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Individual preferences of digital touchpoints: A latent class analysis☆

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ABSTRACT

An extensive study of 2348 individuals' preferences for digital touchpoints sheds light on the perceived importance of websites, email, search engines, chat, social networks, photo and video content communities, discussion forums and blogs. Latent class analysis reveals four distinct segments: anti-digital, anti-social media, majority, and digital channel enthusiasts. A detailed look at the characteristics of the segments, including their technology readiness, internet use, and demographic factors, shows that the greatest difference across the segments lies in their overall technology readiness. We find that functional touchpoints (email, websites, and search engines) are the preferred digital touchpoints among all the segments.

1. Introduction

Retailers are increasingly transferring their services to digital channels. While for some retailers, digital channels complement conventional brick-and-mortar stores, for other retailers they have enabled completely new business models. Digital channels provide clear advantages for both retailers and customers. Through digital channels, retailers can be more efficient and reach appropriate customers at lower costs (Grewal et al., 2017). For customers, digital channels enable faster service and better-tailored and more beneficial offers, resulting in better-informed decision-making overall (Grewal et al., 2017). However, retailers face the challenge of deciding which digital channels to allocate marketing resources, as there are considerably more channels today than in the past. For instance, approximately 500 million tweets are sent every day on Twitter, and more than one billion hours of videos are watched every day on YouTube. These services are two examples of digital channels, which are defined as digital contact points and media through which individuals and firms interact (Neslin et al., 2006). As with all firms, retailers are in the middle of a digital transformation, and they need a profound understanding of how customers interact with retail environments through multiple channels (Verhoef et al., 2015; Dholakia et al., 2010). This understanding is fundamental to making decisions about how to allocate money and marketing resources between digital channels. Today's customers switch across different channels and consume content through multiple devices. Therefore, retailers require a deeper understanding than ever before of individual channel preferences and individual touchpoints in a purchase journey. Here, we use the term *customer touchpoint* to mean "episodes of direct or indirect contact with a brand or a firm" (Baxendale et al., 2015; Verhoef et al., 2015) that individuals can initiate, e.g. through search engines, websites, email or social media.

A recent stream of research has focused on understanding customer behavior and preferences in multichannel (Schoenbachler and Gordon, 2002; Pauwels and Neslin, 2015) and omnichannel environments (Piotrowicz and Cuthbertson, 2014; Verhoef et al., 2015). In general, *multichannel* refers to behavior through multiple channels, such as those of offline and online channels, and multichannel customer management is the "design, deployment, coordination, and evaluation of channels to enhance customer value through effective customer acquisition, retention and development" (Neslin et al., 2006, p. 96). *Omnichannel* is the evolution of multichannel (Piotrowicz and Cuthbertson, 2014) into a seamless channel experience with no distinction between the physical and online realms (Brynjolfsson et al., 2013). An omnichannel experience is therefore a single transaction process within which customers move freely between online, mobile and physical interfaces (Piotrowicz and Cuthbertson, 2014). However, earlier literature suggests that in online environments, individuals have many different behavioral patterns. A wide variety of digital channels are available, and thus previous studies that only used categorizations like offline/online (Wang et al., 2014), store/internet/call center (De Keyser et al., 2015) and store/internet/mobile/social media (Sands et al., 2016; Nakano and Kondo, 2018) provide only a limited picture of individuals' preferences for

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digital channels. Indeed, Nakano and Kondo (2018) call for more research on the topic, focusing particularly on different digital channels.

Consequently, the present study contributes to the existing research by focusing on differences in individuals' preferences for a variety of commonly used digital touchpoints, including websites, email, search engines, social networks, photo and video content communities, discussion forums, and blogs. In line with previous customer segmentation studies, we divide a heterogeneous group of customers into smaller, homogenous subgroups that share characteristics in terms of digital channel preferences. This helps retailers to identify various customer groups and to use their resources more efficiently to meet customers' needs. Retailers can employ customer segmentation to apply various marketing strategies to groups of customers with similar characteristics, achieving increased profits by better satisfying customer requirements. Thus, the study aims to identify preference segments and identify how they differ in terms of technology readiness, internet use and demographic variables. Such background characteristics can help retailers to understand the characteristics of different customer segments when developing digital marketing initiatives, personalizing digital services, and designing new digital services.

2. Customer segmentation and digital touchpoints

2.1. Research background

Prior customer segmentation studies in the retail field have sought to understand multichannel and omnichannel customer behavior in various ways (Neslin and Shankar, 2009; Gensler et al., 2012; Cook, 2014; Lazaris and Vrechopoulos, 2014; Bhalla, 2014; Beck and Rygl, 2015). Konuş et al. (2008), for instance, identified three multichannel shopper segments: *multichannel enthusiasts*, *uninvolved shoppers*, and *store-focused customers*. Other studies extend their findings to additional channels and settings, and identify various different customer segments (Table 1).

De Keyser et al. (2015) extended the prior research by Konuş et al. (2008), examining multichannel customer segments during the information search and purchase phases and identifying six segments. Following their example, Sands et al. (2016) segmented multichannel customers across the search, purchase and after-sales phases. They found polarization in the perceived importance of mobile and social media channels, with two of the five segments rating social media and mobile channels as unimportant (Sands et al., 2016). Nakano and Kondo (2018) grouped customers according to purchase channel preference, into *store-focused customers*, *uninvolved shoppers*, and *multichannel enthusiasts*. They further classified these segments into seven subgroups based on their media usage.

Earlier research suggests various categorizations and typologies of digital channels and digital touchpoints (Table 2). However, in the existing research, the distinction between digital *channels* and digital *touchpoints* is left rather unclear, and the terms are often used interchangeably. Edelman (2010) uses a two-class categorization based on the level of control a firm has, dividing digital channels into *owned channels* and *earned channels*. Other categorizations suggest dividing digital channels into *paid channels*, *owned channels* and *earned channels* (Stephen and Galak, 2012), or *brand-owned touchpoints*, *partner-owned touchpoints*, *customer-owned touchpoints* and *social/external touchpoints* (Lemon and Verhoef, 2016). A recent typology of digital touchpoints by Straker et al. (2015) suggests dividing digital touchpoints into *functional touchpoints*, *social touchpoints*, *community touchpoints* and *corporate touchpoints*. Functional touchpoints include digital touchpoints such as email and websites, and the purpose of functional touchpoints is split between *diversion*, *functionality* and *interaction*. Social touchpoints include various forms of social media, and they have a higher level of interaction, with the ability to post and respond directly and in real time. Community touchpoints include forums and blogs, and are based on cohesion among users. Finally, corporate touchpoints focus on gaining customer feedback, and include e.g. FAQs and customer feedback forms (Straker et al., 2015).

2.2. Development of the model

To better understand customer behavior in digital channels, we first segment individuals by their digital touchpoint preferences, after which we examine characteristics of these segments, including technology readiness, internet usage, and demographic characteristics (Fig. 1). We base our conceptual model and choice of digital touchpoints on the typology by Straker et al. (2015). We see "digital channel" as a broader concept than "touchpoint," and we categorize the included digital touchpoints as *functional touchpoints*, *social touchpoints*, or *community touchpoints*. Functional touchpoints include websites, email and search engines. Live chat and bot chat are becoming more popular among retailers in giving customer service and customer support (McLean and Osei-Frimpong, 2017), and therefore we define chat as an additional functional touchpoint. In contrast to other functional touchpoints, live chat can enable two-way, real-time interaction. We define social networking sites (e.g. Facebook, Twitter, LinkedIn), and various forms of photo content communities (e.g. Instagram, Pinterest, Flickr) and video content communities (e.g. YouTube) as *social touchpoints*. In addition, *community touchpoints* include discussion forums and blogs. Corporate touchpoints are not included in the present study, as they typically show higher divergence and thus may not be comparable.

The earlier literature shows that attitudinal and demographic variables correlate with individuals' preferences for and behavior in digital channels (Devaraj et al., 2006; Lee and Cude, 2012; Phang et al., 2010). In terms of attitudes to technology, we base our model on the recent Technology Readiness Index 2.0 (Parasuraman and Colby, 2015). Technology readiness describes individuals' propensity to embrace and use new technologies, both at home and at work. Technology readiness is comprised of four dimensions: *optimism*, *innovativeness*, *discomfort*, and *insecurity*. Optimism and innovativeness contribute to technology readiness, while discomfort and insecurity inhibit technology readiness, and individuals can express both these positive and negative feelings toward technology simultaneously.

Optimism refers to a general positive view of technology. In general, the construct of dispositional optimism is a generalized form of positive versus negative expectancies, in which positive expectations lead to increased effort to attain desired outcomes and goals, and negative expectations lead to reduced effort and disengagement from pursuing a goal (Carver et al., 1989; Nes and Segerstrom, 2006). *Innovativeness* refers to a tendency to be a pioneer and leader in adopting new technologies (Parasuraman, 2000). Rogers (1995), for instance, defines innovativeness as how much earlier an individual will adopt new ideas than others will. *Discomfort* reflects a perception of being overwhelmed by technology and lacking control over it (Parasuraman and Colby, 2015), representing an individual's general belief that technologies tend to be exclusionary rather than inclusive for people (Tsikriktsis, 2004). *Insecurity* reflects distrust of technology, which typically originates from general skepticism towards the ability of technology to work properly, and includes concerns about the potential harmful consequences of technology (Parasuraman and Colby, 2015).

3. Method

3.1. Data collection and questionnaire items

The data for the study were collected using an online questionnaire sent to customers of five companies in different fields, including telecommunication services, information technology services, furniture solutions and workplace-related services, healthcare services, and security services. We invited 35,340 individuals to participate in the survey, but due to incorrect email addresses and out-of-office responses, we were unable to reach 7690 respondents. Of the remaining 27,650

Table 1
Previous multichannel segmentation studies.

		Touchpoints included	Segmentation result
Konuş et al. (2008)	Survey (n = 364)	1. Store 2. Internet 3. Catalog	Three segments: 1. Multichannel enthusiasts 2. Uninvolved shoppers 3. Store-focused customers
Valentini et al. (2011)	Data obtained from a retailer	1. Catalog 2. Internet 3. Store	1. Learners – predominantly multichannel users 2. Stayers – mainly single-channel users
Wang et al. (2014)	Survey (n = 1325)	1. Offline channel 2. Online channel	Two segments: 1. Innovative consumer 2. Conventional consumer
De Keyser et al. (2015)	Survey (n = 314)	1. Internet 2. Store 3. Call center	Six segments: 1. Research shoppers - after-sales: store 2. Web-focused shoppers 3. Store-focused shoppers 4. Research shoppers - after sales: Internet/store 5. Web-focused shoppers - after sales: store/call center 6. Call center-prone shoppers
Sands et al. (2016)	Survey (n = 930)	1. Mobile 2. Social media 3. Internet 4. Store	Five segments: 1. Anti-mobile/anti-social media 2. Multichannel enthusiasts 3. Social media enthusiasts 4. Internet-focused, anti-mobile 5. Internet-focused, multichannel enthusiasts
Ieva and Ziliani (2017)	Survey (n = 1786)	1. Online media 2. Print media (i.e. offline)	1. Print lovers 2. Online lovers 3. Omni-media lovers 4. Medium pickers 5. Medium neutrals
Nakano and Kondo (2018)	Panelist data (n = 2595)	1. Store 2. Mobile 3. PC 4. Social media	Seven segments: 1. Store-focused customers/anti-digital 2. Store-focused light customers/anti-digital 3. Store-focused light customers/multimedia & social 4. Store-focused customers/multimedia 5. Uninvolved shoppers/average 6. Online-favored multichannel enthusiasts/PC 7. Store-favored multichannel enthusiasts/Multimedia and social media

individuals, 2358 responded to our study, a response rate of approximately 8.5%. After removing invalid responses, the final dataset consists of 2348 valid responses. With regard to gender, 54% of the sample are female and 46% male, and their average age is 51. The majority of the respondents have a university (n = 980) or polytechnic degree (n = 589) (Table 3).

Following Sands et al. (2016), the respondents' digital touchpoint preferences were measured using self-reported ratings for the importance of the digital touchpoints included in the survey. Specifically, the perceived importance of digital channels in purchasing professional services was measured on a five-point Likert scale ranging from *1 = not at all important* to *5 = very important*. Constructs of technology readiness were measured with a five-point Likert scale ranging from *1 = strongly disagree* to *5 = strongly agree*. Following Parasuraman (2000), we calculated an overall technology readiness score by averaging the scores of the four technology readiness dimensions after reverse-coding the scores of the discomfort and insecurity dimensions. In addition, the survey asked about weekly use of the internet (in hours), and gender, age, and education level.

3.2. Construct validation

We used confirmatory factor analysis to validate the theory-driven constructs of technology readiness in the given context (Table 4). The

Table 2
Digital channel/touchpoint typologies.

Edelman (2010)	*Owned channels* – company and brand channels which a company/brand controls *Earned channels* – customer-created channels such as brand communities
Stephen and Galak (2012)	*Paid channels* – activity generated by the company or its agents *Owned channels* – activity generated by the company or its agents in channels it controls *Earned channels* – activity not directly generated by the company but rather by other entities such as customers or journalists
Straker et al. (2015)	*Functional touchpoints* – purpose split between diversion, functional and interaction (e.g. websites, email). *Social touchpoints* – purpose is mainly interaction; users can post and like a company/a brand (e.g. Facebook, Instagram) *Community touchpoints* – similar to social touchpoints, but run by a group of users with aligned interests (e.g. discussion forums, blogs). *Corporate touchpoints* – one-way engagement from company to customer, or the other way around (e.g. FAQs).
Lemon and Verhoef (2016)	*Brand-owned touchpoints* – designed and managed by the firm and under the firm's control (e.g. advertising, websites) *Partner-owned touchpoints* – designed and managed by the firm and one or more of its partners *Customer-owned touchpoints* – e.g. choice of payment *Social/external touchpoints* – third-party information sources, such as review sites (e.g. TripAdvisor), social media

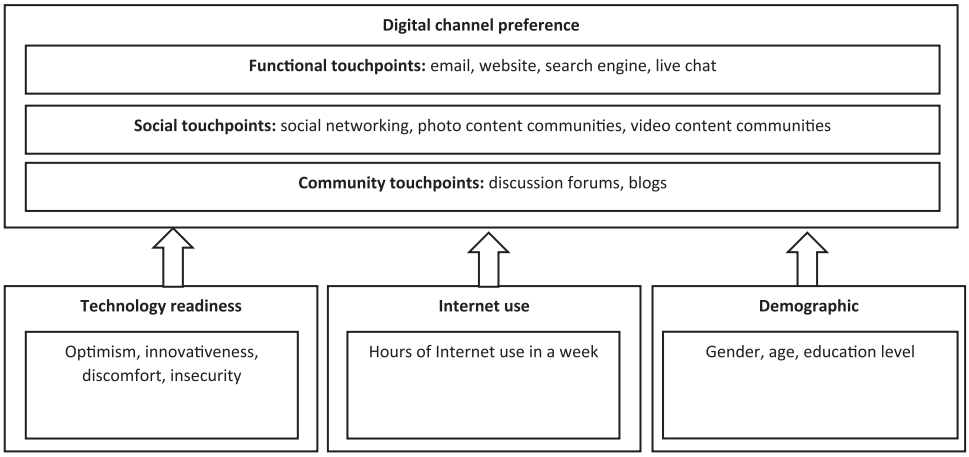

Fig. 1. Study framework.

Table 3
Descriptive statistics.

	n	%
Gender		
Male	1275	54.3
Female	1073	45.7
Age		
Below 30	31	1.3
30–39	230	9.8
40–49	589	25.1
50–59	1025	43.7
60 or over	473	20.1
Education Level		
Comprehensive school	65	2.8
Vocational school	211	9.0
Upper secondary school	305	13.0
College education	198	8.4
Polytechnic education	589	25.1
University education	980	41.7
Internet usage, hours per week (mean)	17.4	
Total	**2348**	**100**

Table 5
Discriminant validity of the latent constructs.

	Optimism	Innovativeness	Discomfort	Insecurity
Optimism	**0.685**			
Innovativeness	0.508	**0.769**		
Discomfort	− 0.401	− 0.417	**0.645**	
Insecurity	− 0.572	− 0.376	0.624	**0.674**

Note: Square roots of AVE (average variance extracted) estimates are on the diagonals; correlations of the constructs are below the diagonals.

results support four technology readiness dimensions with $\chi^2_{(df)} = 761.727_{(98)}$ ($p < 0.001$), CFI = 0.949, and RMSEA = 0.054. Two items show relatively low factor loadings of 0.513 (first item of discomfort) and 0.477 (fourth item of insecurity), but we decided to retain all the measurement items in the analysis with respect to the original Technology Readiness Index. The results support discriminant validity (Table 5), as the square root of average variance extracted (AVE) is greater than the correlation with other constructs (Fornell and Larcker, 1981). In addition, Cronbach's coefficient alphas are all above the cut-off criterion of 0.7 (Garver and Mentzer, 1999). We also performed an

Table 4
Confirmatory factor analysis and reliability of measures.

		Mean	Std. dev.	Std. loading
	Optimism (α = 0.773)			
1	New technologies contribute to a better quality of life.	3.86	0.76	0.732
2	Technology gives me more freedom of mobility.	4.20	0.71	0.638
3	Technology gives people more control over their daily lives.	3.36	0.95	0.648
4	Technology makes me more productive in my personal life.	3.66	0.89	0.716
	Innovativeness (α = 0.852)			
1	Other people come to me for advice on new technologies.	3.31	1.06	0.772
2	In general, I am among the first in my circle of colleagues and friends to acquire new technology when it appears.	2.82	1.08	0.785
3	I can usually figure out new high-tech products and services without help from others.	3.29	1.09	0.731
4	I keep up with the latest technological developments in my areas of interest.	3.29	1.12	0.788
	Discomfort (α = 0.735)			
1	When I get technical support from a provider of a high-tech product or a service, I sometimes feel as if I am being taken advantage of by someone who knows more than I do.	2.32	0.92	0.513
2	Technical support lines are not helpful because they don't explain things in terms I understand.	2.37	0.94	0.675
3	Sometimes, I think that technology systems are not designed for use by ordinary people.	3.19	1.09	0.687
4	There is no such thing as a manual for a high-tech product or a service that's written in plain language.	3.03	1.06	0.689
	Insecurity (α = 0.745)			
1	People are too dependent on technology to do things for them.	3.06	1.01	0.652
2	Too much technology distracts people to a point that is harmful.	3.33	1.06	0.799
3	Technology lowers the quality of relationships by reducing personal interaction.	3.51	1.07	0.727
4	I do not feel confident doing business with a place that can only be reached online.	3.14	1.18	0.477

These questions comprise the Technology Readiness Index 2.0 which is copyrighted by A. Parasuraman and Rockbridge Associates, Inc., 2014. This scale may be duplicated only with written permission from the copyright holders.

Table 6
Log-likelihood statistics for model selection.

		LL	AIC	BIC	SABIC	Npar
Model 1	1-segment	− 29,197.347	58,430.695	58,534.399	58,477.209	18
Model 2	2-segment	− 27,217.777	54,491.554	54,652.871	54,563.909	28
Model 3	3-segment	− 26,533.268	53,142.536	53,361.467	53,240.733	38
Model 4	**4-segment**	**− 26,273.082**	**52,642.164**	**52,918.707**	**52,766.201**	**48**
Model 5	5-segment	− 26,053.101	52,222.201	52,556.358	52,372.080	58
Model 6	6-segment	− 24,177.416	48,490.831	48,882.602	48,666.551	68

analysis with a common latent factor present in the model, and no significant common variance was found when comparing the standardized regression weights across the models with the common latent factor and without it.

4. Results

4.1. Customer segmentation based on digital touchpoint preferences

The study included latent class analysis with Mplus 8 (Muthén and Muthén, 1998–2017) to segment customers based on their digital channel preferences. Latent class analysis (Goodman, 1974; Lazarsfeld and Henry, 1968) is a statistical procedure that can be used to segment individuals into homogeneous subgroups (Geiser, 2012), and it has the advantage that the choice of the cluster criterion is less arbitrary, as the latent class approach includes rigorous statistical tests (Vermunt and Magidson, 2002).

Table 6 shows the log-likelihood (LL) statistics for model selection, including the Akaike information criterion (AIC), the Bayesian information criterion (BIC) and the sample-size adjusted Bayesian information criterion (SABIC), together with the number of free parameters in the model (Npar). In comparing alternative models, the preferred solution is usually a model that fits well and uses as few parameters as possible (Geiser, 2012). Typically, the best solution is the one with the lowest information criteria indices (Geiser, 2012); however, these indices may continually decrease with additional clusters (Masyn, 2013). Therefore, following Sands et al. (2016), we also evaluated the alternative cluster solutions in terms of over-extraction (Masyn, 2013), class separation (Collins and Lanza, 2010), and interpretability of results (Wedel and Kamakura, 2012). The resulting five- and six-segment solutions show signs of over-extraction, as the smallest segments are only 3.5% and 6.5% of the sample size, respectively, and thus result in a low class separation; therefore, we selected the four-segment solution, which is close to the five-segment model in terms of log-likelihood and information criteria indices, but shows no risk of over-extraction, as the smallest segment represents over 10% of the sample. The four-segment solution shows clearly distinct clusters, which are evidence of class separation and interpretability of results.

4.2. Interpretation of segments

Using latent class analysis, the results yield four clearly distinct segments of individuals in terms of their digital touchpoint preferences (Table 7). The results show that, between the extremes of anti-digital and digital channel enthusiasts, two further groups exist: the anti-social media segment, and the majority. The first segment, referred to as *anti-digital*, is the smallest, and it represents 11% of the sample. Compared to the average, this group of individuals is clearly negative about all the digital touchpoints included in the study. Like the anti-digital group, the *anti-social media* segment has an overall negative stance toward most of the digital touchpoints included in the study. However, they have a clearly positive stance towards the functional digital touchpoints, except online chat. Compared to the average, individuals in this segment are positive about the use of email, websites, and search engines, and negative towards the use of online chat, social networks, photo and video content communities, and discussion forums and blogs. This segment is the second smallest, comprising 17% of the sample, and these individuals mainly perceive social and community touchpoints as unimportant. The *majority* segment differs markedly from the previous two, as individuals in this group are very close to the average in the perceived importance they assign to all the digital touchpoints included in the study. Specifically, they score slightly over the average in all the other digital touchpoints, except in their attitude towards email. This segment is also clearly the largest, comprising 53% of the sample. The fourth segment, *digital channel enthusiasts*, has the most positive attitude of all the digital touchpoints included in the study. This segment is the second-largest, with 19% of the respondents.

A look at the characteristics shows that the segments identified differ with regard to technology readiness, level of internet use, and age (Table 8), but not in terms of gender and education level. The anti-digital segment has the lowest overall technology readiness score; individuals in this group are clearly negative in technology-related optimism and innovativeness, and relatively high in their level of technology-related discomfort and insecurity. A look at their characteristics shows that their average age is the highest, and they use the internet less than the other groups. The anti-social media segment also has low scores for technology-related optimism and innovativeness, and high scores for technology-related discomfort and insecurity. However, they seem to use internet approximately two hours more per week and are somewhat younger than the anti-digital segment. Individuals in the majority segment score slightly positively in technology-related optimism and innovativeness, and low in their technology-related discomfort and insecurity. They are younger than the previous two segments, and they use the internet approximately two hours more per week than anti-social media segment and approximately four hours more than the anti-digital segment. The digital channel enthusiasts segment has high scores for technology-related optimism and innovativeness, and low values for technology-related discomfort and insecurity. This is also reflected in their overall technology readiness, in which they score the highest among the segments. These individuals use the internet notably more than the other segments, and they are younger than individuals in other groups.

5. Discussion

5.1. Theoretical contributions

Rogers' (1995) classic theory of innovation diffusion suggests that individuals do not adopt an innovation concurrently, but rather in a sequence of time. Thus, individuals can be categorized into segments based on their predisposition towards technology, i.e. whether individuals are among the first to experiment with new technologies and innovations, or whether they hold back and resist new developments. Individuals that hold back represent those who have an overall negative stance toward technology and have a predisposition to resist new technologies (Rogers, 1995; Parasuraman and Colby, 2015; Laukkanen, 2016). In line with previous studies, we identified an anti-digital segment, which is similar to the customer segment referred to as *anti-digital customers* (Nakano and Kondo, 2018), *non-adopters* (Lee et al., 2005), *laggards* (Rogers, 1995) and *avoiders* (Parasuraman and Colby, 2015) in

Table 7
Segment profiles (n = 2348) and averages of the Likert scores.

	Digital touchpoint	Direction	Segment 1 Anti-digital (n = 262) 11%	Segment 2 Anti-social media (n = 405) 17%	Segment 3 Majority (n = 1233) 53%	Segment 4 Digital channel enthusiasts (n = 448) 19%	Mean
Functional	Email	One-way	2.95	3.80	3.68	4.02	3.68
	Website	One-way	2.73	3.96	3.90	4.36	3.86
	Search engine	One-way	2.59	4.19	4.04	4.49	3.98
	Online chat	Two-way	1.33	1.27	2.22	3.18	2.13
Social	Social networks	Two-way	1.57	1.56	2.52	3.70	2.46
	Photo content communities	Two-way	1.34	1.22	1.99	3.05	1.98
	Video content communities	Two-way	1.46	1.52	2.42	3.54	2.36
Community	Blogs	Two-way	1.37	1.31	2.28	3.22	2.23
	Discussion forums	Two-way	1.63	1.86	2.77	3.52	2.62

previous research. Previous customer segmentation studies refer to this group as *anti-digital customers* (Nakano and Kondo, 2018), *store-focused customers* (Konuş et al., 2008) and *conventional consumers* (Wang et al., 2014). Our results show that anti-digital customers (11% of customers) think all the included digital touchpoints are unimportant when they are buying professional services. The findings therefore indicate that retailers will not be able to reach all customers through digital channels because some customers continue to stick to traditional channels. Consequently, we encourage retailers to promote useful content for this customer segment to motivate anti-digital customers to explore the potential of digital channels.

Some customers do not consistently resist all digital technologies and find benefits in using some of them. In line with the results of Sands et al. (2016), we identify an anti-social media customer segment. These individuals find benefits in the use of email, search engines and websites, but rate social and community touchpoints, and online chat as unimportant. The main difference between the anti-social media and majority segments lies in their technology-related attitudes: the majority segment is moderately high in technology-related optimism and innovativeness, and moderately low in technology-related discomfort and insecurity; conversely, the anti-social media segment is negative in technology-related optimism and innovativeness, and positive in technology-related discomfort and insecurity. Despite the recent hype around the use of social media in retailing, we find that many customers prefer other digital touchpoints more than social media channels. In order to boost social media coverage, we encourage retailers to combine their social and community touchpoints with the existing functional touchpoints. Retailers can promote the use of social media channels even further, for example on their websites, and through email communication with customers.

At the other end of the spectrum are digital channel enthusiasts, i.e. those customers who are among the first to adopt and use new technology. In previous research, such individuals are referred to as *adopters* (Patsiotis et al., 2012), *explorers* (Parasuraman and Colby, 2015) and *innovators* (Rogers, 1995). Such individuals are characterized as innovative (Rogers, 1995), and they tend to have a high technology-related motivation together with a low level of inhibition (Parasuraman and Colby, 2015). Indeed, we find that digital channel enthusiasts are the highest in their overall technology readiness, they score highly in technology-related optimism and innovativeness, and they are the lowest in technology-related discomfort and insecurity. Moreover, with regard to internet usage and age, our findings suggest that customers with greater technology readiness are generally younger and use the internet more than less technology-ready customers. Reaching this customer segment may open new opportunities for retailers, for example in piloting and co-creating new digital services with them.

Table 8
Parameter estimates.

	Segment 1 Anti-digital (n = 262) 11%	Segment 2 Anti-social media (n = 405) 17%	Segment 3 Majority (n = 1233) 53%	Segment 4 Digital channel enthusiasts (n = 448) 19%	F	Sig.
Overall technology readiness (mean)	2.9	3.1	3.2	3.5	87.332	$p < 0.001$
Optimism	− 0.557	− 0.224	0.061	0.361	58.873	$p < 0.001$
Innovativeness	− 0.561	− 0.284	0.097	0.317	61.776	$p < 0.001$
Discomfort	0.379	0.148	− 0.053	− 0.209	23.896	$p < 0.001$
Insecurity	0.391	0.269	− 0.059	− 0.311	40.956	$p < 0.001$
Internet usage, hours per week (mean)	13.8	15.6	17.5	20.8	13.344	$p < 0.001$
Age (mean)	53.3	52.2	51.4	50.3	7.200	$p < 0.001$
Below 30 (%)	0.8	1.2	1.2	2.0		
30–39 (%)	4.6	7.7	11.1	11.2		
40–49 (%)	25.6	24.9	23.7	28.8		
50–59 (%)	44.3	47.2	43.4	40.8		
60 or over (%)	24.8	19.0	20.6	17.2		
Gender (%)					0.886	p = 0.448
Male	56.1	53.6	55.1	51.3		
Female	43.1	46.4	44.9	48.7		
Education level (%)					0.980	p = 0.401
Comprehensive school	5.3	2.2	2.4	2.9		
Vocational school	10.3	8.9	8.6	9.4		
Upper secondary school	13.7	14.8	12.5	12.3		
College education	6.5	9.6	8.7	7.8		
Polytechnic education	18.7	25.4	25.2	28.1		
University education	45.4	39.0	42.7	39.5		

5.2. Managerial implications

The on-going transformation from multichannel toward omnichannel retailing is making the boundaries between physical and online environments less distinct (Brynjolfsson et al., 2013; Piotrowicz and Cuthbertson, 2014), while the boundaries between various digital channels are simultaneously blurring as individuals move between different digital channels and touchpoints using PCs, tablets and smartphones. In this transformation, individuals have not rejected email, websites or the use of search engines, but they use a wider variety of digital touchpoints than before. Therefore, profits and benefits generated by different digital touchpoints should not be evaluated in isolation, as the findings of Kumar et al. (2016) suggest that marketing in one digital channel can lead to increased spending in another digital channel, as well as in increased cross-buying. Interestingly, the results of this study suggest that customers mainly prefer functional touchpoints, i.e. utilitarian touchpoints, when they buy professional services. This finding is in line with the results of Cervellon et al. (2015) showing that utilitarian orientation is a key driver for customers' channel preferences. Our findings support previous studies (e.g. Brynjolfsson et al., 2013; Verhoef et al., 2015) showing that customer segments are fragmented and not all customers can be reached through traditional media or a single digital channel. Thus, retailers and other service providers need to market, meet and serve their customers in a variety of digital channels and through various digital touchpoints. Additionally, customers access digital touchpoints using a variety of mobile and desktop devices. This demands a cross-platform approach when retailers develop digital services (Alamäki et al., 2016).

5.3. Limitations and future research

The limitations of our study provide interesting future research opportunities. First, the choice of digital touchpoints limits the findings. While we include several widely used digital touchpoints, a number of other options for future research remain. In addition, we purposefully studied digital touchpoints at a general level, focusing, for example, on photo content communities in general, instead of focusing particularly on specific communities (such as Instagram, Picasa or Flickr). We encourage future researchers to look more deeply into specific digital services, in order to establish and deepen our findings.

6. Conclusion

Of the wide variety of alternative digital touchpoints, retailers should devote resources to those digital touchpoints that yield the greatest benefits. This requires a thorough understanding of the company's customer base and customers' preferred digital touchpoints. The results of our study indicate that, overall, individuals prefer "conventional" digital touchpoints with clear functionality (i.e. email, websites and search engines) over social media and community-related alternatives. Luckily for retailers, the preferred digital touchpoints are mainly brand-owned touchpoints (Baxendale et al., 2015; Lemon and Verhoef, 2016), that is to say touchpoints that retailers can control. We find it surprising that social and community touchpoints, in general, are of relatively little importance to customers, although such touchpoints can enable new forms of interaction (Ngai et al., 2015; Mangold and Faulds, 2009). Social media-related topics are among the most prevalent research themes of the past decade (King et al., 2014; Yadav and Rahman, 2017), and retailers have made significant investments in using different social media platforms. However, relatively few companies have actually found corresponding increases in brand engagement among consumers, for example (Schultz and Peltier, 2013). This suggests that the benefits of social and community touchpoints may not be directly measurable, and instead social and community touchpoints may be most beneficial in creating interest in the company, together with raising awareness of its brand and products.

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