Still Targeting Younger Customers? A Field Experiment on Digital Communication Channel Migration

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Short Paper

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Abstract

When encouraging customers to migrate to a digital communication channel, companies often factor age into their targeting strategy. Both the popular press and scholarly work generally believe that younger customers are more likely to opt into communication digitally. However, our empirical evidence from a large-scale field experiment shows that younger customers are not more likely to migrate to a digital communication channel. Besides, we propose two IT-embodied factors to better target customers in the context of digital communication, namely individual digital activeness and information seeking intensity. We find that customers with higher individual digital activeness, or those with lower information seeking intensity, are more likely to migrate to a digital communication channel. Our study thus offers implications for companies to focus more on customer IT-embodied characteristics instead of age.

Keywords: Individual Digital Activeness, Information Seeking Intensity, Digital Communication, Channel Migration

Introduction

With rapid development in information and communication technologies, both established and start-up companies have been increasingly integrating digital communication strategies into their businesses (Kane et al. 2015). Taking advantages of the low costs of connectivity, computing, and coordination, companies have utilized digital communication channels (e.g. email, live chat) to develop and sustain customer relationships (Susarla et al. 2012). Digital communication channels have generally been documented as an effective avenue of engaging with customers, optimizing operations, and reducing cost (Markovitch and Willmott 2014). Companies, therefore, attempt to migrate customers from labor-intensive traditional communication channels (e.g., mail, call center) to digital communication channels (e.g., email, instant message) (Dholakia et al. 2010). Some companies even completely cut off offline communication channels and digitize all their communications with customers (Trampe et al. 2014).

A challenge lies in that, even if companies are determined to launch digital communication migration strategy, not all customers are willing to comply with it. Customers stay with their own preferred communication channels for various reasons, such as convenience, and efficiency (Dholakia et al. 2010). Digital communication channel migration may thus not always be successful, and it could even provoke backlash from customers. For instance, if customers are forced to migrate to a communication channel they prefer the least, they may churn away (Neslin et al. 2006). In order to increase the success rate of digital communication channel migration and minimize the potential negative effects, scholars and practitioners in both marketing and information systems (IS) fields are investigating the potential of targeting the right customers for digital communication in the most effective ways (Li et al. 2011).

Who are the right customers to target for digital communication channel migration? One persistent fixation in both popular press and scholarly work is the confounding between the digital and age (Choudhury and Karahanna 2017, Financial Times 2012). For instance, Facebook allows employers to target online job advertisements by age (Angwin et al. 2017). In academia, some studies in offline-online channel preferences argued that age is a key determinant of customers' channel choices and that younger customers are more likely to switch to digital channel (e.g., Shankar et al. 2003). In addition, some IS studies also investigated the role of age in digital environment, and proposed the notions of digital native and digital immigrant (Prensky 2001). Digital natives are often described as the generation of population born after 1980 who are believed to be more capable of technology usage than digital immigrants who were born before 1980 (Andrade and Doolin 2017, Vodanovich et al. 2010). Such notions incite the belief that age is indicative of digital ability by definition. However, nowadays digitization has inevitably touched upon almost every aspect of our modern lives, and everyone has been gaining familiarity with the digital environment (Labrecque 2013, Lagrosen 2005). Is age still a primary factor to be considered when targeting customers for digital communication channel migration? We argue against it, and maintain that younger customers are not necessarily more willing than the older to migrate to digital communication channels.

As the main purpose of channel migration is to target right customers for digital communication, customers' activity of using digital technologies and their information needs should be seriously considered. We thus use two IT-embodied notions, individual digital activeness and information seeking intensity, to characterize customers. We define individual digital activeness as the extent to which an individual is actively engaging with technologies for work, leisure, learning, and communication (Labrecque et al. 2013), while information seeking intensity as the extent to which an individual seeks information (Wilson 2000).

The key objective of this study is thus to examine the effects of targeting customers based on their age or based on their digital activeness and information seeking intensity on digital communication channel migration. We challenge that targeting customers based on age may not always be effective as expected, while targeting based on customers' IT-embodied characteristics such as digital activeness and information seeking intensity may yield more satisfactory results.

To study digital migration, we have designed and conducted a field experiment in collaboration with one of the largest insurance companies in Europe. In particular, the company enclosed flyers in regular mails and sent out to a random pool of customers (thus the treatment group). The flyer kindly asked customers to manually land in the website provided on the flyer and voluntarily choose to approve email instead of mail communication. At the same time, the company sent the same mails to the remaining customers (thus the control group) but without such flyers. We then compare the number of customers opted in for email communication between the treatment and control groups. We also estimate the heterogeneous treatment effect of targeting based on age, digital activeness, and information seeking intensity, respectively.

Econometrics analyses yield notable results. We find no evidence that targeting younger customers is more likely to increase the opt-in rate for digital communication migration. On the contrary, the older may be more interested in digital communication (i.e., prefer email to mail) when being targeted. We also find that targeting customers with higher digital activeness are more likely to increase channel migration success rate, while targeting customers based on information seeking intensity may not be the case.

This study has important implications. First, this study demonstrates that when targeting customers for digital migration, age as a factor should be cautiously considered. Moreover, by introducing the concepts of individual digital activeness and information seeking intensity, this study offers a new perspective to characterize customers. Our finding challenges the conventional intuition that the older customers generally avoid the digital, which is suggested by extant research in digital natives and immigrants. Second,

this study evaluates the impact of information seeking behaviors on customers' digital migration. We show that customers who frequently seek information may not prefer digital communication channels and hence information seeking behaviors in the digital environment should be further investigated. Last, this study offers a managerial implication that only expecting and targeting younger customers for digital communication channel migration may be futile and even counterproductive.

Theoretical Development

Communication Channel Migration and Age

Since the advent of the Internet, numbers of companies have stimulated customers to use e-channels for the whole shopping process in order to gain benefit for the digitized marketing communications (Lagrosen 2005). To proactively integrate digital channels with their business strategies, companies have attempted to design effective targeting strategies for digital communication channel migration (Trampe et al. 2014).

Marketing and IS research have initiated the study of customer segmentation in the process of channel migration. A few marketing studies have explored customer preferences in channel choices (Dholakia et al. 2010), while some IS studies have focused on digital technology acceptance (Venkatesh et al. 2012). Interestingly, extant studies have identified age as a key determinant for customers' channel preferences, and they claimed that younger customers are more likely to use digital channels than the older (Shankar et al. 2003). Practitioners, if not all the time, also consider age as a factor for targeting strategy. For instance, Financial Times targeted younger readers with a new digital advertising campaign (Financial Times 2012) and Facebook allowed companies to target younger users for online job advertisements (Angwin et al. 2017).

However, given the prevalent applications of digitization nowadays, customers have been able to effectively use such technologies regardless of age differences. We thus argue that the digital ability gap, even if exists, does not vary much across age. When it comes to digital interactions, what matters more is customers' engagement with digital technologies instead of their familiarity with technologies that may be associated with age (Keeling et al. 2019). Hence, in the context of digital migration, we argue that:

H1: When being targeted, younger customers are NOT more likely to migrate to a digital channel.

Instead of age, we propose two IT-embodied factors for consideration when targeting customers for digital channel migration, namely *individual digital activeness* and *information seeking intensity*.

Individual Digital Activeness

The concept of individual digital activeness was derived from the notion of digital immigrants versus digital natives by Marc Prensky (2001). He proposed that people can be classified as "digital immigrants" or "digital natives" depending on whether they were born before or after the 1980s when the technological development took a big leap. The assumption is that digital immigrants can never naturally excel at digital abilities as digital natives do. However, the study uses an anecdotal approach and lacks sufficient empirical evidence for justification. It overlooks the fact that people are not necessarily born with digital activeness. While the indicative power of age in explaining that some are less interested in or adapted to digital technologies has been weakened due to digital prevalence, a more meaningful predictor, individual digital activeness, may be neglected (Bennett et al. 2008).

Drawing on research in "digital wisdom" (Prensky 2009), we remove the problematic meaning of age from digital immigrants and natives, and define individual digital activeness as the individual's activeness in using the Internet and digital technologies for work, leisure, learning, and communication. Based on digital activeness, we re-categorize people into *digital avoiders*, who prefer minimal technology interactions, and *digital enthusiasts*, who enjoy technologies. Digital avoiders and digital enthusiasts exist regardless of age differences. Digital enthusiasts will be more likely to adopt digital technologies when given the chance, while digital avoiders, on the contrary, may not react to stimuli for adopting digital technologies. For companies planning to target customers during the digital migration, targeting digital enthusiasts instead of digital avoiders may yield more desirable outcomes, as digital avoiders are generally associated with lower digital activeness, while digital enthusiasts with high digital activeness. Therefore, we argue that,

H2: *When being targeted, customers with higher digital activeness are more likely to migrate to a digital communication channel.*

Information Seeking Intensity

The concept of information seeking behavior refers to the way people search and utilize information, and it is generally in relation to sources and channels of information (Wilson 2000). Information seeking intensity thus measures how intense information seekers search information. In fact, not all customers are sensitive to information and seek information proactively (Li et al. 2014). In digital communication, digital channels provide more availability and accessibility to information (Choudhury and Karahanna 2017). For *intensive information seekers*, they may find more information on the digital channels and hence, they favor digital channels more for its informational benefit. For *minimal information seekers*, they may not find the tempting benefits but may be overwhelmed by the large amount of perceived useless information on the digital channels, and they may thus prefer offline channels more. In sum, customers often choose preferred communication channels that suit their information needs the most. Therefore, we argue that,

H3*: When being targeted, customers with higher information seeking intensity are more likely to migrate to a digital communication channel.*

Research Setting

Research Context

We study the digital communication channel migration in the context of insurance industry. The reasons are multifold. First, insurance companies need customer information to precisely calculate the risks and determine the premiums. Hence, insurance businesses nowadays need large amounts of data to better understand customers. Second, insurance companies find it difficult to communicate with customers offline as the customers are only reached out once an event occurs (e.g., car broken and property stolen). To reduce the costs of customer data collection and to increase meaningful communication, one of the best practices is to migrate customers from traditional communication channels (e.g., mail) to digital communication channels (e.g. email), which can better digitize and manage situations at the customers' side.

For this study, we have collaborated with one of the largest insurance companies in Europe. Similar to other insurance companies in the EU, this company has been undergoing digital transformation and planning to migrate customers from an offline communication channel (i.e., mail) to an online communication channel (i.e., email). The usual contents that this company communicates with customers are, but not limited to, annual insurance policy overviews, commercial newsletters, and service information updates. In such a setting, channel migration is successful if customers agree to communicate with the company via a digital channel, for instance, receiving content (e.g., insurance policy overview) via email.

We have designed and launched a field experiment with this insurance company. Based on their customer pool, the company ran campaigns to encourage customers towards digital channel migration. Before the campaigns, the company has not yet activated the digital communication channels and therefore, all the customers acquired prior to the campaign were not able to choose to receive content via email. We targeted a random pool of customers as treatment group, and we sent out regular mails (i.e., policy overview in our case) to them with a piece of flyer. The flyer kindly asked customers to voluntarily choose email instead of mail communication ("Please help our company to go digital. Please go to the website and choose to receive annual insurance policy overview via email"). Upon receiving the flyer, customers can go to the website provided on the flyer, and they choose to opt in email instead of mail for future communication. For the control group, the company sent out the same mails but *without* such flyers.

Data

The dataset consists of observations of 37,623 unique customers with their information including, *opt-in*, *treatment*, *age*, *information seeking*, *the amount of insurance purchased*, *annual premium*, *gender*, *income* and *education*. The dataset also includes information (i.e., *digital activeness, experience in insurance* and *magazine reading*) collected by a third-party survey company. This company sent out national-scale comprehensive survey to widely-covered households in the study country. The insurance

company then obtains the data from this third-party company. Further, the company matches and integrates the household data with personal data based on home address, postcode, and email address. To create this dataset, the company has removed observations for which one household contains multiple clients or no clients. The dataset is thus per individual[1].

Table 1. Variable Definitions

Variables	Definitions
opt-in	Whether or not decided to receive a policy overview via email (digital communication) (=1 if opt-in, 0 otherwise)
treatment	=0 if a customer did not receive the flyer, 1 if received the flyer
age	The age of the customer.
digital activeness	Individual activeness in using Internet and information technology for work, leisure, learning and communication[2]. =0 if extremely low in digital activeness, 8 if extremely high.
information seeking	The frequency of an individual contacting the company via different communication channels (e.g. mail, email), only including contact reasons for information seeking (excluding complains, claims, or purchase)
# insurance purchased	The amount of products a customer has purchased
annual premium	The premium per year (€)
experience in insurance	The experience an individual having in insurance product[3]. =0 if extremely low experience in insurance, 8 if extremely high.
magazine reading	The frequency of an individual reading magazines subscribed by post[4]. =0 if extremely low frequency in reading magazine, 8 if extremely high.
gender	=0 if male, 1 if female
income	=0 if less than 18K; 1 if in 18K-26K; 2 if 26K-35K; 3 in if 35K-50K; 4 if in 50K-75K; 5 if in 75K-100K; 6 if more than 100K
education	=0 if lower than basic education; 1 if basic education; 2 if secondary education; 3 if applied science education; 4 if undergraduate education; 5 if graduate education; 6 if postgraduate or higher

The dataset contains 11,097 customers who were targeted for this campaign and received the flyers. These customers are tagged as "Treatment" group while the remaining as "Control" group. Table 1 shows the main variables and corresponding definitions. Table 2 shows the descriptive statistics. Some variables have a highly skewed distribution (i.e. *information seeking, the amount of insurance purchased,* and *the annual premium*). Therefore, we decide to take log-transformation to meet the assumptions of inferential statistic.

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[1] The dataset we use is fully anonymized and thus contains no identifiable information.
[2] Measured by responses to multiple survey questions (0 =extremely low, 8 =extremely high): "How active you are with using digital device?" "How active you are with using Internet?" "How active you are with using online social media?" "How active you are with online activity?"
[3] Measured by responses to one survey questions (0 =extremely low, 8 =extremely high): "How experienced you are with insurance product?"
[4] Measured by responses to multiple survey questions (0 =extremely low, 8 =extremely high): "How frequently do you read woman's magazine?" "How frequently do you read man's magazine?" "How frequently do you read youth magazine?" "How frequently do you read health magazine?" "How frequently do you read finance magazine?"

Table 2. Summary Statistics

Variables	Mean	S.D.	Min	Max
opt-in	0.009	0.095	0	1
treatment	0.295	0.456	0	1
age	51.807	8.988	18	97
digital activeness	5.202	1.617	0	8
information seeking*	0.754	1.892	0	51
# insurance purchased*	2.996	1.529	1	23
annual premium*	29.833	200.510	0.693	13,199.370
experience in insurance	4.688	1.598	0	8
magazine reading	4.614	2.103	0	8
gender	0.239	0.427	0	1
income	4.205	1.619	0	6
education	4.086	1.464	0	6

Note: variables with * take a logarithm transformation in the regression analysis

Empirical Analysis and Results

Reliability and Multi-collinearity

Given that individual digital activeness is measured by using multiple survey items, we conducted item analysis in order to ensure the item reliability. The Cronbach's alpha for digital activeness is 0.87, which shows strong item reliability. Moreover, we also conducted confirmatory factor analysis for all survey measured constructs and correlation analysis for all constructs. All correlation coefficients among the main constructs are below 0.3 (absolute value) and no cross-loading factors, suggesting convergent and discriminant validity. Moreover, the variance inflation factor (VIF) for the independent variables are all below 10: age (1.43), individual digital activeness (1.45), and information seeking intensity (1.06). Therefore, the multi-collinearity is not a concern.

Baseline Regression Analysis

We use regression analysis to estimate the effects of targeting customers by age, digital activeness, and information seeking intensity on their propensity of digital communication channel migration. The dichotomous variable, $Optin_i$ denotes whether a customer migrated to a digital communication channel, i.e., =1 if a customer chose email instead of mail communication, =0 otherwise. age_i, $digital\ activeness_i$, and $information\ seeking_i$ are the main independent variables. We first employ a linear probability model as the baseline specification as it interprets the probability changes directly and allows comparison among coefficients within the model. We then use logistic regressions for cross-validation.

$$optin_i = \beta_0 treatment_i + \beta_1 treatment * age_i + \beta_2\ treatment * digital\ activeness_i + \beta_3 treatment * information\ seeking_i + \alpha_0 + X_i' B_1 + \varepsilon_i \qquad \text{(Eq. 1)}$$

where X_i' is a vector of covariates (i.e., gender, education, income, the amount of insurance purchased, annual premium, experience in insurance, and magazine reading), and ε_i is the error term. β_1, β_2 and β_3 are the estimates of interests, indicating the effects of targeting based on age, digital activeness, and information seeking intensity, respectively. For the ease of comparison among coefficients, all the variables in the regressions are standardized.

Table 3 shows the results. Notably, when being treated by the targeting campaign, on average, customers are more likely to migrate to a digital communication channel. In other words, targeting is generally able to nudge customers for digital communication channel migration (Column 1). To test our hypothesis, we study the interaction effects of key factors and treatment on opt-in (Columns 2, 3, and 4 in Table 3). Column 2 shows that, when receiving treatment, younger customers are NOT more likely to migrate to a digital communication channel, hence supporting H1. For those being treated, customers with higher digital activeness are more likely to opt in for digital communication (Column 3), supporting our argument for H2.

However, when being treated, customers with higher information seeking intensity are not significantly more likely to opt in the digital channel, rejecting our argument for H3.

Table 3. Effects on Digital Communication Channel Migration

	DV: opt-in digital communication			
	(1)	(2)	(3)	(4)
treatment	0.0144*** (0.0013)	0.0149*** (0.0013)	0.0153*** (0.0013)	0.0146*** (0.0013)
treatment × age		0.0033*** (0.0010)		
treatment × digital activeness			0.0107*** (0.0010)	
treatment × information seeking				-0.0010 (0.0008)
All Covariates	YES	YES	YES	YES
Constant	0.0049*** (0.0006)	0.0050*** (0.0006)	0.0050*** (0.0006)	0.0049*** (0.0006)
# of Observations	37,623	37,623	37,623	37,623
R²	0.0047	0.0050	0.0078	0.0047

Note: All covariates in Table 1 are included but omitted here for brevity. Robust standard errors in parentheses.
***p<0.01, **p<0.05, *p<0.1

Treatment Effect Heterogeneity

We take a further step to bring more nuance to the treatment effect heterogeneity. In particular, we compare digital communication channel opt-in rates between treatment and control groups per 10% the sample (10 deciles of the total sample) based on age, digital activeness, and information seeking intensity, respectively.
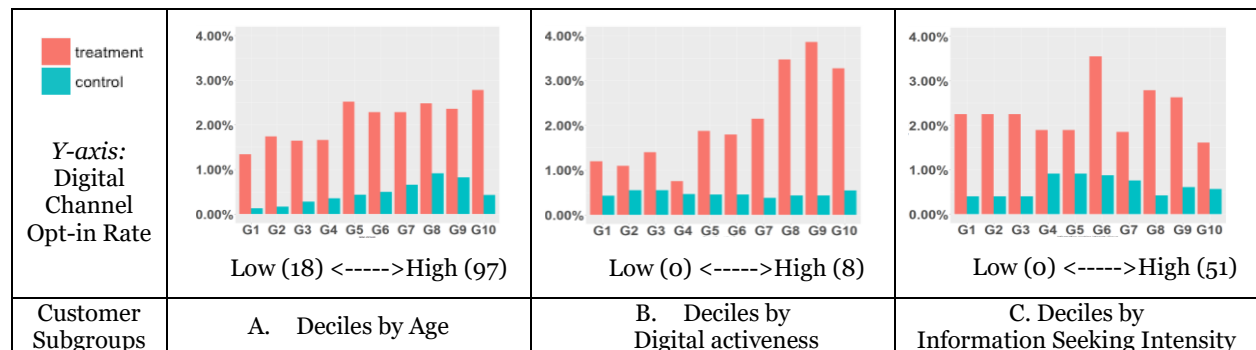

Figure 1. Opt-in Rates across Age, Digital Activeness, and Information Seeking Intensity

Panel A in Figure 1 shows that customers are divided into 10 groups based on deciles of age. Group 10 (G10) corresponds to the customers identified as the oldest, whereas group 1 (G1) corresponds to the youngest (between the age of 18 and 97). Comparing opt-in rates across ages, we observe a slight upward trend of digital communication channel migration likelihood for targeted customers as their ages increase. Panel B shows that opt-in rate for digital communication per decile of digital activeness. G10 corresponds to the customers with the highest digital activeness, with G1 the lowest (between the score of 0 and 8). We observe a significant surge in opt-in rate from G1 to G10. This is consistent with our finding in Table 3 that targeting customers with higher digital activeness is more effective. Panel C shows that opt-in rate per decile of information seeking intensity. Group 10 corresponds to the customers with highest information seeking intensity, with G1 the lowest (between the frequency of 0 and 51). We find no obvious differences in opt-in rate among treated customers with different information seeking intensity (except for the peak in G6). In general, targeting customers with lower information seeking intensity (e.g., G1, G2, and G3 in Panel C) may be more likely to enhance the digital communication channel migration.

Discussion

We examine the effectiveness of targeting customers based on age, digital activeness, and information seeking intensity, respectively, on their propensity of digital communication channel migration. Utilizing data from a large-scale field experiment in collaboration with a large European insurance company, we find that targeting older customers (compared to younger customers) is more likely to increase digital communication channels migration opt-in rate. Second, we propose and evaluate two IT-embodied customer characteristics for effective targeting: individual digital activeness, and information seeking intensity. Third, our experimental evidence corroborates that, when designing a targeting strategy for digital migration, what matters more is customers' actual engagement with digital channels instead of their familiarity with technologies that may be associated with customers' age.

When being treated, younger customers are not more likely to opt in for digital communication channel, because customers nowadays have been constantly exposed to digital environment, it is not surprising to see that older customers are actively responding to the treatment of digital communication channel migration. For those being targeted, customers with higher digital activeness are more likely to opt in for digital communication because digital enthusiasts prefer the digital. However, when being treated, customers with higher information seeking intensity are not more likely to opt-in. It is possible that the treatment itself could be considered as a piece of information. When being treated with necessary information (i.e., a policy overview), intensity information seekers may consider a policy overview as minimum information and therefore do not react to the treatment.

In addition, the positive significant results of age may be limited by the relatively older sample customer base of the studied company. Also, the results may be caused by self-selection bias. It is possible that older customers are more likely to open a mail and hence react to the treatment. However, we include a control variable of *magazine reading* (Table 1), as a proxy, in order to capture the frequency of an individual reading the magazines that are subscribed by post. Since magazines are mailed by post, it is possible that customers who frequently read post magazines will be equally frequent in opening mails. Consequently, it controls for the bias that older customers, or certain customers in general are more likely to open and react on post. Furthermore, if age would cause the assumed potential bias, it helps us to strengthen our argument that age is not an effective factor when targeting customers for digital channel migration.

Our work represents the initial effort to identify primary factors that determine digital migration and to offer supporting empirical evidence from a field experiment. We show that age should be cautiously considered when targeting customers for digital communications. Besides, we propose and evaluate two factors for digital communication migration: individual digital activeness and information seeking intensity. The study thus extends the IS and marketing literatures on digital channel migration from a new perspective: a targeting strategy based on IT-embodied customer characteristics. Our evidence challenges the conventional intuition that the older avoids digital migration. By incorporating new concepts of individual digital activeness and information seeking intensity, this study offers new implications for personalized channel targeting and new insights into the multichannel management.

As a research-in-progress, we are undertaking more efforts that have, unfortunately, not yet to be able to report here. Some ongoing work are as follows. *First*, we are reviewing the literatures in IS and marketing related to digital activeness and channel migration. *Second*, we acknowledge the national-scale survey data might not be able to capture the actual information of individual customers from the company, thereby creating potential measurement errors. To address such concern, we are collecting a second round of survey using the company's customer base. We have also been running subsequent experimental campaigns not only to cross-validate the current estimates, but also to introduce and test different ways of approaching customers for targeting, for instance, enclosing flyers with newsletters (instead of annual policy reviews), for the purpose of generalizability. *Third*, regarding the mechanisms, for examples, why are older customers more likely to migrate to digital channels? Why do information seekers not actively opt in for digital communication? We are diving deeper into the quantitative and qualitative data and hoping to give an empirical account of our current findings. *Fourth*, in terms of more potentially meaningful treatment effect heterogeneity, we are testing and making sense of the effectiveness of targeting based on other covariates, such as gender, income, on digital communication channel migration. These efforts may allow us to ask a bigger question: What could be the most effective ways to target? Demographics-based targeting or technology-engagement based targeting? *Lastly*, reminding of the potential undesirable side-effects of

customer targeting, we have also started to investigate customer churn data to see the probability of terminating term contracts after customers receive campaign flyers for digital migration.

References

Andrade, A. D., and Doolin, B. 2016. "Information and Communication Technology and the Social Inclusion of Refugees," *MIS Quarterly* (40:2), pp. 405–416.

Angwin, J., Scheiber, N., and Tobin, A. 2017. "Facebook Lets Employers Target Job Ads by Age — and Some Experts Think It's Aiding Discrimination," *Business Insider*. (https://www.businessinsider.com/facebook-allows-age-based-targeting-of-job-wanted-ads-2017-12, accessed May 1, 2019).

Bennett, S., Maton, K., and Kervin, L. 2008. "The 'Digital Natives' Debate: A Critical Review of the Evidence," *British Journal of Educational Technology* (39:5), pp. 775–786.

Choudhury, V., and Karahanna, E. 2008. "The Relative Advantage of Electronic Channels: A Multidimensional View," *MIS Quarterly* (32:1), pp. 179–200.

Dholakia, U. M., Kahn, B. E., Reeves, R., Rindfleisch, A., Stewart, D., and Taylor, E. 2010. "Consumer Behavior in a Multichannel, Multimedia Retailing Environment," *Journal of Interactive Marketing* (24:2), Special Issue on "Emerging Perspectives on Marketing in a Multichannel and Multimedia Retailing Enviroment," pp. 86–95.

Financial Times. 2012. "Digital Marketing Definition from Financial Times Lexicon," *Financial Times*. (http://lexicon.ft.com/Term?term=digital-marketing, accessed May 1, 2019).

Kane, G. C., Palmer, D., Phillips, A. N., Kiron, D., and Buckley, N. 2015. "Strategy, Not Technology, Drives Digital Transformation," *MIT Sloan Management Review and Deloitte University Press* (14), pp. 1–25.

Keeling, D. I., de Ruyter, K., Mousavi, S., and Laing, A. 2019. "Technology Push without a Patient Pull: Examining Digital Unengagement (DU) with Online Health Services," *European Journal of Marketing*.

Labrecque, L. I., vor dem Esche, J., Mathwick, C., Novak, T. P., and Hofacker, C. F. 2013. "Consumer Power: Evolution in the Digital Age," *Journal of Interactive Marketing* (27:4), Social Media and Marketing, pp. 257–269.

Lagrosen, S. 2005. "Effects of the Internet on the Marketing Communication of Service Companies," *Journal of Services Marketing* (19:2), pp. 63–69.

Li, T., Kauffman, R. J., van Heck, E., Vervest, P., and Dellaert, B. G. C. 2014. "Consumer Informedness and Firm Information Strategy," *Information Systems Research* (25:2), pp. 345–363.

Markovitch, S., and Willmott, P. 2014. "Accelerating the Digitization of Business Processes," *McKinsey-Corporate Finance Business Practise*, pp. 1–4.

Neslin, S. A., Grewal, D., Leghorn, R., Shankar, V., Teerling, M. L., Thomas, J. S., and Verhoef, P. C. 2006. "Challenges and Opportunities in Multichannel Customer Management," *Journal of Service Research* (9:2), pp. 95–112.

Prensky, M. 2001. "Digital Natives, Digital Immigrants," *On the Horizon* (9:5), pp. 1–6.

Prensky, M. 2009. "H. Sapiens Digital: From Digital Immigrants and Digital Natives to Digital Wisdom," *Innovate: Journal of Online Education* (5:3).

Shankar, V., Smith, A. K., and Rangaswamy, A. 2003. "Customer Satisfaction and Loyalty in Online and Offline Environments," *International Journal of Research in Marketing* (20:2), pp. 153–175.

Susarla, A., Oh, J.-H., and Tan, Y. 2011. "Social Networks and the Diffusion of User-Generated Content: Evidence from YouTube," *Information Systems Research* (23:1), pp. 23–41.

Trampe, D., Konuş, U., and Verhoef, P. C. 2014. "Customer Responses to Channel Migration Strategies Toward the E-Channel," *Journal of Interactive Marketing* (28:4), pp. 257–270.

Venkatesh, V., Thong, J. Y. L., and Xu, X. 2012. "Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology," *MIS Quarterly* (36:1), pp. 157–178.

Vodanovich, S., Sundaram, D., and Myers, M. 2010. "Research Commentary—Digital Natives and Ubiquitous Information Systems," *Information Systems Research* (21:4), pp. 711–723.

Wilson, T. D. 2000. "Human Information Behavior," *Informing Science: The International Journal of an Emerging Transdiscipline* (3), p. 49.