omnichannel grocery retailers are provided. Findings prove that a growing percentage of consumers is approaching the mobile channel for their grocery shopping. As a consequence, retailer should, on one hand, provide an omnichannel offer that allow an integrated management of multiple retailing channels. On the other hand, tailor the channel in order to better encounter consumers' needs and personal traits.

The main limitation of this study is in the methodology used to develop the research questions. In fact, if on one hand we explore the usage of the smartphone in different countries, *e.g.* Italy and UK, on the other hand, due to peculiarities that force us to move from one country to another, it is impossible, at the moment, to extend results to other countries. However, in the next future we would extend this research project in other European countries in order to deepen and validate these research topics cross-culturally. In this way, we would offer to scholars and marketers an overview of the usage of this particular device that at the beginning of its launch has shown a great flexibility and potential for rapid evolution.

The research thesis proceed as follow: once highlighted the growing importance of technologies in people's lives in chapter two, the thesis enters in depth on its main theme. In fact, starting from the third chapter, we focus on the distinction between electronic and mobile channels investigating their role in the online shopping. In the fourth chapter, we move in the omnichannel retailing literature and we lay the foundations for the development of research questions, proposed in chapter five, and associated research

hypotheses formulated in chapter six. The empirical analysis and methodologies used to assess research questions and hypotheses are presented in chapter seven and eight. Finally, the findings are discussed in detail, presenting theoretical and managerial implications, as well as limitations. Future research directions are put forward.

2. THE DIGITAL REVOLUTION

Information Systems (ISs) are evolving and changing consumer habits, which, in turn, are playing a fundamental role in shaping Information and Communication Technology (ICT) itself. Overall, ISs are complementary networks of software that people use to collect, filter, process, create and share data. When organizations and people use IS to interact and communicate, as well as sharing data collected in ISs, ISs are called Information and Communication Technology (ICT). Consequently, it is paramount for companies to learn about new trends on how users interact through their devices and how the new technologies influence people's day-by-day lives and which utilitarian and hedonic benefits those technologies could enhance. In this way, companies can establish effective strategies making an optimal use of technologies. In fact, "new technologies are engines of *creative destruction* in capitalist economies (Schumpeter, 1943)" (in Zinkhan and Watson, 1998, p. 5). The spread of the internet and of new technologies that allow its access are innovations changing lifestyles, because adopting new technologies, consumers' behaviours change (Zinkhan and Watson, 1998). ISs include both, "the World Wide Web, systems used in the home or leisure environment, games, and game-based training versions of work-related information systems" (van der Heijden, 2004, p. 696), and mobile phones (Soror et al., 2015).

2.1 THE SPREAD OF THE INTERNET

Since the diffusion of the internet, we saw a swift change in both ICT innovation and adoption rate. Since the introduction of the interface Mosaic, in spring 1993 that allowed a user-friendly browsing of the WWW¹, the internet showed an exponential growth (Hoffman, Novak and Chatterjee, 1995). Since then, in fact, the internet has become an integral part of people's lives and nowadays almost 50% of the worldwide population access the internet. As reported by the Pew Research Center Report (Poushter, 2016) there is clear evidence of the spread of the internet (Figure 1). In fact, in developing countries - like for example Malaysia, Brazil and China - the rise of the internet access is increasingly strong. By contrast, in developed countries, the internet access is clearly over 90% (e.g.

¹ In 1991 when Tim Berner-Lee invented the World Wide Web (WWW) its usage involved only five million users present in only 12 countries, mainly in the USA (Elert, 2012).

Canada, USA and Australia), while among the surveyed European countries, we can observe an oscillation between the 88% of UK and the 72% of Italy or the 69% of Poland. In the same report, Poushter (2016) reports that “as the world becomes increasingly interconnected, both economically and socially, technology adoption remains one of the defining factors in human progress”. Accordingly, we can define the internet as the greatest technological innovation at the turn of the last two centuries.

Figure 1: Worldwide internet usage (Percentage of adults who use the internet at least occasionally)



Note: Percentages based on total sample.

Source: Pew Research Center

Further evidence of the spread of the internet is given by its diffusion rate. In fact, if we compare the counter for the current world population (<http://www.worldometers.info/world-population/>) and the counter for the internet users in the world (<http://www.internetlivestats.com/internet-users/>) we find that the second one increases faster. This is a clear signal that the adoption of the internet would reach the majority of the population in the next years, and it is plausible to think that the new worldwide generations would be fully digitalized.

A data analysis published in the Pew Research Center Report (Poushter, 2016) confirms this assumption. If we consider the 15 countries with the highest internet user rate, we can realize that the younger segment (18-34 years) shows an average penetration rate of 97% compared with the 73.5% of the older segment (older than 35 years). These data (Table 1) confirm that in the near future we can expect a full digitalization of the worldwide population.

Table 1: The demographic Digital Divide: use of the internet among age segments

	<u>COUNTRY</u>	<u>TOTAL %</u>	AGE		
			<u>18-34 %</u>	<u>35+ %</u>	<i>DIFF</i>
1	South Korea	94	100	92	8
2	Australia	93	100	90	10
3	Canada	90	100	87	13
4	United States	89	99	85	14
5	United Kingdom	88	98	85	13
6	Spain	87	100	82	18
7	Israel	86	96	80	16
8	Germany	85	99	80	19
9	Chile	78	96	65	31
10	France	75	98	66	32
11	Italy	72	100	65	35
12	Russia	72	97	60	37
13	Turkey	72	93	53	40
14	Palestinian territories	72	87	55	32
15	Argentina	71	92	58	34
Mean		81.6	97.0	73.5	+23.5

Source: Pew Research Center

Considering the strong development of the internet, Donna Hoffman (2000) stated that, “the internet has the potential to radically transform [...] the very essence of what it means to be a human being” (p. 1). In fact, since its spread, the internet has attracted the interest of scholars and marketers as its diffusion has radically changed the way in which people communicate, socialize, work, learn, travel, search for information, shop and take care of his/her safety and wellness, among others activities performed online. Thus, it is important to understand the diffusion of the internet because it “has changed many facets of social life” (Kim, 2011, p. 602). Already in 1998, Zinkhan and Watson predicted the strong impact that the internet would have had on lifestyles: “as consumers adopt new technologies, their behaviours change” (p. 6). As a consequence, “notable areas such as consumer behaviour, media models, distribution channels [...] are experiencing important

changes” (Hoffman, 2000, p. 1). In fact, on one hand the internet is changing lifestyle and habits, and on the other hand, the new channels and forms of retailing and information sharing/gathering are eliciting new issues to be addressed by scholars and marketers. As a matter of fact, in the next sections we are going to highlight that the existing theories on consumer behaviour are changing due to the revolution that people lives are experiencing thanks to technological advances. Moreover, access to the internet is creating new competitive dynamics in the marketplace, forcing companies to rethink their strategies in a consumer centric way. Focusing on the retailing context, we would state that retailers are improving their retailing strategies in an omnichannel view to better satisfy consumers’ needs, which tend to shift from one channel to another in subsequent shopping experiences of the same category product.

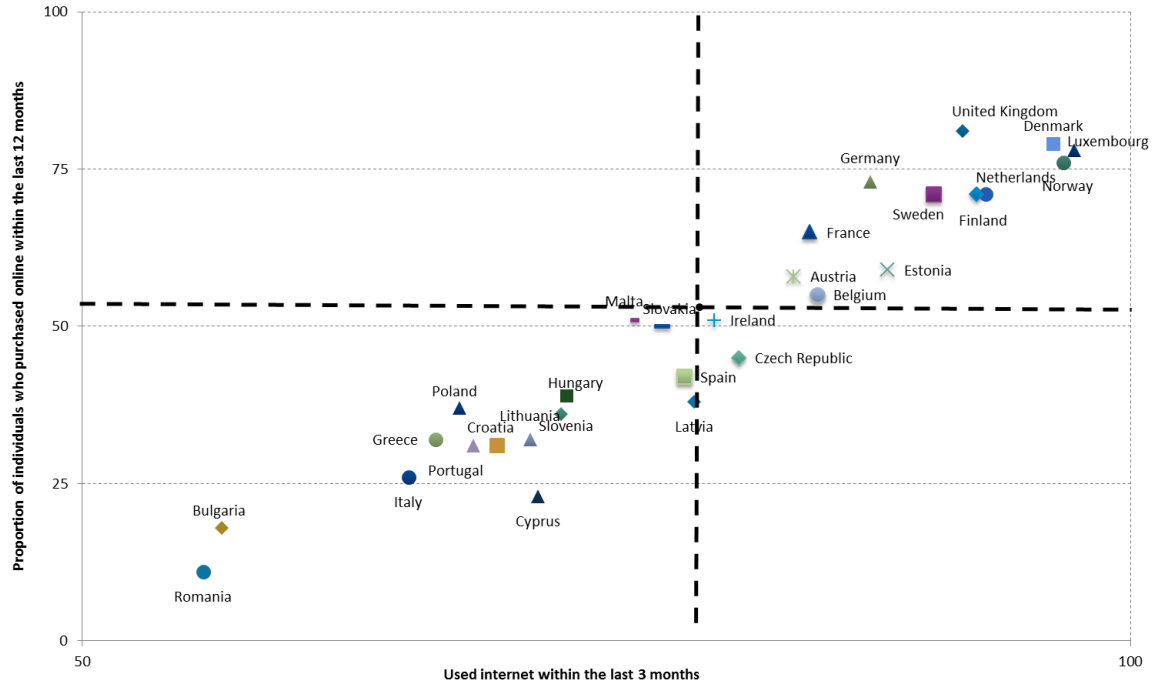
However, the spread of the internet should be supported by related innovations in the development of devices that can enable its access. For example, Andrès et al. (2010) estimated the internet adoption in terms of cost of local phone calls, number of phone lines and computer per capita.

2.2 THE EUROPEAN CONTEXT

In figure 1 it is possible to appreciate that European countries (EU-28) show a general good level of digitalization, compared to other areas worldwide. In the European politic of Horizon 2020, there are several provisions, worth 50 billion of euros that aim to homogenize the level of digitalization of the 28 European countries (Salerno, 2016). In fact, Horizon 2020 strongly supports ICT innovation allowing for “societal challenges common to all Europeans, creating a more entrepreneurial ICT ecosystem in Europe, and helping innovative companies bring new products to the market faster” (European Commission Website).

The interest of the European Union in the digitalization of its members confirms that the digital world is reshaping society and creating new opportunities for communication and interaction, for people’s access to information, as well as for their shopping process. Using data provided by Eurostat (2016) on the internet usage of Europeans, a strong and positive correlation (0.96) between use of the internet and online shopping emerge (Figure 2).

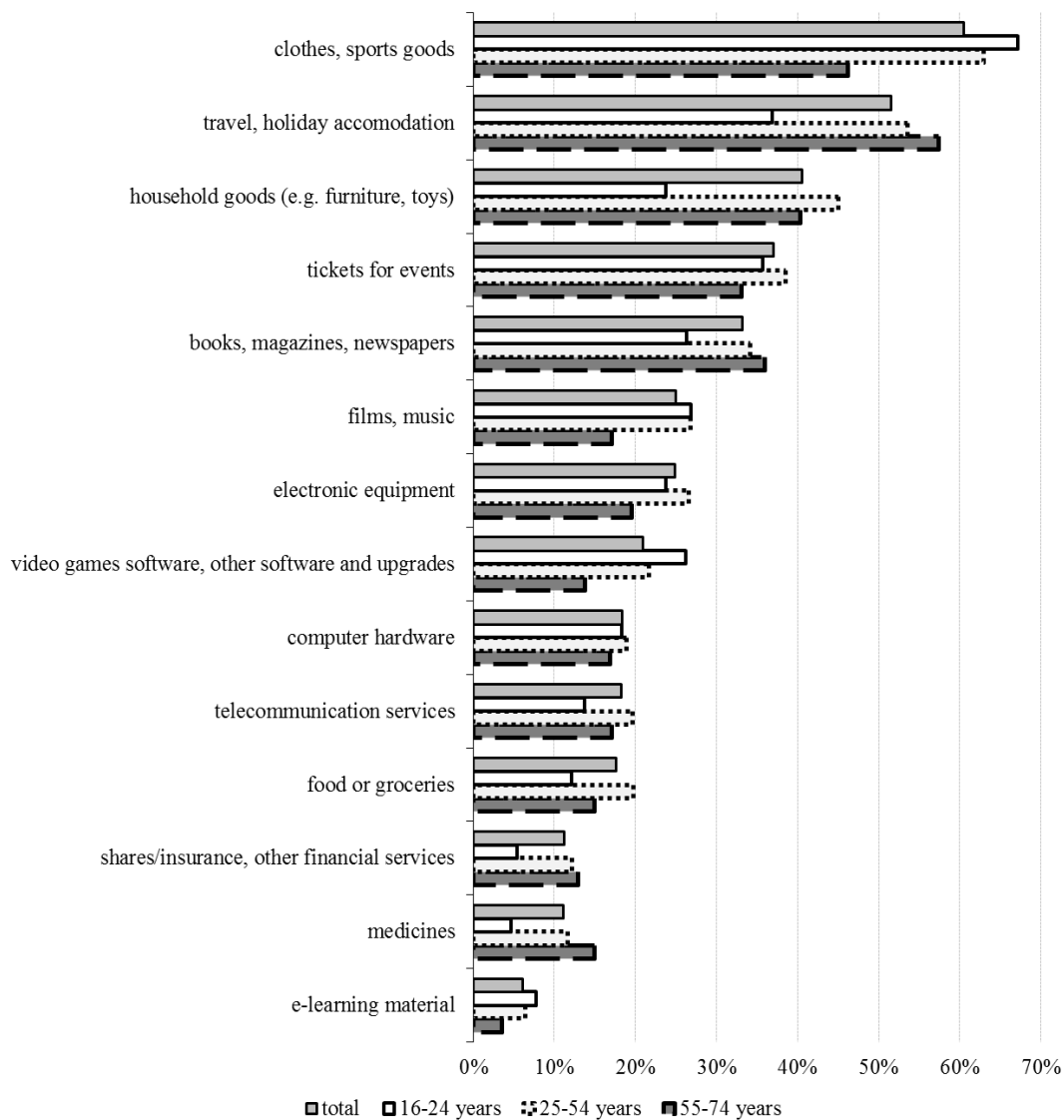
Figure 2: Internet use and online purchases of European Countries 2015 (% of individuals)



Source: Eurostat (2016). E-commerce statistics for individuals

Through this data, we can easily divide European countries into two groups: those that have the higher technological rate (upper right hand quadrant) and lower technological countries (lower left hand quadrant). The higher technological countries show a great use of the internet as well as a great propensity to the online shopping. Among these countries, United Kingdom shows the highest percentage of people purchasing online. The Digital Strategy Consulting (2015) confirms that the British are the most frequent online shoppers in Europe with 21 purchases online per year. Conversely, the European lower technological countries show a low level of internet access, as well as a low level of online shopping. For example, in Romania, about 55% of the population is connected online and only 11% of the population have purchased online in the last 12 months.

Figure 3: Online Purchases, EU28, 2015: % of individuals who bought or ordered goods or services over the internet for private use in the previous 12 months



Source: Eurostat (2016)

Sixty per cent of Europeans use to buy online clothes and sports goods (Figure 3). In particular, 67% of young adults (16-24 years) has bought this category product at least once in 2015. Fifty-two per cent shop online travel tickets and holiday accommodations; tourist services are the best-selling products among adults (52% of Europeans aged between 25 and 54 years; 57% of Europeans aged between 55 and 74 years). Conversely, the Europeans seem to be more reluctant to buy online e-learning materials (6%), medicines and financial services (11%) as well as food and groceries, telecommunication services and computer hardware (18%).

2.3 THE SPREAD OF SMARTPHONES²

Among the main technologies that facilitate the spread of the internet, there is the smartphone (Verkasalo et al., 2010). The technological scenario has been revolutionised in less than 5 years by the smartphone introduction on the market. “A smartphone is a next-generation, multifunctional cell phone that provides voice communication and text-messaging capabilities and facilitates data processing, as well as enhances wireless connectivity” (Zheng and Ni, 2006). Thanks to the recent spread of internet, the value of this product grew considerably, reshaping the telecommunication market. Thus, a reverse effect is present too. In fact, it is possible to assert that the spread of the internet was allowed by the diffusion of the smartphone, as well as the adoption and usage of the smartphone was facilitated by the internet access allowed by this device.

By the early 90s, the development of a phone started; the traditional cell phone’s functions were integrated with general computers and PDA functions. At the end of the year 2006, Apple announced the launch of a new product called iPhone and on the 9th January 2007, the first iPhone was launched on the market. At the very beginning, smartphones started to penetrate the market slowly, accounting for only 6% of mobile phones (De Gusta, 2012). In fact, in its early presence on the market, the smartphone was considered as an experience good (Yoo, Yoon and Choi, 2010) because of its access price, creating an obstacle to its spread, as only few people could afford to buy it. However, thanks to advances in technologies and to the fierce competition present in the business, in a few years product’s technical features increased while its price decreased³. Therefore, today the smartphone “is becoming an essential IT gadget to the working executives. The smartphone offers flexibility to the executive to be mobile and ability of wireless data and voice communication with their clients at anytime, anywhere they are” (Bojei and Hoo, 2012, p. 38). To the extent of its spread, we can currently consider this product as a commodity, due to the increased popularity gained during the last ten years (Park and Chen, 2007), reaching the majority of consumers. In fact, half of the world population owns a smartphone (GSMA, 2015) and the forecast for 2020 is of about 80% (The Economist, 2015).

² The contents of this section were partially presented at the 3rd International Conference on Contemporary Marketing Issue held in Kingston upon Thames (UK) in 2015 (see reference De Canio and Pellegrini, 2015) and published in the journal *Mercati e Competitività* (see reference De Canio, Pellegrini and Aramendia-Muneta, 2016).

³ In line with the theory of the diffusion of innovations (Rogers, 1995)

According to the Report of the Pew Research Center (Poushter, 2016), worldwide smartphone ownership is showing an extraordinary increasing rate also in developing countries where the median of those countries moves from the 21% of 2013 to the 37% of 2015. Furthermore, the report confirms the strong penetration of smartphones in developed countries (Figure 4). Thus, in about ten years the smartphone has reached the majority of the population, making the smartphone owners and users (hereinafter “*Smartphoners*”) an interesting segment to analyse, both for scholars and marketers.

Figure 4: Worldwide Smartphone ownership (Percentage of adults reporting owning a smartphone)



Source: Pew Research Center

The worldwide spread of the smartphone has totally reshaped not only the society and the ways in which consumers communicate each other, but also many business sectors, such as: telecommunications and advertisement, banking, wellness, education and retailing, among others. The Smartphone has a profound effect on lifestyles (Hamka et al., 2014) as it represents the main device for communication, information and entertainment (Choi, and Lee, 2012), as well as for shopping (Groß, 2015; Zhang et al., 2010). The new functionalities manufacturers launch every year allow consumers to operate in different ways, such as interacting through voice call, sending text messages, accessing social networks and games. This enables them to surf online, listen to music, take pictures and shop online.

The smartphone market trends have shown that the sector is strongly affected by changes in innovation and technology adoption. In only a few years, the market-share has been reshaped due to companies' inability to react to consumers request for more innovative and high-performing products. Today, 11 main producers hold the smartphone market; among those, Samsung, Apple and Huawei are the worldwide market leaders. The hyper-competitiveness of the market has forced producers to strongly innovate continuously launching new models with enhanced technical features on the market. Moreover, the user-friendly interfaces of smartphones make users extremely aware about the product they own and about how to use it. In fact, following the assumption that "consumers want exactly what they want" (Pine, Peppers and Rogers, 1995, p. 103), smartphone owners are even more able to meet the best option that satisfy their wants and needs, switching from a brand to another to get more functional and performing products. In fact, as found by De Canio and Pellegrini (2015) a part from price, consumers give great importance to the technical features of the device they are going to buy.

Among the keys factors that driving the spread and adoption of smartphones the absence of time and place access limits (Groß, 2015; Bojei and Hoo, 2012; Lu and Su, 2009; Balasubramanian, Peterson, and Jarvenpaa, 2002) is key. In fact, users consider the smartphone as a tool that allows them to interact and communicate with companies and peers (Kumar and Zahn, 2003; Roschelle, 2003), as well as shop (Groß, 2015; Strom, Vendel, and Bredican, 2014; Jin, Yoon, and Ji, 2012; Shankar and Balusbramanian, 2009) without time and space constraints. In this way, the adoption of mobile technologies is reshaping the boundaries between online and offline. In fact, the growing importance of the smartphone, not only as a product but also as a mobile device, constantly in touch with consumers, is arousing the interest of scholars and actors of the mobile ecosystem (*e.g.* handset manufacturers, mobile application providers and telecommunication operators). On one hand, consumers are much more connected through their mobile devices; on the other hand the spread of internet, social media and of the ubiquitous devices, are generating new opportunities for marketers, which have new contact points and digital platforms to interact and sell products and services to consumers. Moreover, those digital platforms, favourites from the absence of time and space constrains, are also creating new alternatives to the traditional B2C market encouraging a peer-to-peer exchange of products and services (Pellegrini and De Canio, 2017). In fact, as found by Pellegrini and De Canio (2017), this increasingly popular phenomenon among consumers, is undermining traditional sectors driving companies towards digital channels to counter losses.

2.3.1 THE IMPACT OF THE SMARTPHONE IN THE MARKETPLACE

In marketing and retailing practices, the spread of new devices and, above all, of the smartphone, is transforming the economic scenario (Verhoef, Kannan and Inman, 2015; Zhang *et al.*, 2010). The smartphone is recognized as a great in-store support during the consumer shopping experience (Karaatli and Veryzer, 2012) and recently it is evolving its role in the shopping process (Google, 2012). Indeed, the growing importance that mobile-retailing is gaining in the online shopping, makes m-commerce an emerging retailing channel (Hung, Yang and Hsieh, 2012; Zhang *et al.*, 2010; Lu and Su, 2009). On one hand, consumers use multiple devices to shopping online; on the other hand, smartphone users are recognized as more valuable in a long-time relation between providers/retailers and consumers (De Canio, Ieva and Ziliani, 2015).

Nowadays, the market of technological tools is experiencing a surge in the sales of mobile devices (*e.g.* smartphones, tablets, etc.) at the expense of computers. This is favouring the convergence of online shopping to a mobile system. Indeed, the smartphone is available *hic et nunc*, rather than tied to a default place and context. The growth in wireless technologies is pushing companies to concentrate their investments in the development of systems capable of supporting the use of mobile in different contexts such as communication (Venkatesh, 2015; Shankar and Balasubramanian, 2009) and commerce (Ström *et al.*, 2014; Chong, 2013; Hung Yang and Hsieh, 2012; Shankar *et al.*, 2010, Zhang *et al.*, 2010; Lu and Su, 2009).

To date, the key variable of mobile usage is its accessibility regardless of time and place (Hill and Roldan, 2005; Chen and Nath, 2004; Balasubramanian, Peterson and Jarvenpaa, 2002). Likewise, mobile technologies enable customer interactions (Kumar and Zahn, 2003) and playfulness (Chong, 2013) and allow discussion groups and access to informational contents and knowledge at anytime and anywhere (Groß, 2015; Chang, Sheu and Chan, 2003; Roschelle, 2003) in a new augmented social context via social networks and mobile apps. Thus, mobile technology develops the opportunity to create a new augmented social reality in which the boundary between online and offline are blurring.

According to Persaud and Azhar “while consumers adopt mobile phones to enhance their private and social lives, marketers see mobile phones as a marketing channel” (2012, p. 419). In fact, as for consumers, the new mobile devices are creating opportunities and advantages also for companies. Indeed, the companies’ additional value allowed by mobile services is that they can customize the offer in terms of time, location and personal profile

of their customers (Figge, 2004). Moreover, companies can improve communication and sales (Ström *et al.*, 2014; Shankar and Balasubramanian, 2009; Mazaar, 2003) and potentially increase sales effectiveness and efficiency by the use of mobile services. Most of the studies on smartphones are related to the adoption and usage of smartphone technology, such as its adoption and acceptance, its functionality and performance, its software and its security, as well as networking and connectivity (Aldhaban, 2012). Moreover, the holistic approach to the adoption of the smartphone as a whole product has not been explored enough (Aldhaban, 2012; Kang, Cho and Lee, 2011).

2.3.2 WHO ARE SMARTPHONE USERS?

Due to the increasing presence of smartphones in people's lives, it is becoming paramount both for researcher and actors of the mobile ecosystem to understand how consumers interact with their mobile devices and which are influencing the smartphone shopping more. Among the main studies segmenting the *smartphoners* we could find studies on mobile services (Aarnio *et al.*, 2002; Sell, Walden and Carlsson., 2010), intention to use or perceived benefits (Sell, Mezei and Walden, 2014), usage of voice call and SMS (Lin, 2007), perceived acceptance and usage of smartphone (Groß, 2015), cultural influences on smartphone adoption (De Marez *et al.*, 2007; Muk, 2007) and countries' development differences in mobile telecommunication (Banerjee and Ros, 2004). Along with this, some scholars focused on consumers' segmentation based on smartphone functionalities. For example, Vanden Abeele, Antheunis and Schouten (2014) disclosed among the youth users three different segments: *trendy users*, strongly embedded in social and fashionable characteristics of their smartphones, *engaged users*, characterized by an instrumental and social use of mobile phone and *thrifty users*, with a basic and disinterested use of mobile phone. Goneos-Malka, Strasheim and Grobler (2014) identify four different segments: *Conventionalists*, inclined to limit their smartphone usage; *Connectors*, who use communication functions; *Technoisseurs*, who have a whole use of mobile phone facilities, and the expert users are termed *Mobilarti*. Therefore, the growing importance of smartphones in lifestyles as well as in business is leading to the development of researches focused on this product. Joining in this research area, in the next section we are going to present five consumer market segments based on their smartphone usage. The next section of the thesis provides an analysis of *Smartphoners* in which smartphone owners and users are segmented by the use of ten of the major smartphone functionalities. Particularly in developing sectors, market segmentation is a good method to identify different consumer

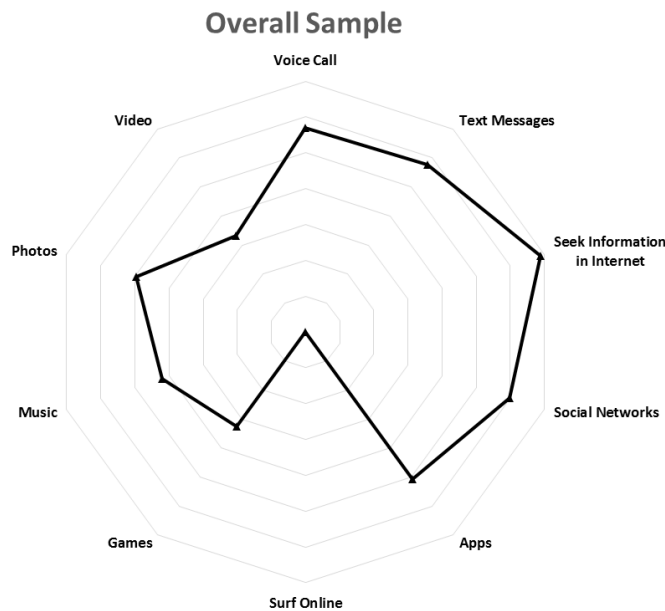
preferences and desires (Smith, 1956) allowing marketers to create a satisfying offer based on the information about habits and relevant characteristics of consumers' daily lives.

2.3.3 THE SMARTPHONERS: AN EMPIRICAL ANALYSIS

Recently, a smartphone user's segmentation⁴ based on some device functionalities has been proposed (De Canio, Pellegrini and Aramendia-Muneta, 2016), analysing 264 Italian smartphone owners and users. The investigated sample showed a great usage of the mobile device from a minimum of less than 1h/day for 9.8% of respondents to a maximum of more than 5 hours per day for 26.5% of them. 43.9% of the sample use the smartphone 1-3 hours per day while 19.7% use their handheld device 3-5 hours per day. In terms of reasons that lead to the use of the smartphone, just 9.8% of respondents claim to use smartphone for work, while 27.3% of them use the smartphone for fun, but the majority of the sample (62.9%) use the smartphone both for professional and leisure motives.

This analysis represents one of the first attempts to investigate *Smartphoners* (Figure 5) profiles in terms of their usage and led to identify five main clusters of *Smartphoners*: Unfriendly Users, Utility Users, Moderator Users, Gamers and Supersmartphoners.

Figure 5: Overall usage of the smartphone

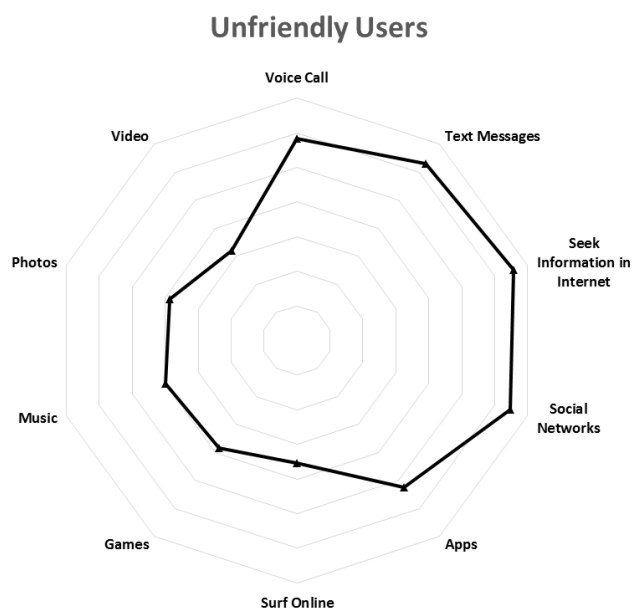


Unfriendly Users: The *Unfriendly Users* is a target of consumers that absolutely do not like the use of any functionality available in mobile phone devices. It seems that these

⁴ Methodology is described in Appendix

users, although they possess a smartphone, are being compelled to follow technological trends and have to adapt to those. They evaluate negatively all the functionalities of the owned smartphone with particular reference to the use of the internet, pictures and social networks (Figure 6). A majority of men over 35 years composes this group; they spend less than 1 hour per day using their smartphone. Almost a third of the respondents are *Unfriendly Users*. This group of consumers really do not like the augmented features of the smartphone and they use it as less as little as possible. The brand of the used device seems to be not important for them because mobile devices are rarely used. Over 17% of the *Unfriendly Users* use the smartphone less than 1 hour per day.

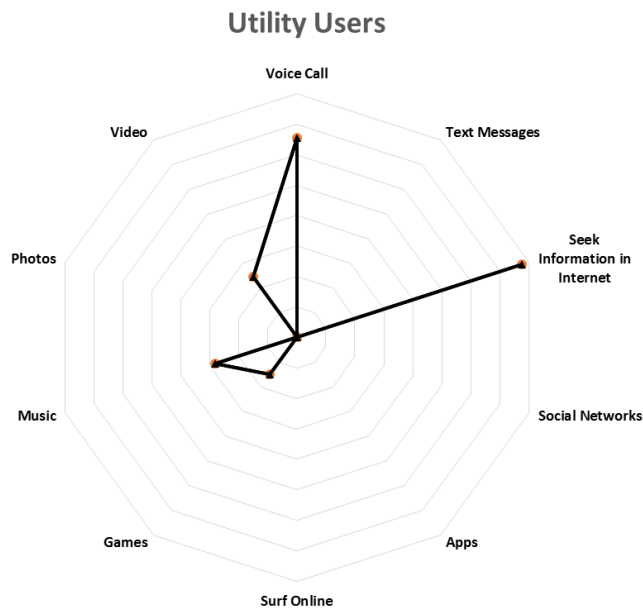
Figure 6: Smartphone Usage of Unfriendly Users



Utility Users: members of this cluster use the mobile phone as an utilitarian tool. In fact, these consumers use the voice call function and the internet to seek information (Figure 7). They do not like using smartphone to play games, listen to music or make videos. For these consumers the proposed digital functionalities for a more valuable product seem to have no success. No significant differences have been found between this cluster and the overall mean of the sample in terms of demographic and behavioural variables. In general, *Utility Users* represent about a quarter of the surveyed population. They are the oldest users and are mainly from southern Italy (45% South, 38% Islands, 35% Center). They prefer to use basic functions of the smartphone *i.e.* call and browse the internet and their usage of mobile phone is limited to a few hours per day. In fact, almost 58% of *Utility Users* use the smartphone less than 3 hours per day. They prefer the iPhone probably due to the brand

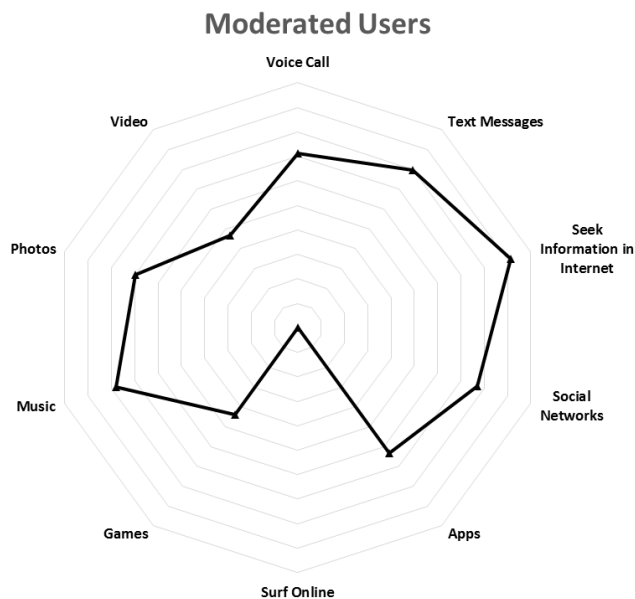
equity of Apple and they represent the segment of users that uses the smartphone for working reasons.

Figure 7: Smartphone Usage of Utility Users



Moderated Users: *Moderator Users* are those who use all the functions available on their mobile phone device in a weak way (Figure 8). This target of consumers, appreciate all the functionalities provided by manufacturers and use them more than the average of other users. The main activity they perform on their smartphone is seeking information on the internet. They have an utilitarian approach to the device, and use it as a tool that englobes different functionalities useful in different contexts. No particular demographic and behavioural characteristics have been found in this group of consumers. The *Moderator Users* are *Smartphoners* that add to the use of the basic functions of the smartphone (e.g. call, text and browsing) some hedonic and social functions such as social networks, music and photos. Younger people and females are the most relevant groups present in this segment (30.2%). No particular relevance have been found in terms of geographical location of these users with the exception of the central Italy users that appear to be almost absent in this group of *Smartphoners* (7%). More than a half of *moderator users* handles the smartphone for more than 3 hours per day.

Figure 8: Smartphone Usage of Moderated Users



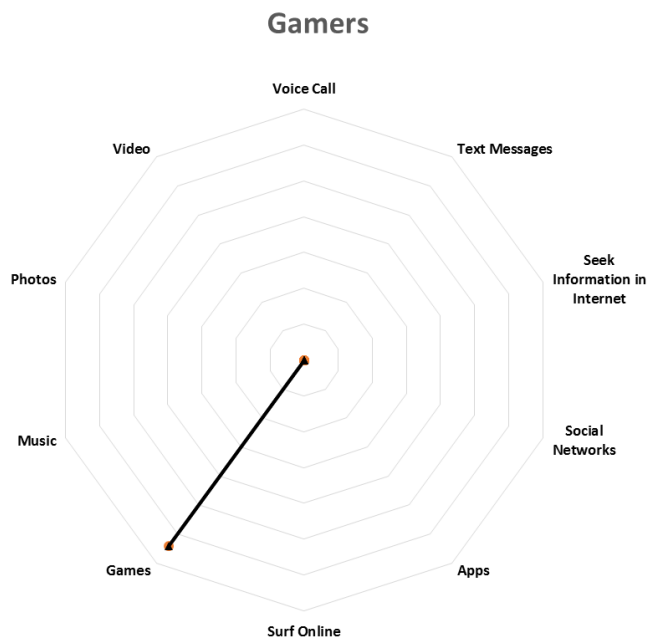
The two smaller segments of *Smartphoners* are *Gamers* and *Supersmartphoners*. They represents only 12% each of the surveyed population, but due to the growing importance that these profiles are reaching in the market, we consider these groups as the most relevant segments identified in this study.

Gamers: members of this cluster are called *Gamers* as they use the smartphone mainly for ludic reasons (Figure 9). This trend is in line with the main aims of handset manufacturers, mobile application developers and phone operators that are trying to engage smartphone users pushing on hedonic features. In fact, they are increasingly developing mobile interfaces that capture the ludic attitude of users. Even in the extant literature, enjoyment and playfulness are commonly studied to explain the attitude towards the use of the smartphone.

In order to better understand these trends, we conducted a T-test analysis on the demographic and behavioural variables. Findings did not show any statistical difference between the *Gamers* and the overall mean of the total sample. The *Gamers* are the youngest users (29 years old) and they use the smartphone mainly for leisure, but 61% of them use the smartphone for both work and fun. The Gamers have a higher usage of the smartphone – only 3% of them use mobile devices less than 1 hour/day. The brand of the smartphone owned is important for the *Gamers* and more than 39% of them own a Samsung while 51% of them own an iPhone. Compared to the general distribution of

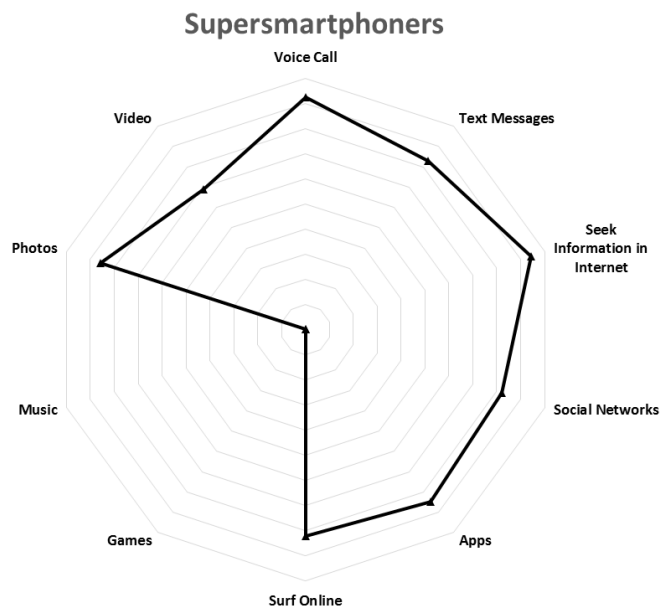
respondents by region, a high percentage of *Gamers* comes from the islands and the south of Italy.

Figure 9: Smartphone Usage of Gamers



Supersmartphones: *Supersmartphoners* are smartphone users who have made the smartphone as the main tool they use to make pictures and videos and to share posts on social networks (Figure 10). The smartphone is also a tool used to socialise and this target of smartphoners use to stay in contact with others. In fact, they have a wider use of the smartphone, particularly as concern voice calls and the internet. No statistical demographic and behavioural differences have been found between the *Supersmartphoners* and the overall mean of respondents. The *Supersmartphoners* love in general the multiple functions of their device and more than 72% of *Supersmartphoners* use the smartphone for work as well as for fun. Their average age is about 34 years and they are almost equally distributed throughout the different areas of Italy. They do not give particular relevance to the brand of their smartphone; in fact, 21% of them own a smartphone from the two leading brands (*i.e.* Apple and Samsung). The most important characteristic of this segment is their high frequency of usage; more than 36% of *Supersmartphoners* use mobile phone devices for more than 5 hours per day.

Figure 10: Smartphone Usage of Supersmartphoners



CONTRIBUTION, IMPLICATIONS AND LIMITS OF THE STUDY

The contribution of this research has value both in academia and in management. In fact, mobile marketing literature has been growing very fast in the last years and new interesting contributions are emerging. Furthermore, mobile phones are becoming interesting not only for companies that operate in the telecommunication sector, but also for retailers and for manufacturers that should create new touch-points with consumers via the smartphone.

Results show a great diversity in the behavioural characteristics of the five clusters identified, creating useful guidelines for actors of the mobile ecosystem. We pay great attention to two *Smartphoners* profiles: the *Gamers* and the *Supersmartphoners*. Although they are the smallest identified groups, we consider that in the next few years those segments will grow rapidly attracting the attention of both scholars and managers. On one hand, the *Supersmartphoners* have an intensive usage of the smartphone and seems to be ready to accept any new functionality and innovation. On the other hand, *Gamers* appreciate the hedonic aspects of smartphones. The mobile phone device is for them an instrument to enjoy and have fun by playing games. The *Gamers* represent an interesting target of consumers for companies operating in the mobile sector who are developing software and hardware components based on hedonic and emotional features to engage consumers.

2.4 CONCLUSIONS

As shown to now, the smartphone is becoming an essential tool in lifestyle. The main advantage of the smartphone and of all the other handheld devices (*e.g.* tablet, phablet) is the constant contact with their owners. By choice or by necessity consumers are adopting technologies and are making them as an integral part of their lives. Hence, scholars and marketers need to understand how to improve their offer by these new technologies. In the following sections, we would discuss how companies are approaching the online channels, especially focusing on the retailing context. Then, through an empirical investigation, we would state how even in a complex sector, such as the grocery one, retailers and consumers are becoming digital.

3. ONLINE CHANNELS IN MULTIPLE PERSPECTIVES

As we have noted, the development of the internet is revolutionizing people's lives. Its frequent adoption by users is creating new opportunities for companies. In fact, the "internet represents an extremely efficient medium for accessing, organizing and communicating information... ranging from the written and spoken word to visual image" (Peterson, Balasubramanian and Bronnenberg, 1997, p. 331). Furthermore, online platforms allow automatic personalization of contents and layouts on websites for the individual user and in some cases, users are able to tailor contents on their own (Sundar and Marathe, 2010; Kalyanaraman and Sundar, 2006). Thus in the online context a wide range of opportunities are available for consumers (Wagner et al., 2014) and the new digital channels are altering the retail landscape (Zhang et al., 2010).

Nevertheless, although the recent fervour context, business and research on digital commerce are "still very much in [their] infancy" (Hoffman, 2000, p. 1). For this reason, we would focus on investigating the phenomena of digital shopping in web and mobile contexts and compare them with the physical one, in order to better understand its effect on consumers. It is particularly interesting to identify its determinants; with this knowledge, scholars and marketers can easily understand and manage its usage, offering augmented experiences in digital channels. Whereas just a few years ago the access to the internet was enabled accessing to the online website platforms, with the attain of smartphones, another platform was developed. Consequently, nowadays we can distinguish between platforms (*e.g.* websites and applications) that allow internet access, and devices that implement functionalities that give the access to platforms. In the literature these two concepts are used interchangeably (Sundar et al., 1998), but following De Canio, Ieva and Ziliani (2017) we have to distinguish channels and devices as the convergence between devices is giving users a wider access to both platforms using digital devices.

3.1 DISTINCTION BETWEEN CHANNELS AND DEVICES

As we stated in the previous section, the introduction of the internet has revolutionized the way in which consumers are connected, among themselves and online. In the second

section, we also presented a focus on the smartphone, which represents the main disruptive technology of the last ten years. Nevertheless, we have to consider that in addition to the smartphone, many other digital and handheld devices facilitate users' access to the digital (online) world. *Mutatis mutandis* all handheld devices show an absence of temporal and spatial access limits attracting the attention of scholars and marketers from different disciplines for their ability to destroy the boundaries that the physical channel posits. Mobile devices are attracting the interests of sociologists and marketing scholars, as well as electronic engineers as they have revolutionized the way in which people communicate and shop. Sociologists and marketing scholars are more interested in understanding how digital devices are changing the way people interact (e.g. B2C and C2C interactions) and behave online (e.g. online learning, online games, online shopping). Electronic engineers are more interested in understanding how technical features of the handheld devices are changing to better meet consumers' needs. Each digital device performs some specific activities. For this reason, users usually use more than one device to interact, as well as to search for information and shop online (Levin, 2014). In particular, Wagner *et al.* (2014) analysed the usage of 12 devices mainly involved in the online shopping finding that although users adopt mainly 4 devices for their online shopping (*i.e.* Laptop, Personal Computer, Smartphone and Tablet), they use to switch from one device to another depending on their needs. In a later study, De Canio, Ieva and Ziliani (2017), focus on the four main devices studied by Wagner and colleagues (2014) and find that the majority of shoppers are becoming multidevice.

Because of people's multidevice usage, we are nowadays facing a convergence between devices that are becoming even more similar (Larivière *et al.*, 2013). In fact, in recent years, the technical features and characteristics of many technological devices are converging to better satisfy consumers' needs. Computers and laptops show a higher portability while smartphones and tablets are bigger in size (Stone, 2014). Findings are in line with various studies that revealed limits and advantages of the different devices available on the market, both in the online consumer's search for information and shopping.

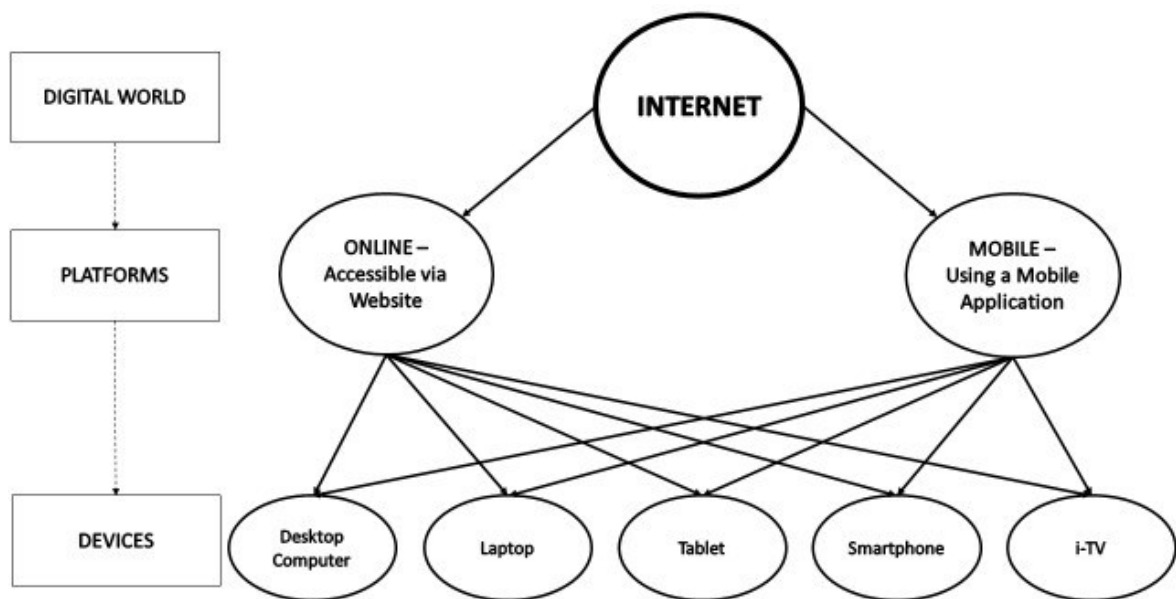
For example, Wang, Malthouse and Krishnamurthi (2015) found that "Smartphones and tablets are pocket (purse size always) connected devices that are controlled by human touch directly on their screens, whereas laptops tend to take a longer time to boot-up" (p. 231). Thus, smartphones and tablets provide spatial and temporal convenience, as well as an interactive and immediate shopping experience. Conversely, PCs have a seamless

access than mobile devices due to their 4G data connection (Wang, Malthouse and Krishnamurthi, 2015). Moreover, mobile devices are considered more expensive in search costs than PCs (Ghose, Goldfarb and Han, 2012) because of the numerous scrolling movements needed from the small size screen devices. Nevertheless, Brasel and Gips (2014) found that the touch functionality increases the psychological feeling of product's ownership creating a positive effect on shopping behaviour. In fact, "different devices are often used in different ways, in different contexts, as part of different activities" (Levin, 2014 p. vii) and a synergic effect exists across devices usage and patterns (Varan et al., 2013).

Thus, on one hand, each device provides specific functionalities (Levin, 2014; Varan et al., 2013); on the other hand, we are now facing a convergence between devices (Stone, 2014; Larivière et al., 2013). Therefore, while in the past mobile devices (*e.g.* smartphones and tablets) identified the mobile channel, whereas computers, PCs and laptops identified the electronic channel, nowadays this relationship is no longer true. In fact, although in the past there was an overlap between the concept of device, platform and channel (*e.g.* Sundar et al., 1998), the current evolution in technologies requires a clearer distinction between these terms. Consequently, the device no longer identifies the channel as all the new devices allow the access to both electronic and mobile channels.

According to a traditional definition, a channel is "a customer contact point or a medium through which the firm and the customer interact" (Neslin et al., 2006, p. 96). In particular, in the literature, there is an overlap in the meaning between channels, media and contact points or platforms. In the theoretical perspective chosen in this thesis, we consider contact points and platforms as synonyms. Specifically we talk about media when we refer to the interaction between companies and consumers in communication, advertising, promotion and search process. Conversely, we refer to "*channels*" when considering the interaction between retailers and consumers in the sale process. Thus, in both communication and retail contexts, we can find two main online channels: the electronic and the mobile. The electronic channel (e-channel) is identifiable from the access to the online platform by the mean of a website, while the mobile channel (m-channel) is identifiable by the access to the online platform using a mobile application.

Figure 11: Process of Internet access

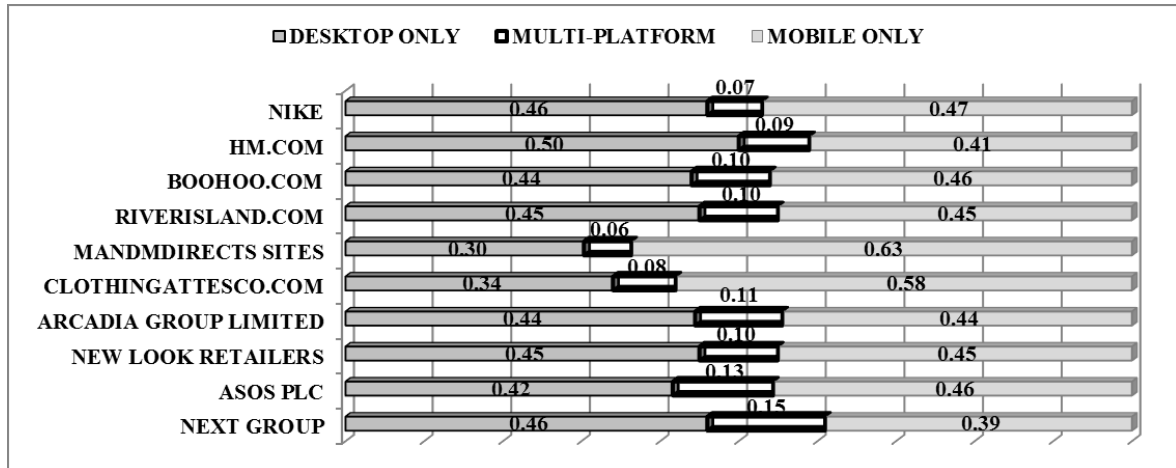


As presented in figure 11, digital devices handheld by users provide a cross-platform access to the internet by the mean of websites and mobile applications (hereinafter apps). Generally, the overall content of both platforms is similar, but the interface that is “the interactive display screen on a platform” can be different (Garahi, Marshall and Thomas, 2005). This difference in interfaces derives from the capacity that each device has to support specific activities that make users able to switch from one device to another to satisfy different needs (Osservatorio Mobile Marketing e Service, 2014) and there is no control over which device consumers are going to use (Varan et al., 2013).

3.2 ELECTRONIC vs MOBILE CHANNELS

The more the technologies are evolving, the more useful it appears to consider electronic and mobile channels as separate channels that share same peculiarities, but are used independently as two different shopping manners. In fact, as shown in a recent report published by comScore (2016a) on the apparel retail, considering overall digital sales for many retailers, mobile commerce has the same market share as electronic commerce (Figure 12).

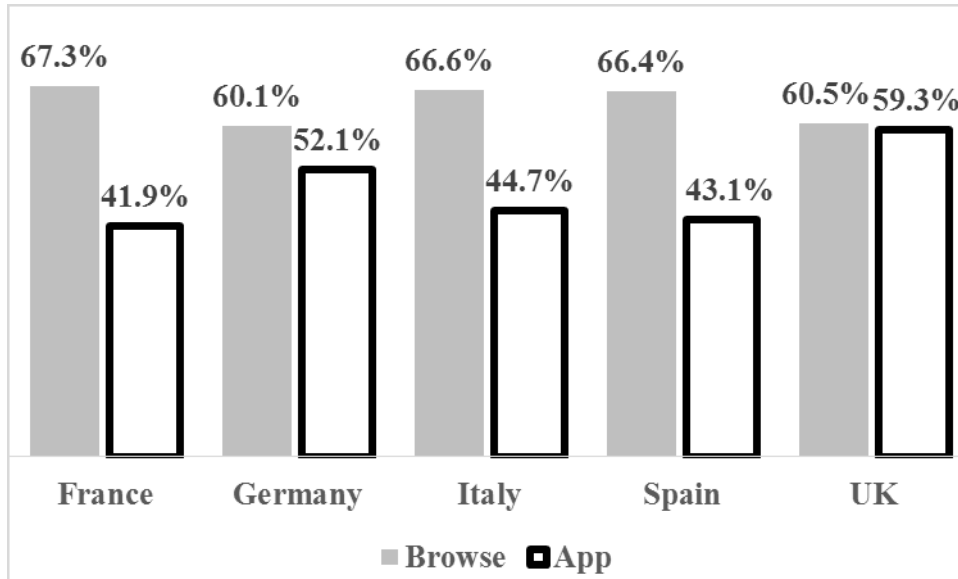
Figure 12: Device Usage across Selected Property



Source: comScore MMX Multi-Platform, UK, Total Audience, December 2015

De facto, digital channels are becoming more distinctive, to the point that we can clearly distinguish the electronic from the mobile channel. Although the device used for searching and purchasing products online is interchangeable, retailers' websites and mobile apps are able to satisfy particular consumers' needs in different purchasing contexts. Therefore, it becomes increasingly strategic for retailers to understand channels' peculiarities and enhance their effectiveness. Accordingly, ensuring technological devices (e.g. smartphones, tablets, laptops) a constant access to the online channel, accessible via both websites and using mobile apps, companies could stay constantly in touch with their consumers. As pinpointed by the study conducted by ComScore (2016b) on Europeans' mobile shoppers, the penetration rate of the two shopping channels are converging, and in the UK, they are virtually identical (Figure 13). In some cases, apps are perceived as faster and more immediate as the load time of a website through mobile devices (e.g. smartphone, tablet) is often longer and people are no more willing to sit behind a desktop computer all day long (Chappelle, 2013).

Figure 13: Channel choice for mobile shoppers



Source: ComScore 2016

Therefore, in agreement with the omnichannel literature and with the new trends of the market, we will treat e-commerce, accessible via website, and m-commerce, accessible using an application, as two different channels and we will use the generic expression “on-line” and “digital” referring to the activity to shop on the internet regardless of its shopping channels and their resulting access points.

3.2.1 THE ELECTRONIC CHANNEL

The emergence of the electronic channel as a retail format dates back at the beginning of the 2000s (Gupta, Su and Walter, 2004). Since its introduction on the market place, many authors have noted the powerful revolution wrought by electronic commerce on people lives (*e.g.* Alba et al., 1997; Verhoef and Langerak, 2001; Chang, Cheung and Lai, 2005). However, in its early stages, users used the electronic channel to search for information more than to buy online. Consequently, the electronic channel was considered and used by marketers more as a communicational channel. In fact, at that time, on the marketplace, there were a few number of electronic retailers. Since the beginning, the electronic channel was recognized to be less costly than the physical channel as well as catalogues (Alba et al., 1997). Moreover, the electronic channel allowed consumers to shop in an easy way from a convenience remote location (Gupta, Su and Walter, 2004; Raijas, 2002) extending the concept of shopping time and place. Due to the higher flexibility of websites’

interfaces, online retailers (e-tailers) were the first to rethink their offer with a consumer-centric strategy. In fact, another main aspect of selling through a website was the ability of retailers to tailor the offer based on the characteristics of their clients. In fact, on online platforms, it is possible to propose to shoppers a personalized store with a specific design and layout that could better fit the customer shopping process. Moreover, thanks to flexible interfaces, retailers allow consumers to self-tailor their products and services (Sundar and Marathe, 2010; Kalyanaraman and Sundar, 2006). Moreover, in recent years, due to advances in technology, these aspects have been improved to better engage the consumer. In fact, to be considered as a retailing channel, the electronic channel “must communicate effectively and persuade the users to purchase” (Chen, Rungruengsamrit and Rajkumar, 2013, p. 345). Finally, the online channels encounter both consumer’s extrinsic and intrinsic motivations. In fact, on one hand they offer “convenience, a broader selection of products, competitive pricing, greater access to information, and lower search cost”. On the other hand, they enhance “perceived enjoyment, perceived playfulness, social influence, entertainment and social interaction” as intrinsic (Shang, Chen and Shen, 2005, p. 402). Indeed, shopping is no longer an utilitarian activity and a growing number of hedonic aspects are influencing its process. As emerges from the literature, online channels are changing the way consumers shop. Independently, from the category product consumers are going to buy, the digital shopping experience is perceived as more emotional and pleasant (De Canio, Ieva and Ziliani, 2017).

3.2.2 THE MOBILE CHANNEL

The original function of the mobile channels, to support the shopping process in the physical channel, is turning in a new shopping channel. In fact, in the retail-oriented literature the smartphone is considered either as an advanced technology tool which supports in-store product purchase behaviour (Karaatli and Veryzer, 2012; Yang et al., 2011) and an online distribution channel for purchasing products (Hung, Yang and Hsieh, 2012; Lu and Su, 2009). Thus, considering the new function of the smartphone in the global retailing economy, with the huge proliferation of producers, brands, products, information channels and retailing channels a crucial question arises: “How are mobile devices and in particular the smartphone changing consumer shopping behaviour?”.

The spread of smartphones worldwide has created a new contact point between companies and consumers. Since the first stages of its diffusion, the smartphone has reached a

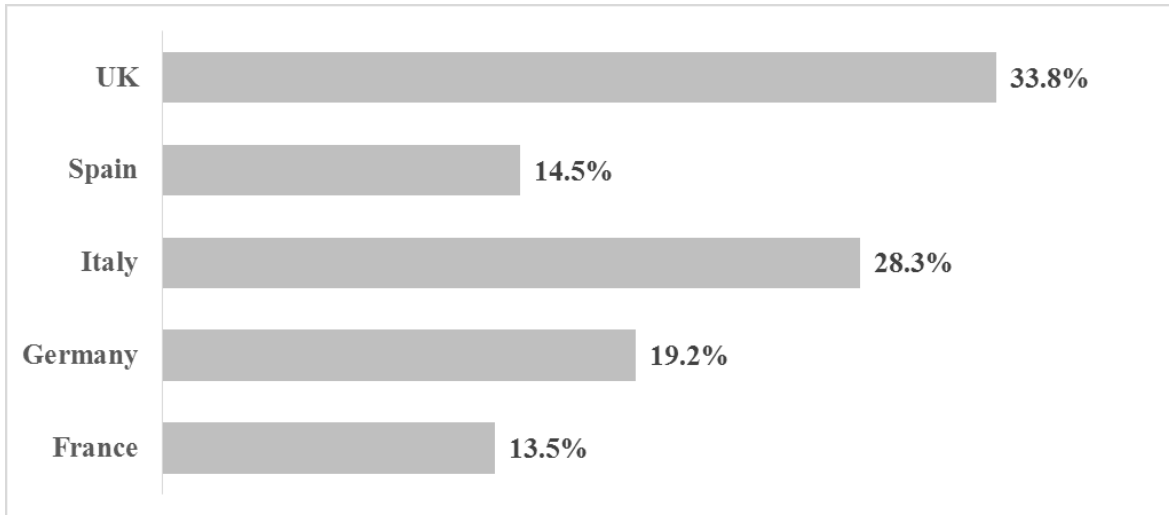
fundamental role in the entire shopping process. The introduction of smartphones and apps, and the resulting increase of the connectivity between customers around the globe, has changed the way in which customers shop (Grewal et al., 2016). Currently, the “mobile retailing” is emerging as a new retail format (De Canio, Ieva and Ziliani, 2017; Zhang et al., 2010). Mobile devices are in contact with consumers without limits of time and space and “most users keep them within arm’s reach throughout the day, as well as nearby while they sleep” (Grewal et al., 2016, p. 3).

As emerged from the literature, the additional value created by mobile services for consumers is that they can be customized in terms of time, location and personal profile (Figge, 2004). Indeed, mobile technologies enable customer interactions (Strom et al., 2014; Kumar and Zahn, 2003; Chang et al., 2003; Roschelle, 2003), and playfulness (Chong, 2013), given the opportunity to get access independently of time and space (Groß, 2015; Hung et al., 2007; Yang and Kim, 2012; Lu and Su, 2009; Hill and Roldan, 2005; Chen and Nath, 2004; Balasubramanian, Peterson and Jarvenpaa, 2002), and improve communication and sales (Strom et al., 2014; Shankar and Balasubramanian, 2009; Mamaan, 2003). The smartphone potentially increases retailers’ effectiveness and efficiency due to the higher shopping frequency of smartphone shoppers (De Canio, Ieva and Ziliani, 2017).

Many consumers view the shopping experience as a source of enjoyment and an opportunity for social interaction (Forman and Sriram, 1991; Berkowitz, Walton and Walker, 1979). In fact, by improving consumers’ shopping experience, retailers can gain a better perceived value (Parasuraman, 1997). Such augmented experiences are positively affecting retailers’ perceived value, image and customer loyalty. Thus, by developing new apps able to respond to consumers’ needs and wants and providing a satisfying shopping experience not only in-store but in the “ubiquitous store” (*i.e.* the smartphone), retailers and manufacturers, autonomously or in cooperation, should improve the effectiveness of their strategies in engaging customers.

Today, as highlighted by ComScore (2016b), on average, more than 70% of Europeans own a smartphone, with the highest rates in Germany (80.7%) and France (80.9%). Moreover, as highlighted by this research, the high rate of smartphone ownership matches with the increasing number of mobile shoppers. For example, in April 2016, more than 33% of British smartphone owners had made at least one purchase using their mobile phone (Figure 14).

Figure 14: Percentage of Smartphone owners that shop online at least once in a month



Source: ComScore, 2016

As reported by the research agency Accenture, in the Accenture Adaptive Retail Report 2016, in Europe, UK retailers are more adaptive in offering their customers an increased convenience shopping experience with mobile devices, with 92% of retailers having mobile-optimised websites, and 72% offering a smartphone app with purchase capabilities.

Thus, given the growing interest of the literature on the mobile channel as a new retailing channel (*e.g.* De Canio, Ieva and Ziliani, 2017; De Canio, Ieva and Ziliani, 2015; Groß, 2015; Zhang et al., 2010) and the scarcity of empirical analysis on consumer shopping behaviour using mobile devices, we aim to contribute to the multichannel literature considering the m-channel as distinct from the e-channel. Indeed, this is an important topic both for scholars and marketers due to the rapid spread of smartphones and wireless access to mobile internet, and the prediction of the explosion of the mobile channel as retailing channel over the next 24 months (Groß, 2015).

4. MULTICHANNEL RETAILING

As noted in the previous sections, the explosion of the internet has revolutionised lifestyles from multiple points of view (Kaufman-Scarborough and Lindquist, 2002). Nowadays, “internet penetration in modern life is pervasive” (Betancourt et al., 2016) and technology advances are increasingly allowing consumers to shop through a variety of channels (Dholakia et al., 2010). In fact, the internet has provided not only new ways to communicate via social networks, mobile apps, emails (Seraj, 2012) but also new ways to shop both in the electronic and mobile channels (Lu and Su, 2009). Accordingly, the growth of the internet is providing new opportunities. On one hand, for businesses which are developing multichannel marketing strategies (*e.g.* advertising and communication through multiple channels), as well as an omnichannel management of their channels (Verhoef, Kannan and Inman, 2015; Rigby, 2011). On the other hand, for consumers who shop in a different, convenient and entertaining manner (Arnould and Reynold, 2003). In fact, nowadays, consumers use the web to both acquire information and share opinions, as well as compare options and buy products (Dholakia et al., 2010, Zhang et al., 2010; Nunes and Cepedes, 2003). However, although the consumer uses the web both for search information and shop (De Canio, Ieva, Ziliani, 2017), we need to distinguish the dual role assumed by the channel in recent years.

In fact, in spite of the greater interest of scholars and marketers on the multichannel that has increased the number of papers on the topic, the literature hardly “distinguish[es] between multichannel and multimedia even though many consumers use certain channels strictly as media (*i.e.*, for obtaining information)” (Dholakia et al., 2010, p. 87).

In this section of the research, we thus focus on the retailing setting and we would investigate the consumer’s shopping experience through multiple channels. Multichannel retailing is a topic getting increasing attention by scholars and marketers worldwide, as it is reshaping the retailing strategies of the major players operating on the global market. In particular, the traditional multichannel retailing literature has shed the light on the analysis of three main channels: physical channel, online channel, treating it as website sales, and catalogue (*e.g.* Chang and Zhang, 2016; Pookulangara, Hawley and Xiao, 2011; Konuş, Verhoef and Neslin, 2008).

However, over the years, theories and results on multichannel retailing setting and multichannel consumer behaviour are evolving in line with the evolution of technologies

and of their adoption by consumers. In fact, due to advances in technologies (Dholakia et al., 2010) that allow an easy access to information and to convenience shopping channels, and to changes in the retailing setting that provide new format stores as a reaction to the modern time-pressed shopper (Ferne, 1997), the shopping process has moved to alternative channels. In fact, due to the recent consumers' ability to switch from one channel to another, both to search for information and to buy, modern consumers are called multichannel as they use multiple channels to satisfy their shopping needs (Konus, Verhoef, and Neslin, 2008). Therefore, retailing is evolving and consumers are adopting different buying processes shopping indistinctly online and offline (Yang, Zhao and Gupta, 2011). Moreover, the catalogue, widely studied in the early years of the multichannel literature, can be, nowadays, considered as a sunset channel (Chang and Zhang, 2016). In fact, as found by Pauwels and Neslin (2015) with the introduction of a store in a retailing setting previously based on the catalogue and the internet, due to the same nature of the experiential shopping provided by the catalogue and the store, the latter would cannibalize catalogue sales. Conversely, the introduction of the store has basically no effect on the internet sales. In this vein, physical stores and the internet are still considered as the main shopping channels (Sands et al., 2016) as they respond to different shopping motives: hedonic and utilitarian (Pauwels and Neslin, 2015). Besides, new emerging channels are approaching the retailing market, such as for example the mobile channel (Groß, 2015; Zhang et al., 2010).

In fact, unlike the early literature that uses to overlap the terminology, considering online, electronic and web as synonyms, nowadays we can consider web and electronic as synonyms forming the online channel along with the mobile. In fact, due to advances in technologies and to the evolution of devices as shown in the second section, the term online has reached a wider meaning, identifying the opportunity to access to an interface available on the internet, both via a website or using a “mobile” application. This difference in the content of the term online depends on the fairly recent development of multichannel shopping. In fact, before the turn of the century, just “few leading retailers like Walmart and Target paid serious attention to their websites” (Dholakia et al., 2010, p. 87), and to date, few retailers have developed an app dedicated to be a mobile store. As reported by Nielsen (2015) on a study on the future of grocery retailing, that is the specific setting in which this thesis takes place, to date, consumer use the grocery retailers apps mainly for downloading mobile coupons (18%), writing down the shopping list (15%), receiving a tailored loyalty programme (14%), searching for information or offers (12%)

and viewing extended products ranges (11%). Consequently, at the moment, the mobile channel looks like being a channel that support the most traditional physical and electronic channels and not all scholars consider it as a real retailing channel. However, as already predicted by many authors some years ago (*e.g.* Zhang et al., 2010; Shankar et al., 2010; Leppäniemi and Karjaluoto, 2005), and as emerging in recent studies (*e.g.* Wang, Malthouse and Krishnamurthi, 2015; Groß, 2015; Yang and Kim, 2012) the mobile channel can be considered a separate channel from the electronic one. In this vein, our empirical analysis, presented in the following sections, would show new trends in mobile shopping. As demonstrated by Sands et al. (2016), in the retailing literature, bricks-and-mortar stores and the internet, considered as the WWW domain, are still dominant channels, while the mobile is rapidly emerging as a challenging retailing channel. In fact, to now, there is a lack of studies investigating these three different channels at the same time and, particularly in the grocery setting, to our knowledge, there is a lack of studies investigating the mobile channel as an independent channel from the web. Although, in the last years, a substantial literature has appeared investigating the Brick and Click grocery stores (*e.g.* Breugelmans and Campo, 2016; Campo and Breugelmans, 2015; Degeratu, Rangaswamy and Wu, 2000), we consider it necessary to thoroughly differentiate this retailing setting from a multiple shopping channel perspective. In fact, on one hand, the divide between offline and online channels is becoming increasingly important in the retailing literature; on the other hand, the distinction within the online channels is attracting greater interest among scholars. In fact, due to the mix of complexity and opportunities allowed by the current scenario, it is no longer enough for retailers to propose wide assortments, low prices and extended store-opening hours to retain consumers. In this perspective, in order not to lose their customers, retailers must evolve their offer creating a seamless shopping experience across all channels (Grewal et al., 2016).

Thus, due to the increasing interest on the mobile channel and to the evolution on the most traditional physical and online channels, our research would focus on those contexts. Specifically, we cogitate our multichannel retailing setting under three scenarios that we consider paramount for modern retailers:

- the brick and mortar (B&M) or offline/physical channel, independently from the store format;
- the electronic-channel (E-channel) which includes all the stores accessible by digital devices and tied to a specific web domain;

- the mobile-channel (M-channel), identified by “the buying and selling of goods and services through wireless handheld devices” (Chong, 2013, p. 22) and accessible using an app.

4.1 SHOPPING THROUGH CHANNELS: CHANNEL MIGRATION

One of the main goals that firms pursue is to get customer loyalty, retaining their own clientele. Particularly for retailers, customer loyalty and retention are strategic (Grewal, Monroe and Krishnan, 1998) even if today consumers increasingly use to patronage multiple retailers and formats to satisfy their needs and wants (Strassen, Mittelstaedt and Mittelstaedt, 1999). With the spread of multiple shopping channels, customer migration between retailers and formats is evolving into customer migration between retailers, formats and channels, making customer management activity more difficult for retailers. In fact, on one hand, capabilities, costs and competitors vary across channels (Berry et al, 2010). On the other hand, customers can be single-channel or multi-channel based on the capacity of each channel to satisfy specific needs hardly provided by other channels (Dholakia et al., 2010). Moreover, in this complex retailing setting, the category product moderates the consumers’ channel choice (Gupta, Su and Walter, 2004). Consequently, it becomes paramount for retailers to understand how to manage channels in order to retain consumers.

As mentioned by Pookulangara, Hawley and Xiao (2011) consumers use a dynamic process of channel switching based on convenience and efficiency of migration, which maximizes benefits and shopping costs. Specifically these authors performed their multichannel analysis on three channels: stores, catalogues and the internet, considering aspects like money, time and efforts, as well as hedonic motives. Pookulangara and colleagues found that the physical channel is more subject to free riding due to functional and hedonic motives, with a higher impact of the first. Conversely, consumer switching from the catalogue or the internet is due to functional reasons.

Pauwels and Neslin (2015) found that the introduction of a store into an existing multichannel retailing based on catalogues and the internet has negative effects on the catalogue and no effects on the internet. In fact, as pinpointed by these authors the store and the internet satisfy different consumers’ motives and meet different shoppers’ personal traits.

Looking for ways to increase customer retention in a multichannel-retailing environment, Chang and Zhang (2016) found that the customers' channel experience has both short-term and long-term effects on customers' retention. The authors split their sample in two groups and compare inactive and active consumers based on their shopping frequency. According to the authors, when the consumer has no experience (inactive shopper) the physical channel is more impactful than the online channel in increasing shopping revenues and frequencies. Nevertheless, when the consumer increases his/her shopping frequency (active shopper) the impact of the physical channel decreases in favour of the online channel. In addition, as soon as the consumer starts to use the digital channel, this channel becomes more effective in retaining consumers.

4.2 MULTICHANNEL vs OMNICHANNEL

In the retailing literature, it is still not well established the distinction between the definition of multichannel and omnichannel retailing. For this reason, in line with the emerging literature, we pinpoint attention on this topic.

The “multichannel retailing is a set of activities involved in selling merchandise or service to the customer through more than one channel” (Levy and Weitz, 2013, p. 57). Thus, proposing a multichannel retailing offer, retailers allow consumers to benefit from each single channel as for example “searching information” in one channel and “purchasing” in another, or vice versa (Verhoef, Neslin and Vroomen, 2007). For example, thanks to the development of new channels stimulated by the spread of ICTs, customers can search for a product on the internet, evaluate it in a catalogue, receive promotions directly on their smartphone, buy the product using their smartphone and pick it up in the store, and finally, if necessary, book by phone their post-sale assistance at home. Consequently, the search and purchase phases in the consumer behaviour process can take place in the same or in different channels based on the ability of each channel to satisfy consumers' needs (Manzano et al., 2016).

As suggested by the literature, strengthening different channel attributes and potentiating channel integration, companies can influence the consumer's purchasing channel choice (Neslin et al., 2006). In fact, opting for a Click and Mortar strategy, *i.e.* a blend between the online and offline channels, is a good way to satisfy and retain consumers (*e.g.* Verhoef, Neslin and Vroomen, 2007; Neslin et al., 2006).

Thus, the challenge for retailers is indeed in understanding how the proliferation of new retailing channels is changing the consumers' purchasing process. In fact, "the type of retail channel and the use of technology appear to have important implications for the marketing" (Grewal et al., 2016, p. 2), and if channels are not well integrated they can develop "dissynergies" (Falk et al., 2007). In this vein, part of the literature is dubious about how efficiently retailers are managing the integration of these new channels (Ansari, Mela and Neslin, 2008; Gensler, Dekimpe and Skiera, 2007). However, others scholars and practitioners are increasingly agreeing that offering an integrated management between channels can be the best solution to avoid the cannibalization of some channels in favour of others (e.g. Pauwels and Neslin, 2015). Consequently, the critical issue is on how channels should be integrated to better meet consumers' needs. In fact, the spread of digital channels has changed the retailing boundaries and today, to better meet consumers' needs retailers should adopt an *omnichannel* strategy (Rigby, 2011).

Because of the premise so far made, we can distinguish between multichannel and omnichannel retailing in the way in which retailers manage their offer. In fact, the multichannel retailing represents retailers' intention to propose their offer in more than one shopping channel, and when retailers allow interaction between the manned channels, so then multichannel retailing is managed in an omnichannel manner. In fact, while in a multichannel strategy, the retailer aims to sell products and/or services using multiple channels independently by the possibility that these channels are able to interact each other; in the omnichannel strategy, all channels have to be managed in an integrated manner. Thus, "omniretailing" is the offer of a "seamless experience using all the retailers' shopping channels" (Levy, Weitz and Grewal, 2013, p. 67).

Recently the approach to the omnichannel consumer management is becoming dominant among retailers (Lemon and Verhoef, 2016; Verhoef, Kannan and Inman, 2015). "To keep up, existing retailers will need to create an omnichannel strategy – and pick up the pace of change" (Rigby, 2011, p. 4). The retailer responds to the customer in a fully integrated way, independently he/she accesses to the physical or digital channel. The increasing presence of retailers in multiple retailing channels, and their increasing knowledge of how to manage each of them, is bringing them to consider their presence on different sales channels in an integrated way, proposing an enhanced shopping experience (Pine and Gilmore, 1998). In fact, is even more common to find a certain consistency, both of which values of channel management, regardless of their physical and digital nature. One of the main example of this aspect is the price policy applied by retailers. Although in the past the

price was considered as a discriminant lever to move consumers from one channel to another, now retailers adopt the same price and promotion policy on all the manned channels. The integrated approach across offline and online channels maintain a consistent brand image and creates a consistent and efficient service level for customers (Goersch, 2002). Customers can indeed access to any purchasing channel they prefer and find in it the same offer they would find in another channel but supported by the peculiarities of the selected channel. In this way, they can easily switch to another channel, finding in it the same products and an equal service level, with differences in the environment and in the context they prefer to shop (*e.g.* opening hours, time convenience, and augmented shopping environment).

Consequently, acting through an integrated multichannel strategy, retailers can produce synergies reaching new customers due to the integrated service/offer proposed on multiple channels (Kollmann, Kuckertz and Kayser, 2012). The greater the positive effect of an omnichannel strategy, the greater the retailer's ability to catch consumers in their channels avoiding their migration to the competitors' offer (Goersch, 2002).

4.3 GROCERY SHOPPING IN MULTIPLE CHANNELS

The importance of the electronic grocery shopping dates back to the early 90s when the interest of academics and practitioners began to grow (*e.g.* Alba et al., 1997, Burke, 1997). Grocery products are considered the most universal commodity products (de Chernatony, 2012; Boyer and Hult, 2005). The consolidation of the sector and the advent of new technologies in the retailing setting have created a high level of competition between grocers (Siu and Chow, 2003). Over the years, aspects connected with the low and diminishing margins of the sector, compared with the other e-commerce sectors, have created difficulties, generally spread, among grocery retailers. In fact, on one hand, there is a strong overlap between retailers' assortments that makes the alternative among store brands virtually indifferent for consumers. Unlike they were used to do in the past, nowadays consumers use to base their shopping channel choice on aspects different from assortments and prices (*e.g.* Hasan and Mishra, 2015; Briesch, Chintagunta and Fox, 2009). On the other hand, the entrance on the market of new digital retailers (*e.g.* Amazon, Ocado) has made the sector more competitive. Thus, to differentiate their offer from that of competitors, traditional retailers felt the need to extend they offer via new channels (Alba et al., 1997).

However, the debate about the efficacy to sell grocery products on digital channel is still on.

A part of the literature is discussing the effectiveness of the online channel for groceries shopping. As found in the multichannel retailing literature, the merchandise moderates consumers' channel choice (Gupta, Su and Walter, 2004). For this reason, each category product needs to be analysed independently. For example, products that consumers feel the need to be smelled, touched and tested, require the offline channel in the final moment of the shopping (Levin, Levin and Weller, 2005). Conversely, services and merchandises that do not require a direct experience can be easily sold online (Gupta, Su and Walter, 2004). In other words, some authors stated that products like groceries, with high touch need and that require a direct experience will be hardly sold online. In fact, as demonstrated by previous studies, consumers may be reluctant to buy groceries online for the impossibility to touch the product during the shopping process (Dholakia, Zhao and Dholakia, 2005). As verified in the literature (*e.g.* Abhishek, Sinha and Vohra, 2013; Peck and Childers, 2003a, 2003b) consumers need to touch some products, especially if they are perishable (*e.g.* fruits and vegetable). For those products, in fact, the consumers' need for touch derives from their necessity to acquire information about the product quality. Consequently, the benefit of the direct experience with the product available in store could influence consumers' willingness to shop online (Childers et al., 2001). Nevertheless, there are some practical examples of grocery retailers that have approached the online market profitably.

As pinpointed by Boyer and Hult (2005) the first reaction towards selling grocery products online has been approached differently by grocery retailers. Some of them, such as Webvan in the US market, have preferred to access the new channel⁵ with a price reduction strategy, making price convenience the reason to choose its online channel offer. The same strategy has been adopted by the online grocery retailer Ocado.com that “offers money off to regular customers as an incentive to shop and book a delivery slot on certain days and times” (Dall’Olmo Riley, Scarpi and Manaresi, 2005, p. 1710). Conversely, others British retailers such as Tesco, Sainsbury’s and Albertsons have decided to promote the online channel as a convenience alternative to the physical store, achieving some success (Boyer and Hult, 2005). This approach to the online channel as a convenient channel helps Tesco and Sainsbury to dominate both the online and the offline British grocery market (Rafiq and Fulford, 2005). Thus, the strategy adopted by traditional offline retailers accessing the

⁵ In the early stage retailers use to sell product just on the website, thus in this case the authors are referring to the website

digital channel is less focused on the price discrimination between channels, while encouraging the online shopping with a convenient and easy shopping experience should be considered successful.

With the introduction of new retailing channels, the competition between grocery retailers is becoming fierce, particularly in some countries, such as for example the United Kingdom (O'Hare, 2016). From one hand, the traditional brick-and-mortar retailers try to access digital channels, but despite having wide and deep assortments, they do not have already developed digital resources to oversee digital channels. From the other hand, digital retailers have good digital resources but, in some cases, limited assortments. In this particular retailing setting, in fact, retailers do not sell single products, but assortments (Mazursky and Jacoby, 1986), and due to the overlap of assortments that is leading to the loss of customer loyalty, many retailers are approaching the omnichannel retailing as a brand extension strategy to differentiate their offer from that of competitors (Alba et al., 1997). In fact, as stated by Rafiq and Fulford “market leaders (such as Tesco) are likely to benefit disproportionately from loyalty transference” (2005, p. 445) from the physical channel to the online channels. This hypercompetitive context has brought to a price battle to defend the market share, as well as to move to build new alliances between digital and physical retailers in order to control and manage in an integrated way these channels.

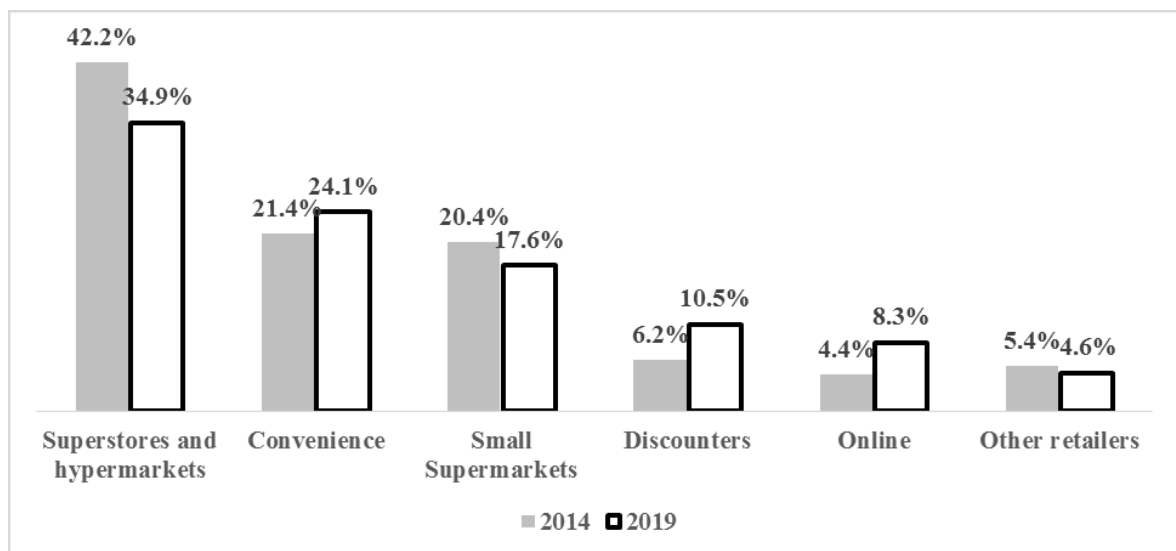
In general, in the grocery retailing setting, consumers use to patronage multiple retailers and formats to satisfy their needs and wants (Strassen, Mittelstaedt and Mittelstaedt, 1999), and obtaining information about price and non-price attributes of products. For instance, consumers are more conscious about price differences between retailers making their pricing strategy less effective. Nevertheless, the strong effect of low prices on consumers store patronage is still important in the literature (*e.g.* Pan and Zinkhan, 2006). Accordingly, in an analysis on the costs of online grocery stores compared to physical grocery stores, Chintagunta, Chu and Cebollada (2012) found that the online delivery costs are still a deterrent to shop online. However, authors affirmed that the online context is a reality, especially “for busy people and on busy days” (p. 32). As suggested by Chintagunta, Chu and Cebollada (2012), retailers should manage both channels providing a variety of heavy and bulky products in the online channel and prompt perishable products in the offline channel, admitting the entrance of grocery products on the online market. Much more positive about the possibility of selling grocery products online, Dawes and Nenycz-Thiel (2014) stated that the online grocery shopping “is gaining penetration [...and nowadays] is becoming the norm” (p. 364). In the same line Childers et al. (2001)

analysing the utilitarian and hedonic motivations for the online retail shopping behaviour, assume the possibility of selling groceries online, although proving the existence of differences between online and offline shopping.

Finally, Verhoef and Langerak (2001) found the main advantages of the electronic grocery shopping in the higher level of convenience and in the opportunity to save consumers' time. Residually they pinpointed that retailers that approach the online channel can reach a large geographic area compared to the basin reached through a physical store. While the main disadvantages of the e-grocery are the absence of sensory stimuli and the lack of social experiences and “the pleasure of bargaining while shopping” (p. 276).

Thus, although with some limitations, it seems that online grocery shopping is catching on. Data provided by the website Statista.com (2016), indicate that in 2014 online grocery shopping was equal to 4.4%, with a forecast value of 8.8% for 2019 (Figure 15).

Figure 15: Share of the grocery retail sales in the United Kingdom (UK) in 2014 and 2019, by channel



Source: Statista.com

The multichannel grocery retailing is recently becoming a reality also thanks to the entrance in the grocery market of the giant of e-commerce: Amazon. Amazon is a multichannel retailer that specifically in groceries has developed a strategy from the online to the offline channel. First with its Amazon Fresh and then with Amazon Go, Amazon is clearly entering the grocery market pushing the traditional retailers to develop their digital channels. However, with the opening of the store Amazon Go, in the early months of 2017, Amazon would redesign the grocery environment and the strategies of grocery retailers in the physical channel. The grocery store “Amazon Go”, an 1800-square foot store without the checkout lines, allows consumers to shop groceries using their mobile phone. As

shown in the YouTube video⁶, Amazon's new technology, developed in less than 4 years, allows consumers to make the check-in in entrance, scanning their phone, and then the technology will detect each product taken or return to shelves. Leaving the store, Amazon charges the amount due directly on the Amazon online account (Rao, 2016). If we consider the rapidity with whom some retailers are developing technologies and access point to the grocery market it is possible to forecast the great potential of groceries' sales also on digital channels.

We will develop our analysis on the British grocery retailing setting, due to the strong reaction to innovations of the British market. As discussed above, the UK represents the main European country in terms of access to the internet, smartphone usage and online shopping. As shown by a report produced by Mintel (2016) the UK online grocery shoppers are increasing their usage of online channels even more than the last year. The forecast of online grocery spending will reach 9.8 billion in 2016, with an increase of up 13% over the previous year. As reported by the report:

“Today, as many as half (48%) of Brits are current online grocery shoppers. **One in ten (11%) do all of their grocery shopping online**, with a further 12% doing most of their grocery shopping online. And it is younger consumers that are shunning the supermarket trip: one fifth (19%) of 25-34 year olds now doing all of their grocery shopping online, with 36% of this group shopping for groceries online more often now than 12 months ago. **The main reason consumers cite for shopping online more is convenience**, with 60% of Brits who are shopping more online doing so that it is more convenient than visiting stores. Not all consumers are ditching the trip to the shops however, with **as many as one quarter (24%) of Brits having never bought groceries online and having no interest in doing so**, rising to 38% of over 55s. Additionally, 11% of UK online grocery shoppers are shopping online less now than 12 months ago. Two fifths (38%) of those who are shopping for groceries online less or who have stopped shopping for groceries online have done so because of the lack of control when choosing fresh products” (Mintel, 2016).

In line with the growing literature exploring the entrance of grocery food in digital channels, this thesis aims to analyse how consumers perceive the opportunity to buy groceries online and which factors can influence their channel choice. In particular, we will focus on the British grocery market, as it represents the most evolved and sparkling European grocery market.

⁶ Introducing Amazon Go and the world's most advanced shopping technology: <https://www.youtube.com/watch?v=NrmMk1Myrxc>

4.4 ADVANTAGES AND DISADVANTAGES OF A MULTIPLE CHANNEL STRATEGY

Three different aspects are influencing consumers' shopping process:

1. the consumers' shopping trends are changing and consumers are starting to move their shopping on digital channels;
2. there is a growing overlap between retailers' assortment that is changing retailers' dynamics and strategies;
3. the spread of the digital technologies is allowing consumers to compare prices between store brands.

Considering those three issues, it is paramount for retailers to understand how to use multichannel retailing in an integrated way in order to retain consumers and engage new ones. The multichannel customer management is becoming a main issue in the multichannel retailing literature due to the positive and negative effects that a multichannel retailing strategy can produce. On one hand, Levy, Weitz and Grewal states "the greatest benefit offered by stores is the opportunity for customers to use all five senses – touching, smelling, tasting, seeing and hearing, when examining and evaluating products" (2013, p. 61). On the other hand, Berthon, Pitt and Watson suggested that like a "flea market, the Web possesses the fundamental characteristics of openness, informality, and interactivity – a combination of a community and a marketplace" (1996, p. 45). Burke (1997) some years before forecasted the same characteristics. As the author stated the convenience of the internet may meet the needs of those consumers that do not like to spend their free time for shopping and looking for convenient shopping channels. However, the same author highlighted a general reaction of traditional retailers that, to respond to consumers' search for convenience, have extended the opening hours to facilitate the access to the store, widened their assortment to allow one-stop shopping and provided free and plentiful parking (Burke, 1997). As Xu et al. state, "internet may offer convenience, selection, and price" while "brick-and-mortar stores provide instant gratification and lower transaction costs" (2014, p. 100). Accordingly, Chang and Zhang (2016) support previous studies indicating that the retail store leads consumers to have a rich sensory experience creating numerous psychological and behavioural outcomes, and has a good impact on consumers' memory. Conversely, the online channel offers a higher convenience due to its lower

transactional costs. Understanding which elements has a higher effect on consumers' purchases and retention is paramount for retailers, and above all for multichannel retailers.

In the same perspective, Dholakia et al. (2010) evidenced that the opportunity to touch and feel products is one of the main reasons for consumer's preference of the offline channel even in presence of technologies advances that are increasingly making real the virtual reality. Conversely, these authors found that the main aspects that bring consumers to shop online are the opportunity to access to a wider assortment and the ability to easily shop across retailers. The authors added also a further element of distinction between channels that is the ability to customize the interface allowed by digital channels compared to the offer of a fixed interface for all consumers of the physical channel.

As verified by Briesch, Chintagunta and Fox (2009) the service convenience has a higher impact in determining the consumer's store choice compared to price. Or else, Hasan and Mishra (2015) found that independently of consumers' consumption habits or income, all consumers want to "enjoy their shopping in a decent environment" (p. 24). Consequently, new aspects determine the consumers shopping process and therefore have to be carefully managed by retailers, mostly in the multichannel retailing setting. In this multiple retailing setting, in fact, aspects as the shopping convenience, the pleasure of the shopping, the store environment in which consumers shop and the usability of the channels influence not only their intention to continue to shop in the channel, but also their engagement to the store brand and, consequently, their loyalty to the shop and to the retailer.

In table 2, we report a summary of the main advantages of both physical and digital channels (Rigby, 2011, p. 71).

Table 2: Advantages of physical and digital shopping channels

<i>ADVANTAGES OF DIGITAL</i>	<i>ADVANTAGES OF PHYSICAL</i>
Rich product information	Ability to test, try on, or experience products
Customers reviews and tips	Personal help from caring associates
Editorial content and advice	Help with initial setup or ongoing repairs
Social engagement and two-way dialogue	Shopping as an event and an experience
Broadest selection	Edited assortment
Convenient and fast checkout	Convenient returns
Price comparison and special deals	Instant access to products
Convenience of anything, anytime, anywhere access	Instant gratification of all senses

Multichannel retailing is not a challenge for retailers who must renounce to their assortment and price strategies to differentiate their offer from that of competitors. It can be also a source of competitive advantage. In fact, in the store setting retailers know that the customer is inside the store only when he/she is at the checkout, or in some cases when the self-scanning is present, when the consumer enter in the store. Conversely, in the digital-grocery setting (d-grocery), as customers have to log-in in the early stages of their shopping expedition retailers can promptly know when the consumer is ready to shop. This opportunity makes retailers able to tailor the offer and cross-selling products based on consumer usual shopping basket (Dall’Olmo Riley, Scarpi and Manaresi, 2005).

Price transparency is another topic widely studied in multichannel retailing. Scholars have considered the opportunity that online channels can create a disadvantage for retailers (e.g. Leeflang et al., 2014) as consumers can compare products offer. In fact, thanks to their mobile devices, iper-connected consumers can easily access and compare prices increasing market efficiency and reducing retailers’ margins (Burke, 1997). However, if we consider that “two thirds of people dislike the visit to the supermarket” (Burke, 1997, p. 353) the access to alternative and convenient online channels can create positive effects on retailers’ profitability engaging new customers. Moreover, focusing on the British grocery market, where there is price transparency and consumers can compare the final price of their shopping list online⁷, it is easy to understand that a standard price strategy is no longer effective. Approximately 50% of shoppers are aware of the price of products they have in their shopping basket (Dickson and Sawyer, 1990). The remaining 50% of consumers seems to be insensible to price discrimination. As proved by Binkley and Bejnarowicz (2003), for these shoppers grocery shopping is influenced by time availability and the efficiency of time use, and they are willing to pay a surcharge to get time and service convenience. In this vein, Degerantu, Rangaswamy and Wu (2000) found that price and promotion play a stronger role in traditional stores than online. Moreover, as recently found by Breugelmans and Campo (2016) in a multichannel grocery-retailing context “promotions can have negative effects on purchase decision in the other channel [... as it leads] to a shift in category sales from one channel to the other” (p. 15). Consequently, the economic benefits of the management of a multichannel strategy (Neslin and Shankar, 2009; Ansari, Mela and Neslin, 2008) are vanished by the opportunistic behaviour of consumers. Moreover, when retailers are inconsistent according to product assortment and prices, they can confuse consumers (Berry et al., 2010). Thus, for retailer that are

⁷ In websites as for example MySupermarket.co.uk

approaching a multichannel strategy it might be preferable to avoid price discrimination and offer a coherent and integrated assortment between offline and online channels. In fact, as it happens more often nowadays, multichannel retailers are extending their offline assortment with kiosk and digital in-store devices to allow access to a wider assortment managing their channels in an integrated way.

Consequently, in line with the omnichannel perspective proposed by Rigby (2011) retailers should evaluate the advantages and disadvantages produced by an integrated management of multiple retailing channels. In fact, the opportunity to offer a multichannel grocery shopping experience is widely considered as one of the main strategy of brand extension proposed by retailers. If we consider the retailing brand extension that grocery retailers are recently implementing, the opportunity to shop among multiple channels is one of those. Recently, grocery shoppers tend to be much more multichannel and take advantage from this extended service offered by retailers (Alba et al., 1997). In fact, the opportunity to shop in different channels combines consumers need for convenience with the direct service offered by offline stores (Campo and Breugelmans, 2015; Cervellon, Sylvie and Ngobo, 2015; Chu et al., 2010; Konyuş, Verhoef and Neslin, 2008; Venkatesan, Kumar and Ravishanker, 2007; Alba et al., 1997). The multichannel shoppers have been found to be valuable for retailers as “provide higher revenues, have higher past customer value, and have a higher likelihood of being active than other customers” (Kumar and Venkatesan, 2005, p. 44). According to Kushwaha and Shankar (2013) the profitability of a multichannel strategy depends on the product category. As found by these authors, in low risk product categories, for example, the physical stores may involve “customers to buy more items in each purchase occasion” (p. 82). Those results have been partially disconfirmed by Ansari, Mela and Neslin (2008), which conversely found that the multichannel shopper is less profitable due to their higher share of wallet facilitated by the consumers’ ability to compare products and prices online. However, the authors continued suggesting that consumer’s loyalty is “affected by industry, product line, marketing policy, customer base and time. [In fact, as found by Zhang and Wedel (2004) exists] a high internet loyalty for grocery goods” (p. 71). Thus, opting for an integrated multichannel strategy retailers can better satisfy consumers’ needs and wants, increasing consumers’ retention. In accordance, Kuan and Bock (2007) stated that retailers’ opportunity to offer a brick-and-click offer between online and offline channels provides a better customer service, especially for those retailers able to transfer the trust gained in the offline channel experience to the online channel. To catch this result and offer an integrated service

experience, multichannel retailers should provide a strong experience using store design, atmosphere and customer service (Fasquet, Ruiz-Molina and Molla-Descals, 2015). In fact, consumers' cross-channel shopping behaviour can generate an important opportunity for retailers, although, to date, many retailers still do not know how to create synergies between channels (Berry et al., 2010). Indeed, retailers must act wisely because if offline and online contexts are not consistently organized in accordance with consumer expectation, the multichannel strategy can produce dissynergies (Bock et al., 2012; Falk et al., 2007). Thus, the main challenges for the multichannel retailer are data integration across channels, understanding customer behaviour in a multichannel retailing setting, carefully evaluating the channel to preside, coordinating channel strategies and data integration (Neslin et al., 2006).

5. LITERATURE GAPS AND RESEARCH QUESTIONS

Our research seeks to enrich and extend the literature on multichannel retailing adopting a consumer-centric perspective. In particular, we consider important the following points:

1. highlight differences between online channels showing peculiarities and differences between electronic and mobile channels;
2. study the consumers multichannel shopping process of commodity goods, *e.g.* grocery products;
3. investigate the effect of the channel environment, the shopping convenience and shopping enjoyment on consumers' intention to shop grocery products in store, rather than on the retailer's website or using the retailer's mobile store app;
4. explore the mediating role of consumer's haptic traits both in a multichannel retailing context and with respect to specific grocery category product.

5.1 DIFFERENCES BETWEEN ELECTRONIC AND MOBILE COMMERCE

As discussed in the previous section, arguing about the online channel as a unique shopping channel or consider it as a general expression to define both the electronic channel (e-channel) and the mobile channel (m-channel) is not clear in the extant literature. What aspects define a channel? Are the access points (*e.g.* websites and applications) acting as antecedents of the channel choice or are devices (*e.g.* smartphone, tablet, laptop and desktop) used to access the channel to define it? A number of studies have recently analysed this issue (*e.g.* De Canio, Ieva, and Ziliani, 2017) but, in the literature, this distinction is still unclear (Okazaki, 2005). Focusing on the channel characteristics, the first aim of this study is to verify the existence of similarities and differences among actual users of the e-channel and m-channel to determine if the two access points have to be considered as a single and unique channel or as two different channels with specific characteristics and a single communality that is their access points via the internet.

RQ. Do users perceive and use the electronic and the mobile channels as a unique channel or as different channels?

5.2 THE GROCERY MULTICHANNEL RETAILING

“As consumers adopt new technologies, their behaviours change” (Zinkhan and Watson, 1998, p. 6) from one hand marketing scholars strive to understand, from a social and psychological perspective, how consumers behaviour is changing due to the adoption of the new communication technologies, and from the other hand, marketers invest time and efforts in understanding changes in consumer behaviour in the marketplace. The big challenge that scholars are facing in doing so is to be able to generalize phenomena, mostly in the early stages of its manifestation. As seen in the previous section, one of the newest marketing research interest considers the online shopping as a valuable marketing issue. But if a plenty of literature is aimed at analysing the general online shopping of specialty and shopping goods (*e.g.* fashion and luxury apparel or accessories, technological products), very few studies attempt to analyse online shopping of commodities, as for example groceries. In fact, as stated by Grewal, Iyer and Levy in 2004 the category product can influence customers’ preference and their internet buying behaviour. The authors considered online commodity market slightly profitable and consequently predicted its slow development. This is what happened, in recent years. In fact, we have witnessed a sudden increase in online sales of commodities. Accordingly, we consider the phenomenon of online grocery shopping as a current research topic of interest for both marketing scholars and marketers. In fact, if we consider the UK market only, the grocery sales accounts for more than 50% of total sales (IGD.com, 2015). Moreover, the sales trends of online grocery market show that online sales are witnessing a great expansion, and they are predicted to continue to grow exponentially in the coming years (Mortimer et al., 2016). Consequently, the second gap we aim to fill in with this study is related to the product studied.

RQ. Is online channel changing consumers habits also for commodities shopping (*e.g.* grocery shopping), or it is to be considered as a niche phenomenon?

5.3 ANTECEDENTS OF CHANNEL CHOICE

As frequently reported in the multichannel marketing context, when different channels have different comparative advantages, the usage of one of them may increase the use of the other in an integrated use of a multiple channel opportunities (Xu et al., 2014). As Rigby stated (2011), channels can interact and thus becoming more efficient. This interaction improves the logistics, service system, customer care and satisfaction, reaching a wider audience/target and leading to a competitive advantage. Multichannel retailing yields many benefits for retailers, producing more connections with customers and increasing the *share of customers*. “Suppliers can use their contact strategy in one channel to motivate customers to migrate to other channels” (Venkatesan, Kumar and Ravishanker, 2007, p. 118). Retailers are thus able to target shoppers more precisely and can also cater better for the varying needs of each shopper by using the advantages of each channel (Konus, Verhoef and Neslin, 2008). This would lead to the definition of a loyalty strategy that would implement consumer engagement, as retailers could tailor promotions to micro-clusters of consumers based on their individual needs and interests. At any point in time, those needs may be primarily to shop quickly and easily, to obtain a particular item, to maximize enjoyment from the shopping experience, or other possible scenarios. All these factors are important because the multichannel customer tend to buy more and is more valuable than the single channel customer (Neslin and Shankar, 2009; Ansari et al., 2008; Neslin et al., 2006; Kumar and Venkatesan, 2005). There is an increasing interest on the effect of computer-mediated shopping channels in the consumers shopping process (Hoffman and Novak, 1996).

Accordingly, it is useful for managers to understand factors that attract consumers to shop towards a channel as consumers “want an enjoyable shopping experience, as well as convenience whether in the store [...] or over the internet” (Kim, 2002, p. 595). Are the utilitarian rather than the hedonic aspects of the channel that impact on consumers’ intention to continue to use the channel for their grocery shopping?

RQ. Are the antecedents of the intention to stick to a channel similar in the three channels choice investigated (brick-and-mortar, electronic and mobile)?

5.4 THE MODERATING ROLE OF THE HAPTIC TRAIT

Consumers are even more used to shop groceries through different channels and formats (Cervellon, Sylvie and Ngobo, 2015; Dawes and Nenycz-Thiel, 2014). The experience with the product could be different in the physical rather than in digital channels and could have a negative impact on the shopping process independently of the channel choice (Alba et al., 1997; Peck and Childers, 2003a; 2003b). In fact, “the greatest benefit offered by stores is the opportunity for customers to use all five senses – touching, smelling, tasting, seeing and hearing, when examining and evaluating products” (Levy, Weitz and Grewal, 2013, p. 61). Conversely, utilitarian values of retailers’ websites, such as easy navigation and convenience, increase consumers “stickiness” to online store (Bridges and Florsheim, 2008). Consumer may infer their shopping preference based on products’ intrinsic cues as appearance, taste, texture, as well as extrinsic cues such as price and brand name (Zeithaml, 1988). Nevertheless, as found by Richardson, Dick and Jain (1994) in their research on store brand grocery products, consumers’ evaluation on grocery items is driven primary by extrinsic cues than by intrinsic ones. Accordingly, it is plausible that in the overall evaluation of grocery shopping extrinsic factors could play a stronger role than intrinsic ones. In fact, on one hand, the absence of the tactile sensory could reduce consumers intention to shop online (Citrin et al., 2003); on the other hand, improvement in technologies may compensate the lack of sensory elements of the interactive retail environment (Childers et al., 2001). In this vein, one of the challenge for retailers that want to overseeing multiple channels is to allow consumers to live a multisensory shopping experience. This challenge is considered harder for online channels where the visual and auditory elements are good, but there is a deficiency in touch (Citrin et al., 2003). Touch is considered essential in the shopping behaviour as, it provides information about the product quality when consumer has no previous experience (Grohmann, Spangenberg and Sprott, 2007; Citrin et al., 2003) and crates an affective response that can influence the consumer decision making process (Peck and Wiggings, 2006). Accordingly, the last aim of this research thesis is to provide important contributions to the marketing and retailing literature verifying how the need for touching products by consumers can moderate the intention to use brick-and-mortar, electronic and mobile channels. In particular, Peck and Childers’ studies showed that consumers need-for-touch has different intensity between people (Peck and Childers, 2003a), and category products (Peck and Childers, 2003b). Moreover, the authors suggested to investigate the effect of the consumers’ haptic trait on grocery products in future research as consumers “examine such haptically salient products

as fruits, vegetables, bread and pastries” (Peck and Childers, 2003b, p. 44). Accordingly, the fourth aim of this research thesis is to verify the moderating role on the haptic trait in the multichannel retailing setting.

RQ. Can the consumer’s haptic personal trait influence the channel choice? How can it influence the antecedents of channel engagement and of channel stickiness?

6. THEORETICAL FRAMEWORK

6.1 REFERENCE THEORY

The theoretical framework of this study is based on the Technology Acceptance Model (TAM) (Davis, 1986, 1989; Davis, Bagozzi and Warshaw, 1989, 1992). In particular, the TAM studies how the acceptance and usage of a technology affects consumers' lives and how it can help consumers to perform their lives (Davis, 1989). The TAM draws upon psychological theories that predict a causal relationship between beliefs – attitude – intention – behaviour (*e.g.* Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1980); Theory of Planned Behaviour (TPB) (Ajzen, 1985).

As discussed above, the TAM follows the theoretical relationship between attitude, intention and behaviour proposed in the early '80s by Ajzen and Fishbein in their Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1980) and in the subsequent Theory of Planned Behaviour (TPB) (Ajzen, 1991; Ajzen, 1985). In these theories, the authors identify a direct path between attitude → intention → behaviour. In particular, attitude represents the evaluation of an object in a particular context. However, “different evaluations of the same object in different contexts can be considered proof of multiple attitudes towards the same object” (Ajzen, 2001, p. 29). In fact, attitude can evolve through time, contexts and different objects creating some apparent discrepancies between the attitude and the behaviour. As stated by Ajzen (2001) new attitudes not necessarily replace the previous ones and it is possible have more than one attitude associated with an object. For this reason, the relationship between attitude and behaviour is generally mediated by behavioural intentions that represent the motivation to behave in a particular way and the strength of people willingness to perform the behaviour (Ajzen and Fishbein, 1980). Consequently, behavioural intentions represent the main proxy of behaviour (Armitage and Christian, 2003). In this vein, the object of this research is to identify the elements that influence consumers' intention to purchase in digital channels, as well as in the physical one.

Over the years, the TAM has been applied to forecast different ICT usage *e.g.* in e-mail (Karahanna, Straub and Chervany, 1999) and information systems (Van der Heijden, 2004), websites (Castañeda et al., 2007; Sánchez-Franco and Roldán, 2005) and mobile services (Hong and Tam, 2006). Furthermore, in the last 25 years, the somewhat

parsimonious TAM has been integrated with supplementary variables, introducing emotional constructs into the original model. Indeed, as reported by Bruner and Kumar (2005), a key difference between the application of the TAM applied to test the technology acceptance in workplace and its following adoption in CB, is represented by the inclusion of hedonic factors in the original model. Among the main studies that apply the TAM, Koufaris (2002) examined website emotional and cognitive factors that can affect consumers' responses in e-commerce. Results showed that "emotional experiences such as shopping enjoyment can help retain customers" (p. 218). Sánchez-Franco and Roldán (2005) used the TAM to analyse the websites acceptance and usage between goal-directed users and experiential users, using the "flow" construct proposed by Koufaris as a predictor of usefulness, attitude and intention. Following definition of flow proposed by Csikszentmihalyi (1975), Koufaris defined flow as "the holistic sensation that people feel when they act with total involvement" (2002, p. 24). Castañeda et al., (2007) adapting the TAM introduced constructs such as potential users' previous experience in order to study the moderating effect of user experience on his or her intention to use a website, developing the Web Acceptance Model (WAM). They found that "there was an experience moderation effect on the relationship between ease of use and usefulness and even on the direct effect of usefulness on attitude and even on the direct effect of usefulness on the intention to revisit a website" (Castañeda et al., 2007, p. 390). In 2007, Huang et al. verified the applicability of TAM to predict the acceptance of mobile learning (M-learning). Their study identified two factors, namely perceived enjoyment and perceived mobility that account for individual differences, in order to enhance the explanatory power of the model. Recently Rodrigues, Oliveira and Costa (2016) found a positive influence of ease-of-use and enjoyment on the intention to use the e-banking service, as well as a strong and reverse influence between the two variables, confirming results of Sun and Zhang (2006).

The technology acceptance model has been widely used in the retailing setting to evaluate the acceptance in non-traditional channels such as television-channel (Wagner, Schramm-Klein and Steinmann, 2017; Yu et al., 2005), electronic-channel (Ha and Stoel, 2009; Bigne-Alcaniz et al., 2008) and mobile-channel (Li, Dong and Chen, 2012; Aldás-Manzano, Ruiz-Mafé and Sanz-Blas, 2009), as well as to assess how new smart technologies (e.g. smartphones, tablet, virtual catalogues), used during the purchasing process, influence the in-store shopping experience (Kim et al., 2016).

The importance of analysing a multichannel retailing setting derives from the strong competition present today between retailers. This competition is generated by the variety of shopping formats available on the market and by the change in consumers' dynamics (Shannon and Mandhachitara, 2008). So, "it is no longer enough for a retailer to operate in a conventional manner by enticing customers with broad assortments, low pricing, and extended store hours" (Arnould and Reynold, 2003) to engage new customers and retain the old ones. In fact, as stated by Arnould and Reynold the "spread of mass discounters, the proliferation of suburban power centres and lifestyle retailing formats, and the recent arrival of the Internet as an alternative retail platform offering consumers unparalleled convenience" (2003, p. 77) have changed the retailing context. Accordingly, retailers should consider their presence on multiple channels as an offer extension (Alba et al., 1997) from which they cannot exempt.

Due to the retailing convergence trend observed in recent years in the trade setting (Martinelli, 2012) there is an increasing overlap of assortments offered by merchants (Stassen, Mittelstaedt and Mittelstaedt, 1999). In addition, the digitalization that is spreading worldwide is making consumers more aware of their shopping choices as they can easily compare products' prices and characteristics just with "a click". In fact, as reported by Lehdonvirta "products are increasingly examined, compared, purchased and paid for on the Internet and through mobile services. Consumption-related information is disseminated and discussed on blogs and forums" (2012, p. 2). Consequently, retailers that want to engage consumers and increase consumers' intention to repatronize their store have to take into consideration a growing number of variables when defining their strategies. To face the competition of the retailing setting, some authors suggested including entertaining features in the retailing setting. As a consequence, the "entertailing" is increasingly being recognized as a key competitive tool" (Arnold and Reynolds, 2003, p. 77) as the excitement, the extrinsic joy and any stimulus that shoppers can experience in the store influence customers' shopping motivations. The effect of the "entertailing" is not only connected with the emotional shopping values (*e.g.* Babin, Darden and Griffin, 1994), but is much more recognized to be connected also with other tools that influence the shopping behaviour such as shopping convenience, the website navigation and usefulness, and the store atmosphere (Childers et al., 2001). In this vein, retailers have to create a cognitively and aesthetically rich shopping environment in ways not readily imitable by competitors (Childers et al., 2001).

6.2 THEORETICAL BACKGROUND

The spread of a variety of shopping channels is leading consumer to split their shopping process in more shopping expeditions. In fact, currently, consumers use to patronage various retailers, formats and channels to satisfy their needs (Strassen, Mittelstaedt and Mittelstaedt, 1999). In this vein, extant literature demonstrated that the experience with the product is different in physical and digital channels (Alba et al., 1997; Peck and Childers, 2003a; 2003b) and that each channel provides different benefits. On one hand, the physical channel offers consumers to gain informations and evaluate products by the mean of sensory factors (Levy and Weitz, 2013, p. 61); on the other hand, online channels offer convenience and hedonic shopping expeditions (Bridges and Florsheim, 2008). Consequently, in the multichannel retailing setting, academics and practitioners are focused in understanding how to retain consumers. Indeed, it is considered one of the most important goals for retailer's strategies (Koufaris, 2002; Pine, Peppers and Rogers, 1995). In fact, consumer's retention, whose main components are customer loyalty and customer intention to re-patronize the store or the brand, expresses a consumer's lifetime value. Shannon and Mandhachitara (2008) pointed out four main measures investigated in the literature to quantify the consumers' lifetime value: "the length of time customers stay active with a store, the regularity of their purchases, customer's repeat purchase [and the] RFM (reach, frequency and monetary) score" (p. 9). In this way it is possible to measure customers lifetime duration and profitability. In fact, long-life customers generate more profits, reduce service costs and are willing to pay higher prices (Reinartz and Kumar, 2000).

In this vein, in the retailing setting it is possible to distinguish two main stream of research that investigates customer retention. On one hand, there are researchers interested in the financial aspects of the inter-brand competition between retailers operating in the multichannel context. In fact, retailers' share of wallet is one critical aspect related to the financial management of the store (Mägi, 2003). On the other hand, there are researchers that investigate consumer behaviour through multiple shopping channels. In particular, in this stream of research, academics are focusing in understanding which aspects engage consumers with the channel and how to retain consumers into the channel itself. This research thesis is settled in this second stream.

The aim of this study is to adapt the Technology Acceptance Model (TAM) to the grocery retailing setting. We intend to include in the TAM model proposed by Davis (1989) other main components investigated in the retailing and technology acceptance literatures. In particular, we would propose a model in which aspects related with customers' intention to re-patronize a channel, named channel stickiness, are combined with customers' engagement in the shopping channel. In particular, we investigate how channel usability and channel atmosphere, forming together channel environment, influence channel engagement, which represents consumers' motivation to use a channel, and channel stickiness, that represents the consumer's intention to repatronize the store. Moreover, in agreement with the literature, we consider the main effects between the channel environment and the channel engagement and the channel stickiness mediated by the shopping enjoyment and the shopping convenience. Furthermore, the proposed model will be tested into three different channels: Physical Channel (*e.g.* brick-and-mortar stores), Online Channel (*e.g.* websites stores) and Mobile Channel (*e.g.* mobile applications) to verify common and different effects on paths between constructs.

6.2.1 CUSTOMERS' ENGAGEMENT AND CHANNEL STICKINESS

Fitting into the retail literature, this research aims to identify the main aspects that influence customers' retention focusing basically on the analysis of consumers' loyalty and their intention to repatronize the store.

In line with the approach proposed by Bowden (2009) we use customer engagement as the main proxy for evaluating customer loyalty. In fact, in agreement with the author, we consider customer engagement as the construct that better expresses “the depth of customers' emotional responses to consumption situations [and that includes the development] of the overall service evaluation [through increased experience]” (Bowden, 2009, 64). The conceptualization of engagement derives from the organisational behaviour literature and is defined as an “affective and cognitive state (Schaufeli et al., 2002, p. 74) [...] positively related to individuals' intentions and behaviours (Saks, 2006)” (from Bowden, 2009, p. 64). In fact, as found by the literature on online stickiness (*e.g.* Chung et al., 2015; Lin, 2007a), stickiness exerts a great predictive power in online consumers' transaction. In this way, stickiness and intention to purchase are similar constructs that predict consumers' shopping behavioural intention.

A special issue of August 2010 published by the Journal of Service Research highlighted the importance of the effect of customer engagement in the consumer behaviour literature. However as suggested by the guest-editors of the special issue (Verhoef, Reinartz and Krafft, 2010), customer's engagement has to be considered as a new and fruitful research area in customer management. Among other topics the concept of engagement in the consumer behaviour literature has been explored in brand engagement (*e.g.* Hollebeek, 2011b; Goldsmith, Flynn and Clark, 2011; Sprott, Czellar and Spangenberg, 2009) community interaction (*e.g.* Brodie et al., 2013), as well as in value co-creation and product innovation (*e.g.* Hollebeek, 2011a; Hoyer et al., 2010; Sawhney, Verona and Prandelli, 2005), but to our knowledge no studies have investigated customer engagement in the retailing setting. Nevertheless, as customers' engagement represents a "deeper and meaningful connection between the company and the customer that endures over time" (Kumar et al., 2010, p. 297) we consider the concept crucial for retailers.

Higgins considers the concept of engagement as the motivational experience that allows users to be "involved, occupied and interesting in something" (p. 442), and it determines the consumers' "intensity of attraction to or repulsion from something" (2006, p. 439). Thus, customers' engagement represents the customer's motivation to behave or not in a specific way (van Doorn et al., 2010) and is connected with the costs and the benefits to behave in a particular way and expresses the cognitive absorption of a specific activity (Hsu and Lu, 2004; Novak, Hoffman and Yung, 2000). According to some literature, there is a strong overlap between the concept of engagement and the concept of flow developed in the technology acceptance literature (*e.g.* Vivek et al., 2014; Agarwal and Karahanna, 2000) and they are often used as substitutes. In this agreement, consumer's engagement could represent the absorption and motivation in repeatedly activity (*e.g.* Novak, Hoffman and Yung, 2000).

The second aspect of growing interest in the retailing literature is the study of consumers' intention to patronize a store or a channel. With the spread of digital channels, the traditional concept of consumer intention to patronize a store is flanking the concept of store or website stickiness. As we are analysing both digital and physical channels, we consider the concept of channel stickiness closer to our research. In fact, as we can learn from the Cambridge dictionary (2016) the concept of stickiness has ripened with the spread of digital channels and refers to "the ability that websites have [...] to draw and retain users" (Wang, 2010, p. 116) and "prolong the duration of each stay" (Lin, 2007a, p. 507). The concept of stickiness was developed in the e-commerce literature and refers to the

customers' intention to "stuck" in a specific website. In fact, as discussed above, website switching is very high in the digital channels as people can easily find another website with similar contents, products or services (Zhang et al., 2016). Thus, "customer retention, or stickiness, is an intangible ability to keep visitors coming back [...and...] is one of the main factor that help to create and maintain the competitiveness and the sustainability" (Khalifa, Limayem and Liu, 2002, p. 856).

Channel stickiness can be defined from the user's side as "repetitive visits to and use of a preferred website [deriving from] situational influences and marketing efforts that have the potential to cause switching behaviour" (Li, Browne and Wetherbe, 2006, p. 106). In fact, channel stickiness represents the ability of a website to convert visitors in new customers and to retain the existing ones (Zott, Amit and Donlevy, 2000). It is influenced by the channel learning usage and indicates consumers' loyalty to a website (Ström et al., 2014). In this vein, we also adopt the term "stickiness" to enclose both aspects of attitudinal loyalty represented by the WOM and consumers intention to re-patronize the channel, either physical or digital.

In fact, extending the concept of stickiness to the general context of retailing channels, the channel stickiness could express the time that consumers spend in a store, on a website or using a mobile app. As found in the retailing literature, channel stickiness plays a very important role in influencing individual's decision to transact (Lin, 2007a). Both in physical and digital contexts, channel stickiness marks consumers' awareness in the usage of a specific channel, indicating the "consumers' brand relationship, traffic to store and purchasing volumes" (Ström et al., 2014, p. 1003). Wolfenbarger and Gilly (2001) found a strong correlation between the time spent in a store or on a website, and the buying motivation of the shoppers. For this reason, improving consumers' stickiness does not mean that retailers should increase the stickiness of each manned channel, but that they "may need to manage consumers' migrations between channels, driving consumers to the most valuable channel in each situation" (Ström et al., 2014, p. 1007).

In the literature, the elements that influence customers' engagement and their stickiness to a channel are similar.

In the retailing setting, shopping environment is recognized among one of the key elements that influence consumers shopping behaviour. As emerged in the study of Berry et al. (2010) bricks-and-mortar stores are typically preferred as they offer "a rich layout, a clear merchandise display and the haptic quality of the good" (p. 159). In the literature, a direct

relationship between aesthetic and engagement has been demonstrated, expressed by the change in consumers' feedback (Karlsson and Djabri, 2001). Kim, Lin and Sung (2013) found that the aesthetic design of branded apps influences its usability and consequently consumers' engagement.

To improve consumers' channel stickiness Wolfinbarger and Gilly (2001) suggested the inclusion of "experiential features" in the website (p. 51). In fact, this encourages consumers to stay longer and visit more often the website. In this agreement, Bridges and Florsheim (2008) identified usability, design and hedonic features as elements to keep shoppers on the website longer. Strom et al. (2014) identified content customization, design, web quality and interactivity, as well as all the aspects that affect consumers' experience as good influencers of online stickiness. Moreover, Lin (2007a) proposed to act on "up-to-date information, personalized capabilities, navigation tools and search functions" (p. 514) to improve the website stickiness. Accordingly, Chung et al. (2015) identified the relationship between web atmosphere and web stickiness. Besides, as the channel stickiness represents the consumers' intention to patronage a channel, it could be influenced by the level of consumer's convenience, as well as by their emotional state (Koufaris, 2002). In fact, as confirmed by Wu, Wang and Tsai (2010) in the game context, the enjoyment creates a sense of gratification in players that are motivated "to stick" with the game.

As a consequence, if traditionally online and offline channels are conceptualised as being totally different as the first allows convenience while the second allows a direct experience with products (Li, Kuo and Rusell, 1999), the design of new selling platforms, as well as of innovative store's layouts could undermine this distinction. Furthermore, we expect a different effect of channel environment, shopping convenience and shopping enjoyment on channel engagement and on channel stickiness among the three scenarios we are analysing.

6.3 RESEARCH HYPOTHESES AND STRUCTURAL MODEL

CHANNEL ENVIRONMENT

Consumers engaged in purchasing activities should interact with the retailing environment both for the ongoing search activity and for the browsing activity as they enhance a sense of sensory stimulation (Titus and Everett, 1995). In fact, consumers respond to the atmosphere of the environment which itself influences the purchase decision (Kotler, 1973). Accordingly, the atmosphere represents the retailers' effort "to design buying

environments [that] produce specific emotional effects in the buyer that enhance his purchase probability” (Kotler, 1973, p. 50). Indeed, store atmosphere has a central role in creating a consistent purchase behaviour by means of its components: layout, design, signage, end-caps and merchandising quality perception (Babin and Attaway, 2000). Therefore, the components of the store atmosphere, *e.g.* the design and the layout, are able to influence consumers’ emotions during their shopping experience (Babin, Hardesty and Suter, 2003; Baker et al., 2002; Babin and Attaway, 2000; Titus and Everett, 1995).

In many studies, (*i.e.* Puccinelli, Motyka and Grewal, 2010) the physical environment of the retailing setting is considered as a non-verbal expression of customers’ perception of merchandise value and patronage intention. In fact, manipulating the merchandise and store layout, retailers could understand whether consumers like or not products allocation on the shelves, looking the product’s stock rotation. In fact, as the main goal of retailers is to sell complete assortments (Mazursky and Jacoby, 1986), the way in which products are presented as well as store design atmosphere should be considered in the same way as the product package in the product choice (Turley and Chebat, 2002). Thus, if we consider store layout as the product’s package of the store, we can easily understand its role in influencing consumers’ mood and their shopping experience, as well as their relative intention to patronize the store.

Further relevance assumes the concept Perceived Ease-of-Use (PEU), strictly related with the online environment and deeply investigated in the original TAM. The PEU is defined as “the degree to which a person believes that using a particular system would be free of effort” (Davis, 1989, p. 320). Davis, in fact, explains the way between various decision-making strategies in terms of task complexity.

In the multichannel retailing literature, the relationship between brick and mortar stores’ and website or mobile app’s design aesthetics is closely related. As found by Kwon and Lennon (2009) consumers may infer store atmosphere from the pleasing aesthetic of the retailer’s website design. As a result, on one hand, the aesthetic should be coherent among all retailers’ channels; on the other hand, it still represents an important distinctive element in a retailing environment. In fact, the coherence between online and offline shopping experiences is a strategic tool to reinforce brand awareness across channels (Earl, 2000). Nevertheless, retailers have to weigh up the environment of each channel with its peculiarities to better satisfy consumes needs. Consequently, in a multichannel setting, the environment assumes a strategic role because the “consumer associates a particular retail environment or characteristic of that environment with a particular goal” (Puccinelli et al.,

2009, p. 18). The environment that retailers develop in each channel should attract different consumers with different shopping orientations. In this way, on one hand, retailers need to be consistent in the environment developed in each channel, but on the other hand, they should improve different environmental characteristics to reach different types of consumers.

Furthermore, if we consider for example the grocery retailing context, in which there is a strong assortment overlap between retailers (Stassen, Mittelsteadt and Mittelstaedt, 1999), the function of the assortment aesthetic turns out to be even more strategic (Baker et al., 2002). De facto, the sensory experience of the store aesthetic could lead to the consumers' decision to stay and shop or to find an alternative (Rosen and Purinton, 2004). Accordingly, a study conducted by van der Heijden (2003) found a strong relationship between the eye aesthetical attractiveness and the website pleasure and enjoyment. On this vein, Karlsson and Djabri (2001) confirmed that the aesthetic of devices enhances a more enjoyable experience and elicits a positive affective response from the user. This effect was confirmed also in the mobile context in which the aesthetic has been considered as part of an "overall enjoyable user experience with a mobile device" (Mennecke and Strader, 2003, p. 45). In fact, the ability to "control the apps should increase the users' intrinsic enjoyment and willingness to continue using them" (Kim, Lin and Sung, 2013, p. 61). Since the development of the TAM literature the usability of a technological tool such as a device, an email, or website was found to have a positive and significant impact on the enjoyment (Venkatesh and Davis, 2002; Venkatesh, 1999; Davis et al. 1992). Specifically, subsequent studies on the website usage proved that the enjoyment mediates the effect of the ease of use on the usage intention (e.g. Ha, Yoon and Choi, 2007; Davis, Bagozzi and Warshaw, 1992). In this case, the assumption is that the more the technology is perceived usable, the more it generates enjoyment in users that will continue to use it. In agreement with Babin and Attaway (2000) we consider that channel environment (*i.e.* atmosphere and usability) has a positive effect on consumer's shopping enjoyment:

H1: Channel Environment positively affects Shopping Enjoyment.

Prior studies demonstrate that store environment influences "consumers' shopping experience costs, which includes consumers' time and effort in obtaining products, as well as the psychological cost of shopping" (Baker et al., 2002, p. 120). In fact, retailers display SKUs using multiple classification schemes, as for example a product's attribute, storage

requirements or consumption characteristics (Titus and Everett, 1995). Consequently, the way in which retailers allocate their space influences customers' attraction, enabling them to locate merchandise, to keep customers into the store for a longer time, and motivating them to make unplanned and impulse purchasing. Conversely, if the store design and its space allocation is not easy to understand and do not support the customers' shopping journey, it could create a negative effect on customers' perception and shopping intention. Thus, store design and atmosphere could have both positive and negative effects on consumers' shopping convenience perception (Titus and Everett, 1995). The literature confirms that the design of the store influences consumers' perception of crowding, as well as the time they spend in finding the desired product (Michon, Chebat and Turley, 2005). In their literature review, Turley and Millman (2000) found many studies confirming that store atmospherics have effect on consumers' perceptions of time spent in shopping, but deeper studies are required. Thus, the store environment and the manipulation of merchandising, aisle, among others features, play a fundamental role in influencing consumers' perceptions of store convenience. Moreover, it has a positive effect in decrease consumers' perception of crowding and/or of the time spent in payment, as well as the perception of the access or the time spent in finding a product (Puccinelli, Motyka and Grewal, 2010; Puccinelli et al., 2009). In the same way, in the online context the system usability that expresses "the capability in human functional terms to be used easily and effectively by the specified range of users [...] to fulfil the specified range of tasks, within the specified range of environmental scenarios" (Shackel, 1991, p. 24) affects the perception of the time spent in a task. In fact, applying this concept to the retailing setting, the concept of usability reflects "the perceived ease of navigating the site or making purchases through the Internet" (Flavián, Guinalíu and Gurrea, 2006, p. 2). Thereby, as usability expresses how a channel effectively support the consumer shopping trip experience, it could be derived that the higher the channel usability, the higher the perception of shopping convenience. For these reasons, we can postulate as follow:

H2: Channel Environment positively affects Shopping Convenience

Store atmosphere is considered as an important marketing tool because it is able to influence consumers' shopping behaviour via the manipulation of physical stimuli experienced during the purchase (Turley and Millman, 2002). Also in online retailing, store atmosphere and the display of the merchandise can exert a strategic role in influencing customer shopping behaviour (Grewal et al., 2016). Accordingly, if in the

grocery store the entrance is to be clean and with high-quality fruits and vegetables to increase customers' preference (Shannon and Mandhachitara, 2008), the first page of a website must be perceived as pleasurable to increase consumers' website engagement and stickiness (Menon and Kahn, 2002). However, the main difference between online and offline store environments is that in online context retailers are able to tailor the shopping experience targeting several shopping segments with several environments that provide alternatives shopping experiences, while in the offline environment retailers need to establish an environment that can accommodate different customer segments styles.

In the prevailing literature, a direct relationship between aesthetic and engagement has been demonstrated, expressed by the change in consumers' feedback (Karlsson and Djabri, 2001). Kim, Lin and Sung (2013) found that the aesthetic design of branded apps influences its usability and consequently consumers' engagement. As found by O'Brien (2010) the aesthetic of a website influences consumers focused attention that represents his/her engagement in the task. In fact, as found by the author in another study conducted in collaboration with Elaine Toms, aspects of effectiveness and efficiency of a website affect the e-shoppers motivation (O'Brien and Toms, 2010). For this reason, we consider also a direct and positive effect of channel environment on channel engagement as follow:

H3: The Channel Environment affects positively the Channel Engagement

SHOPPING ENJOYMENT

In 1992, based on the joint work of Davis, Bagozzi and Warshaw, TAM has been integrated with the extrinsic variable of enjoyment. To capture the hedonic value linked with shopping behaviour and the technology acceptance and usage, we have to distinguish between two broad classes of motivations that are leading to perform an activity: extrinsic motivation and intrinsic motivation. "Extrinsic motivation is defined as the performance of an activity because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself. Intrinsic motivation refers to the performance of an activity for no apparent reinforcement other than the process of performing the activity per se" (Davis, Bagozzi and Warshaw, 1992, p. 1112). In particular, Davis, Bagozzi and Warshaw found that enjoyment is closely related to the concept of pleasure resulting from engagement in a specific activity: "the activity [to use] technology is perceived to be enjoyable in its own right" (Davis, Bagozzi and Warshaw, 1992, p. 1113).

Over the years, enjoyment has been widely adopted in the original TAM model. In a mobile context, for example, it was found as the main antecedent of attitude to use mobile games (Ha, Yoon, and Choi, 2007). As intrinsic motivations are connected “to playfulness and the reward of the action itself” (Lu and Su, 2009, p. 449). Shopping enjoyment and perceived playfulness perform a fundamental role in influencing consumers’ technology acceptance, as well as consumers’ shopping expeditions (Huang et al., 2007). Likewise, the relevant role of enjoyment has been studied both in consumers’ decision-making processes (Perugini and Bagozzi, 2001), and consumers’ buying behaviour (Wolfenbarger and Gilly, 2003; Beatty and Ferrell, 1998). In recent years, enjoyment started to become important also in the retailing setting, both digital and physical. In fact, for retailers it has become critical to generate a feeling of happiness in consumers when they access a channel because customers who feel happy and smile act smiling and feel happy during the shopping experience (Puccinelli, Motyka and Grewal, 2010). On the contrary, consumers with a bad mood, maintain the negative state throughout the shopping experience unless some element of the environment can transform their mood (Puccinelli, 2006).

Yu et al. (2005) found a stronger impact of enjoyment for unexperienced users than for experienced users of television commerce (t-commerce), finding that enjoyment has the greatest impact in defining users’ attitudes towards t-commerce. Ailawadi, Neslin and Gedenk (2001) studied the effect of shopping enjoyment on private label vs national brand promotions, finding greater enjoyment for those who prefer store brands. As stated by Chong in his analysis on mobile commerce, consumers’ retention is strategic for companies, thus it is important to m-commerce companies “to include consumers’ needs for pleasure and fun when examining m-commerce adoption” (2013, p. 28).

The distinction between utilitarian and hedonic motives is consolidated in the extant literature; these are in fact the two main reasons that influence the consumer buying process (e.g. Childers et al., 2001; Babin et al., 1994; Bellenger and Korgaonkar, 1980). Consumers should be classified as to “work consumers” referring to those to whom the shopping experience elicits a sense of satisfaction to accomplish the intended goal and as to “fun consumers” identifying them as those who feel a sense of enjoyment and fun in the shopping experience (Babin et al., 1994). In fact, for many consumers, the act of shopping reflects the “entertainment and enjoyment resulting from the fun and play arising from the experience versus the achievement of any prespecified end goal” (Childers et al., 2001, p. 513). Consequently, “hedonic consumption designates those facets of consumer behavior

that relate to the multi-sensory, fantasy and emotive aspects of one's experience” (Hirschman and Holbrook, 1982, p. 92). Hedonic shopping is derived from the potential entertainment and emotional worth of the shopping expedition, and is expressed in terms of enjoyment and fun (Babin et al., 1994). The authors went on stating that enjoyment “is an important hedonic benefit” (p. 646). They added that “even though shopping can be viewed as work, the consumers might enjoy it” (Babin et al., 1994, p. 647). On one hand, consumers look for efficient and time saving shopping experience that reduces the efforts as well as the monetary costs of the shopping activity (Seiders et al., 2007). On the other hand, they would experience a more fun, pleasurable and enjoyable shopping experience. As recently found by Pauwels and Neslin (2015) “a more enjoyable [shopping expedition] may mean less efficient” (p. 194). In the empirical study conducted by Seiders et al. (2007) shopping enjoyment is one of the main antecedents of shopping convenience that affects the behavioural intention to repurchase in a store in terms of frequency of visits and amount spent both. Thus, we postulate that:

H4: Shopping Enjoyment has a negative effect on Shopping Convenience

Shopping enjoyment “has a more powerful effect than convenience” in explaining consumer engagement and channel stickiness (Childers et al., 2001, p. 514). Specifically, consumers who perceive shopping as an enjoyable experience (*i.e.* a hedonic event) tend to have a more positive mood, and are more inclined to increase their intended and actual purchases (Childers et al., 2001; Beatty and Ferrell 1998), and to visit the store frequently (Hart et al. 2007). Furthermore, as individuals with a high level of playfulness experience a state of flow (Webster and Martocchio, 1995; Sherry, 1990), which results in higher involvement and in a positive mood (Arnold and Reynolds, 2003; Webster and Martocchio, 1995), the hedonic value of a consumers’ experience positively influences their engagement (Higgins, 2006).

H5: Shopping Enjoyment has a positive effect on Channel Engagement

Shopping enjoyment is an important antecedent of intention to buy, not only in the online environment but also in the offline one (Koufaris, 2002). Thus, shopping enjoyment influences not only the emotional state of the shopping experience, expressed by consumers’ engagement in using a particular channel, but also the time spent in a channel, as well as, their intention to increase the frequency of use of that channel. In fact,

consumer emotions towards a purchase experience can be the major determinant of whether a consumer is satisfied and will continue to purchase a product or patronise a store (Burns and Neisner, 2006). In accordance with the literature presented above, we predict that, also in the multichannel context, enjoyment plays a central role in determining the stickiness to a channel, directly and by the mediating role of convenience.

H6: *Shopping Enjoyment has a positive effect on Channel Stickiness*

SHOPPING CONVENIENCE

The spread of multichannel retailing gives to consumers the opportunity to choose a channel rather than another based on the specific channel characteristics. As demonstrated in the literature, some consumers like shopping, but two thirds of people do not like to spend time in the supermarket and prefer to use their time in other personal activities (Burke, 1997). The latter type of consumers prefer virtual stores for the absence of time restrictions for store access (Burke, 1997). For this reason, the internet is often considered as a convenient and utilitarian channel, while the brick-and-mortar store enabling consumers to physically touch and test products, is considered a hedonic channel (Verhoef, Neslin and Vroomer, 2007). In fact, as reported by Li, Kuo and Rusell (1999), according to their shopping orientation, some consumers would prefer online channels for their convenience and time saving, while others would prefer brick-and-mortar stores because they allow them “to see, feel, touch, and try” a product before buying it. As defined by Rohm and Swaminathan (2004) **Shopping Convenience** represents the overall convenience in terms of time and efforts saved in shopping, while the **Immediate Possession** “refers to the instantaneous delivery of products or services” (p. 752). In fact, “Brick-and-mortar stores allow customers to touch and interact with products, connect with other customers, and receive direct feedback from sales personnel” (Grewal et al. 2016, p. 1).

In the literature, shopping convenience is defined as the “consumer’s perceived degree of avoidance of time and effort” (Moeller et al., 2009 p. 314) and is operationalized as a multidimensional construct covering the entire shopping process. The five dimensions usually used to define shopping convenience are: decision, access, search, transaction, and post-benefit convenience (Berry, Seiders, and Grewal 2002; Seiders, Voss and Godfrey, 2007). Nevertheless, according to Beauchamp, Bednarz and Ponder (2010) in the grocery retailing setting we can exclude some of these dimensions. In fact, in the shopping of convenience goods the dimension of decision and post-benefit convenience appear to be

less influential. On the contrary, given the high frequency of purchase, other aspects turn out to be strategic: the *access convenience* that refers to “physical location, operating hours, and online availability” (Seiders et al. 2007, p. 145); the *search convenience* that refers to time used to find a product in the assortment and the *transaction convenience* that reflects the time spent in paying. Considering the multichannel context in which this research is carried out, we consider essential to include in the multi-dimensional concept of convenience a general aspect of time saving specifically connected to the channel (Childers et al., 2001).

As suggested by Jatasankara and Aryasri, in the new grocery retailing formats, represented by digital channels, “the espousal of ‘value for money’ and ‘value for time’ have unconditionally altered the consumers’ shopping orientations [towards] grocery store formats” (2011, p. 69). In fact, the greater mobility of consumers added to their paucity of time have lead retailers to extend their offer in online channels (Lloyd et al., 2014; Laforet, 2008; Childers et al., 2001; Seiders et al., 2000). The concept of convenience in the retailing setting refers to “time, opportunity, and energy that consumer give up to buy goods and services [...] that reduces non-monetary price of a product” (Berry, Seiders and Grewal, 2002). Consequently, shopping convenience influences the consumer’s shopping behaviour and his/her shopping choice (*i.e.* Seiders et al., 2005; Moeller, Fassnacht, and Ettinge, 2009; Rust, Lemon, and Zeithaml, 2004). For this reason, grocery retailers should be able to provide both convenience and possession to meet different consumer needs. As found by Ganesh et al. (2010), the consumers who are more concerned with convenience are willing to pay extra to save time and are more valuable for retailers. Moreover, if consumers perceived a channel as convenient they are willing to repatronize it (Ganesh et al., 2010). As found by Bridges and Florsheim (2008) the convenience has a positive effect on online store stickiness. In the physical context, Reimers and Chao (2014) found that time, spatial, access and parking convenience have a positive effect in influence not only the motivation but also the intention of grocery shoppers. Moreover, as found by Darden and Lumpkin (1984) the grow scarcity time of modern consumers affects their shopping process. In fact as found by many authors investigating the grocery sector (*e.g.* Burke, 2002; Darden and Lumpkin, 1984) groceries shoppers require a fast and convenience shopping experience. As a consequence of that, the convenience of the store, as in the case analysed by the authors, and/or of the channel, in a broader view, has effects on the engagement and intention to stick with a specific channel. In agreement with the literature, we postulate the following hypotheses:

H7: Shopping Convenience negatively affects Channel Engagement

H8: Shopping Convenience positively affects Channel Stickiness

CHANNEL ENGAGEMENT

Customer engagement expresses how and why consumers behave in various ways (van Doorn et al., 2010). It includes retention and cross-buying, sales and transaction metrics, word-of-mouth, peer-to-peer recommendations and referrals. Higgins (2006) considers the engagement construct as a motivational experience that allows users to be “involved, occupied and interesting in something” (p. 442) and this determines the consumers’ “intensity of attraction to or repulsion from something” (p. 439). Consequently, the motivational force to have or not a particular behaviour results in a source of experience that could be related to the level of engagement. Van Doorn et al. (2010) define customer engagement as a behaviour that goes beyond transactions, explaining it as “customer’s behavioural manifestation that have a brand or firm focus, beyond purchase, resulting from motivational drivers” (p. 254). Consumers’ engagement behaviour could be manifested both in positive and negative behaviour. Consumers’ resources such as time, cognitive effort and money, can also affect their level of engagement. Most likely, consumers evaluate costs and benefits of engaging in specific behaviours that can be determined by relative resource endowments for consumers. O’Brien and Toms (2008) defined engagement as the technology’s ability to captivate user’s attention, engender a sense of community and be funny. The authors, readapting the Four Threads of Experience developed by Wright, McCarthy and Meekinson (2003) found a direct relationship between users’ engagement and sensual, emotional and spatiotemporal values. Consequently, aspects such as aesthetic elements, positive and negative affect, and the perception of time and space should create a positive or negative engagement in users, and influence their shopping experience. Similarly, Kim, Lin and Sung (2013) identified attention, curiosity, challenge, aesthetic and playfulness as the main attributes of consumer engagement. In particular, the authors found that the aesthetic feature of the media and its entertainment content positively affect the individuals’ decision making and the ability to process contents.

Sometimes the concept of engagement is drawn near the concept of flow. In fact, as found by Agarwal and Karahanna (2000), there is a strong overlap between flow and engagement as both concepts refer to intrinsic interest, curiosity, focused attention and intense

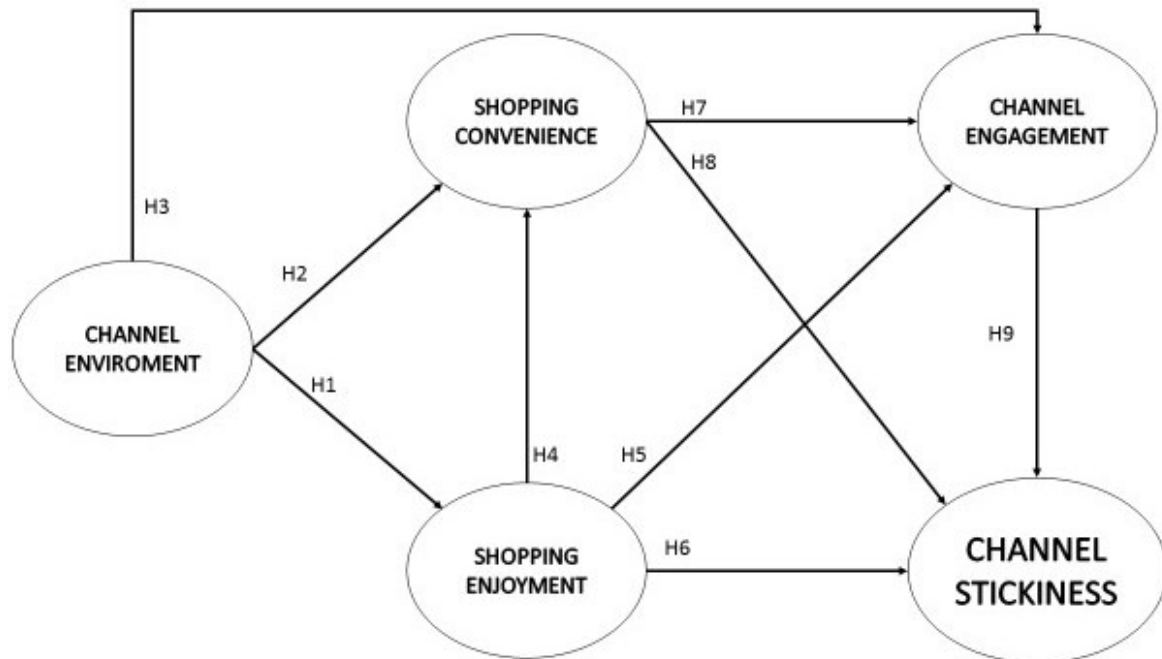
concentration. Indeed, both concepts express a cognitive absorption in which consumers “awareness is narrowed to the activity itself” (Hsu and Lu, 2004, p. 856). As stated by Vivek et al. (2014) in some cases “authors in marketing have difficulty in deciding what to call the concept” (p. 402). On one hand, customer engagement expresses the experiential interaction between customers and brands, websites or other objects, and on the other hand, it represents the psychological and motivational state of the relationship (Vivek et al., 2014). In fact, as found in the literature review of Brodie et al. (2011), customer engagement represents at the same time cognitive, emotional and behavioural aspects.

Therefore, we define channel engagement as the channel’s ability to engage customers, captivate their attention and engender a sense of self-identification with the retailer’s channel. Thus, channel engagement expresses consumers’ absorption and motivation in repeatedly shopping in a specific channel, in line with the main studies on the flow concept (*e.g.* Novak, Hoffman and Yung, 2000). As found by Lin (2007a), web stickiness is related to both positive attitude and trust, concepts that in our analysis are included in the construct of engagement. Consequently, consistently with the TRA (Ajzen and Fishbein, 1980) that postulates a direct influence of motives on intention, we postulate a direct and positive effect of customer engagement on the behavioural intention represented in this study by the channel stickiness.

H9: Channel Engagement positively affects Channel Stickiness

To advance this research theme and answer to research questions presented in the previous section, we propose the following research model (Figure 16):

Figure 16: Proposed Research Model



6.4 THE MODERATING ROLE OF THE CONSUMER PERSONALITY TRAITS: NEED-FOR-TOUCH (NFT)

Not all consumers behave in the same way and their personality traits are recognized as the main factors that influence their purchase choice (Puccinelli et al., 2009). The general shopper's orientation influences the value consumers give to different shopping values (*e.g.* environments, convenience, emotions towards shopping). For instance, one of the most important distinctions discussed in the extant literature is between shopping for utilitarian rather than hedonic reasons. On one hand, hedonic motives dominate utilitarian motives in influencing consumers' choices (Maslow, 1968). On the other hand, the two personality traits should coexist in the same consumer that behaves differently depending on the product purchased or the context, among others factors (*e.g.* Childers et al. 2001; Babin et al., 1994; Bellenger and Korgaonkar, 1980). In fact, in multichannel shopping, consumers look both for efficiency and time saving in order to reduce efforts and the monetary cost of shopping (Seiders et al., 2007), as well as for a more funny, pleasurable and enjoyable shopping experience (Childers et al., 2001).

“Many consumers view shopping as a diversion from daily routines, a means of self-gratification, a source of sensory stimulation and a way for socializing” (Hornik, 1992, p. 451) and all the sensory stimuli available during the shopping process have a positive

effect on their behaviour (Hornik, 1992). Moreover, consumers are recognized to vary not only in their utilitarian and hedonic values, but also in “degrees of acumen, training, experiences, genetic equipment and sensory capabilities” (Lawless and Heymann, 2010, preface). In fact, in absence of intrinsic and extrinsic information about a product, consumers need to use their sensory channels (sight, sound, touch, smell and taste) to evaluate and buy a product (Citrin et al., 2003) and the higher their sensory experience, the higher their engagement in the shopping process (Soars, 2009). “Sensory stimuli can influence environments, improve the shopper experience and change the nature of behaviour in ways beyond our consciousness” (Soars, 2009, p. 286). Thus, the sensory stimuli are considered primary in influencing the consumer purchasing process as they tend to influence the environment perception (Soars, 2009), the level of shopping enjoyment (Peck and Wiggins, 2006) and of shopping convenience (Soars, 2009), as well as of shopping engagement (Soars, 2009) and on intention to shop online (Citrin et al., 2003), among others. The sensory stimuli are considered lacking in online environment and, at the moment, the literature is not concordant on the effect of this lack on the buying process. On one hand, Childers et al., (2001) suggested that the technological environment and its improvements compensate this lack, on the other hand, Citrin et al., (2003) claimed that although great innovations have been made to improve the visual and auditory aspects of online stores, there is a lack in the haptic system feature, representing a great challenge for online retailers. The authors highlighted that the particular lack of tactility could inhibit the online buying process.

The multisensory experience is considered essential in influencing the expectation of shoppers both in the offline and in the online context (Dall’Olmo Riley, Scarpi and Manaresi, 2008). In fact, the lack of the “experiential product information” could influence negatively consumers’ buying decision making not only in the digital channel (Alba et al., 1997, p. 39) but also in the offline channel (Peck and Childers, 2003a; 2003b). In fact, “retail display case, can inhibit the use of haptic information and consequently decrease confidence in product evaluations and increase the frustration level of consumers” used to touch products (Peck and Childers, 2003b, p. 35). Consequently, the consumer’s need-for-touch (NFT) has a direct effect both on the digital and physical retailing. Thus, in the multichannel retailing context it becomes paramount for retailers to understand the effect of the haptic trait in the perception and adoption of specific channel. The term “haptic” is generally associated with the meaning to “actively seeking and pick up information by hands” (Peck and Childers, 2003b, p. 36). The role of touch in consumers’ purchasing

decision leads insights not only in the multichannel setting, focus area of this study, but also in “brand judgements and choice preferences, leisure satisfaction, information search and product attribute” (Peck and Childers, 2003a, p. 430).

In the retailing setting the touch of the product can have a double function in supporting the consumer’s shopping process. On one hand consumers can infer information about the quality of the product they are going to shop, and the lower the product knowledge and experience, the higher value of the information derived from the touch (Citrin et al., 2003; Peck and Childers, 2003b; Hirschman and Holbrook, 1982). On the other hand, the touch of the product creates an affective response affecting the shopping process (Peck and Wiggins, 2006). To catch this double value of the tactile sense, Peck and Childers (2003a) conceptualized a two dimensions Consumer’s Need for Touch (NFT) scale: the *Autotelic* dimension and the *Instrumental* dimension. While the instrumental need for touch involves the goal-oriented shoppers that infer products’ attributes and properties and evaluate their shopping choice by means of touch; the autotelic dimension refers to hedonic-oriented response to seek fun and enjoyment by the sensory stimulation of the touch. Consequently, consumers high in instrumental NFT used to touch product to enhance their sense of confidence and security in the product there are going to buy, while consumers high in autotelic NFT experiment a sense of fun, pleasure and enjoyment in touching products (Manzano et al., 2016). Consequently, the instrumental NTF trait represents the “rational” motives to get information about the product, while the autotelic NTF trait focuses on sensory aspects related to the touch (Peck and Wiggins, 2006).

Specifically, in case of the autotelic NTF personal traits, other experiential aspects of the shopping trip such as shopping environment or shopping enjoyment may limit the absence of the touch contact with products (Peck and Childers, 2003a). In this line, Peck and Wiggins (2006) in a three studies on communication messages showed the positive effect given by incorporating touch elements (e.g. “don’t touch” or “touch it”) into a no tactile situation. They found that the information provided only by the written “touch” can have a positive effect especially on people highly motivated to touch because it is fun or interesting.

In the literature, the haptic trait has been found to mediate both attitude and behaviour (Hornik, 1992) but, to our knowledge, there is a lack of studies investigating its influence in the channel choice. In our opinion, if consumers feel not to be able to acquire information by the touch of the product, they can forget to shop in digital channels (Peck and Childers, 2003a) although they consider the digital shopping more convenient, usable

and enjoyable of the physical one. On the contrary, if the store design does not allow consumers to directly feel products through their touch, the positive effect of channel convenience or of the channel usability may be thwarted. Extant literature agrees that the consumer haptic trait can vary between consumers, category products, and shopping contexts (Abhishek, Sinha and Vohra, 2013; Dall’Olmo Riley, Scarpi and Manaresi, 2008; Peck and Childers, 2003a, 2003b; Citrin et al., 2003; Hornik, 1992).

Past researches, stated that the absence of tactility in online channels reduce consumers’ willingness to buy groceries online (Dholakia, Zhao and Dholakia, 2005), especially for perishable category products (e.g. fruits and vegetable) (Abhishek, Sinha and Vohra, 2013; Peck and Childers, 2003). On the other hand, experiments on packaged grocery goods found similar effects of the NFT both in offline online channels (Degeratu, Rangaswamy and Wu, 2000). In particular, Degeratu, Rangaswamy and Wu (2000) analysing liquid detergent, soft margarine spread and paper towel found that “sensory attributes will influence choice to a lesser extent online than offline” (p. 76). Unfortunately the authors took into consideration only three product categories, not considering the effect of the sensory attributes on the overall assortment.

In 2003, McCabe and Nowlis analyse the effect of the consumer’s haptic trait in the in store environment, considering all the retailing setting in which consumers can physically examine products, such as apparel, electronics and home furnishing, and the remote environments where consumers can examine only a visual or a textual representation of the product. They found differences between the environment choice based on the material properties of products. A recent research (Manzano et al., 2016) on consumer multichannel shopping behaviour showed that in presence of hedonic category products, *i.e.* fashion clothes, the highest level of the haptic trait is related to the instrumental component of the NFT.

The authors also found low levels of NFT traits in online shoppers both in the autotelic and instrumental dimensions. Extending the recent experimental research of Manzano et al. (2016), we aim to investigate different levels of NFT dimensions in the offline and online channels, and its moderating role in the grocery multichannel retailing setting.

H10: High level of instrumental NFT has positive effects on the physical channel choice

H11: High level of autotelic NFT has positive effects on the online channel choice

7. EMPIRICAL ANALYSES

This section is focussing in presenting the empirical analyses performed. This in order to verify the validity of the research questions and of the hypotheses previously postulated. The seventh section is structured in four parts: in the first part, the methodology used is described, as well as the design of the study. Then, the pilot test and the nomological analysis of the items used in the analysis are depicted. The latest two and most substantial parts of the section describes data collection and analyses of the main study based on 935 questionnaires.

7.1 METHODOLOGY

7.1.1 STRUCTURAL EQUATION MODELS (SEM)

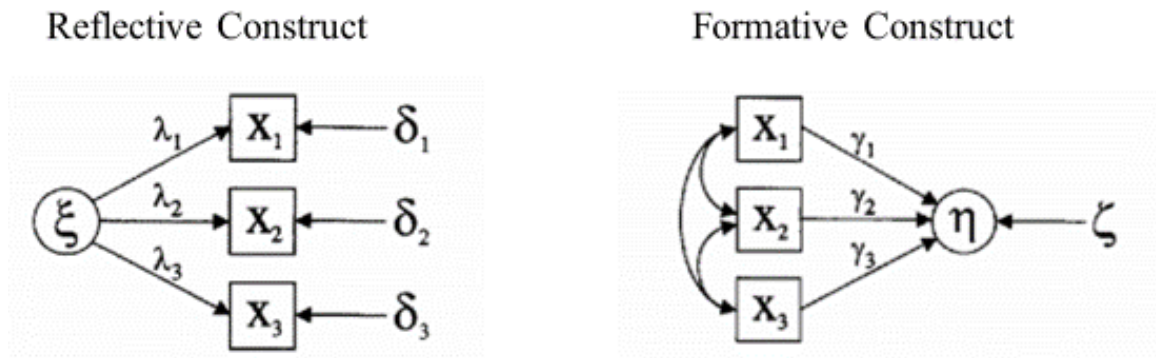
The study was conducted submitting a 45-items questionnaire to a panel of grocery shoppers in the United Kingdom. The questionnaire was developed on the Qualtrics platform and administered using the panel Lightspeed GMI. The use of a panel allow us to assess the effects of channel choice across time. In this way, in the following analyses we can verify how the market trends are changing and how the process of multichannel grocery shopping is evolving. In fact, it is important to remember that above all considering the mobile shopping, the percentage of people to this shopping channel is increasing day-by-day. On one hand, advances in technology, on the other hand an increasing interest of retailers for this retailing channel, are improving the possibilities to sell using a mobile app. In addition, as previously seen, consumers are even more connected with their mobile phones and suitable to new shopping opportunities. Thus, due to the recent development of the shopping through the online channel, the opportunity to trace the evolution of the purchase activity gives the possibility to predict in a couple of years changing in the shopping trends by the means of a dynamic exploration of the research objectives.

Data were analysed applying a Structural Equation Model (SEM). Structural equation modelling started to be used in marketing studies since the early 1980s, although their application grown exponentially in recent years (Hair, Ringle and Sarstedt, 2011). In fact, in marketing and consumer behaviour research SEMs are considered among the main

advanced approach (Baumgartner and Homburg, 1996). As stated by Preacher, using Structural Equation Modelling it is possible to express “the proportion of variance in one variable explained by the other variable [...testing the effect] across two or more groups” (2006, p. 520). Steenkamp and Baumgartner (2000) highlighted two main advantages of this technique. First, structural equation models allow measurement error to be explicitly incorporated into models and its influence on the degree of fit to be analysed. Second, unlike multiple regressions, relations between variables can be studied simultaneously as several dependent variables can be considered in the same model. In addition, one variable can be at the same time an endogenous and exogenous variable regarding the other variables in the model. Thus, although it is difficult to measure the causal relation between two variables (De Vaus, 2001), many scholars consider SEMs as the best methodology to estimate it (i.e. Edwards and Bagozzi, 2000). However, in a following paper, Bagozzi (2010) stated that the relationship between latent and manifest variables could be misguided, as “the relationship in question is not causal, per se, but rather one of hypothetical measurement. That is, the relationship is between an abstract, unobserved concept and a concrete, observed measurement hypothesized to measure the concept; the relationship is part logical, part empirical, and part theoretical (conceptual), with the inferred factor loading representing, in and of itself, only part of empirical meaning of the relationship” (Bagozzi, 2010, p. 210). For this reason, in order to empirically assess the causal relationship among constructs, there always should be a stable theory.

As stated by Bollen and Pearl, “like in any vital field, there are differences and debates that surround it” (2013 p 302), nevertheless some commonalities exist among methodologies. Specifically, two different approaches are generally used to compute Structural Equation Models: Covariance-Based SEM (CB-SEM) and Partial Least Square SEM (PLS-SEM). While the first is generally used to confirm theory, PLS-SEM is more usable in prediction and theory development (Hair et al., 2011; Gefen, Straub and Boudreau, 2000). A construct can be considered as a concept that describes a phenomenon with a theoretical interest (Edwards and Bagozzi, 2000). Nevertheless, it does not exist a unique way to measure a construct that can be identified both with reflective or formative variables (Figure 17). Thus, another relevant difference between CB-SEM and PLS-SEM is in the nature of the constructs composing the Structural Equation Model.

Figure 17: Relationships between Constructs and Measures



A reflective construct is cause of its measure and a variation in a construct produces a variation in its measure. In reflective constructs, the elimination of one measure does not affect the definition of the construct itself (Edwards and Bagozzi, 2000). Conversely, when measures are cause of their construct, the latter are termed formative. In this case, constructs are termed *composites* as they need to be defined by multiple variables and the elimination of one measure reduces the predictive power of the construct (Edwards and Bagozzi, 2000).

As our theory is based on CB-SEM, and in our empirical analysis, we want to test well-established theories deriving from the retailing and the technological literature in the context of the multichannel retailing, we consider the CB-SEM as the best methodology to test our hypotheses.

In particular, we aim to identify a Structural Equation Model (SEM) with Maximum Likelihood. This methodology, in fact, assesses the validity of the causal relation between constructs and verifies how much the observed variables are representative of the latent constructs developed in our model. Constructs used in our model are “reflective” as the latent variable (*i.e.* constructs) try to reflect itself through the world by the mean of observable variables (*i.e.* items). For this reason, we decided to firstly verify that the items belonging to the same construct show a strong correlation between them. Correlations among items were analyzed using IBM SPSS Statistics 21.

All correlation among our measures (hereinafter: items) are strong (bigger than 0.3) and significant (See Appendix A).

7.1.2 STUDY DESIGN

The questionnaire is built in four blocks. In the first block, respondents provided little information about the receipt of ads and coupons for grocery shopping. They also indicated the frequency of their grocery shopping in each of the proposed channels (mobile, web and physical) and the time spent buying groceries in each channel. In fact, in this research thesis, we specifically take into consideration three different channels: the physical channel, *i.e.* physical stores; the electronic channel, *i.e.* retailers' websites; and the mobile channel, *i.e.* retailers' store apps.

The second section of the questionnaire is structured in three parts that split the full sample based on their channel shopping, (stores, websites and using mobile apps). This block is build using a logic structure that defines the hierarchical display of the questions. The hierarchical structure of the questionnaire provides the mobile version of the questionnaire if the respondent made at least one grocery shopping using the mobile app in the last month. Otherwise, if the respondent stated to make at least one grocery shopping using the retailer website, then he/she was requested to respond to the questionnaire about the grocery purchases using the retailer's websites. Then, in the case in which the respondent had no mobile neither electronic grocery shopping experiences in the last month, he/she was requested to respond to the part of the questionnaire focused on grocery purchases in traditional stores. This section is based on scales developed in the technological and retailing literature.

The third part of the questionnaire investigated the haptic trait of respondents and their attitude towards impulse shopping. Finally, in the last part of the questionnaire we collected respondents' sociodemographic data.

7.1.3 SCALE MEASUREMENT

The main part of the questionnaire is based on 28 items⁸, which constitute the five constructs of the proposed model (Figure 16). Other 12 items that measure the consumers' haptic traits were then added⁹.

In the following tables items of the questionnaire and their original scales are presented. Items, evaluated on a 7-point Likert scale (1=strongly disagree; 7=strongly agree), were derived from the main retailing and technological literature and have been adapted to the

⁸ Please refer to Appendix B for the full questionnaire

⁹ Items will be presented in the MODERATING EFFECT OF CONSUMER NFT section.

context of multichannel retailing, so as to make them understandable independently of the channel they have been proposed.

To measure store environment (Table 3) we mainly took in consideration three scales: Grewal et al. (2003), Johnson et al. (2015), and Harris and Goode (2010). In fact, by the mean of 13 items we aimed at investigating a number of aspects related to the environment such as for example its atmosphere, design and usability. In fact, we believe that in this way we can properly catch similarities and differences of the three investigated channels.

In our analysis, the environment construct was aimed at to investigating all the aspects connected with the place in which the shopping process takes place, from its design and atmosphere to its usability, layout and logic display of products.

Table 3: Items of the Channel Environment Construct

Scale	Code	Item
ENVIRONMENT	ENV1	The atmosphere in my main mobile grocery store app is entertaining
	ENV2	The atmosphere in my main mobile grocery store app is stimulating
	ENV3	My main mobile grocery store app has a pleasing atmosphere
	ENV4	My main mobile grocery store app is attractive
	ENV5	My main mobile grocery app is well designed
	ENV6	My main mobile grocery app has a good appearance
	ENV7	The way products are placed in my main mobile grocery store app is easy to understand
	ENV8	My main mobile grocery store app is easy to navigate
	ENV9	It is easy to move between different sections of my main mobile grocery store app
	ENV10	It is easy to compare products and prices in my main mobile grocery store app
	ENV11	Products are logically displayed in my main mobile grocery store app
	ENV12	My main mobile grocery store app is easy to navigate
	ENV13	Browsing in my main mobile grocery store app is intuitively logical

In the recent literature, many authors used various scales in order to measure shopping enjoyment, and among these, we chose two studies to select our final scale (Table 4): Seiders et al. (2007) and Li, Kuo and Russell (1999).

In particular, the construct of shopping enjoyment investigated positive emotions connected with the shopping experience, such as, for example, enjoyment, pleasure and fun.

Table 4: Items of Shopping Enjoyment Construct

Scale	Code	Item
-------	------	------

ENJOYMENT	ENJ1	Shopping using my main mobile grocery store app makes me happy
	ENJ2	I enjoy shopping using my main mobile grocery store app
	ENJ3	Buying grocery products using my main mobile store app is fun
	ENJ4	Buying grocery products using my main mobile store app is usually a pleasant experience for me
	ENJ5	I like to shop using my main mobile grocery store app

In their study Childers et al. (2001) approached the concept of convenience taking into consideration the increasing lack of time shown by modern consumers (Fernie, 1997). For this reason, we specifically explored shopping convenience referring to the time connected with the shopping in a specific channel (Table 5).

Table 5: Items of Shopping Convenience Construct

Scale	Code	Item
SHOPPING CONV.	TC1	My main mobile grocery store app allows me to save time when I am shopping
	TC2	My main mobile grocery store app makes my shopping less time consuming
	TC3	Using my main mobile grocery store app is a convenient way to shop

The channel engagement scale was derived from the O'Brien study (2010). In her study, in fact, the author proposed an engagement scale composed by multiple aspects. However, in our analysis (Table 6), in line with the definition of engagement that we assumed¹⁰ we focused mainly on what the author called focused attention.

The scale of channel engagement explored motivations connected with a specific shopping channel. In particular, through this construct, we aimed at measuring how each channel is able to make the shopping experience so engaging that people do not realize the time spent on grocery shopping.

Table 6: Items of Channel Engagement Construct

Scale	Code	Item
ENGAGEMENT	ENG1	I am so involved when I shop for groceries using my main mobile store app that I lose track of time
	ENG2	I block things out around me when I shop for groceries using my main mobile store app
	ENG3	When I buy groceries using my main mobile store app, I lose track of the world around me
	ENG4	The time I spend buying groceries using my main mobile store app just slips away

Finally, the channel stickiness scale (Table 7) was adapted from the study conducted by Lin in 2007 and Chung and colleagues in 2015. As found by the authors, online stickiness has a greater predictive power on consumers' transaction.

¹⁰ Please refer to the theoretical framework for more details

The construct of channel stickiness explores the consumer’s intention to stick with a particular channel, from the future intention to increase the frequency of the shopping to his/her intention to recommend the channel to his/her relatives and friends.

Table 7: Items of Channel Stickiness Construct

Scale	Code	Item
STICKINESS	STICK1	I intend to continue to buy grocery products using my main mobile store app
	STICK2	I intend to increase the frequency of grocery shopping using my main mobile store app
	STICK3	I am willing to recommend others to shop for grocery products using my main mobile store app

7.2 PILOT TEST

After having designed the empirical analysis, we performed a soft launch of the survey on a pilot sample of 55 respondents. The amount of respondents is totally causal as we projected to open the survey for 24 hours in August (23th -24th August 2016).

The main aim of the pilot test was the evaluation of the quality of the administered questionnaire. In particular, we aimed to assess the nomological validity of the scales employed, as well as constructs’ reliability. Respondents were asked to fulfil the questionnaire using an online platform accessible both from mobile and computer devices. Questions were presented in a randomized order.

7.2.1 ANALYSIS OF THE SAMPLE

Among the main items of the questionnaire five control questions were introduced to verify the level of attention of respondents. The first check on these questions lead us to exclude 17 answers (30.9% of the total sample). The average time to fulfil the questionnaire was about 10 minutes, with a range between almost 5 minutes and 17 minutes. We do not notice particular problems concerning the speed of completing the questionnaire and as it is a pilot test we maintained all the responses. The total sample for the pilot test counted for 38 responses. The demographic characteristics of the sample are presented in Table 8. Female composes 45% of the sample and more than 84% of respondents is aged 45 years or more.





Table 8: Demographic Characteristics of the Sample

Class age	Female	Male	Class age %
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18-24	1	1	5.3%
25-34	1	1	5.3%
35-44		2	5.3%
45-54	1	6	18.4%
55-64	8	4	31.6%
65 and over	6	7	34.2%
Gender Total	17	21	100%
Gender %	45%	55%	100%

In Table 9 are presented data about the household composition of the family of respondents and their income. As emerges from results, groups are homogeneous in both household composition and household income, showing the good representative power of the sample.

Table 9: Sample Household and Income

Income	1 	2 	3-4 	5+ 	Income %
Under £20K	6	7	2		39.5%
£20K -£29K	3	1	5	1	26.3%
£30K-£49K	3	2	2	1	21.1%
£50K-£75K		4			10.5%
£75K-£100K			1		2.6%
Grand Total	12	14	10	2	100%
Household %	32%	37%	26%	5%	100%

7.2.2 SCALE VALIDITY

To assess the validity of the used scales, we focused on the most numerous group formed by those that usually use to shop groceries in traditional stores. In fact, 31 subjects compose this group, compared to the unique respondent used to shop via mobile apps and to the six respondents who shop using grocery websites.

To assess the internal consistency of measures we applied the Cronbach's alpha (Table 10).

Table 10: Internal Consistency of measures

Scale	N. Items	Cronbach's α
--------------	-----------------	---------------------------------------

Environment	13	0.953
Shopping Enjoyment	5	0.958
Shopping Convenience	3	0.742
Channel Engagement	4	0.802
Channel Stickiness	3	0.445

All items showed good levels of the alpha's index greater than the cut-off 0.70 (Nunnally and Bernstein, 1994) confirming the internal reliability of constructs, apart for the channel stickiness construct that marked a lower value. Moreover, the modification index of some constructs suggested that deleting one item from the scale its consistency would improve. However, we have to consider that the sample size of the pilot test was based just on 31 individuals and for this reason, we preferred to improve the understanding of the questions posed instead of deleting them. We decided to change one item in three constructs, *i.e.* channel stickiness, channel engagement and shopping convenience, as follow:

STICK2_{old}: *I intend to increase the frequency of grocery shopping in my main store*

STICK2_{new}: *I intend to frequently shop groceries in my main store*

ENG2_{old}: *I block things out around me when I shop for groceries in my main store*

ENG2_{new}: *I am totally absorbed in the task when I shop for groceries in my main store*

CTIME3_{old}: *Using my main grocery store is a convenient way to shop*

CTIME3_{new}: *Using my main grocery store is a timely way to shop*

7.3 MAIN STUDY

After having analysed the data of the pilot test and applied some changes to some items appearing to be weaker in respect to others, we proceeded with the full survey.

7.3.1 DATA COLLECTION

Data collection had two main objectives: to reach a total sample size of around 1000 useful and valid questionnaires and to collect a minimum of 100 respondents in each group:

physical stores, websites and apps grocery shoppers. The full launch of the survey was conducted in two steps. First, the survey was submitted to a sample of grocery consumers independently by the channel used during their shopping process. 1454 fully completed questionnaires were collected in this step in a 9 days period between 14th and 22th of September 2016. A second data collection was then performed between the 27th of September and the 3rd of October 2016 to increase the sample size of mobile grocery shoppers that was the small one. 1035 fully completed questionnaires were collected in this second step. Thus, a panel of 2489 UK grocery shoppers were then used for this part of the empirical analysis.

7.3.2 CHECK OF THE VALID QUESTIONNAIRES

To verify the validity of the questionnaires collected we used a three steps data purification in both moments of the data collection. Through the three checks performed on fully completed questionnaires, it was possible to replace some questionnaires achieving an acceptable rate number in each group.

SPEED TEST

Initially, the responses were cleaned up starting from the analysis of the average time spent in fulfilling the questionnaire. In particular, we took into consideration the average fulfilment time used by respondents of the pilot test. In fact, as there were no constraints in the time to fulfil the questionnaire and respondents were allowed to start the questionnaire and pause it for days, the use of the pilot test, thanks to its limit of 24 hours accessibility, guaranteed us a reliable response time. Excluding 10 slower and 10 faster responses we got an average response time of 615 seconds resulting in almost 10 minutes. Thus, we excluded questionnaires fulfilled in less than 30% of the average time (<184 seconds). We did not apply the same rule to those that fulfilled the questionnaire in more than 70% of the average time as respondents were allowed to fulfil the questionnaire in more than one session. Through this check, we excluded almost 3.5% of the responses.

CONTROL QUESTIONS CHECK

To check the attention level of respondents, we included five control questions in the blocks containing scales. In this way, it was possible to verify if respondents read the questions or use to respond randomly. In fact, in the latter case, the full questionnaire

would have been unreliable and would invalidate the results of the survey. The analysis of control questions led us to eliminate about 30% of the collected answers.

STRAIGHT LINERS

We finally checked the presence of “straight liners”. Straight liners are respondents that use to use the same sequence of answer in a specific block of the questionnaire. In our survey, there are three specific blocks, containing scales. Applying this control, we excluded almost 4% of questionnaires fulfilled in the same way in at least 80% of questions in each block containing scales.

7.3.3 ANALYSIS OF THE SAMPLE

The check of valid questionnaires applied in both data collections brought us to a total sample composed by 935 respondents. In particular, we got 101 valid and complete responses for the mobile channel, 235 valid and complete answers for the web channel, and 599 valid and complete answers for the physical channel.

Men (54.1%) mainly compose the full sample. Apart from the younger cluster of respondents, composed just by 50 respondents, we had a good distribution of respondents among age classes (Table 11). As found in the pilot test, we confirmed a particular abundance of respondents over 45 years (45.3% of the total sample).





Table 11: Demographic Characteristics of the full sample

Class age	Female	Male	Class age %
18-24	13	37	5.3%
25-34	61	67	13.7%
35-44	67	81	15.8%

45-54	89	97	19.9%
55-64	96	101	21.1%
65 and over	103	123	24.2%
Gender Total	429	506	100%
Gender %	45.9%	54.1%	100%

In Table 12, the income of respondents, as well as their household composition are reported. Similarly to the results found in the pilot test, we did not find particular abnormalities in the composition of our sample.

Table 12: Sample Household and Income

Income	1	2	3-4	5+	Income %
					
Under £20K	189	96	30	7	34.4%
£20K -£29K	74	70	51	9	21.8%
£30K-£49K	50	97	93	11	26.8%
£50K-£75K	7	44	47	9	11.4%
£75K-£100K	2	10	20	3	3.7%
Over £100K	1	3	11	1	1.7%
Grand Total	323	320	252	40	100%
Household %	34.5%	34.2%	27.0%	4.3%	100%

7.3.4 SAMPLE'S GROCERY SHOPPING HABITS

Our analysis is mainly based on multichannel shoppers. In line with Kushwaha and Shankar, we defined the multichannel shopper as “someone who shops across channels” (2013, p. 80).

Specifically, to understand the main grocery shopping habits between the three investigated channel we asked respondents to evaluate the frequency, the percentage of the purchase (£) and the time spend on average in each channel.

101 (10.8%) respondents shopped at least once using a grocery mobile app in the previous month, 312 (33.4%) respondents used grocery websites for their shopping¹¹, and 893 (95.5%) shopped in store. Those results confirmed that the main grocery channel is the

¹¹ The sample consists of 935 respondents (multiple answers)

physical one. Nevertheless, we can confirm new targets of online grocery shoppers. In addition, 306 (32.7%) respondents can be considered multichannel, as they use more than one channel to shop groceries. Among multichannel grocery shoppers, 74 respondents (7.9%) affirmed to use to shop in the 3 channels, 21 (2.2%) use mobile and physical channels and 181 (19.4%) use web and physical channels. Conversely, only two respondents used exclusively the mobile channel, 28 used only the web channel and 599 preferred the physical channel. On average, mobile shoppers made 37% of their grocery purchases using the grocery mobile app, 29% shop in retailers’ websites and 34% shop groceries in store. They shopped using mobile apps almost 3 times a month, and some of them visited the retailer website two times a month; nevertheless they frequently shop in store (4 times/month). The store is also the channel in which these shoppers spend more time for their grocery shopping: 40 minutes compared with 25 minutes using retailers’ mobile apps and 24 on grocery websites.

Electronic shoppers split their grocery shopping between grocery websites (55%) and grocery stores (45%). The frequency of online purchases (6 times) is similar to their shopping in store (9 times), as similar is the time spend on the retailer’s website (28 mins) compared to the time in instore shopping (27 mins).

Finally, store shoppers have as unique channel the physical one¹², in which they shop almost 8 times a month, spending 35 minutes for each shopping expedition.

7.3.5 MOBILE SHOPPING

We asked to our respondents if they have had previous mobile shopping experiences.

Table 13: Category products purchased using a mobile app

	In the last month	In the last six months	In the last year	Once or twice, time ago	No, never
Books	8.98%	6.63%	5.45%	3.64%	75.29%
Fashion apparel	7.59%	9.20%	3.21%	3.64%	76.36%
Movie tickets	4.49%	5.13%	2.99%	3.74%	83.64%

¹² It depends on the design of our survey

Toys and video games	3.85%	5.88%	4.28%	4.17%	81.82%
Consumer Electronics	3.74%	6.95%	4.71%	5.03%	79.57%
Flight tickets	3.10%	5.24%	3.85%	3.21%	84.60%
Coupons	3.10%	4.28%	3.10%	3.42%	86.10%
Home furnishings	2.57%	5.56%	4.28%	4.28%	83.32%
Baby products	2.46%	2.25%	2.14%	2.78%	90.37%
Computer hardware, software, and peripherals	2.25%	5.88%	4.39%	4.60%	82.89%
Mean	4.21%	5.70%	3.84%	3.85%	82.40%

Books and fashion apparels are monthly purchased by 8% of respondents (n=935) using a mobile app; and almost 25% of the sample had a mobile shopping experience in these product categories. Moreover, consumer electronics that is a product category with a low purchase frequency was purchased in the last year using a mobile app by 15.4% of respondents. Videogames (5.88%), movie tickets (5.13%) and flights tickets (5.24%) showed an interesting monthly shopping trend.

7.4 MODEL IDENTIFICATION

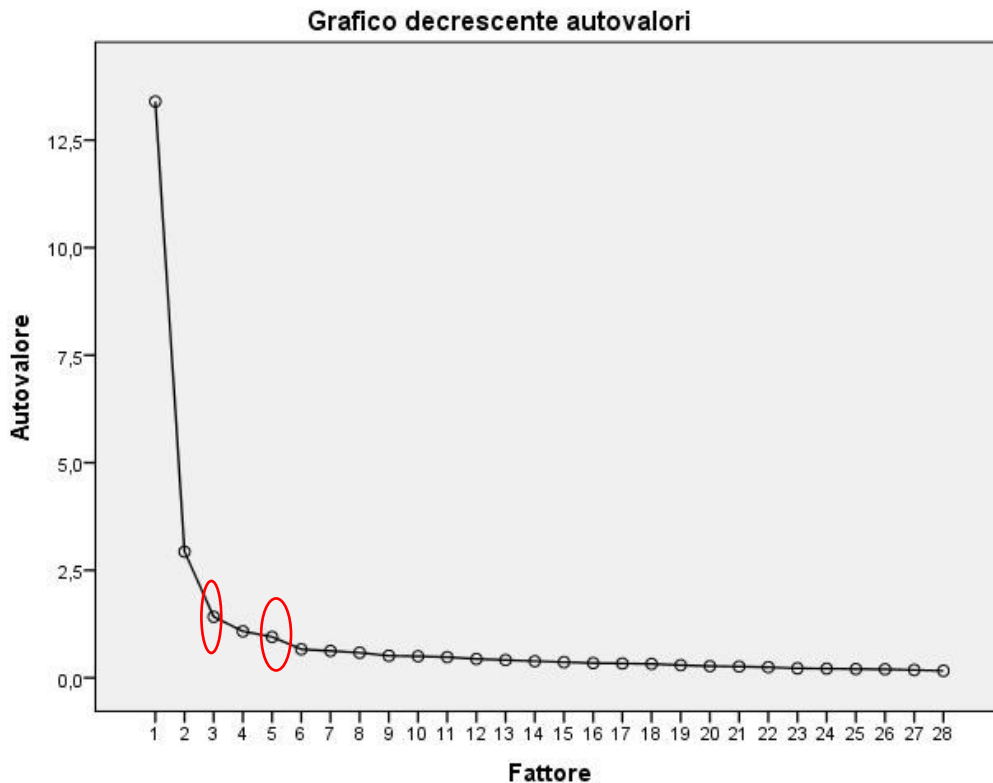
This section explains step by step the procedure followed to identify the final structural equation model. The initial dataset consisted of 935 completed and valid questionnaires, and analyses were performed on the main section of the questionnaire in which 28 items compose the final investigated model.

7.4.1 EXPLORATORY FACTOR ANALYSIS

As recommended in the SEM literature, we applied the Exploratory Factor Analysis (EFA) on the 28 items to “purify” the dataset (Churchill, 1979). In fact, as stated by the author, the factor analysis is a good way for “determining the number of dimension underlying the construct” (Churchill, 1979, p. 69). As seen in the analysis on the pilot sample, our items are highly correlated, thus, using the EFA analysis we verified if any cross-loading problem among items existed. In fact, on one hand items of the same construct have to be strongly correlated, on the other hand, there must be a low correlation between items belonging to different constructs.

To choose the number of factors we used the scree plot criterion, as the Kaiser's rule is accurate only in 22% of cases, while the scree plot criterion is accurate in 57% of cases (Zwick and Velicer, 1986). In this criterion, the elbow of the curve determines the number of factors. Nevertheless, as it is possible to verify in figure 18, we found two elbows. In this case, the theory should be followed. Specifically, as we are investigating 5 constructs, we extracted five factors.

Figure 18: Scree Plot



We found positive results for both the Kaiser-Meyer-Olkin test (KMO test) and the Bartlett Sphericity test (Appendix).

Applying a Maximum Likelihood (ML) procedure with an Equamax rotation¹³, we found the following results (Table 14).

A careful examination of the EFA results revealed that there were cross-loading among some items (*e.g.* ENJ5 and ENV6). Specifically we found a correlation between channel environment and shopping enjoyment, and between the latter and channel engagement. Moreover, we found items that did not load as expected (*e.g.* ENV4, ENV5, ENV7) and

¹³ Factor loadings lower than 0,4 were deleted. (Note of the estrazione: Estrazione Method estrazione: Maximum Likelihood; Rotation Method: Equamax with Kaiser Normalization; The rotation has reached the convergence criteria in 18iterations).

one item showed a low loading (lower than 0.40) (e.g. ENV10). Thus, we dropped 6 items from the original 28-items database. All the remaining 22 items exhibited a high item-total correlation, indicating their capability to measure the construct.

Table 14: Factor loadings

Items	Factors				
	1	2	3	4	5
STICK1				0.711	
STICK2				0.587	
STICK3				0.533	
ENG1			0.901		
ENG2			0.613		
ENG3			0.851		
ENG4			0.745		
CTIME1					0.774
CTIME2					0.743
CTIME3					0.520
ENJ1		0.673			
ENJ2		0.671			
ENJ3		0.659			
ENJ4		0.620			
ENJ5		0.533		0.506	
ENV1	0.692				
ENV2	0.594				
ENV3	0.654				
ENV4		0.588			
ENV5		0.538			
ENV6	0.522	0.477			
ENV7		0.536			
ENV8	0.653				
ENV9	0.580				
ENV10					
ENV11	0.463				
ENV12	0.661				
ENV13	0.516				

7.4.2 CONFIRMATORY FACTOR ANALYSIS

To verify the measure quality a Confirmatory Factor Analysis (CFA) was computed using the software Lisrel 8.80. The CFA is generally used to test if the empirical data conformed the theoretical framework. No particular problems in terms of factor loadings were found but ENV 13 showed a high value for the completely standardized residual. In fact, the

variance explained by ENV13 is very close to its error. So, we decided to eliminate this item.

The final model includes 5 latent constructs and 21 items.

To examine the internal reliability of each construct we used Cronbach's alpha (Nunally, 1967). The psychometric analysis of the 5 scales showed a good internal consistency indexes. The Cronbach's alpha index for each scale is much greater than the threshold value of 0.70 (Nunally and Bernstein, 1994) showing a good level of internal reliability of the scales used in the model (Table 16).

To test the convergent validity we verified that all items were significant ($t\text{-value} \geq 18.78$) and substantially able to explain the variance underlying constructs (factor loading ≥ 0.563) (Hu and Bentler, 1999), loaded onto the expected latent constructs (Table 16).

Moreover, all the constructs showed good levels of Average Variance Extracted (AVE) larger than the cutoff of 0.5 (Fornell and Larcker, 1981) and constructs' Composite Reliability (CR) are greater than the 0.7 cutoff (Hair et al., 1998; Steenkamp and van Trijp, 1991).

Following the criterion for discriminant validity proposed by Fornell and Larcker (1981), we tested that the square root of AVE by the underlying construct is larger than the correlation of this construct and the others. In this way, we tested that each construct shared more variance with its own measures than, it shared with other constructs. As shown in table 15 this condition was verified for all the five investigated constructs, showing a good internal validity of the measurement model.

Table 15: Discriminant Validity

	Channel Environment	Shopping Enjoyment	Shopping Convenience	Channel Engagement	Channel Stickiness
Channel Environment	0.796				
Shopping Enjoyment	0.744	0.863			

Shopping Convenience	0.646	0.624	0.764		
Channel Engagement	0.282	0.556	0.224	0.812	
Channel Stickiness	0.763	0.709	0.721	0.315	0.734

Note: Diagonal elements in bold are the square root of average variance extracted (AVE).

Table 16: Confirmatory Factor Analysis

Construct	Item	Factor Loading	Stand. Error	Cronbach's α	AVE	CR
Channel Environment				0.896	0.583	0.906
	ENV1	0.880	0.226			
	ENV2	0.829	0.314			
	ENV3	0.563	0.682			
	ENV4	0.820	0.328			
	ENV5	0.756	0.429			
	ENV6	0.662	0.562			
	ENV7	0.789	0.377			
Shopping Enjoyment				0.92	0.744	0.921
	ENJ1	0.853	0.272			
	ENJ2	0.906	0.180			
	ENJ3	0.822	0.324			
	ENJ4	0.869	0.246			
Shopping Convenience				0.801	0.584	0.807
	TC1	0.797	0.365			
	TC2	0.802	0.356			
	TC3	0.687	0.528			
Channel Engagement				0.881	0.660	0.885
	ENG1	0.904	0.182			
	ENG2	0.676	0.543			
	ENG3	0.858	0.263			
	ENG4	0.792	0.373			
Channel Stickiness				0.773	0.538	0.777
	STICK1	0.714	0.491			
	STICK2	0.695	0.518			
	STICK3	0.789	0.377			

8. THE STRUCTURAL ANALYSES

Following the recommendations of Anderson and Gerbing (1988), once identified the unidimensionality and convergent validity of the constructs and evaluated the psychometric properties of the measurement instrument, the structural model proposed in figure 16, which synthesises the hypotheses posited, was estimated. All the following Structural Equation Models (SEM) use a Maximum Likelihood (ML) estimator with robust correction to account for non-normality in the data. Severe non-normality of test statistics and standard errors are generally recognized in CB-SEM (Chou, Bentler and Satorra, 1991). Nevertheless, as stated by Hu, Bentler and Kano (1992) and Hu and Bentler (1999) the Maximum Likelihood (ML) estimator with robust correction (Satorra and Bentler, 1988) it is proved to be the best methodology for survey data. Data were analysed using the software Lisrel 8.80 (Jöreskog and Sörbom, 2007).

8.1 THE MOBILE GROCERY MODEL

The first structural model that we computed is the mobile model. In this model, we tested the hypotheses posited in the sixth chapter. The group composed by 101 respondents has the clear limit to be composed by a small sample; nevertheless, the innovative nature of this target of consumers makes this the most interesting group of our analysis.

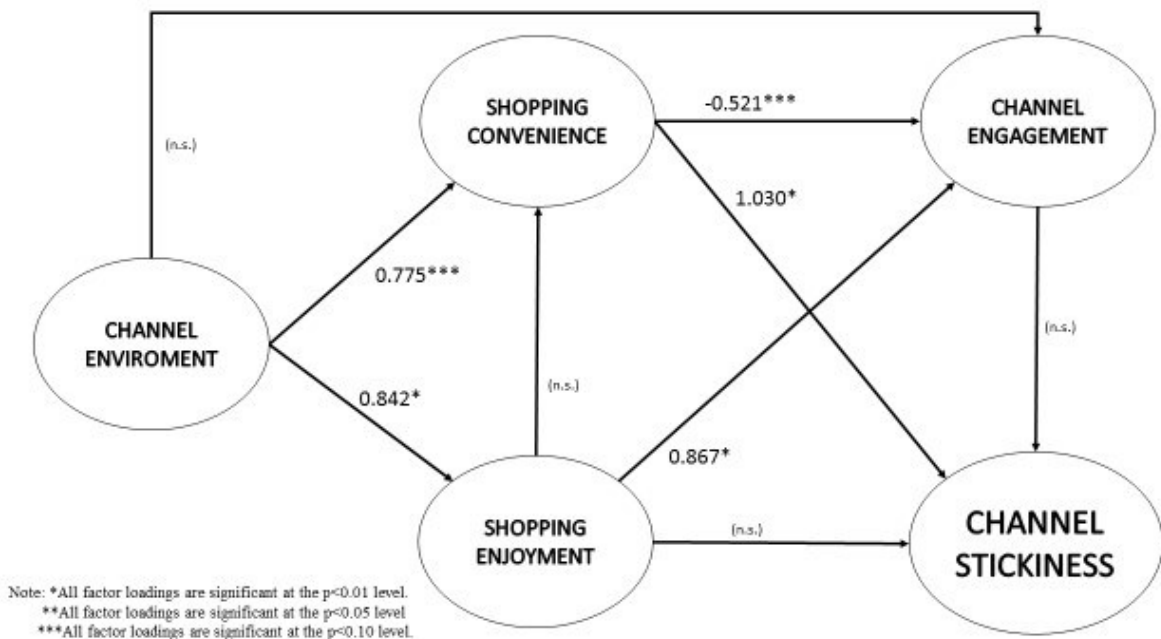
Before evaluating the hypothesized relationship, the structural model was assessed in terms of chi-squared, fit indices and variance explained estimates. The significant Satorra and Bentler chi-square $\chi^2_{(SB)(180)}=254.902$, $p < 0.01$ indicates that the hypothesized model does not mirror the pattern of covariance contained within the raw data. However, this indicator has problems connected with the sample size and with the violation of the assumption of multivariate normality (Jöreskog and Sörbom, 1993). “Since the chi-square variate is a direct function of a sample size, the probability of rejecting any model increases as N increases” (Bentler and Bonnet, 1980, p. 591). Accordingly, the normed chi-square $\chi^2/df=1.42$ was used to estimate the goodness of the model fit. Moreover, the Root of Mean Squared Error of Approximation (RMSEA=0.0645) and the Close-Fit RMSEA $< 0.05=0.102$ confirmed the goodness of the model fit.

We took into consideration other indexes that evaluate the goodness of the model fit. The standardized Root of Mean Residuals (RMR) = 0.107 showed some problem with residuals. The comparative fit index (CFI =0.977), Not-Normed Fit Index (NNFI = 0.973)

higher than the cut-off of 0.95 indicated a good model fit. The goodness-of-fit (GFI = 0.750) confirmed the acceptable fit of our model.

The proposed model looked to be enough efficient in explaining dependent variables and we succeeded good level of explained variance for all the investigated constructs $R^2_{(STICK)}=0.612$, $R^2_{(ENG)}=0.187$, $R^2_{(CONV)}=0.552$ and $R^2_{(ENJ)}=0.710$. These indicators were consistent in considering the hypothesized model as acceptable.

Figure 19: Mobile Grocery Shopping Model



As shown in figure 19, probably due to the sample size, H3 (CENV → CENG), H4 (SENJ → SCONV), H6 (SENJ → CSTICK) and H9 (CENG → CSTICK) are not significant. Particularly relevant is the not significant effect of shopping enjoyment on mobile channel stickiness (H6).

In line with our hypotheses, the channel environment has a significant and positive effect on shopping enjoyment (H1: $\beta=0.842$, $p < 0.01$) and on shopping convenience (H2: $\beta=0.775$, $p < 0.10$). A significant and strong effect was found between shopping enjoyment and channel engagement, supporting H5 ($\beta=0.867$, $p < 0.01$). Finally, we confirmed the negative effect of shopping convenience on channel engagement (H7: $\beta=-0.521$, $p < 0.10$) and its positive effect on channel stickiness (H8: $\beta=1.030$, $p < 0.01$).

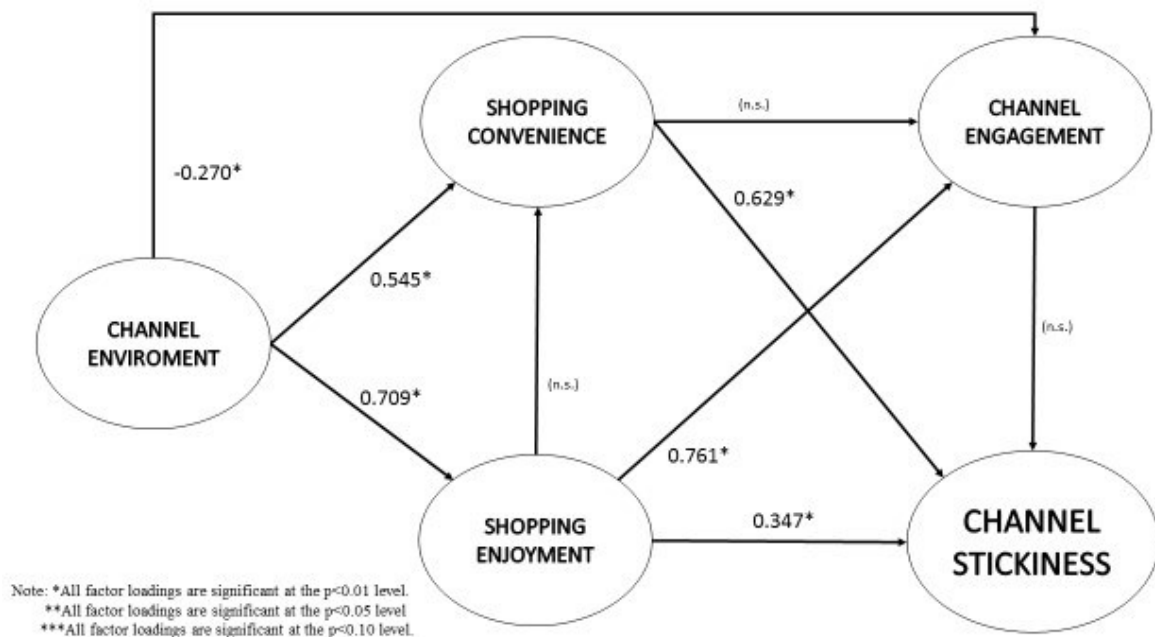
8.2 THE WEB GROCERY MODEL

Shoppers that have shopped at least once in August- September 2016 through a grocery website compose the second group, based on 235 shoppers.

Although the significance of the χ^2 due to its sensibility to the sample size and to the violation of the assumption of multivariate normality (Jöreskog and Sörbom, 1993) $\chi^2_{(SB)(180)}=370.944$, $p<.000$, the $\chi^2/df=2.06$ index evidences a good model fit. The acceptability of the model fit was confirmed by the low RMSEA=0.0673 and from the Close-Fit RMSEA $< 0.05=0.002$. The Standardized Root Mean Square Residual (SRMR) = 0.0989 showed some problem with residuals. Nevertheless, the empirical results showed a general good model fit with good incremental fit measurements (CFI=0.979; NNFI=0.976) and an acceptable GFI= 0.838.

The variance explained by the empirical model is good for all the investigated constructs, confirming the good model fit: $R^2_{(STICK)}=0.738$, $R^2_{(ENG)}=0.332$, $R^2_{(CONV)}=0.356$ and $R^2_{(ENJ)}=0.503$.

Figure 20: Web Grocery Shopping Model



Results of the web grocery shopping confirmed most of our hypotheses apart for H4 (SENJ→SCONV) and H9 (CENG→CSTICK) that were not significant.

The environment confirmed his positive effect in determining a pleasurable shopping experience (H1: $\beta=0.709$, $p<0.01$), as well as a convenience shopping experience (H2: $\beta=0.545$, $p<0.01$). In line with the results found for the mobile grocery model, channel environment negatively influence channel engagement (H3: $\beta=-0.270$, $p<0.01$).

In the electronic context, shopping enjoyment had a positive role in influencing both channel engagement (H5: $\beta=0.761$, $p<0.01$) and channel stickiness (H6: $\beta=0.347$, $p<0.01$). Conversely, shopping convenience had no effect on channel engagement but it was confirmed a good antecedent of channel stickiness (H8: $\beta=0.629$, $p<0.01$).

8.3 THE STORE GROCERY MODEL

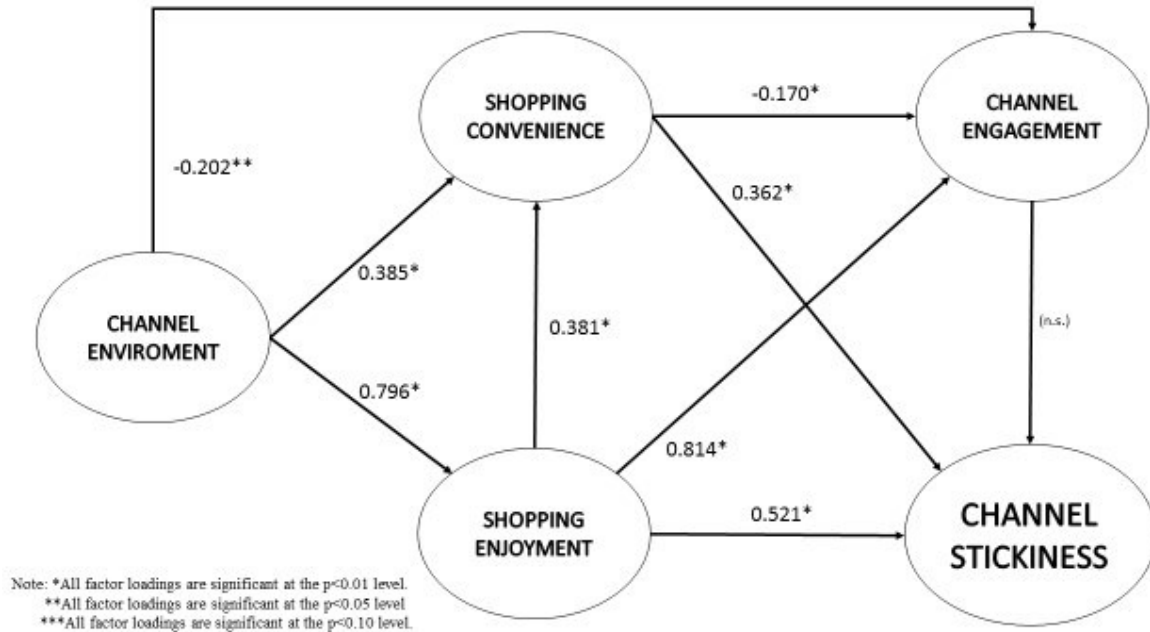
599 shoppers preferring the store for their grocery shopping composed the third group.

An acceptable model fit is confirmed also for the physical channel: $\chi^2_{(SB)(180)}=817.126$, $p<.000$; $\chi^2/df=4.54$. In this case the sensibility to the sample size made the χ^2 significant. However the χ^2/df is very close to the conventional threshold of 5 (Wheaton et al., 1977) exhibited an acceptable model fit. RMSEA=0.0769 Close-Fit RMSEA < 0.05=0.000.

Furthermore, the Standardized Root Mean Square Residual (SRMR) = 0.0792 was acceptable (Hu and Bentler, 1999). The GFI= 0.859 was higher than the value of the online channel and very close to its cut-off of 0.9 showed an acceptable fit. The incremental fit measurements (CFI=0.975; NNFI=0.971) confirmed the goodness of the model.

The variance explained by the model confirmed the goodness of the model fit: $R^2_{(STICK)}=0.657$, $R^2_{(ENG)}=0.328$, $R^2_{(CONV)}=0.633$ and $R^2_{(ENJ)}=0.527$.

Figure 21: Store Grocery Shopping Model



As shown in figure 21, all the hypothesized relations among constructs are significant except for the relationship between channel engagement and channel stickiness (H9). Thus, although the consumer is engaged with the channel it does not mean that he/she will continue to shop through it. In the next section, when we would analyse each channel individually, we will give some more specific explanation of this result.

The channel environment has a positive, high and significant impact on consumers' perception of convenience, confirming H2 ($\beta=0.385$, $p < 0.01$). Moreover, the environment of the channel is able to provide a sense of pleasure and enjoyment in shoppers, supporting H1 ($\beta=0.796$, $p < 0.01$). Conversely to our expectation, although influencing channel engagement, the impact of the environment on consumer's engagement is negative, rejecting H3 ($\beta=-0.202$, $p < 0.01$). The main antecedent of channel engagement is shopping enjoyment, in fact an enjoyable shopping experience can produce in consumer the loss of track of time, supporting H5 ($\beta=0.814$, $p < 0.01$). Indeed, when consumers experience a positive mood their engagement with the channel could increase their impulsive purchases (Yim et al., 2014). Moreover, the more the shopping experience is perceived pleasurable, the more the consumer is inclined to increase actual and future shopping in the channel, confirming our H6 ($\beta=0.521$, $p < 0.01$) (Childers et al., 2001; Beatty and Ferrell, 1998). We rejected H4 as, conversely to our posits, an enjoyable shopping experience does not

impede a convenient shopping experience and, vice versa, it has a positive influence on the perception of the time spent during the shopping ($\beta=0.381$, $p<0.01$).

H7 confirms that consumers looking for a convenient shopping hardly lose the track of time during their shopping process ($\beta=-0.170$, $p<0.01$); nevertheless, they will stick to the channel if they found the shopping experience convenient, supporting H8 ($\beta=0.362$, $p<0.01$).

8.3.1 THE RELATIONSHIP BETWEEN CHANNEL ENGAGEMENT AND CHANNEL STICKINESS

As proposed in our theoretical model, channel engagement should mediate channel environment, shopping enjoyment and shopping convenience effects on channel stickiness. Nevertheless, as the direct effect of channel engagement on channel stickiness resulted not significant in any model, therefore, we can state that channel engagement is not a mediator of channel stickiness. Accordingly, the retailers' ability of reducing consumers' track of time spent in grocery shopping has no effect in determining their stickiness to the channel.

Thus, on one hand retailers should increase channel engagement as it represents the involvement of the consumer in the shopping task, and the more consumers are engaged with the channel, the more the time spent in browse the store and the relative probability of increasing his/her purchases. On the other hand, retailers should increase the shopping stickiness as it represents the actual and future intention to continue to shop in a retailer's channel, instead of that of competitors. Accordingly, as findings are evidencing, the two condition are not related. Thus, retailers should implement a double strategy: a short-term strategy to engage consumers and increase their purchases during the actual shopping experience; a long-term strategy to increase customer's stickiness and his/her retention.

8.3.2 THE MEDIATING ROLE OF SHOPPING ENJOYMENT AND SHOPPING CONVENIENCE

Following Baron and Kenny (1986) statement, a mediator variable (M) accounts for the effect of the antecedent variable (X) on the dependent variable (Y). Thus, the mediator is the variable that explain the relationship, the process and the mechanism through which X affects Y.

In our model, the effect of channel environment (CENV) on channel engagement (CENG) is partially mediated by shopping enjoyment (SENJ) and shopping convenience (SCONV), as channel environment has a significant direct effect on channel engagement. Conversely, we postulated that the relationship between channel environment and channel stickiness (CSTICK) is fully mediated through shopping enjoyment and shopping convenience. To assess indirect effects we performed the Sobel test for mediation (1982, 1986). The Sobel test is considered the most parsimonious test for indirect effects.

Table 17: Sobel test and indirect effects

Channel	Indirect effects	Effect size	Standard error	T-value	P-value
Mobile	CENV→SCONV→CENG	-0.968	0.585	1.653	0.098
Mobile	CENV→SCONV→CSTICK	1.046	0.383	2.730	0.006
Mobile	CENV→SENJ→CENG	1.751	0.584	2.999	0.003
Web	CENV→SCONV→CSTICK	0.189	0.056	3.370	0.001
Web	CENV→SENJ→CENG	0.798	0.130	6.120	0.000
Web	CENV→SENJ→CSTICK	0.263	0.068	3.891	0.000
Store	CENV→SENJ→CENG	0.911	0.149	6.129	0.000
Store	CENV→SCONV→CENG	-0.092	0.043	2.122	0.034
Store	CENV→SENJ→CSTICK	0.268	0.051	5.267	0.000
Store	CENV→SCONV→CSTICK	0.090	0.035	2.573	0.010

All the mediations are confirmed (Table 17). Specifically, the main mediator that explains the relationship between channel environment and channel engagement, in the three investigated channels, is shopping enjoyment, confirming the strong correlation found in the EFA. Weaker and with low significance ($p\text{-value}_{(\text{mobile})} = 0.098$; $p\text{-value}_{(\text{store})} = 0.034$) the explanation of shopping convenience on the indirect effect between channel environment and channel engagement. Thus, we can state that the environment is able to influence the consumer engagement with a channel if it enhances a sense of enjoyment and pleasure in consumers. In this way, in fact, the positive mood generated in the consumer creates in him/her the loss of the track of time, as generally happened in video games, it supports his/her engagement in the task. Conversely, when the consumer looks for a

convenient shopping expedition his/her willingness to be engaged with the channel is negative.

The indirect effect of channel environment on channel stickiness is explained by both shopping enjoyment and shopping convenience. In fact, on one hand, the environment is able to influence the perception of time spent during the shopping activity, and reduce the perception of waiting, queues, of a crowded shopping contexts. In this way, consumers that look for a convenient shopping setting are well motivated to continue to shop in that context. On the other hand, as previously seen, generating a positive mood in the consumer, the environment influence consumers' intention to repeat the shopping process in that context.

8.4 THE MULTIGROUP ANALYSIS

The main aim of this study was the identification of factors that influence the channel engagement and the channel stickiness. Specifically, we would demonstrate that engagement and stickiness to physical, electronic and mobile channels are generated by some specific factors; however, the effect of the investigated factors on channel engagement and channel stickiness is different in each channel.

8.4.1 METRIC INVARIANCE

As suggested by Steenkamp and Baumgartner, (2000) to compare differences between constructs' paths across different groups it is useful to perform a Multigroup Analysis in Structural Equation Models. In SEM, in fact, it is possible to compare effect among groups and verified differences. Nevertheless, before evaluating differences in causal paths between constructs, we need to test metric invariance across samples (Steenkamp and Baumgartner, 1998). In fact, when different groups of respondents compose the dataset a multigroup confirmatory analysis should be performed to assess the invariance among them. Specifically, as we want to compare structural paths among channels, the metric invariance is required.

To test the metric invariance we computed two models: the constrained model, in which factor loading between groups are equals; and the unconstrained model, in which any condition is imposed. Three methods were used to test the metric invariance between couples of channels (*i.e.* mobile vs web; mobile vs store; web vs store):

1. delta chi-squared test (Scott-Lennox and Scott-Lennox, 1995);
2. Δ CFI test: “a value of Δ CFI smaller than or equal to -0.01 indicates that the null hypothesis of invariance should not be rejected” (Cheung and Rensvold, 2002, p. 251), making this method more reliable in presence of a not-normal distribution of data.
3. Δ RMSEA test: “a change of 0.010 [or lower] in CFI, supplemented by a change of 0.015 [or lower] in RMSEA would indicate non invariance” (Chen, 2007, p. 501).

MOBILE VS WEB

To verify differences between mobile shoppers (n=101) and web shoppers (n=235) we conducted some preliminary analyses to ensure equal means and covariance between groups. P-values indicate that the two groups have similar means and covariance (Table 18).

Then, the three methods previously identified were measured to assess metric invariance among groups.

Table 18: Metric invariance between mobile and web shoppers

PRELIMINARY TESTS	X²	df	Δ X²	Δ df	p				
Equal means & covariance	538.710	252							
Equal covariance	414.701	231	124.009	21	0.000				
Equal means	109.618	21	429.092	231	0.000				
MULTIGROUP MODELS	X²	df	Δ X²	Δ df	p	CFI	Δ CFI	RMSEA	Δ RMSEA
Configural invariance	807.868	358				0.964		0.085	
Metric invariance	818.34	374	10.472	16	0.841	0.964	0	0.083	-0.002

Results of the delta chi-squared test (Scott-Lennox and Scott-Lennox, 1995) showed that the fit of the constrained model is significantly similar to the unconstrained model (Chi-squared probability = 0.841) thus, factor loadings of the two groups are equal. The $\Delta\chi^2$ test and the Δ CFI confirm the existence of metric invariance as no significant differences exists between constrained and unconstrained models. Finally, as the RMSEA decreases (Δ RMSEA = -0.002) we can assume metric invariance between mobile and web shoppers.

MOBILE VS STORE

The same procedure was followed to assess differences between mobile shoppers (n=101) and store shoppers (n=599). Preliminary analyses confirmed that the two groups have equal means and covariance (Table 19).

Table 19: Metric invariance between mobile and store shoppers

PRELIMINARY TESTS	X²	df	Δ X²	Δ df	p				
Equal means & covariance	684.443	252							
Equal covariance	460.224	231	224.219	21	0.000				
Equal means	164.432	21	520.011	231	0.000				
MULTIGROUP MODELS	X²	df	Δ X²	Δ df	p	CFI	Δ CFI	RMSEA	Δ RMSEA
Configural invariance	1217.837	358				0.971		0.088	
Metric invariance	1233.796	374	15.959	16	0.456	0.971	0	0.086	-0.002

The delta chi-squared test (Chi-squared probability = 0.456), the delta CFI test ($\Delta\chi^2 = 0$), as well as the delta RMSEA ($\Delta RMSEA = -0.002$) confirmed the metric invariance between mobile and physical channels.

WEB VS STORE

In order to confirm the equality of means and covariance between shoppers that use websites (n=235) and shoppers that prefer physical stores (n=599), we performed preliminary analyses on the two groups (Table 20). Then, the metric invariance between the two groups was tested.

Table 20: Metric invariance between web and store shoppers

PRELIMINARY TESTS	X²	df	Δ X²	Δ df	p				
Equal means & covariance	502.505	252							
Equal covariance	310.060	231	192.445	21	0.000				
Equal means	192.747	21	309.758	231	0.000				
MULTIGROUP MODELS	X²	df	Δ X²	Δ df	p	CFI	Δ CFI	RMSEA	Δ RMSEA
Configural invariance	1270.325	358				0.974		0.085	
Metric invariance	1288.315	374	17.99	16	0.324	0.974	0	0.083	- 0.002

The significant result of the $\Delta\chi^2$ test (Chi-squared probability = 0.324) leads us to the conclusion that metric invariance exists between the two groups. Moreover, the ΔCFI test

(Cheung and Rensvold, 2002) showed that the two models can be considered similar [CFI_{CON}=0.962 vs CFI_{UNCON}=0.962 → ΔCFI = 0]. In addition, the improvement of the ΔRMSEA (-0.002) (Chen, 2007), support the assumption of metric invariance between web and physical channels.

8.4.2 CHANNELS DIFFERENCES

Identified the metric invariance between the three groups, is now possible to compare the structural effects among them. Although it was not possible to estimate differences between estimations (Table 21), as they were not completely standardized¹⁴ some insights emerged.

Table 21: Structural paths and differences between channels (robust estimations and T-values)

Effects	Mobile	Electronic	Store
CENV→ SENJ	1.314 (7.228)*	0.840 (11.401)*	0.813 (18.997)*
CENV→ SCONV	0.832 (1.822)***	0.546 (5.810)*	0.342 (4.372)*
CENV→ CENG	0.213 (0.213)	-0.400 (-2.671)*	-0.284 (-1.853)**
SENJ→ SCONV	-0.026 (-0.103)	0.059 (0.663)	0.331 (4.410)*
SENJ→ CENG	1.333 (3.092)*	0.949 (7.193)*	1.112 (6.695)*
SENJ→ CSTICK	0.040 (0.122)	0.225 (3.738)*	0.330 (5.476)*
SCONV→ CENG	-1.162 (-1.673)***	-0.153 (-1.222)	-0.270 (-2.227)*
SCONV→ CSTICK	1.257 (2.680)*	0.482 (5.696)*	0.264 (4.187)*
CENG→ CSTICK	-0.029 (-0.220)	0.023 (0.710)	-0.003 (-0.128)

In the three channels, a pleasurable shopping experience generates in consumers the loss of the track of time, generating in them a sense of engagement.

The not-significant result of the effect of channel environment on channel engagement, in the mobile channel, do not allow us to draw conclusions, although the positive sign of the effect size evidenced an interesting path that should be tested in the future with a bigger sample size.

Comparing mobile and electronic channels a strong and positive effect of the environment in providing in consumers a feeling of enjoyment and fun during the online shopping

¹⁴ No factor variance covariance was found

experience emerged. However, on one hand, in the mobile channel the feeling of pleasure creates engagement with the channel itself, the grocery app is considered a game, and the consumers' shopping process is motivated by the sense of fun and pleasure. On the other hand, in the electronic channel, shopping enjoyment generates in consumers both engagement with the channel and their intention to continue to purchase in the web channel. Moreover, in the mobile channel utilitarian shoppers show a negative attitude to be engaged with the channel and a strong intention to stick with the mobile channel. In fact, another relevant aspect that emerges by results is that mobile shoppers looking for convenience are strongly intended to continue to use the mobile channel for their grocery purchases.

Compared to online channels, the physical channel represents a shopping context that meets needs and wants of both utilitarian and hedonic shoppers. The physical channel represents the shopping channel in which consumers can experience a ludic and enjoyable shopping experience, rather than a quick and easy way to buy groceries. Especially in the British context, in which this survey was conducted, the presence of numerous convenient stores, with a capillary presence on the territory and with extended opening hours increased the sense of convenience of the physical store. Moreover, in store, differently from other channels, the sense of enjoyment that shoppers experiment during their expedition has a positive effect on their perception of convenience.

8.5 THE MODERATING EFFECT OF CONSUMERS' NEED FOR TOUCH

Following Peck and Childers (2003a) the Consumer's Need for Touch (NFT) is composed by two dimensions: the *Autotelic* dimension and the *Instrumental* dimension. Specifically, each dimension is composed by six items as described in tables 22 and 23.

Table 22: Autotelic Haptic Trait Scale

Scale	Code	Item
AUTOTELIC HAPTIC TRAIT	HAPA1	When walking through stores, I can't help touching all kinds of products
	HAPA2	Touching products can be fun
	HAPA3	When browsing in stores, it is important for me to handheld all kinds of products
	HAPA4	I like to touch products even if I have no intention of buying them
	HAPA5	When browsing in stores, I like to touch lots of products
	HAPA6	I find myself touching all kinds of products in stores

Table 23: Instrumental Haptic Trait Scale

Scale	Code	Item
INSTRUMENTAL HAPTIC TRAIT	HAPI1	I place more trust in products that can be touched before purchase
	HAPI2	I feel more comfortable purchasing a product after physically examining it
	HAPI3	If I can't touch a product in the store, I am reluctant to purchase the product
	HAPI4	I feel more confident making a purchase after touching a product
	HAPI5	The only way to make sure a product is worth buying is to actually touch it
	HAPI6	There are many products that I would only buy if I could handheld them before purchase

To assess the unidimensionality of each scale we performed the EFA with two factors. Applying a Maximum Likelihood (ML) procedure with a Varimax rotation¹⁵, we find that all the items properly loaded on the underlying construct except for HAPA3 that showed a cross load on the two dimensions of the consumer's haptic trait (Table 24). The test of Kaiser-Meyer-Olkin test (KMO test) and the Bartlett Sphericity test confirmed the goodness of the identified factors that together are able to explain 66.73% of the variance.

Table 24: Factor Loadings

Items	1	2
HAPA1	0.853	
HAPA2	0.611	
HAPA3	0.608	0.517
HAPA4	0.770	
HAPA5	0.775	
HAPA6	0.824	
HAPI1		0.802
HAPI2		0.754
HAPI3		0.676
HAPI4		0.777
HAPI5		0.716
HAPI6		0.637

Cronbach's alphas for HAPA = 0.922 and for HAPI = 0.910 confirmed the internal reliability of both scales.

¹⁵ Factor loadings lower than 0,4 were deleted. (Note: Extraction Method: Maximum Likelihood; Rotation Method: Varimax with Kaiser Normalization; The rotation has reached the convergence criteria in 3 iterations.

As previously seen, one of the main criticism made to online channels is the absence of the touch. This aspect could negatively influence the consumer choice of the online channel for shopping grocery products. In fact, if consumers show a high level of haptic trait they could exclude *a priori* online channels for the inability to touch products before buying.

Applying a moderating effect of the autotelic (HAPA) and of the instrumental (HAPI) haptic traits on the structural paths between shopping enjoyment → channel stickiness, and shopping convenience → channel stickiness, we do not find any significant effect in any channel. However, following the procedure adopted by Manzano (2016) we tested different levels of HAPA and of HAPI in the three investigated channels. In fact, analysing the mean of HAPA and HAPI in each group we notice different level of haptic between groups (Table 25).

Table 25: HAPA and HAPI means in channels

Channel	N	HAPA			HAPI		
		Mean	Standard Deviation	Variance	Mean	Standard Deviation	Variance
MOBILE	101	4.531	1,515	2.294	4.695	1,240	1.538
WEB	235	3.669	1,426	2.033	3.972	1,267	1.605
STORE	599	3.728	1,382	1.910	4.420	1,234	1.524
OVERALL SAMPLE	935	3.800	1,429	2.043	4.337	1,263	1.594

Starting from the mean value for the overall sample, we split HAPA and HAPI in low and high compared to their mean. Analysing the overall sample we find that 37% of respondents have high levels of both HAPA and HAPI, while 38.4% of respondents show low levels of both haptic traits. The 12.4% of the sample shows high HAPA but low HAPI, and 12.2% exhibits high HAPI and low HAPA (Appendix A).

Frequencies of low and high HAPA and HAPI in each group (Table 26) showed a high level of both HAPA and HAPI in the mobile channel. Particularly, the autotelic haptic trait, which represents the ludic and emotional need of the touch, belongs to 72% of mobile shoppers, supporting H11. Conversely, the web users show low haptic traits, while shoppers that prefer the physical channel show a slight instrumental haptic trait.

Table 26: High and Low haptic level in channels

Channel	HIGH HAPA	LOW HAPA	HIGH HAPI	LOW HAPI
MOBILE	72%	28%	62%	38%
WEB	45%	55%	37%	63%
STORE	47%	53%	52%	48%
TOTAL SAMPLE	49%	51%	49%	51%

Results highlighted the high touch enhanced by the smartphone. Moreover, in agreement with the literature, shoppers of physical stores show a higher instrumental than autotelic haptic trait, supporting our hypothesis (H10).

A non-parametric test is performed due to the no-normal distribution of both scales as indicated by the Kolmogorov-Smirnov test (Appendix). We use the Kruskal-Wallis test for independent samples to test whether different levels of HAPA and HAPI exist in the three channels. The Kruskal-Wallis test confirms that the distribution of HAPA and HAPI in the three channels is different (Appendix A). As non-parametric tests show the existence of differences between groups, it is possible to state that the need for touch influences the channel choice before and not during the shopping experience. In fact, consumers with a high instrumental haptic trait prefer to shop in physical stores and they do not buy on the web. We find a lower level of haptic traits in web shoppers. In fact, shoppers that use websites to buy online evidenced a low level of both instrumental and autotelic haptic traits. Conversely, high haptic traits are found for mobile shoppers. As the spread of innovation in technologies is bringing new technical features that meet up users' needs, it seems important to highlight that, following the statement of Hayward et al. (2004) new haptic interfaces are enabling person-machine interaction. In this vein, the mobile interface seems to meet the haptic need of shoppers.

Identified the differences in the level of HAPA and HAPI among groups, we test if differences in the low and high levels of HAPA and HAPI are associated with low and high levels of shopping enjoyment, shopping convenience and channel stickiness in each channel. As the assumption of normality is rejected, an ANOVA robust non-parametric

test, which has no distributional assumption, is used: Mann-Whitney U test. The application of the Mann-Whitney U test (U-test), to compare respondents across an array of variables such as shopping enjoyment, shopping convenience and channel stickiness show significant differences between different levels of haptic traits in the three groups.

Specifically, in table 27, values of shopping enjoyment, shopping convenience and channel stickiness when high and low haptic traits are verified in mobile shoppers are presented. As emerged by the mean values (Table 27), and is confirmed by the Mann-Whitney test (Appendix A), there are differences in shopping enjoyment levels when there are low and high levels of both haptic traits. In particular, with high levels of both autotelic and instrumental haptic traits, mobile shoppers show high levels of shopping enjoyment. Conversely, when consumers evidence a low level of haptic traits, their enjoyment in the shopping process is low.

Table 27: Levels of HAPA and HAPI in the Mobile Channel

Construct	HIGH HAPA		LOW HAPA		Utest	HIGH HAPI		LOW HAPI		Utest
	Mean	S.D.	Mean	S.D.	p	Mean	S.D.	Mean	S.D.	p
ENJOYMENT	5.510	0.866	4.839	1.120	0.008	5.524	0.912	4.993	1.024	0.010
CONVENIENCE	5.648	0.931	5.678	0.954	0.939	5.677	0.925	5.622	0.956	0.716
STICKINESS	5.635	1.023	5.690	1.006	0.751	5.656	1.096	5.640	0.875	0.616

Analysing the web channel, shopping enjoyment, shopping convenience and channel stickiness are improved on average in both high HAPA and high HAPI but the difference is not significant according to ANOVA, probably due to a not real impact of haptic traits in the web channel (Table 28). In fact, as found in table 25, the mean of need for touch for web shoppers is the lower than HAPA and HAPI show by mobile and physical shoppers. Thus, it seems to exist a self-selection bias that brings people with high haptic needs to avoid the web channel.

Table 28: Levels of HAPA and HAPI in the Web Channel

Construct	HIGH HAPA		LOW HAPA		Utest	HIGH HAPI		LOW HAPI		Utest
	Mean	S.D.	Mean	S.D.	p	Mean	S.D.	Mean	S.D.	p
ENJOYMENT	5.001	1.069	4.779	1.259	0.153	4.929	1.201	4.854	1.171	0.551
CONVENIENCE	5.733	0.991	5.579	1.042	0.202	5.560	1.142	5.700	0.940	0.604
STICKINESS	5.685	0.888	5.630	1.081	0.934	5.534	1.038	5.728	0.968	0.130

The Mann-Whitney test showed in the physical channel significant differences in shopping enjoyment, shopping convenience and channel stickiness in presence of high and low

levels of HAPA and HAPI (Table 29). In particular, when haptic traits are high in consumers, their search for shopping enjoyment and shopping convenience is high, as well as their intention to stick in the physical channel. In fact, as found in the literature, the great advantage of the physical channel, above all on respect to grocery product, is its ability to enhance the touch usage to get information about the product, simplifying the shopping process (*i.e.* convenience) and to create a ludic shopping experience generated by the direct relationship with the product itself (*i.e.* enjoyment). We would to highlight that, expanding the research of Rohm and Swaminathan (2004) our results evidenced a concomitance between shopping convenience and immediate possession. In fact, as emerged by the U test, in presence of high HAPI, the level of shopping convenience is significantly higher ($p = 0.000$). This is confirmed also in the presence of a high HAPA level ($p= 0.018$).

Table 29: Levels of HAPA and HAPI in the Physical Channel

	HIGH HAPA		LOW HAPA		Utest	HIGH HAPI		LOW HAPI		Utest
Construct	Mean	S.D.	Mean	S.D.	p	Mean	S.D.	Mean	S.D.	p
ENJOYMENT	5.054	1.039	4.396	1.222	0.000	4.963	1.101	4.434	1.211	0.000
CONVENIENCE	5.215	0.923	5.022	1.045	0.018	5.275	0.946	4.941	1.016	0.000
STICKINESS	5.796	0.889	5.468	1.067	0.000	5.808	0.921	5.426	1.043	0.000

9. CONCLUSIONS AND IMPLICATIONS

The thesis is aimed at enriching and extending the literature on multichannel retailing adopting a consumer-centric perspective. Within this context, the manuscript contributes to three main bodies of literature. First of all, it enables scholars to better understanding consumer shopping behaviour in an omnichannel retailing context. Secondly, it contributes to the retailing literature investigating online channels considering electronic and mobile channels as independent. Thirdly, it provides a further development of the Technology Acceptance Model (TAM) applying this theory to the grocery retailing setting. The TAM is by far the most widespread model as regards analysing consumer behaviour in technological settings. Specifically, integrating the TAM model with other main components investigated in the retailing and technology acceptance literature, we proposed a model in which aspects related with customers' intention to re-patronize a channel, so-called channel stickiness, are combined with customers' engagement in the shopping channel, which is the consumers' motivation to use a channel. In particular, we investigated how channel usability and channel atmosphere, jointly conceptualised in the channel environment construct, influence channel engagement, and channel stickiness. Moreover, the effects between the independent variable (*i.e.* channel environment) and dependent variables (*i.e.* channel engagement and channel stickiness) are postulated as channelled by shopping enjoyment and shopping convenience. In this agreement, we aim to contribute in explaining how the environment really influences the consumers shopping process. In fact, results show that the environment has a dual role in influencing the consumers' shopping process. On one hand, the environment creates in consumers a positive mood creating in shoppers feelings of pleasure and fun when they perform their shopping task (Babin and Attaway, 2000) that enhances, above all in hedonic consumers, engagement (Higgins, 2006; Childers et al., 2001) and stickiness (Koufaris, 2002) to the channel. On the other hand, a particular retail environment is able to reduce the perception of time and efforts wasted during the buying process (Puccinelli, Motyka and Grewal, 2010; Puccinelli et al., 2009), motivating utilitarian consumers to continue to shop in the channel (Bridges and Florsheim, 2008).

To reach these objectives, the research was mainly based on a survey administered to a sample of 935 multichannel grocery shoppers. The main aim of this study is the identification of the factors that influence the channel choice. However, starting from the

first section of this research, we introduce an earlier study conducted on smartphone users, which is intended to show that among *smartphoners* it is possible to identify different segments of consumers with specific needs and wants. In this way, in fact, we want to highlight that although our work brings important contribution to the omnichannel literature, due to its infancy, we consider important to deepen investigate how people shop in multiple channels (Hoffman, 2000). The development of technologies and the spread of their usage can be considered among the main effects that are supporting the diffusion and acceptance of multiple shopping channels in recent years.

Findings confirm previous statements supplied by the extant literature on multichannel retailing: actually, the experience with the product results to be different in physical and digital channels, confirming Alba et al. (1997) and Peck and Childers (2003a; 2003b). Moreover, our findings evidence that each channel satisfies specific consumers' needs and wants and retailers should carefully consider how to approach multichannel retailing in an integrated manner (*i.e.* omniretailing - Rigby, 2011). In fact, as we have seen, 33% of grocery shoppers are already active in more than one channel, and they use multiple channels to satisfy their shopping needs and wants. Thus, it is possible to assert that, also in commodities' shopping, consumers can be considered multichannel shoppers and that they act different shopping processes, due to specific needs and wants that brings them to shop across channels. In addition, as emerges by results of structural models, although the investigated factors (*i.e.* channel environment, shopping enjoyment and shopping convenience) influence in the same way (same sign) channel engagement and channel stickiness, their effect (effect size) is different between channels. Thus, consumers associate particular goals to each channel (Puccinelli et al., 2009). Accordingly, retailers should, on one hand, allow channels interaction, for example through the customer identification at the channel access. In this way retailers can immediately know consumers' specific needs and wants and better satisfy them. On the other hand, retailers should manage channels differently to attract consumers according to their fleeting goals. This strategy has already been adopted by retailers in the past, when, for example, different retailing formats, with specific assortments, service levels, opening hours, store size and localization, were developed to encounter the demand. However, differently from the past, retailers have now two advantages: past experience, and an access cost to online channels significantly lower than the cost exerted in past to build multiple retailing formats. Moreover, another advantage for retailers is the opportunity to tailor the offer proposed on

mobile and electronic channels on the specific consumers' needs and wants using a single interface / access point (Sundar and Marathe, 2010).

In fact, other insights provided by this research work concern the identification of multiple consumers' segments. Indeed, among specific channels, such as for example the mobile one, there are different segments of consumers who require particular care to continue to use the adopted technology. Moreover, as emerges by the first study, despite consumers have adopted the technology, driven by the need or by the market trends, it does not mean that they like it and they feel comfortable with its usage. For this reason, retailers should propose different offers for each consumer's segment, taking advantage from peculiarities and capabilities of digital channels.

Our results are also showing that retailers who want to engage new customers should provide a positive shopping environment able to enhance a feeling of enjoyment and pleasure in the shopper. In this way, in fact, consumers are attracted by new channels and stick in it. However, consumers' engagement and consumers' retention are not strictly related. Thus, although the consumer is engaged he/she could not necessarily be willing to stick with the channel. For this reason, retailers should provide a convenient shopping channel. In fact, as reported in the literature, the lack of time that modern consumers feel (Fernie, 1997) and their relative avoidance of time and efforts wasted (Moeller et al., 2009) should lead retailers to put more efforts in creating more efficient consumer experiences, acknowledging that the value of time is becoming a strategic tool (Jatasankara and Aryasri, 2011). In fact, as empirically proved by our results, in physical, electronic and mobile channels, the main antecedent of channel stickiness resulted to be shopping convenience, differently by results provided by Childers and colleagues in 2001. Therefore, a major managerial implication of this research is that retailers should provide a channel environment easy to use and effortless, in which consumers can buy what they are searching for, in a very simple way, reducing their cognitive effort. Technology could help many retailers from this point of view: accelerating in adopting technological systems enabling an integrated use of channels and devices (virtual shopping lists, product localisation systems that can be activated by electronic devices, etc.) is increasingly suggested. But also a better use of communication and merchandising in-store (billboards, posters and signage more direct and at eye-sight; colours to differentiate merchandise sectors, displays arranged taking into consideration to serve consumer better rather than increasing only profitability), in order to address consumers, and assist them in finding the product categories and brands they are looking for in a more easy way, is supported. These

tools, in fact, on one hand simplify the shopping process, supporting consumer request for a convenient shopping process; on the other hand make the shopping atmosphere more pleasant, acting on consumers' motivation and on their mood, as well as on their intention to re-patronize the channel. In fact, as stated to now, retailers should perform a double strategy to engage and retain customers. A short-term strategy aimed to attract and engage consumers letting them lose the track of time they spend in shopping. A long-term strategy providing a convenient offer in which consumers can experience an easy and quick shopping expedition. This flexibility in the offer summed with the presence in multiple channels, should increase both consumers' engagement and stickiness with the retailer itself.

Further insights provided by this research thesis are concerned specifically with the mobile setting. The mobile channel is emerging as an alternative retailing channel (Groß, 2015; Hung, Yang and Hsieh, 2012; Zhang *et al.*, 2010; Lu and Su, 2009). Consumers' constantly in touch with their smartphones, have now an increasing number of opportunity to use their handheld devices to shop. Our research evidenced that consumers are used to buy products through their smartphones and almost 4% of them has a monthly mobile shopping experience. On one hand, we need to point out that the target of mobile shoppers is small. On the other hand, in agreement with some very recent literature (Groß, 2015) due to the new advances in technologies, and in particular on the smartphone technical characteristics, we can forecast an exponential growth of mobile purchases in the next few years.

Another important insight of our research work pertain to the literature investigating the absence of touch in digital channels. As results are highlighting, on one hand different haptic traits are found among shoppers of different channels. On the other hand, newest digital tools, as for example the smartphone, encounter the need for touch of shoppers. Accordingly, differently from the web, consumers are liking to use digital devices allowing touch also in grocery shopping. Thus, in agreement with Hayward *et al.* (2004) the new interfaces are reducing cognitive limits connected with the touch absence and are enabling person-machine interaction. Therefore, we can assume that in the coming years, technological innovation would bring retailers to develop interfaces that enable their consumers, who show a strong haptic trait, to compensate the lack of touch with tactile interfaces. This aspect, in addition to the growing usage of mobile devices that we previously showed, supports our opinion that the mobile channel could be considered as an autonomous shopping channel. Moreover, we forecast that in the next years, mobile

purchases would increase cannibalizing the online ones. In fact, in our opinion, the mobile channel would be perceived by consumers as a flexible shopping channel without time and space limits (Bojei and Hoo, 2012), more enjoyable (Chong, 2013) but at the same time convenient (Li, Kuo and Rusell, 1999), and able to provide a multisensory shopping experience (Hayward et al., 2004).

In spite of the main contributions that this thesis provides, some limitations can be found.

One limitation of this research resides in the research setting. As seen in the unfolding of the thesis, advances in technologies make difficult to promptly catch trend of its adoption. In this way, although our research provides interesting results, others methodologies could be adopted in the future. In fact, although the main ISs and retailing literature use SEM as one of the main methodology (Wright et al., 2012), a field experiment could help us to control external factors and to better understand how consumers use to shop in different channels. Moreover, experimental research could allow to thorough measure the causal relation between, for example, the environment and its ability to engage consumers. For this reason, in the future a combination between experiments and SEM is suggested.

In fact, if focussing on findings about the consumers' haptic trait, results show different levels of need for touch products among shoppers of different channels. However, we do not find any moderating effect of the Need-for-Touch (NFT) on the effects that shopping enjoyment and shopping convenience have on channel stickiness. By the mean of an experimental research, it should be possible to manipulate aspects related to the shopping enjoyment and aspects related to the shopping convenience and verify which element can mitigate consumer NFT. Specifically, we highlight differences in NFT among segments of channel users, and we state that to now it seems to be a kind of self-selection in the channel choice with those with high NFT preferring physical and mobile channels. Results also show a different effect of the Autotelic (HAPA) and of the Instrumental (HAPI) haptic traits. In fact, on the mobile and physical channels we found a significant difference between low and high levels of HAPA and HAPI on shopping enjoyment, shopping convenience and channel stickiness. However, at the moment, we are not able to suggest any valid strategy for grocery omnichannel retailers that want to reduce the cognitive limit of the absence of the touch in the electronic channel. In fact, considering the grocery marketplace and practices adopted by grocery retailers, high electronic interactive and informative platforms, rich in images and description of products, seem to be not sufficient to compensate information provided by products' touch. Further studies are required.

A further limitation concerns the sample used in the empirical analysis. In fact, the empirical research is a cross-sectional study based on a sample size relatively small compared to the size of the theoretical model. Consequently, caution must be exerted with respect to the results obtained and causality between the latent variables should be avoided. However, this research represents a first attempt to understand how consumers shop across multiple channels and further studies should confirm and deepen the proposed model bringing our results and expanding their coverage, for example in other countries, or considering other category products. In fact, as seen, in both cases the level of technology adoption and usage is very different among countries and the category product moderates the channel choice.

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APPENDIX A

METHODOLOGY SMARTPHONERS SEGMENTATION

Data were performed using SPAD statistical software version 5.6 developed by CISIA-CERESTA (Nakache and Confais, 2000; Lebart *et al.*, 2001).

The quantitative research process was carried out through the following steps: 1) we compute the principal component analysis (PCA), to detect the latent structure of the considered variables, highlighting the use of consumers give to their smartphone; 2) once the factorial coordinates were obtained with PCA, a factor-based cluster analysis is applied in order to obtain groups. Customers were grouped to describe the relation both to the original variables and to the factors (Abascal *et al.*, 2006).

The Bartlett test of Sphericity ($\chi^2_{(45)}=1086,464$, p-value=0.000) and the KMO= 0.892 show the adequacy of the sample. Furthermore, all the variables show communalities equal or greater than 0.50, showing a good significance of the PCA.

Tab. A – Control panel of Eigenvalues (Trace of matrix: 10.00000)

Number	Eigenvalue	Percentage	Cumulated Percentage
1	4,5466	45,47	45,47
2	1,1170	11,17	56,64
3	0,8402	8,40	65,04
4	0,7343	7,34	72,38
5	0,6861	6,86	79,24
6	0,5357	5,36	84,60
7	0,4979	4,98	89,58
8	0,4032	4,03	93,61
9	0,3463	3,46	97,07
10	0,2926	2,93	100,00

As can be seen, the first two components explain near 57% of the variability of the phenomenon (Tab. A). Only the first and second values are high enough to draw relevant conclusions, because their magnitudes are over one. Both axes explain roughly 57% of the information provided by the sample.

Tab. 3 – Active variables-factors correlations

Label variable	Axis 1	Axis 2	Axis 3	Axis 4	Axis 5
Call	0,72	-0,22	-0,03	0,34	0,35
Text	0,67	0,00	-0,27	0,51	0,10
Internet	0,80	-0,12	-0,34	-0,11	0,05
SN	0,68	-0,07	-0,41	-0,35	0,22
Apps	0,70	0,12	-0,02	-0,40	- 0,15
Online	0,68	-0,23	0,37	-0,10	- 0,40
Games	0,33	0,82	-0,11	-0,03	- 0,33
Music	0,59	0,49	0,22	0,20	0,34
Fotos	0,79	-0,25	0,06	0,05	0,12
Video	0,68	0,02	0,53	-0,10	0,29

The first axis weighs nine out ten uses of the smartphone and the second only the game as a use (Table B). The second axis reflects the use of games in smartphones, which proved to be is remarkably informative because correlations are relevant and all of them have the same signs, positive, so all the variables are located and projected on the right side of the first axis.

MEASURES CORRELATIONS

CHANNEL ENVIRONMENT

Correlazioni

	ENV1	ENV2	ENV3	ENV4	ENV5	ENV6	ENV7	ENV8	ENV9	ENV10	ENV11	ENV12	ENV13
ENV1 Correlazione di Pearson	1	,750**	,485**	,555**	,662**	,708**	,701**	,722**	,662**	,503**	,566**	,708**	,615**
Sig. (2-code)		,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000
N	935	935	935	935	935	935	935	935	935	935	935	935	935
ENV2 Correlazione di Pearson	,750**	1	,465**	,535**	,671**	,754**	,613**	,667**	,623**	,471**	,508**	,631**	,563**
Sig. (2-code)	,000		,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000
N	935	935	935	935	935	935	935	935	935	935	935	935	935
ENV3 Correlazione di Pearson	,485**	,465**	1	,721**	,579**	,585**	,416**	,398**	,361**	,429**	,386**	,435**	,466**
Sig. (2-code)	,000	,000		,000	,000	,000	,000	,000	,000	,000	,000	,000	,000
N	935	935	935	935	935	935	935	935	935	935	935	935	935
ENV4 Correlazione di Pearson	,555**	,535**	,721**	1	,683**	,661**	,450**	,433**	,422**	,444**	,390**	,475**	,507**
Sig. (2-code)	,000	,000	,000		,000	,000	,000	,000	,000	,000	,000	,000	,000
N	935	935	935	935	935	935	935	935	935	935	935	935	935
ENV5 Correlazione di Pearson	,662**	,671**	,579**	,683**	1	,708**	,555**	,561**	,564**	,474**	,463**	,546**	,529**
Sig. (2-code)	,000	,000	,000	,000		,000	,000	,000	,000	,000	,000	,000	,000
N	935	935	935	935	935	935	935	935	935	935	935	935	935
ENV6 Correlazione di Pearson	,708**	,754**	,585**	,661**	,708**	1	,555**	,584**	,564**	,490**	,492**	,575**	,560**
Sig. (2-code)	,000	,000	,000	,000	,000		,000	,000	,000	,000	,000	,000	,000
N	935	935	935	935	935	935	935	935	935	935	935	935	935
ENV7 Correlazione di Pearson	,701**	,613**	,416**	,450**	,555**	,555**	1	,680**	,614**	,422**	,553**	,727**	,594**
Sig. (2-code)	,000	,000	,000	,000	,000	,000		,000	,000	,000	,000	,000	,000
N	935	935	935	935	935	935	935	935	935	935	935	935	935
ENV8 Correlazione di Pearson	,722**	,667**	,398**	,433**	,561**	,584**	,680**	1	,662**	,457**	,562**	,671**	,536**
Sig. (2-code)	,000	,000	,000	,000	,000	,000	,000		,000	,000	,000	,000	,000
N	935	935	935	935	935	935	935	935	935	935	935	935	935
ENV9 Correlazione di Pearson	,662**	,623**	,361**	,422**	,564**	,564**	,614**	,662**	1	,423**	,508**	,586**	,503**
Sig. (2-code)	,000	,000	,000	,000	,000	,000	,000	,000		,000	,000	,000	,000
N	935	935	935	935	935	935	935	935	935	935	935	935	935
ENV10 Correlazione di Pearson	,503**	,471**	,429**	,444**	,474**	,490**	,422**	,457**	,423**	1	,418**	,422**	,395**
Sig. (2-code)	,000	,000	,000	,000	,000	,000	,000	,000	,000		,000	,000	,000
N	935	935	935	935	935	935	935	935	935	935	935	935	935
ENV11 Correlazione di Pearson	,566**	,508**	,386**	,390**	,463**	,492**	,553**	,562**	,508**	,418**	1	,535**	,481**
Sig. (2-code)	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000		,000	,000
N	935	935	935	935	935	935	935	935	935	935	935	935	935
ENV12 Correlazione di Pearson	,708**	,631**	,435**	,475**	,546**	,575**	,727**	,671**	,586**	,422**	,535**	1	,634**
Sig. (2-code)	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000		,000
N	935	935	935	935	935	935	935	935	935	935	935	935	935
ENV13 Correlazione di Pearson	,615**	,563**	,466**	,507**	,529**	,560**	,594**	,536**	,503**	,395**	,481**	,634**	1
Sig. (2-code)	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	
N	935	935	935	935	935	935	935	935	935	935	935	935	935

** La correlazione è significativa al livello 0,01 (2-code).

SHOPPING ENJOYMENT

Correlazioni

	ENJ1	ENJ2	ENJ3	ENJ4	ENJ5
ENJ1 Correlazione di Pearson	1	,771**	,745**	,721**	,704**
Sig. (2-code)		,000	,000	,000	,000
N	935	935	935	935	935
ENJ2 Correlazione di Pearson	,771**	1	,732**	,800**	,787**
Sig. (2-code)	,000		,000	,000	,000
N	935	935	935	935	935
ENJ3 Correlazione di Pearson	,745**	,732**	1	,695**	,615**
Sig. (2-code)	,000	,000		,000	,000
N	935	935	935	935	935
ENJ4 Correlazione di Pearson	,721**	,800**	,695**	1	,732**
Sig. (2-code)	,000	,000	,000		,000
N	935	935	935	935	935
ENJ5 Correlazione di Pearson	,704**	,787**	,615**	,732**	1
Sig. (2-code)	,000	,000	,000	,000	
N	935	935	935	935	935

** La correlazione è significativa al livello 0,01 (2-code).

SHOPPING CONVENIENCE

Correlazioni

		WCON_TIME 1	WCON_TIME 2	WCON_TIME 3
WCON_TIME1	Correlazione di Pearson	1	,668**	,517**
	Sig. (2-code)		,000	,000
	N	935	935	935
WCON_TIME2	Correlazione di Pearson	,668**	1	,533**
	Sig. (2-code)	,000		,000
	N	935	935	935
WCON_TIME3	Correlazione di Pearson	,517**	,533**	1
	Sig. (2-code)	,000	,000	
	N	935	935	935

** La correlazione è significativa al livello 0,01 (2-code).

CHANNEL ENGAGEMENT

Correlazioni

		WENG1	WENG2	WENG3	WENG4
WENG1	Correlazione di Pearson	1	,581**	,795**	,719**
	Sig. (2-code)		,000	,000	,000
	N	935	935	935	935
WENG2	Correlazione di Pearson	,581**	1	,575**	,564**
	Sig. (2-code)	,000		,000	,000
	N	935	935	935	935
WENG3	Correlazione di Pearson	,795**	,575**	1	,649**
	Sig. (2-code)	,000	,000		,000
	N	935	935	935	935
WENG4	Correlazione di Pearson	,719**	,564**	,649**	1
	Sig. (2-code)	,000	,000	,000	
	N	935	935	935	935

** La correlazione è significativa al livello 0,01 (2-code).

CHANNEL STICKINESS

Correlazioni

		WSTICK1	WSTICK2	WSTICK3
WSTICK1	Correlazione di Pearson	1	,573**	,541**
	Sig. (2-code)		,000	,000
	N	935	935	935
WSTICK2	Correlazione di Pearson	,573**	1	,519**
	Sig. (2-code)	,000		,000
	N	935	935	935
WSTICK3	Correlazione di Pearson	,541**	,519**	1
	Sig. (2-code)	,000	,000	
	N	935	935	935

** La correlazione è significativa al livello 0,01 (2-code).

EFA – Factor Analysis

Test KMO e di Bartlett

Misura di adeguatezza campionaria KMO (Keiser Meyer Olkin).		,967
Test di sfericità di Bartlett	Chi-quadrato appross.	19855,467
	df	378
	Sig.	,000

Varianza totale spiegata

Fattore	Autovalori iniziali			Pesi dei fattori non ruotati			Pesi dei fattori ruotati		
	Totale	% di varianza	% cumulata	Totale	% di varianza	% cumulata	Totale	% di varianza	% cumulata
1	13,398	47,849	47,849	13,016	46,487	46,487	4,208	15,030	15,030
2	2,932	10,473	58,321	2,628	9,385	55,872	4,053	14,474	29,504
3	1,419	5,070	63,391	,937	3,348	59,220	3,693	13,190	42,694
4	1,080	3,858	67,249	,888	3,170	62,390	3,108	11,099	53,793
5	,951	3,397	70,646	,589	2,104	64,494	2,996	10,701	64,494
6	,663	2,368	73,015						
7	,626	2,234	75,249						
8	,585	2,088	77,337						
9	,512	1,829	79,166						
10	,499	1,781	80,947						
11	,482	1,720	82,666						
12	,437	1,562	84,228						
13	,413	1,477	85,705						
14	,387	1,381	87,086						
15	,364	1,301	88,388						
16	,341	1,218	89,606						
17	,333	1,189	90,795						
18	,323	1,154	91,949						
19	,295	1,053	93,002						
20	,271	,969	93,971						
21	,261	,933	94,905						
22	,246	,877	95,781						
23	,220	,786	96,567						
24	,214	,763	97,330						
25	,204	,730	98,060						
26	,198	,708	98,768						
27	,182	,649	99,417						
28	,163	,583	100,000						

Metodo di estrazione: Massima verosimiglianza.

HAPTIC TRAIT ANALYSES

KOLMOGOROV-SMIRNOV TESTS

Riepilogo test delle ipotesi

	Ipotesi nulla	Test	Sign.	Decisione
1	La distribuzione di HAPA è normale con la media 3,800 e la deviazione standard 1,43.	Test di Kolmogorov-Smirnov per un campione	,020	Rifiuta l'ipotesi nulla.
2	La distribuzione di HAPI è normale con la media 4,337 e la deviazione standard 1,26.	Test di Kolmogorov-Smirnov per un campione	,002	Rifiuta l'ipotesi nulla.

Le significatività asintotiche sono visualizzate. Il livello di significatività è ,05.

HAPTIC FREQUENCIES IN THE OVERALL SAMPLE

HAPTIC

		Frequenza	Percentuale	Percentuale valida	Percentuale cumulata
Validi	1,00	346	37,0	37,0	37,0
	2,00	359	38,4	38,4	75,4
	3,00	116	12,4	12,4	87,8
	4,00	114	12,2	12,2	100,0
	Totale	935	100,0	100,0	

HAPTIC=1: ((HAPA>3.8002) & (HAPI>4.3374)).

HAPTIC=2: ((HAPA>3.8002) & (HAPI>4.3374)).

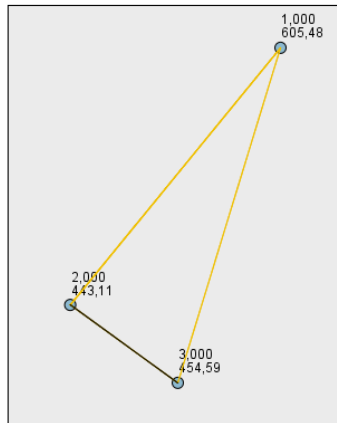
HAPTIC=3: ((HAPA>3.8002) & (HAPI>4.3374)).

HAPTIC=4: ((HAPA>3.8002) & (HAPI>4.3374)).

KRUSCAL-WALLIS TEST FOR HAPA IN INDIPENDENT GROUPS

Resumen de contrastes de hipótesis				
	Hipótesis nula	Prueba	Sig.	Decisión
1	La distribución de HAPA es la misma entre las categorías de Channel.	Prueba de Kruskal-Wallis para muestras independientes	,000	Rechaza la hipótesis nula.
Se muestran significaciones asintóticas. El nivel de significancia es ,05.				

Comparaciones por parejas de Channel

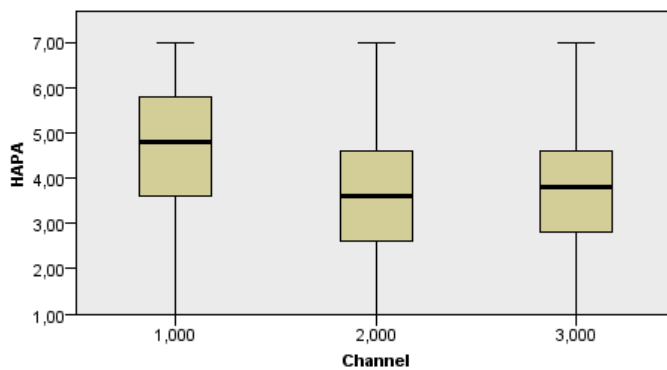


Cada nodo muestra el rango promedio de muestra de Channel.

Muestra 1-Muestra 2	Estadístico de prueba	Estándar Error	Desv. Estadístico de prueba	Sig.	Sig. ajust.
2,000-3,000	-11,477	20,766	-,553	,580	1,000
2,000-1,000	162,367	32,100	5,058	,000	,000
3,000-1,000	150,890	29,020	5,200	,000	,000

Cada fila prueba la hipótesis nula hipótesis nula de que las distribuciones de la muestra 1 y la muestra 2 son iguales. Se muestran las significaciones asintóticas (pruebas bilaterales). El nivel de significancia es ,05.

Prueba de Kruskal-Wallis para muestras independientes



N total	935
Estadístico de contraste	29,707
Grados de libertad	2
Significación asintótica (prueba bilateral)	,000

1. Las estadísticas de prueba se ajustan para empates.

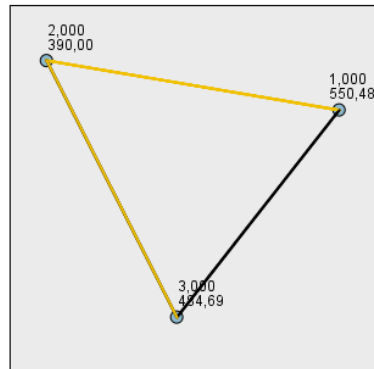
KRUSCAL-WALLIS TEST FOR HAPI IN INDIPENDENT GROUPS

Resumen de contrastes de hipótesis

	Hipótesis nula	Prueba	Sig.	Decisión
1	La distribución de HAPI es la misma entre las categorías de Channel.	Prueba de Kruskal-Wallis para muestras independientes	,000	Rechaza la hipótesis nula.

Se muestran significaciones asintóticas. El nivel de significancia es ,05.

Comparaciones por parejas de Channel

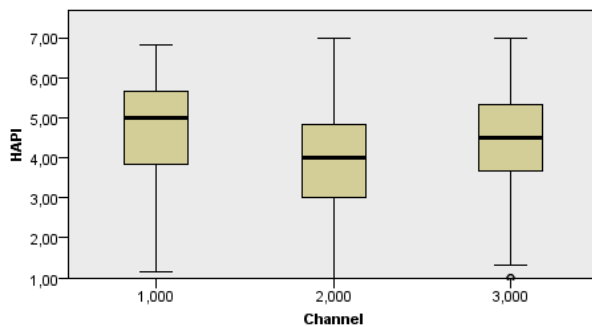


Cada nodo muestra el rango promedio de muestra de Channel.

Muestra 1-Muestra 2	Estadístico de prueba	Estándar Error	Desv. Estadístico de prueba	Sig.	Sig. ajust.
2,000-3,000	-94,694	20,769	-4,559	,000	,000
2,000-1,000	160,480	32,103	4,999	,000	,000
3,000-1,000	65,787	29,023	2,267	,023	,070

Cada fila prueba la hipótesis nula de que las distribuciones de la muestra 1 y la muestra 2 son iguales. Se muestran las significaciones asintóticas (pruebas bilaterales). El nivel de significancia es ,05.

Prueba de Kruskal-Wallis para muestras independientes



N total	935
Estadístico de contraste	31,370
Grados de libertad	2
Significación asintótica (prueba bilateral)	,000

1. Las estadísticas de prueba se ajustan para empates.

MANN-WHITNEY U TEST FOR INDEPENDENT SAMPLES – MOBILE CHANNEL

Resumen de contrastes de hipótesis

	Hipótesis nula	Prueba	Sig.	Decisión
1	La distribución de ENJOY es la misma entre las categorías de HAPARE.	Prueba U de Mann-Whitney para muestras independientes	,008	Rechace la hipótesis nula.
2	La distribución de CONVTIME es la misma entre las categorías de HAPARE.	Prueba U de Mann-Whitney para muestras independientes	,039	Conserve la hipótesis nula.
3	La distribución de STIK es la misma entre las categorías de HAPARE.	Prueba U de Mann-Whitney para muestras independientes	,751	Conserve la hipótesis nula.

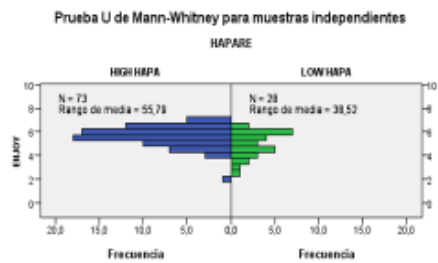
Se muestran significaciones asintóticas. El nivel de significancia es ,05.

Resumen de contrastes de hipótesis

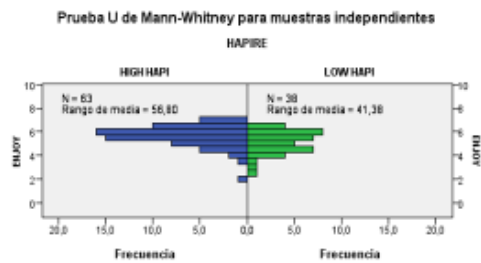
	Hipótesis nula	Prueba	Sig.	Decisión
1	La distribución de ENJOY es la misma entre las categorías de HAPIRE.	Prueba U de Mann-Whitney para muestras independientes	,010	Rechace la hipótesis nula.
2	La distribución de CONVTIME es la misma entre las categorías de HAPIRE.	Prueba U de Mann-Whitney para muestras independientes	,716	Conserve la hipótesis nula.
3	La distribución de STIK es la misma entre las categorías de HAPIRE.	Prueba U de Mann-Whitney para muestras independientes	,016	Conserve la hipótesis nula.

Se muestran significaciones asintóticas. El nivel de significancia es ,05.

SHOPPING ENJOYMENT



N total	101
U de Mann-Whitney	672,500
W de Wilcoxon	1,078,500
Estadístico de contraste	672,500
Error estándar	131,234
Estadístico de contraste estandarizado	-2,663
Significación asintótica (prueba bilateral)	,008



N total	101
U de Mann-Whitney	831,500
W de Wilcoxon	1,572,500
Estadístico de contraste	831,500
Error estándar	142,026
Estadístico de contraste estandarizado	-2,573
Significación asintótica (prueba bilateral)	,010

SHOPPING CONVENIENCE



N total	101
U de Mann-Whitney	1.012,000
W de Wilcoxon	1.418,000
Estadístico de contraste	1.012,000
Error estándar	130,824
Estadístico de contraste estandarizado	-.077
Significación asintótica (prueba bilateral)	,539



N total	101
U de Mann-Whitney	1.145,500
W de Wilcoxon	1.886,500
Estadístico de contraste	1.145,500
Error estándar	141,366
Estadístico de contraste estandarizado	-.364
Significación asintótica (prueba bilateral)	,716

CHANNEL STICKINESS



N total	101
U de Mann-Whitney	1.063,500
W de Wilcoxon	1.469,500
Estadístico de contraste	1.063,500
Error estándar	130,839
Estadístico de contraste estandarizado	,317
Significación asintótica (prueba bilateral)	,761



N total	101
U de Mann-Whitney	1.126,000
W de Wilcoxon	1.867,000
Estadístico de contraste	1.126,000
Error estándar	141,599
Estadístico de contraste estandarizado	-.501
Significación asintótica (prueba bilateral)	,616

MANN-WHITNEY U TEST FOR INDIPENDENT SAMPLES – WEB CHANNEL

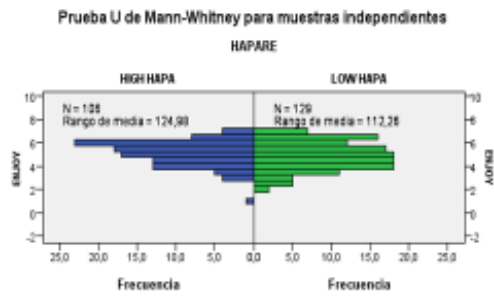
Resumen de contrastes de hipótesis				
	Hipótesis nula	Prueba	Sig.	Decisión
1	La distribución de ENJOY es la misma entre las categorías de HAPARE.	Prueba U de Mann-Whitney para muestras independientes	,163	Conserva la hipótesis nula.
2	La distribución de CONVTIME es la misma entre las categorías de HAPARE.	Prueba U de Mann-Whitney para muestras independientes	,202	Conserva la hipótesis nula.
3	La distribución de STIK es la misma entre las categorías de HAPARE.	Prueba U de Mann-Whitney para muestras independientes	,934	Conserva la hipótesis nula.

Se muestran significaciones asintóticas. El nivel de significancia es ,05.

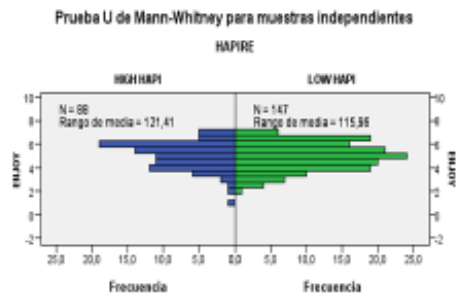
Resumen de contrastes de hipótesis				
	Hipótesis nula	Prueba	Sig.	Decisión
1	La distribución de ENJOY es la misma entre las categorías de HAPIRE.	Prueba U de Mann-Whitney para muestras independientes	,551	Conserva la hipótesis nula.
2	La distribución de CONVTIME es la misma entre las categorías de HAPIRE.	Prueba U de Mann-Whitney para muestras independientes	,604	Conserva la hipótesis nula.
3	La distribución de STIK es la misma entre las categorías de HAPIRE.	Prueba U de Mann-Whitney para muestras independientes	,130	Conserva la hipótesis nula.

Se muestran significaciones asintóticas. El nivel de significancia es ,05.

SHOPPING ENJOYMENT



N total	236
U de Mann-Whitney	6.097.000
W de Wilcoxon	14.482.000
Estadístico de contraste	6.097.000
Error estándar	517,462
Estadístico de contraste estandarizado	-1,430
Significación asintótica (prueba bilateral)	,153



N total	236
U de Mann-Whitney	6.168.000
W de Wilcoxon	17.046.000
Estadístico de contraste	6.168.000
Error estándar	503,304
Estadístico de contraste estandarizado	-,596
Significación asintótica (prueba bilateral)	,551

SHOPPING CONVENIENCE

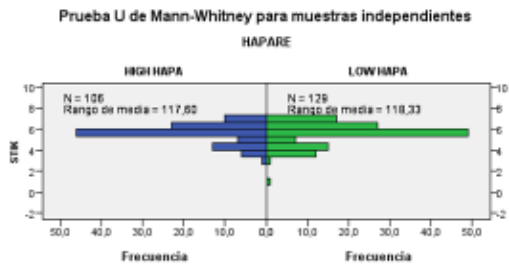


N total	236
U de Mann-Whitney	6.180.500
W de Wilcoxon	14.565.500
Estadístico de contraste	6.180.500
Error estándar	515,111
Estadístico de contraste estandarizado	-1,274
Significación asintótica (prueba bilateral)	,202

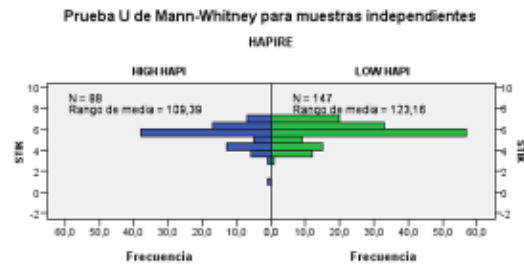


N total	236
U de Mann-Whitney	6.728.000
W de Wilcoxon	17.606.000
Estadístico de contraste	6.728.000
Error estándar	501,018
Estadístico de contraste estandarizado	,519
Significación asintótica (prueba bilateral)	,604

CHANNEL STICKINESS



N total	235
U de Mann-Whitney	6.879.500
W de Wilcoxon	15.264.500
Estadístico de contraste	6.879.500
Error estándar	514.807
Estadístico de contraste estandarizado	,083
Significación asintótica (prueba bilateral)	,934



N total	235
U de Mann-Whitney	7.236.000
W de Wilcoxon	18.104.000
Estadístico de contraste	7.236.000
Error estándar	500,722
Estadístico de contraste estandarizado	1,514
Significación asintótica (prueba bilateral)	,130

MANN-WHITNEY U TEST FOR INDIPENDENT SAMPLES – PHYSICAL CHANNEL

Resumen de contrastes de hipótesis

Hipótesis nula	Prueba	Sig.	Decisión
1 La distribución de ENJOY es la misma entre las categorías de HAPARE.	Prueba U de Mann-Whitney para muestras independientes	,000	Rechaza la hipótesis nula
2 La distribución de CONVTIME es la misma entre las categorías de HAPARE.	Prueba U de Mann-Whitney para muestras independientes	,018	Rechaza la hipótesis nula
3 La distribución de STIK es la misma entre las categorías de HAPARE.	Prueba U de Mann-Whitney para muestras independientes	,000	Rechaza la hipótesis nula

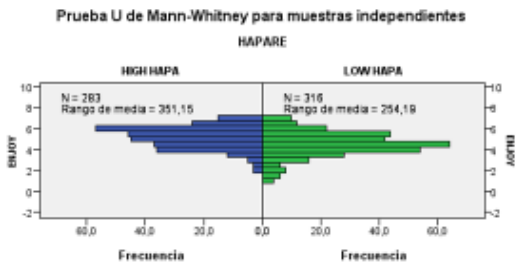
Se muestran significaciones asintóticas. El nivel de significancia es ,05.

Resumen de contrastes de hipótesis

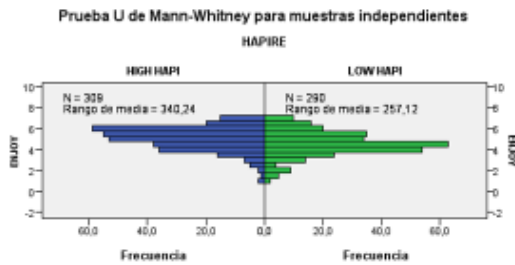
Hipótesis nula	Prueba	Sig.	Decisión
1 La distribución de ENJOY es la misma entre las categorías de HAPIRE.	Prueba U de Mann-Whitney para muestras independientes	,000	Rechaza la hipótesis nula
2 La distribución de CONVTIME es la misma entre las categorías de HAPIRE.	Prueba U de Mann-Whitney para muestras independientes	,000	Rechaza la hipótesis nula
3 La distribución de STIK es la misma entre las categorías de HAPIRE.	Prueba U de Mann-Whitney para muestras independientes	,000	Rechaza la hipótesis nula

Se muestran significaciones asintóticas. El nivel de significancia es ,05.

SHOPPING ENJOYMENT

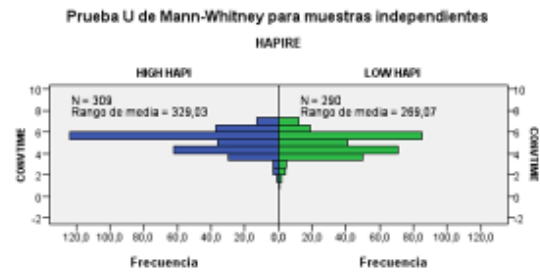
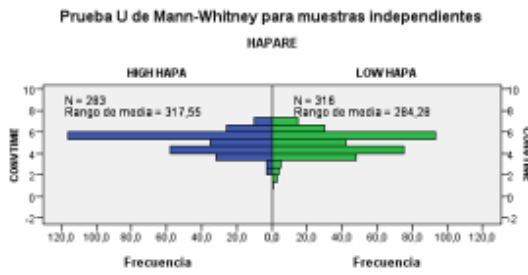


N total	599
U de Mann-Whitney	30.239.000
W de Wilcoxon	80.325.000
Estadístico de contraste	30.239.000
Error estándar	2.109,521
Estadístico de contraste estandarizado	-6,862
Significación asintótica (prueba bilateral)	,000



N total	599
U de Mann-Whitney	32.370.000
W de Wilcoxon	74.565.000
Estadístico de contraste	32.370.000
Error estándar	2.111,667
Estadístico de contraste estandarizado	-5,889
Significación asintótica (prueba bilateral)	,000

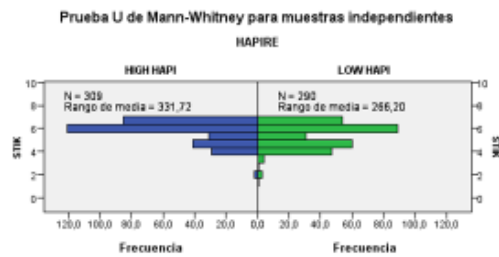
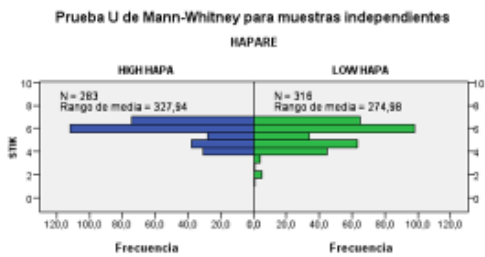
SHOPPING CONVENIENCE



N total	599
U de Mann-Whitney	39.746.500
W de Wilcoxon	89.832.500
Estadístico de contraste	39.746.500
Error estándar	2.103.216
Estadístico de contraste estandarizado	-2.362
Significación asintótica (prueba bilateral)	.018

N total	599
U de Mann-Whitney	35.835.000
W de Wilcoxon	78.030.000
Estadístico de contraste	35.835.000
Error estándar	2.105.355
Estadístico de contraste estandarizado	-4.261
Significación asintótica (prueba bilateral)	.000

CHANNEL STICKINESS



N total	599
U de Mann-Whitney	36.807.000
W de Wilcoxon	86.893.000
Estadístico de contraste	36.807.000
Error estándar	2.101.054
Estadístico de contraste estandarizado	-3.763
Significación asintótica (prueba bilateral)	.000

N total	599
U de Mann-Whitney	35.003.000
W de Wilcoxon	77.198.000
Estadístico de contraste	35.003.000
Error estándar	2.103.191
Estadístico de contraste estandarizado	-4.661
Significación asintótica (prueba bilateral)	.000

APPENDIX B

ONLINE QUESTIONNAIRE

In an average month, what percentage of your total grocery spend is spent in each of the following channels? (Numbers entered must add to 100)

- _____ Online using a Grocery Store App
_____ Online using a Grocery Store Website
_____ In a Grocery Store

During the past month, how often did you shop using each of the following channels? Please indicate the number of times you shopped in each channel, for example 1, 3, 7, or use 0 in case you never shop in one or more of those channels in the last month

- _____ Online using a Grocery Store App
_____ Online using a Grocery Store Website
_____ In a Grocery Store

On average, how much time do you spend shopping in: (Please write the number of minutes, for example 20, 30, etc.)

- _____ Grocery Store App
_____ Grocery Store Website
_____ Grocery Store

Which GROCERY MOBILE STORE APP have you used most often in the last month for your main grocery shop? Please write the name of the store app:

_____ (text)

Have you used any other GROCERY MOBILE STORE APP for your grocery shopping, in the last month? (Please write their names here:)

- Mobile store app: _____
Mobile store app: _____
Mobile store app: _____

Thinking about your main GROCERY MOBILE STORE APP (i.e. the grocery retailer mobile app you have used most often in the last month) please indicate the extent to which you agree or disagree with each of the following statements:

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
Shopping using my main mobile grocery store app makes me happy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy shopping using my main mobile grocery store app	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buying grocery products using my main mobile store app is fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buying grocery products using my main mobile store app is usually a pleasant experience for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to shop using my main mobile grocery store app	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main mobile grocery app is well designed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main mobile grocery app has a good appearance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The atmosphere in my main mobile grocery store app is entertaining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The atmosphere in my main mobile grocery store app is stimulating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main mobile grocery store app has a pleasing atmosphere	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main mobile grocery store app is attractive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The way products are placed in my main mobile grocery store app is easy to understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main mobile grocery store app is easy to navigate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easy to move between different sections of my main mobile grocery store app	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Please select agree for this question	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main mobile grocery store app enables me to view the merchandise in different ways	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easy to compare products and prices in my main mobile grocery store app	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Products are logically displayed in my main mobile grocery store app	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Browsing in my main mobile grocery store app is intuitively logical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Please select strongly disagree for this question	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Few more questions about your main GROCERY MOBILE STORE APP (i.e. the grocery retailer mobile app you have used most often in the last month). Please indicate the extent to which you agree or disagree with each of the following statements:

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
I intend to continue to buy grocery products using my main mobile store app	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I intend to increase the frequency of grocery shopping using my main mobile store app	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to recommend others to shop for grocery products using my main mobile store app	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am so involved when I shop for groceries using my main mobile store app that I lose track of time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I block things out around me when I shop for groceries using my main mobile store app	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I buy groceries using my main mobile store app, I lose track of the world around me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The time I spend buying groceries using my main mobile store app just slips away	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to access my main mobile grocery store app quickly and easily	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Please select agree for this question	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main mobile grocery store app allows me to save time when I am shopping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main mobile grocery store app makes my shopping less time consuming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using my main mobile grocery store app is a convenient way to shop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Please select strongly disagree for this question	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Which GROCERY STORE WEBSITE have you used most often in the last month for your main grocery shop? Please write the name of the store website:

_____ (text)

Have you used any other GROCERY STORE WEBSITE for your grocery shopping, in the last month? Please write their names here:

Store website: _____

Store website: _____

Store website: _____

Thinking about your main GROCERY STORE WEBSITE (i.e. the grocery store website you have used most often in the last month): please indicate the extent to which you agree or disagree with each of the following statements:

	Strongly agree	Agree	Somewhat agree	Neither agree nor	Somewhat disagree	Disagree	Strongly disagree
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				disagree			
Please select agree for this question	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Please select strongly disagree for this question	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shopping in my main grocery website makes me happy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy shopping in my main grocery website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buying grocery products in my main store website is fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buying grocery products on my main store website is usually a pleasant experience for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to shop in my main grocery website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main grocery website is well designed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main grocery website has a good appearance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The atmosphere in my main grocery website is entertaining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The atmosphere in my main grocery website is stimulating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main grocery website has a pleasing atmosphere	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main grocery website is attractive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The way products is placed in my main grocery website is easy to understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main grocery website is easy to navigate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easy to move between different pages and sections of my main grocery website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main grocery website enables me to view the merchandise in different ways	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easy to compare products and prices in my main grocery website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Products are logically displayed in my main grocery website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Browsing in my main grocery website is intuitively logical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Few more questions about your main GROCERY STORE WEBSITE (i.e. the grocery store website you have used most often in the last month). Please indicate the extent to which you agree or disagree with each of the following statements:

Strongly agree	Agree	Somewhat agree	Neither agree nor	Somewhat disagree	Disagree	Strongly disagree
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				disagree			
I intend to continue to buy grocery products on my main store website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I intend to increase the frequency of grocery shopping on my main store website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to recommend others to shop for grocery products on my main store website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am so involved when I shop for groceries on my main store website that I lose track of time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I block things out around me when I shop for groceries on my main store website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I buy groceries on my main store website, I lose track of the world around me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The time I spend buying groceries on my main store website just slips away	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Please select agree for this question	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Please select strongly disagree for this question	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main grocery website allows me to save time when shopping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main grocery website makes my shopping less time consuming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using my main grocery website is a convenient way to shop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Which GROCERY STORE have you used most often in the last month for your main grocery shop? Please write the name of the store:

_____ (text)

Have you used any other GROCERY STORES for your grocery shopping, < in the last month? Please write their names here:

Store name: _____
 Store name: _____
 Store name: _____

Thinking about your main GROCERY STORE (i.e. the grocery store you have used most often in the last month): please indicate the extent to which you agree or disagree with each of the following statements:

Strongly	Agree	Somewhat	Neither	Somewhat	Disagree	Strongly
----------	-------	----------	---------	----------	----------	----------

	agree		agree	agree nor disagree	disagree		disagree
Please select agree for this question	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shopping in my main grocery store makes me happy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy shopping in my main grocery store	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buying grocery products in my main store is fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buying grocery products in my main store is usually a pleasant experience for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to shop in my main grocery store	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main grocery store is well designed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main grocery store has a good appearance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The atmosphere in my main grocery store is entertaining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The atmosphere in my main grocery store is stimulating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main grocery store has a pleasing atmosphere	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main grocery store is attractive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The way products are placed in my main grocery store is easy to understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Please select strongly disagree for this question	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main grocery store is easy to navigate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easy to move between the store aisles in my main grocery store	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main grocery store enables me to view the merchandise in different ways (e.g. aisle, kiosks, shelves)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easy to compare products and prices in my main grocery store	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Products in my main grocery store are logically displayed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Browsing in my main grocery store is intuitively logical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Few more questions about your main GROCERY STORE (i.e. the grocery store you have used most often in the last month). Please indicate the extent to which you agree or disagree with each of the following statements:

	Strongly agree	Agree	Somewhat agree	Neither agree	Somewhat disagree	Disagree	Strongly disagree
--	----------------	-------	----------------	---------------	-------------------	----------	-------------------

				nor disagree			
I intend to continue to buy grocery products in my main store	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I intend to increase the frequency of grocery shopping in my main store	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to recommend others to shop for grocery products in my main store	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am so involved when I shop for groceries in my main store that I lose track of time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I block things out around me when I shop for groceries in my main store	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I buy groceries in my main store, I lose track of the world around me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The time I spend buying groceries in my main store just slips away	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Please select agree for this question	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My main grocery store allows me to save time when shopping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using my main grocery store makes my shopping less time consuming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using my main grocery store is a convenient way to shop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Please select strongly disagree for this question	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Almost there. Please answer few questions about YOURSELF and the WAY YOU SHOP:

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree

When walking through stores, I can't help touching all kinds of products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Touching products can be fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I place more trust in products that can be touched before purchase	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel more comfortable purchasing a product after physically examining it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When browsing in stores, it is important for me to handle all kinds of products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I can't touch a product in the store, I am reluctant to purchase the product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to touch products even if I have no intention of buying them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel more confident making a purchase after touching a product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When browsing in stores, I like to touch lots of products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The only way to make sure a product is worth buying is to actually touch it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are many products that I would only buy if I could handle them before purchase	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find myself touching all kinds of products in stores	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Please select strongly agree for this question	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I go shopping, I buy things that I had not intended to purchase	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am a person who makes unplanned purchases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is fun to buy spontaneously	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How old are you?

- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65 and over

What is your gender?

- Male
- Female

What is your household income?

- Under £20K
- £20K -£29K
- £30K-£49K
- £50K-£75K
- £75K-£100K
- over £100K

How big is your household?

- 1 person
- 2 people
- 3-4 people
- 5+people