



A Consumer-based Taxonomy of Digital Customer Engagement Practices[☆]

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Abstract

Consumers can engage with brands online in a variety of ways, ranging from playing a branded game to writing a review or viewing branded content. This work presents a consumer-based taxonomy of these digital engagement practices. By means of a literature review and expert surveys, we created an overview of the ways in which consumers digitally engage with brands across different media formats and platforms. A consumer sample then classified all practices into five distinct types of digital engagement practices (for fun practices, learning practices, customer feedback, work for a brand, talk about a brand). A subsequent survey on another consumer sample showed that the five types of practices are differently related to the three motivational states of customer brand engagement (cognitive, emotional and behavioral). The taxonomy of digital engagement practices integrates prior research. We provide implications for managing digital customer engagement.

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Introduction

Fueled by rapid developments in digital environments, and by a desire to build personal connections with consumers, brands are increasingly seeking to engage with consumers on digital platforms (Alvarez and Fournier 2016; Kumar and Gupta 2016; Lamberton and Stephen 2016). On different digital platforms, a wide range of engagement practices has evolved, including, for example, playing advergames, reading (and writing) customer reviews, and watching, liking and sharing brand videos, blogs, and other content. These practices may be conceptualized as behavioral manifestations of customer brand engagement, which has been defined as “a consumer’s positively valenced brand-

related cognitive, emotional (or affective)¹ and behavioral activity during or related to focal consumer/brand interactions” (Hollebeek, Glynn, and Brodie 2014, p. 159). As noted by Van Doorn et al. (2010), engagement practices are motivated behaviors, which go beyond the mere purchase and consumption of products and services.

Studying marketing forms in the quickly maturing digital world has been recognized as a challenge for academic research (Kannan and Li 2017; Lamberton and Stephen 2016). Indeed, there is a lack of integration of research into customer engagement practices, which is reflected in the multitude of practices and behavioral concepts that have been researched. The literature provides many examples of studies that focus on online engagement practices like

¹ The customer engagement literature has shifted from denoting customer engagement as a psychological state with cognitive processing, affection and activation as components (Hollebeek, Glynn, and Brodie 2014) to customer engagement as a motivation to actively invest *cognitive, emotional, behavioral and social resources during, or related to, specific brand interactions* (Hollebeek, Srivastava, and Chen 2016). Henceforth, this research focuses on the intrapersonal customer resources and will use the following terms interchangeably: “emotional” and “affective”, “behavioral” and “activated”.

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consumer co-creation (Luo, Zhang, and Liu 2015), consumer-generated advertisements (Lawrence, Fournier, and Brunel 2013), endorsement of brands (Bernritter, Verlegh, and Smit 2016), and playing advergames (Terlutter and Capella 2013), to name just a few. Each of these studies provides valuable insights on a subset of the wide range of digital engagement practices. It is not clear, however, how these different practices relate to each other. For instance, how is writing a review for a brand essentially different from playing an advergame? And how can we generalize across practices on different platforms? To answer such questions, it is necessary to make an inventory of all investigated engagement practices and obtain insights into the similarities and differences that consumers perceive among those practices. To this end, we aim to develop a taxonomy for digital engagement practices and provide integration and standardization in this area.

A Consumer-based Research Approach

With the interactive role of consumers in the marketplace, we enter a new era where the consumer plays an active role in the practice of marketing (Schultz 2016). It is therefore especially important to understand digital engagement practices from the consumer's perspective. In this sense, our approach is similar to research by Azar et al. (2016) and Muntinga, Moorman, and Smit (2011), who have described classifications based on consumer motives for engagement practices, building on the uses and gratifications framework (Katz, Blumler, and Gurevitch 1973/1974). An important difference with prior classifications, however, is that we develop a taxonomy of the engagement practices themselves, instead of focusing on consumers' motivations. In addition, and unlike earlier classifications of relevant concepts (Hollebeek, Juric, and Tang 2017; Jaakkola and Alexander 2014; Muntinga, Moorman, and Smit 2011; Schau, Muñiz, and Arnould 2009), our classification of practices is not based on a conceptual, but an empirical approach, relying on quantified consumer judgments (see Table 1, in which we compare our classification to other classifications).

A Taxonomy Robust to Changes in the Digital Landscape

Unlike many earlier classifications of relevant concepts, our taxonomy defines practices independent of platforms and

media channels (e.g., “watching videos” instead of “watching a campaign video on YouTube”). This should make the taxonomy relatively robust to changes in the digital landscape, such as the emergence of new platforms and media. In this sense, the classification differs from classifications that rely on a specific platform (social media: Azar et al. 2016; Muntinga, Moorman, and Smit 2011; brand communities: Hollebeek, Juric, and Tang 2017; Schau, Muñiz, and Arnould 2009) or a specific brand (Jaakkola and Alexander 2014).

Contributions to Practice

Customer engagement practices have been linked with financial, reputational, and competitive advantages (Kumar and Pansari 2016; Pauwels, Aksehirli, and Lackman 2016; Van Doorn et al. 2010). However, effectively anticipating engagement practices is complicated when technological advancements give rise to new, unexplored platforms and media. By developing a taxonomy that is robust to changes in the digital landscape, we aim to help practitioners organize their portfolio of digital engagement practices in a manner that recognizes the dynamic nature of the landscape. Second, by categorizing digital engagement practices according to our taxonomy, opportunities for employing new practices are revealed: by comparing their existing brand engagement offerings to the taxonomy, marketers can easily see which types of practices are under- or overrepresented, and adjust their portfolio accordingly. Finally, by grouping practices that are perceived as similar, our taxonomy provides a basis for follow-up research (either by academics or practitioners) that allows for a linkage of consumer segments to types of digital engagement practices. The final study in our paper provides an illustration of such linkage, based on customer brand engagement.

Overview of the Research

Our research is structured in three phases. In the first phase, we made an inventory of all digital customer engagement practices. We derived the practices from a systematic literature review and refined and validated the list in consultation with marketing scholars and practitioners. These practices were the basis for developing the taxonomy in research phase 2. In this

Table 1
Comparison of existing classifications of digital engagement.

Author(s)	Concept	Application area	Quantitative research method	Consumer-based data	Classification on the level of practices
Azar et al. (2016)	Motivations for consumer–brand interactions	One social medium (<i>Facebook</i>)	X	X	
Muntinga, Moorman, and Smit (2011)	Consumers' Online Brand Related Activities (COBRA's)	Social media (but studied on one: <i>Hypes</i>)		X ^a	X
Jaakkola and Alexander (2014)	Customer Engagement Behavior	One brand (<i>First ScotRail</i>)		X ^b	
Schau, Muñiz, and Arnould (2009)	Brand community practices	Brand communities		X	X
Hollebeek, Juric, and Tang (2017)	Virtual brand community engagement practices	Brand communities		X	X
Our study	Consumer engagement practices	All digital platforms	X	X	X

^a Consumer-based data was used only to study motivations, classification of COBRA's was based on literature.

^b The sample also included other stakeholders, such as employees.

second phase, we used a recently developed card sorting method (Blanchard, Aloise, and Desarbo 2017) to examine how consumers categorized the practices, which resulted in our consumer-based taxonomy. This approach uncovered five meaningful clusters, or types, of digital engagement practices. In the third phase, we aim to (1) validate this taxonomy of digital engagement practices in relation to customers' motivational engagement state with brands, and (2) illustrate the applicability of the taxonomy. Finally, we provide a discussion of theoretical and managerial implications of the taxonomy.

Theory: Digital Customer Practices in Engagement Research

In the customer engagement literature, a distinction has been made between customer engagement as a motivational state and customer engagement as a set of behaviors towards a brand (see Fig. 1 for a visual depiction of this distinction).

The seminal paper by Brodie et al. (2011) defined customer engagement as “a psychological state that occurs by virtue of interactive, co-creative customer experiences with a brand” (p. 260). In later work, Hollebeek and colleagues (Hollebeek and Chen 2014; Hollebeek, Glynn, and Brodie 2014; Hollebeek, Srivastava, and Chen 2016) emphasized that customer engagement can be understood as the customer's volitional investment of cognitive, emotional and behavioral resources into brand interactions, which can be both positively and negatively valenced (Bowden et al. 2017; Hollebeek and Chen 2014), and

are often social in nature (Hollebeek, Srivastava, and Chen 2016).

Customer brand engagement reflects a consumer's motivational state, which then manifests itself in behaviors that go beyond purchase or purchase-related activities (Van Doorn et al. 2010). In turn, these behaviors, or brand interactions, may fuel customers' motivational states, which ultimately results in an iterative engagement process (Brodie et al. 2013). Our work focuses on outlining the behaviors of consumers that reveal customer engagement with a brand and can be undertaken on digital media and platforms, that is, *digital engagement practices*. We define digital customer engagement practices as consumers' online, behavioral manifestations of brand engagement that go beyond purchase. We consider these practices as manifestations of consumers' motivational states of brand engagement (i.e., the intrapersonal dynamics of brand engagement), namely cognitive (i.e., how much consumers think about a brand), emotional (i.e., what people feel about a brand), and behavioral brand engagement (i.e., how much energy, effort and time consumers spend on using a brand). In line with Van Doorn et al. (2010), we exclude behaviors related to shopping and purchasing products and brands from engagement practices. They are related, yet different constructs. We also dissociate digital engagement practices from the behavioral component of the motivational state of customer engagement. Whereas the latter encompasses a consumer's time, energy, and effort put in *using* a brand (Hollebeek, Glynn, and Brodie 2014), digital engagement practices go beyond brand usage and encompass the different

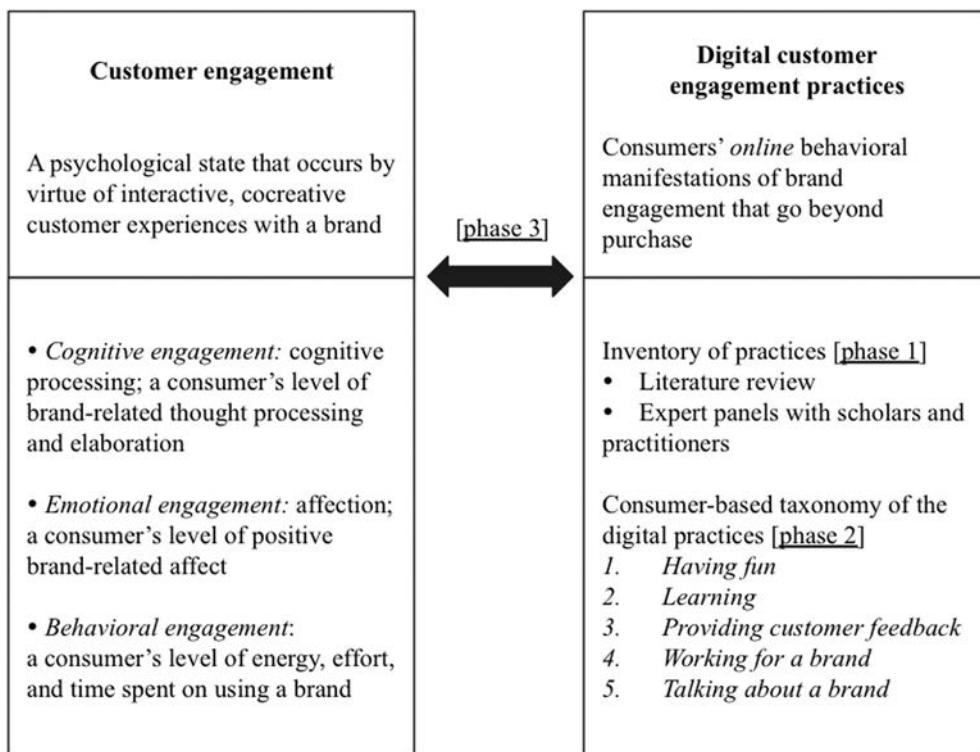


Fig. 1. Conceptualization of digital customer engagement and overview of the research phases.

Table 2
Literature review of digital engagement practices.

Author(s)	Concept/label	Number of practices	Practices	Focal platform/media
Ashley, Gillespie, and Noble (2016)	Loyalty program engagement	1	Participate in loyalty program	General
Bagozzi and Dholakia (2006)	Brand community participation	2	Interactions between customers through bulletin-boards or chat room, participation in brand communities	Brand communities
Bijmolt et al. (2010)	Customer Engagement Behavior (CEB)	10	WOM, referrals, participation in firm's practices, suggestions for service improvements, participations in brand communities, customer co-creation, creation and exchange of User-Generated Content, online survey, search information via internet, call centers, sales forces, catalogues, retail stores, and interactive television, mailing campaigns	Digital platforms
Blasco-Arcas, Hernandez-Ortega, and Jimenez-Martinez (2014)	Customer–firm co-creation	3	Co-creation, User-Generated Content, customer to customer interactions	Digital platforms
Brodie et al. (2011)	Customer engagement	5	Providing referrals and recommendations, help with new product/service development, WOM, blogging, customer-to-customer interactions	General
Brodie et al. (2013)	Customer engagement	9	Interaction among consumers, help solve each other's service problems, negative and positive eWOM, consumer-to-consumer recommendations, discussions about brand-related topic, providing social support, criticizing the brand, giving misleading brand-related advice, C2C/C2B/C2C interactions	Virtual brand community
Demangeot and Broderick (2016)	Website customer engagement	10	Visit website, browsing, click on a hyperlink, search for key terms, calling up product photographs, search for information, explore the website, receive alerts/future newsletters, bookmark the site, request future communication form the website	Brand website
Gensler, Völckner, Liu-Thompkins, and Wiertz (2013)	Consumer-generated brand stories	1	Sharing consumer-generated brand stories via forum, blog, social networks, video-, photo-, and news-sharing sites	Digital platforms
Hall-Philips et al. (2016)	Consumer engagement on social media	16	Advocacy, volunteering to the organization, donating to the organization, interact with other consumers, interact with employees, view and engage with others through text, photo's, video's and games, liking, commenting, and sharing company or personal posts with other site members, like a social venture on a social media site, exchanging thoughts, ideas, and feelings with other consumers or the social venture, sharing information on social media sites, share cause-related hashtags	Social media
Hamby, Daniloski, and Brinberg (2015)	Consumer reviews	1	Read online consumer reviews	Digital review platforms
Hamilton, Kaltcheva, and Rohm (2016)	Brand–consumer interactions	11	Like a brand on Facebook, follow a brand on Twitter, visit a brand's website, blogging about a brand, contact customer service, online reviews, WOM, activity in branded social media activity, accessing product information, entertaining content, customer service	Digital platforms
Hennig-Thurau et al. (2010)	New media practices	16	Real-time information exchange between consumers via social media, User Generated Content on social media, review product (on Amazon.com), help other consumers for free via social media, reviews on retail or fan sites, develop open-source products, share experiences on Twitter, chats and blogs, read reviews, post review, create and share content via social media, watch campaign video on YouTube, upload user-generated advertisement or “spoof,” participate in brand-hosted events in Second Life, EWOM, organizing online community, scan a QR-code	New media
Hu, Rex Yuxing, and Damangir (2014)	Purchase funnel practices	1	Search for information about a product	E-commerce
Hudson et al. (2016)	Social media interactions	4	Share experiences on social media, share information on social media, brand referrals on social media, recommendations	Social media
Jahn and Kunz (2012)	Brand fan page participation	15	exchange information, act as co-creator, act as multiplier of brand messages, WOM, participate in a conversation about the brand, get in contact with other customers, communicate with company post links of web sites, accept invitation for event, receive invitation to become fan of a brand, become a fan of a	Brand fan page on social media

(continued on next page)

Table 2 (continued)

Author(s)	Concept/label	Number of practices	Practices	Focal platform/media
Kaptein, Parvinen, and Pöyry (2016)	Online community activity	7	Facebook fan page by pressing the like button, post comments on the fan page, forward offers from this page, joining group, online events, community game, contest Post in a community, playing a game, posting comments on discussion forums, eWOM, explorative browsing, contributing to community discussions, recommend community to other people	Online gaming communities
Kim and Johnson (2016)	Brand related UGC on social media	8	Interaction, collaboration and sharing of content among users, gather information, share opinions, generate branded content, circulating branded user-generated content, eWOM	Social media
Kumar et al. (2010)	Customer engagement value	8	WOM, new product ideas, posting a positive brand message on a blog, referring, providing feedback to a firm, information sharing, assistance from other customers, co-creation	General
Lam and Shankar (2014)	Mobile marketing practices	3	Download content, mobile couponing, mobile marketing apps	Smart/cell phones
Laroche et al. (2012)	Brand community activities	11	Information acquisition, (dis)satisfaction statements, share knowledge and opinions, share information, UGC, use words, videos, pictures and avatar to stay in touch with friends, evangelizing, share good news, help other members, WOM, sharing personal experiences	Social media based brand communities
Lawrence, Fournier, and Brunel (2013)	Consumer-generated advertising	1	Consumer generated advertising	Multimedia
Lee, Kim, and Kim (2012)	eWOM	4	Membership of community, recommendations, exchange opinions, ideas and information on the brand, eWOM	Brand communities
Luo and Zhang (2013)	Consumer Buzz	6	Read content on website, generate content by sharing personal experiences, provide online feedback, express sentiments, consumer review ratings, WOM	Social media
Luo, Zhang, and Liu (2015)	Value co-creation practices	4	Sharing consumption experiences in brand communities, interact with other consumers in online brand communities, provide assistance to a brand via brand community, contributing to improvement of products or services via brand community	Brand community
Miceli, Raimondo, and Farace (2013)	Customization model	2	Combination-based customization; play an active role in defining the product form by selecting and combining variants of product characteristics, integration-based customization; include signs and symbols in the product provided by the customer such as pictures or text	
Muntinga, Moorman, and Smit (2011)	Customers' Online Brand Related Practices (COBRAs)	17	Viewing brand-related video, listening to brand-related audio, watching brand-related pictures, following threads on online brand communities, reading comments on brand profiles on social media, reading product reviews, playing branded online videogames, downloading branded widgets (apps), sending branded virtual gifts/cards, rating products and/or brands, joining a brand profile on a social network, engaging in branded conversations, commenting on brand-related weblogs, publish a brand-related weblog, uploading brand-related video, audio, picture, writing brand related articles, writing product reviews	Social media
Raies, Mühlbacher, and Gavard-Perret (2015)	Consumption community participation	4	Exchanging experiences with products or services, finding new solutions to problems of usage or consumption, interactions with other community members, positive and negative word-of-mouth	Consumption communities
Srinivasan, Rutz, and Pauwels (2016)	Online consumer activity	6	Search product information, post to a social network about a television advertisement, posting advertisements of brands on social media, Facebook likes, paid search clicks, website visits	General digital
Sultan, Rohm and Gao (2009)	Consumer-initiated mobile marketing practices	13	Search for restaurant locations via mobile, receive coupons, communicate with others, downloading content (wallpaper, ringtone) using cellphone, forwarding content, registering with firms, accessing content, sharing content, provide e-mail address to a website using cellphone, register with a website using cellphone, register for a contest or promotion using cellphone, access fun and entertaining content such as ringtones or games using cellphone, send friends screen graphics or ringtones on cellphone	Smart-/cell phones

Table 2 (continued)

Author(s)	Concept/label	Number of practices	Practices	Focal platform/media
Van Doorn et al. (2010)	Customer Engagement Behavior (CEB)	20	Engage in WOM, customer recommendations and referrals, blogging and web postings, posting an online review, customer co-creation, posting suggestions, helping other customers, participation in online communities, set up a brand community, do monetary donation to a brand-related charity, go to customer get-togethers (events), engage in online chat forums, participate in contests, enroll in loyalty program, start a support website, filling out a customer satisfaction survey, providing feedback, search for information, play an online game, watch an online movie	General
Van Noort, Voorveld, and Van Reijmersdal (2012)	Brand web site interactivity	9	Seek and find information about brand, products and organization, store locators, games, discussion forums, real-time communication tools to communicate with service desk, virtual tour, download, delivery tracking system, referral behavior	Brand web site
Vanmeter, Grisaffe, and Chonko (2015)	Social media communication	8	Engage in social media dialogues, engage in social media postings, engage in social media viewings, engage in social media sharings, consumer-generated WOM, tweeting, reading others' posts, liking on Facebook	Social media
Verhagen et al. (2015)	Customer engagement in virtual customer environments	10	Referral/WOM, supporting other customers, co-creation, share thoughts and opinions, help other customers, assist the company in improving/designing products, collaborating with other customers, customer contests, feedback forms	Virtual customer environments
Verleye, Gemmel, and Rangarajan (2013)	CEB	10	Post new product and service ideas, customer community meetings, WOM, writing online reviews, volunteer work, attend event, cooperate, give feedback, helping other customers, positive WOM	General
Zadeh and Sharda (2014)	Brand post practices on social media	7	Become a fan of official fan page of a company on social media, like brand post, reply to brands post, share/retweet a brand post, reading posts and updates from brands on social media, recommend brand to a friend, suggest product improvements on social media	Social media

behaviors of consumers that express brand engagement in online environments.

Going Digital

As noted by Lambertson and Stephen (2016), the fragmented and idiosyncratic character of digital engagement research threatens its relevance and importance for academics and practitioners. Because of the quick pace of digital developments, research can quickly lose its timeliness. New phenomena and platforms are continuously reinvented and reinvestigated (Schultz 2016), which results in fragmented research. Many papers within the digital domain focus on one particular activity that consumers can undertake (see Table 2), which reflects this fragmented character. Examples include papers focused on consumer-generated brand stories (Gensler et al. 2013), brand community participation (Luo, Zhang, and Liu 2015), product customization and co-creation (Blasco-Arcas, Hernandez-Ortega, and Jimenez-Martinez 2014; Luo, Zhang, and Liu 2015; Miceli, Raimondo, and Farace 2013), playing advergames (Terlutter and Capella 2013), brand posts on social media (De Vries, Gensler, and Leeflang 2012; Rooderkerk and Pauwels 2016; Zadeh and Sharda 2014), consumer-generated ads (Lawrence, Fournier, and Brunel 2013) and endorsement of brands on social networking sites

(Bernritter, Verlegh, and Smit 2016). Other work has focused on how consumers make use of specific digital platforms, such as (e-commerce) brand websites (Hu, Rex Yuxing, and Damangir 2014; Van Noort, Voorveld, and Van Reijmersdal 2012), social media (Hudson et al. 2016; Luo and Zhang 2013; VanMeter, Grisaffe, and Chonko 2015; Zadeh and Sharda 2014), virtual customer environments (Nambisan and Baron 2007), brand communities (Bagozzi and Dholakia 2006; Luo, Zhang, and Liu 2015) and smartphones (Bellman et al. 2011; Lam and Shankar 2014; Sultan, Rohm, and Gao 2009).

The fragmentation and lack of integration in the digital engagement literature create a strong need for standardization of the classification of engagement practices. A classification that captures the essence of digital engagement practices allows for building knowledge about digital engagement practices at a more general level. It may help formulate whether underlying mechanisms that have been researched in relation to one or few specific practices will hold for other practices of the same kind. For example, research has shown that self-enhancement is a motive for consumers to engage in writing product reviews (Hennig-Thurau et al. 2004). If this work would demonstrate that playing an advergame falls (does not fall) into the same type of digital practices, it could suggest that playing advergames may also (may not) be motivated by a need for self-enhancement. A taxonomy of customer engagement

practices can thus provide standardization while at the same time conserving the relevance and importance of previously done research.

Adopting a Brand General Focus

It is important to recognize that differences between brands and products can lead to differences in the engagement practices and their effects (Hollebeek 2013). For instance, consumers may choose different ways of engaging with a hedonic product (e.g., co-designing a denim jacket) than with a utilitarian product (e.g., providing feedback on an insurance package). Although particular practices may be more fitting or popular for one type of brand than another, at a more abstract level, the set of *possible* engagement practices does not necessarily differ between brands. Theoretically, any brand may create or facilitate any type of engagement practice on whatever digital platform that is available. To develop a taxonomy that is applicable to any platform and brand, we do not only base our taxonomy on consumer perceptions of the particular practices without reference to particular platforms, we also do this without reference to particular (types of) brands or products.

Phase 1: Development and Refinement of Digital Engagement Practices

To develop our taxonomy, we followed common scale-development procedures (e.g., Sprott, Czellar, and Spangenberg 2009; Vandecasteele and Geuens 2010). We first inventoried engagement practices based on a systematic content analysis of the customer engagement literature. Next, we validated and refined the initial list of practices, by presenting it to marketing academics (theoretical experts, who are key to assessing internal validity), and to practitioners in (online) branding, advertising, and marketing (practical experts, who are best suited to examine external validity).

Inventory of Digital Engagement Practices

Using the keywords *customer engagement behavior*, *consumer brand activities*, *consumer brand interactions*, *branded activities*, *customer engagement practices*, and *behavioral engagement*, we searched the Web of Science database for relevant literature in the categories of business, communication, economics, management, applied psychology, experimental psychology, and social psychology, published in 2000–2016. We screened for research impact (i.e., in the top 50% impact factor ranking of journals in the fields of marketing, communication, psychology, or business), and for relevance to *digital* engagement practices. Based on these criteria, a set of 55 articles was read in detail to analyze the specific types of practices they studied or discussed. We then listed all practices that were encountered in these articles that fit our definition of digital engagement practices. Twenty articles did not mention specific practices. The final sample, therefore, consisted of 35 articles, and the initial list of practices consisted

of 261 practices, covering concepts such as Customer Engagement Behaviors (CEB), Consumers' Online Brand Related Activities (COBRA's), mobile marketing practices, social media communication, and co-creation (see Table 2).

Subsequently, we checked for overlap and grouped similar practices. For example “customer recommendations and referrals,” “brand referrals on social media” and “making referrals” were combined into “writing a recommendation for a brand,” and “provide e-mail address to a website using cellphone,” “registering with firms,” “signing up for mailing campaigns” and “following threads on social media” were combined into “signing up for updates about a brand.” In our final list, we took care to describe all practices independent of media (e.g., mobile phone, laptop, desktop, tablet, digital television), and platforms (e.g., social media, chat fora, apps, blogs, websites, brand communities). This ensures that the list is robust to changes in and popularity of media and technology, and enhances the durability and use of the taxonomy. The practices on the list at this stage ($N = 33$) were for example “writing a recommendation for X,” “making suggestions for service or product improvements of X,” and “signing up for updates about X.” We then refined this list of 33 practices by consulting marketing scholars and practitioners (see Table 3).

Item Refinement by Scholar Panel

To check face validity of the initial list of digital engagement practices, we presented the list to a group of 16 marketing scholars working at a large, research-active university. In our presentation, we explained the definition of digital customer engagement practices in detail (“consumer's observable digital manifestations of brand engagement that go beyond purchase”) and then presented the list of practices in a short online survey that was filled out individually by each scholar. For each practice, we asked whether it fitted the definition (1 = yes, 2 = no, 3 = unclear item). The results revealed that eight practices did not fit with the definition according to the majority of the panel (>50%), because these practices were purchase related, and therefore not “beyond purchase,” as required by our definition. Based on further discussions, two additional practices – “sharing your experience with X” and “reading comments about X” – were removed because they overlapped with other practices in the list, and the wording for one practice was changed based on suggestions from the panel. This procedure resulted in a refined list of 20 practices that was presented to practitioner experts to assess external validity.

Refinement of the Inventory by an Expert Panel

We consulted a group of international expert practitioners to validate the relevance of the list of practices ($N = 22$, $M_{\text{age}} = 40.36$, $SD_{\text{age}} = 7.79$, 54.5% female). To ensure involvement and timely response, participants were recruited from the personal networks of the researchers via e-mail. The experts worked in the marketing, branding and advertising industries, and included brand consultants, brand managers, CMOs,

Table 3
Development of list of digital engagement practices.

Practice
Writing a recommendation for X
Blogging about X
Interacting with other consumers of X
Recommending X to a friend
Engaging in conversations about X
Viewing a video about X
Watching pictures of X
Making suggestions for service or product improvements of X
Helping other customers of X
Providing assistance to X
Providing feedback to X
Filling out a customer satisfaction survey about X
Making an advertisement for X
Playing a game of X
Signing up for updates about X
Participating in a contest of X
Responding to content about X^b
Reading comments about X ^a
Reading news about X ^a
Commenting about X ^a
Sharing your experience with X ^a
Downloading content of X ^a
Donating money to X ^a
Enrolling in a loyalty program of X ^a
Contacting customer service of X ^a
Searching locations of store of X ^a
Tracking delivery of X ^a
Checking out promotions of X ^a
Using a coupon of X ^a
Searching for product information of X ^a
Customizing own product of X ^a
Scanning a QR-code of X ^c
Exchanging audio/visual content of X ^d
Attending an event of X ^d

Note. All practices in this list represent consumer practices that can occur on online platforms such as Facebook, a brands website, apps, or brand communities, accessed via a laptop, smartphone or tablet. Bold items are the final selection.

^a Excluded after scholar panel (in phase 1).

^b Included after scholar panel as a substitute for “commenting about X.”

^c Excluded after expert panel (in phase 1).

^d Excluded after card sorting task (in phase 2).

marketing managers, online marketers and social media/PR officers. Most of them worked at multinationals or had an international background. They worked in different domains such as consulting, advertising, automotive, entertainment, Fast Moving Consumer Goods (FMCG), health, leisure, technology, telecom, and transportation. The list of practices was presented to the practitioners, as well as the definition we used, and they were asked to indicate to what extent each practice was relevant in practice (1 = very irrelevant, 5 = very relevant), and whether they were missing any practices.

Practices were deemed irrelevant for marketing practice if they scored significantly below the midpoint of the scale (i.e., <3). This was the case for one item, namely “scanning a QR-code of X” ($M = 2.09$, $SD = 0.92$, $t(21) = -4.63$, $p < .001$, 95% CI [1.68, 2.50]), which was therefore excluded from the list. The 19 practices in the final list all scored above the midpoint. They are presented in Table 3.

Phase 2: Developing the Consumer-based Taxonomy

Phase 2 examined how consumers categorize the different digital engagement practices. To this end, a sorting task was used. Sorting tasks are used widely and have shown to be valuable for research in several areas of psychology, marketing, and consumer behavior (e.g., Alba and Chattopadhyay 1986; Hamilton, Puntoni, and Tavassoli 2010; Irwin and Naylor 2009; Jenkins et al. 2011; Sujan and Bettman 1989; Ülkümen, Chakravarti, and Morwitz 2010). Sorting tasks are especially suited for identifying how consumers naturally perceive and categorize stimuli (Blanchard and Banerji 2016), which corresponds to the aim of this research, namely to develop a taxonomy of digital customer engagement practices from the perspective of the consumer. In sorting tasks, consumers implicitly use the associations they have with different digital engagement practices. This allows us to explore which digital engagement practices consumers perceive to “go together.”

Method

The sorting task was carried out using a recently published online card sorting tool (cardsorting.net; Blanchard, Aloise, and Desarbo 2017). Following Blanchard, Aloise, and Desarbo (2017), a sample of 108 participants was recruited for the task. Participants were U.S. Amazon Mechanical Turk (MTurk) workers ($M_{age} = 40.19$, $SD_{age} = 12.92$, 58% female). MTurk is increasingly used for data collection in social sciences and has been shown to provide better or equal quality data compared to professional panels or student samples (Kees et al. 2017). We followed the recommendation of Kees et al. (2017) to implement a safeguard to make sure that all respondents were from the United States of America (USA). Participants were instructed to sort the 19 practices into unique piles that would make sense to them, and subsequently give their piles a category name (see Fig. 2 for an image of the user interface).

Participants were told they could form as many piles as made sense to them. To reduce ambiguity, and keep the task simple, items could not be placed in more than one pile. To analyze the data, we used the algorithm developed by Blanchard, Aloise, and Desarbo (2017). This algorithm, which runs in MATLAB, produces a set of “summary piles” (i.e., categories or types of engagement practices) that best summarizes the collection of heterogeneous sorts provided by the participants (i.e., the set of summary piles that minimizes the number of mispredictions). It does so for an increasing number of summary piles K and examines the percentage of improvement in fit of each new solution. The optimal number of summary piles can be determined using an “elbow in the curve” approach, that is, by identifying the point where adding another pile does not produce a sufficient improvement in fit anymore. Subsequently, the solution can be interpreted using the content of the piles, as well as the idiosyncratic labels provided by the participants. Appendix A provides a detailed explanation of the algorithm. There, we also describe how results from two alternative methods (a cluster analysis and latent Dirichlet allocation (LDA)) on the same data resembled

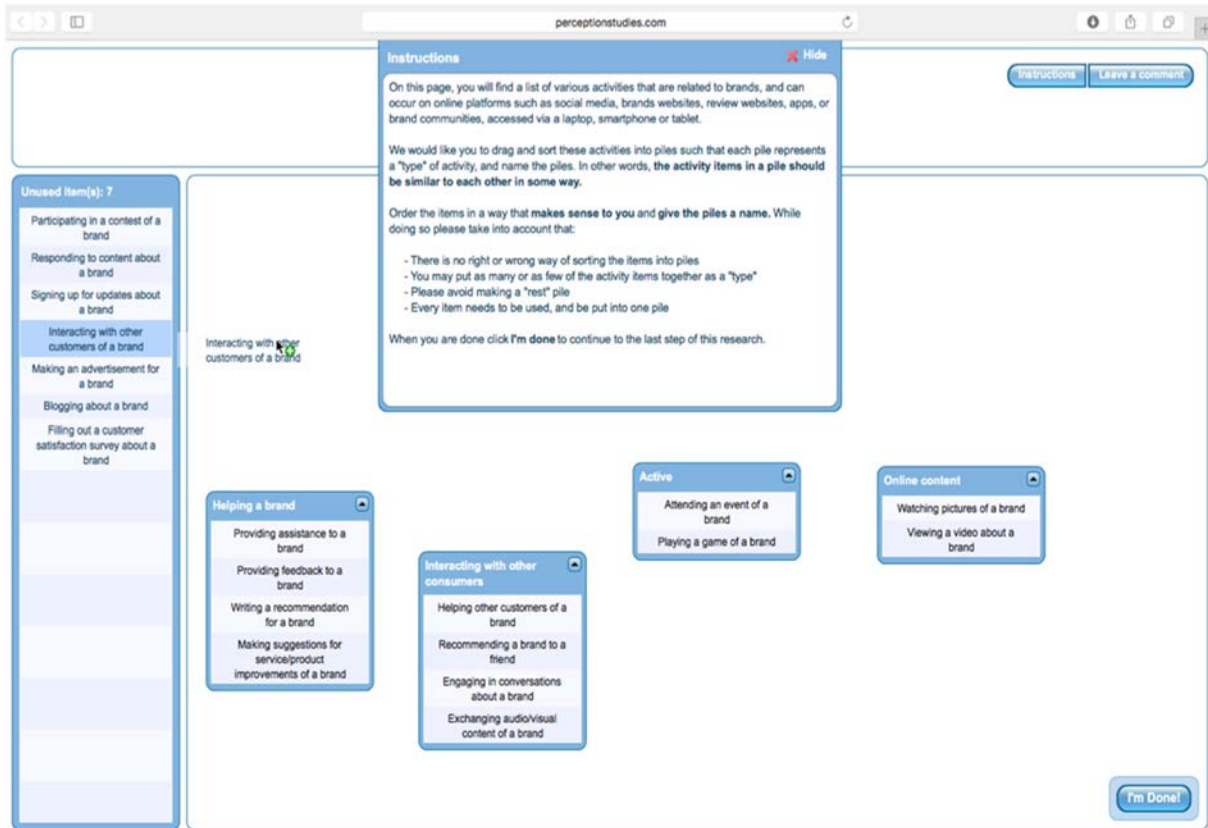


Fig. 2. Image of cardsorting.net interface.

the summary piles that we found, which demonstrates the robustness of the findings.

Results

Data from thirteen participants were removed because they did not pass the attention check, or failed to make piles at all (i.e., create 18 or 19 piles out of 19 practices). The remaining 95 participants together made 350 piles, of which 290 were unique. Looking for the “elbow in the curve” in the scree plot of the percentage of mispredictions, we identified the optimal number of summary piles. For our data set, there was no substantial improvement after $K = 5$.² Two practices could not be allocated to any category in the final pile solution, indicating the items were not sufficiently clear to participants, namely “exchanging audio/visual content of X” and “attending event of X.” The model performance was good as the five piles predicted 82% of the data correctly. We analyzed and

interpreted the five categories of digital engagement practices (for an overview, see Table 4) using the “in-vivo” names that participants gave to their piles as part of the sorting task (Saldaña 2009).

The first category of digital engagement practices was *for fun*, and consisted of “playing a game” and “participating in a contest.” We labeled the second category *learning about the brand*. It included practices such as “viewing a video” and “signing up for updates.” The third category was labeled *working for the brand* consisting of “making an advertisement for the brand” and “providing assistance to the brand.” The fourth category was labeled *customer feedback* and consisted of practices such as “making suggestions for product or service improvements” or “filling out a customer satisfaction survey.” The fifth category was labeled *talking about the brand*. It included practices such as “helping other customers of the brand” and “recommending the brand to a friend.”

Discussion

Our taxonomy reveals that consumers experience differences between digital engagement practices that prior frameworks (e.g., Jaakkola and Alexander 2014) had not yet detected. First of all, consumers distinguish *hedonic* practices (e.g., playing a game) from more *utilitarian* ones (e.g., signing up for updates). Second, consumers make a distinction between practices that are initiated by the brand (for fun, learning) vs. by

² Following Blanchard, Aloise, and Desarbo (2017) recommendations, we sequentially executed the procedure three times for 300 seconds for each value of $K = 1$ to 20. This means that the procedure of constructing and estimating sample solutions in MATLAB was restricted to testing solutions using up to 20 summary piles, and for each value of K , a solution was estimated sequentially three times for 300 seconds. Out of the three solutions for each value of K , the algorithm automatically selects the solution with the best model fit.

Table 4
Five pile solution of digital engagement practices.

Summary piles	Practice
In vivo: “For fun” 21% ^a	1. Playing a game of X (70% ^b) 2. Participating in a contest of X (68% ^b)
In vivo: “Learning about the brand” 23% ^a	1. Viewing a video about X (89% ^b) 2. Watching pictures of X (88% ^b) 3. Signing up for updates about X (73% ^b)
In vivo: “You work for the brand” 17% ^a	1. Providing assistance to X (70% ^b) 2. Making an advertisement for X (72% ^b)
In vivo: “Customer feedback” 18% ^a	1. Providing feedback to X (91% ^b) 2. Filling out a customer satisfaction survey about X (83% ^b) 3. Making suggestions for service or product improvements of X (88% ^b) 4. Responding to content about X (61% ^b) 5. Writing a recommendation for X (64% ^b)
In vivo: “Talking about it [with other customers]” 21% ^a	1. Blogging about X (57% ^b) 2. Interacting with other consumers of X (72% ^b) 3. Recommending X (74% ^b) to a friend 4. Engaging in conversations about X (78% ^b) 5. Helping other customers of X (74% ^b)

^a % of piles in original data set predicted by the summary pile.

^b % of times there is conformity between actual data and summary pile about the inclusion of an item in summary pile.

consumers (work for the brand, give feedback, talk). Moreover, the latter three categories, initiated by consumers, seem to differ in purpose and audience. In the *working for the brand* cluster, consumers seek to help or assist a brand, so that the focus is on the brand. The *customer feedback* category is focused more on the customer itself, who will benefit from product or service improvements. Finally, *talking about the brand* is a broad category of word-of-mouth practices in which consumers talk to each other.

Although these five categories might seem quite intuitive, it is important to emphasize that they are derived from *consumer categorizations* of a list of practices that was based on prior literature and validated by academic and practitioner experts. As such, it provides a valid and standardized taxonomy of engagement practices, developed from a consumer perspective. Its intuitive nature indicates the face validity of the approach.

Phase 3: Nomological Validation of the Taxonomy

The aim of this third research phase was to (1) validate our taxonomy of digital engagement practices in relation to a customer's engagement state, and (2) illustrate an application of the taxonomy. We examined to what extent the cognitive, emotional and behavioral components of customer engagement (as identified by Hollebeek, Glynn, and Brodie 2014) motivate the five types of digital engagement practices. If the three motivational states of engagement foster engaging in digital engagement practices, and if these states are differently associated with engaging in the types of digital engagement practices, this shows the relevance of the construct of digital engagement practices (as observable engagement behaviors; Van Doorn et al. 2010) next to that of customer engagement as a state.

Given the digital context, it is interesting to examine how consumers' experience with and use of online media relates to the five types of digital engagement practices. For example, people who consume online media more heavily show greater willingness to engage in electronic word-of-mouth (Eelen, Ozturan, and Verlegh 2017). We therefore also explored how online media use relates to the five types of digital engagement practices. It should be noted that other variables than the ones included in this study could also affect (not) engaging in types of digital engagement practices. Yet, this study shows the nomological validity of the construct of practices. The study further illustrates how the taxonomy can be applied by brands and provides some preliminary implications of customer segments for brand managers.

Method

To examine the above described relations, we developed a survey that measured (1) the extent to which consumers were willing to participate in each of the five types of digital engagement practices for a brand, and (2) the extent to which consumers experienced cognitive, emotional and behavioral engagement with that brand, that is, the intrapersonal brand dynamics as distinguished by Hollebeek, Glynn, and Brodie (2014).

To obtain generalizable results across diverse brands, we used five well-known brands from different industries as target brands for our survey. Specifically, we used the Best Global Brands Ranking of Interbrand (2016) to select the five highest ranked brands of unique industries. We omitted digital platforms, in order to avoid confusion between the brand and the platform (this means we did not include, for example, Amazon or Google). Using this procedure, we selected Apple, Coca-Cola, General Electric, McDonald's and Toyota as our target brands.

We recruited 503 US participants from Amazon MTurk, using the same procedure as in Study 2. Participants were rewarded \$0.60 for participation. Forty-two participants were excluded for failing attention checks. The remaining 461 participants ($M_{\text{age}} = 33.80$, $SD_{\text{age}} = 10.35$, 39.90% female, $Mo_{\text{education}} =$ four-year college degree) were first asked whether they were users of the focal brands and were then randomly assigned to one of the brand's participants indicated to have used. We are aware that consumers who have used a brand in the past, but do no longer use it at present, may score low on behavioral engagement, and might be less likely to engage in digital practices with the brand. We chose to include those users, however, because they provide variation in the data and because it allows for robust testing of the taxonomy.

Participants indicated how likely they were to engage in each of the five types of digital customer engagement practices (i.e., for fun, for learning, customer feedback, working for the brand, talking about the brand). We chose to measure each of the five types of practices with a single item to make the questionnaire less demanding for participants. For example, if participants were assigned to McDonald's, for customer

feedback practices they would respond to the question “How likely are you to engage in consumer activities on online platforms, where you give customer feedback to McDonald's?” (on a scale from 0, very unlikely, to 100, very likely; see Appendix B for the questionnaire and descriptive statistics). We explained to participants what online platforms were, by providing examples (i.e., Facebook, a brand's website, apps, or brand communities, accessed via a laptop, smartphone or tablet). Even though the types of practices were intuitive to participants (see phase 2), we made sure that participants would be guided in their thought process. While answering the question for each type of practice, they saw a short list of specific practices. For example, two of the mentioned practices of customer feedback were “Filling out a customer satisfaction survey about McDonald's” and “Writing a recommendation for McDonald's.” We requested participants to report their likelihood of engaging in a practice rather than to report actual participation levels in order to avoid influences of the actual availability and consumer awareness of specific branded practices (i.e., does brand X offer an online game, and is the customer aware of this?).

Subsequently, we administered a scale of customer engagement (Hollebeek, Glynn, and Brodie 2014) to measure the dimensions of cognitive engagement (or “cognitive processing”), emotional engagement (or “affection”), and behavioral engagement (or “activation”) using 7-point scales (see Appendix C for the items and the psychometric properties of the scale). All items were taken from Hollebeek, Glynn, and Brodie (2014, p. 10). *Cognitive engagement* ($M = 3.90$, $SD = 1.34$, $\alpha = 0.783$, $CR = 0.778$), “a consumer's level of brand-related thought processing and elaboration,” was measured by three items (e.g., “Using [brand name] stimulates my interest to learn more about [brand name]”). *Emotional engagement* ($M = 4.43$, $SD = 1.32$, $\alpha = 0.925$, $CR = 0.927$) or “a consumer's degree of positive brand-related affect” was measured by four items, including, for example, “Using [brand name] makes me happy.” Finally, *behavioral engagement* ($M = 3.97$, $SD = 1.71$, $\alpha = 0.933$, $CR = 0.934$), “a consumer's level of energy, effort and time spent on a brand,” was measured by three items such as “I spend a lot of time using [brand name], compared to other [brand category] brands.”

To end with, we measured demographics and participants' use of online media (i.e., blogs, fora, and social media sites like Facebook, Twitter, Instagram, YouTube) use in a) days per week ($M = 6.02$, $SD = 1.72$) and b) hours per day (14 choice options, ranging from less than 5 minutes to more than 5 hours; $M = 7.72$, i.e., about 1 hour, $SD = 2.87$) (Eelen, Ozturan, and Verlegh 2017). The day and hour measurements were multiplied to arrive at our online media use variable.³

³ In addition to these measures, we collected a measure of self-brand connection (Escalas and Bettman 2005). We decided, however, to omit this measure in our final analyses, because it correlated strongly with several of the customer engagement dimensions, and led to unstable estimates.

Results and Discussion

We regressed the three dimensions of customer engagement, namely cognitive, emotional and behavioral brand engagement, together with age and online media use on participants' likelihood to take part in each of the categories of engagement practices (i.e., for fun, learning, feedback, work for and talk about the brand). For model estimation, we used a seemingly unrelated regression (SUR) estimator. SUR is a general method for estimating a system of linear multiple regression equations (Greene 2002), allowing for the error terms to be correlated across the equations. The main benefit of SUR in our case is that, by estimating one regression system, we can formally test the difference in the effect of the drivers across the five types of engagement practices.

The Breusch–Pagan test ($\chi^2(10) = 591.97$, $p < .001$) showed that the error terms of the models are strongly correlated, justifying our choice. We included brand fixed effects and, as such, estimated our effects on the within-brand variation, isolating the effects from brand idiosyncrasies (some brands having a higher baseline level of engagement for some or all of the practices). Further analyses (using the *xtmixed* command in Stata) indicated that a random effects specification did not substantially change the results. We also performed a Hausman test and rejected the assumption of the random effects model that the brand-specific effects are uncorrelated with the independent variables ($\chi^2(25) = 608.71$, $p < .001$), and thus used a fixed effects specification instead. An overview of the results of the regression system is presented in Table 5 (Appendix D discusses how the results at the brand level showed similar patterns).

The results showed that the different types of digital engagement practices were differently related to the three dimensions of customer brand engagement (cognitive, emotional and behavioral), age and media use (see Table 5). When focusing on the pattern of findings per type of practice, the results showed that “learning” practices were strongly related with cognitive customer engagement, and – less strongly, but still significantly – related with emotional and behavioral customer engagement. A similar picture arose for “feedback” and “talk about” practices. A different pattern emerged for “for fun” practices: these were significantly more strongly related to emotional customer engagement (difference with effect on “learning” practices: 3.93, $t(451) = 2.32$, $p < .05$; “feedback” practices: 3.56, $t(451) = 2.13$, $p < .05$; “talk about” practices: 3.18, $t(451) = 1.94$, $p = .052$).⁴ Also, “for fun” practices were *not* related to behavioral brand engagement, in contrast to the before-mentioned practices “learning,” “feedback” and “talk about.” Finally, “working for the brand” practices were significantly less strongly related to cognitive customer engagement than the other four practices (difference with effect on “learning” practices: 5.05, $t(451) = 3.59$, $p < .001$; “feedback” practices: 3.25, $t(451) = 2.45$, $p < .05$; “talk about”

⁴ We obtained the standard errors of these differences using the delta method (see, e.g., Greene 2002).

Table 5
Effects of customer brand engagement on types of digital engagement practices.

	For fun practices	Learning practices	Feedback practices	Working for practices	Talking about practices
Cognitive engagement	5.39 (1.19)***	7.90 (1.08)***	6.10 (1.08)***	2.85 (1.17)*	6.91 (1.02)***
Emotional engagement	7.27 (1.54)***	3.35 (1.40)*	3.71 (1.40)**	3.81 (1.52)*	4.10 (1.32)**
Behavioral engagement	0.69 (1.09)	2.48 (0.99)*	2.82 (0.99)**	0.88 (1.07)	2.71 (0.93)**
Age	0.00 (0.13)	0.00 (0.12)	−0.08 (0.12)	−0.39 (0.13)**	0.04 (0.11)
Online media use	0.11 (0.06)*	0.08 (0.05)	0.04 (0.05)	−0.08 (0.06)	0.08 (0.05)
Brand fixed effects	Included	Included	Included	Included	Included
X ² (df)	161.57 (9)***	231.05 (9)***	171.91 (9)***	58.10 (9)***	242.14 (9)***
R ²	0.26	0.33	0.27	0.11	0.34

Note. Standard errors in parentheses; all *p*-values are two-tailed.

*** *p* < .001.

** *p* < .01.

* *p* < .05.

practices: 4.05, *t* (451) = 3.04, *p* < .01; “for fun” practices: 2.54, *t* (451) = 1.81, *p* = .07). Similar to “for fun” practices, they were *not* related to behavioral brand engagement.

When focusing on the pattern of findings per driver, the results showed that cognitive processing was a powerful predictor across the different engagement practices (except for working for the brand). This indicates that a brand that wishes to engage their consumers in digital practices, should make sure that consumers frequently think about the brand, thus are reminded of the brand. Emotional engagement was more strongly related to the for fun practices than to any other type of activity. This suggests that for fun practices could be most effective when targeted at consumers with strong positive feelings about the brand. Behavioral brand engagement was related to learning about the brand and even more so with providing feedback to the brand and talking with other consumers about the brand. This might be because consumers with high behavioral brand engagement care much about product usage and therefore want to be up to date (learn) about the brand's new initiatives (Hollebeek, Srivastava, and Chen 2016). The behaviorally engaged consumers are experienced product users, and might, therefore, be a valuable group for good quality feedback and also willing to share their thoughts on the brand with others. As for age: the results of our model showed that younger consumers were more willing to work for the brand than older consumers, but that age did not matter for the other practices. Online media use, finally, was positively related to “for fun” practices, but not to any of the other practices.

Discussion

Conclusions

We developed a taxonomy of customers' digital brand engagement practices to integrate ample research about such digital practices, and to standardize these digital practices across digital channels and platforms (see Fig. 3). Using literature reviews, expert panels, a consumer card-sorting task and survey research, we developed and validated our taxonomy. We found that consumers categorized 17 distinct digital

engagement practices into five different types: practices (1) for fun, (2) for learning, (3) for giving feedback to a brand, and practices where customers (4) talk about a brand, or (5) work for a brand. In our final study, we found that consumers' motivational brand engagement states, age and online media use were related differently to their willingness to engage in each of the five types of digital engagement practices. This illustrates the relevance of the taxonomy. The taxonomy can deepen understanding and stimulate future research about digital practices in an ever-evolving digital landscape (Lamberton and Stephen 2016), and can help (digital) marketers in optimizing their portfolio of digital engagement practices.

Relating the Taxonomy to Earlier Classifications

Our identified taxonomy of five types of practices can be integrated with earlier, context-specific classifications of digital engagement practices. First of all, we identified two types of digital engagement practices that are initiated by a brand, and either inherently hedonic (for fun), or utilitarian (learning). These practices can be related to the consuming/contributing/creating classification of the COBRA model (Muntinga, Moorman, and Smit 2011). While the learning practices are generally restricted to “consuming” brand-related content (i.e., viewing a video, watching pictures, signing up for updates of a brand), the “for fun” practices encompass the entire spectrum of consuming, contributing and creating activities. For example, participating in a contest where you share new product ideas with a brand (e.g., Lays “Do-Us-A-Flavor” contest) would be “contributing,” while participating in a contest where you take part in a raffle would be “consuming.” Even though at first sight the learning practices may seem restricted to “consuming” branded content, Hollebeek, Srivastava, and Chen (2016) identified learning as a foundational process of customer engagement. The digital engagement practices for learning may indirectly foster “contributing” and “creating” types of digital engagement. According to the uses and gratifications perspective (Katz 1959), adopted by Azar et al. (2016) and Muntinga, Moorman, and Smit (2011), the learning practices are likely to be motivated by a desire to gather information. As

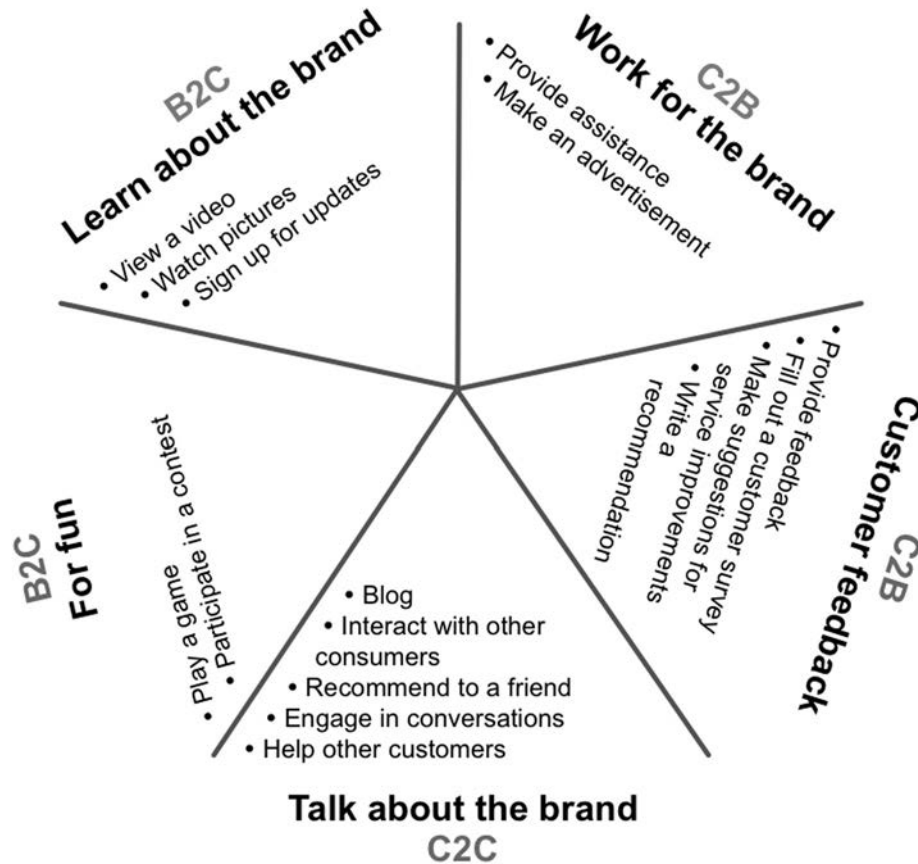


Fig. 3. Taxonomy of digital customer engagement practices.

identified by Hollebeek, Srivastava, and Chen (2016), learning is a foundational process of customer engagement. It includes motivational aspects (emotional and cognitive) and behavioral aspects, which can be digital engagement learning practices as we describe in our taxonomy. The knowledge that is gained by consumers can then, in turn, lead to the practice of “talking about a brand,” or be translated into customer resource integration, for example via digital feedback practices (Hollebeek, Srivastava, and Chen 2016). Along the same line, learning practices can lead to augmenting (e.g., providing feedback), mobilizing and influencing (e.g., recommending to a friend) engagement behaviors (Jaakkola and Alexander 2014).

The third type of digital engagement practices, talking about a brand, can roughly be identified as electronic word-of-mouth, and contributing activities (Muntinga, Moorman, and Smit 2011), but extends to helping other customers. For the specific context of brand communities, the classifications of Schau, Muñiz, and Arnould (2009) and Hollebeek, Juric, and Tang (2017) can be seen as an explication of this group of digital engagement practices. Specifically, “talking to other customers about a brand” could be expressed as greeting, regulating, assisting, appreciating, etc. on brand community platforms (as identified by Hollebeek, Srivastava, and Chen 2016).

The fourth and fifth types of digital engagement practices, namely customer feedback and working for a brand, have in common that consumer resources (e.g., time, knowledge) are integrated into the brand (Hollebeek, Srivastava, and Chen

2016). Yet, the practices are distinct, because consumers engage in contributing (e.g., making suggestions for improvements; feedback) versus creating (e.g., making an advertisement; working) activities (Muntinga, Moorman, and Smit 2011). These practices can also be seen as co-developing and augmenting engagement behaviors (Jaakkola and Alexander 2014).

Contributions to Theory on Digital Engagement

Our taxonomy of practices classifies practices that have been studied in the past and thereby allows for finding connections between and integration of customer engagement behaviors (Van Doorn et al. 2010). For example, consumer-generated ads and co-creation of products are both examples of working for the brand. It could, therefore, be speculated that both practices are suited for similar types of brands, and similar segments of consumers.

We further contribute to the customer engagement literature by distinguishing five particular types of digital behavioral engagement practices as behavioral manifestations of the motivational state of customer engagement (Hollebeek, Glynn, and Brodie 2014; Van Doorn et al. 2010). The digital practices are behaviors that manifest online and on social media; they are digital expressions of customers' engagement with a brand. Interestingly, Study 3 revealed that the five digital engagement practices were triggered differently by cognitive,

emotional, and/or, behavioral engagement. For example, cognitive engagement was associated with all practices, except working practices; emotional engagement was strongly associated with fun practices, whereas behavioral brand engagement was not. The study hereby validates the usefulness of investigating digital engagement practices in addition to customer engagement as a motivational state.

Future Research Angles

We identified three specific directions for future research: (1) generalization across digital engagement practices (e.g., by means of meta-analyses), (2) exploring effects of underlying dimensions in our taxonomy (e.g., sender-receiver, and hedonic-utilitarian) and (3) identifying more (a) drivers and (b) consequences of the different types of engagement practices, (c) on the short and long term.

Generalization

First, our taxonomy should enable researchers to find analogies and anomalies between different digital engagement practices. Research about specific practices can now be linked to the 17 digital practices in our taxonomy, and to the five types more broadly. Organizing existing literature according to our taxonomy can give an overview of all concepts that have been researched in relation to types of digital engagement practices, which would reveal what we already know about each type of practice and, more importantly, what should be investigated further. It might also facilitate meta-analyses by grouping practices together according to their essence, and compare the effects of the five types of practices on various downstream variables, such as customer loyalty, and brand performance (see also the paragraph on “consequences” below). Next, though we defined the practices independent of platforms and media channels, future research could also investigate whether the taxonomy generalizes to different cultures. The taxonomy was developed by relying on mostly Western expertise about customer engagement (i.e., the vast majority of literature, the scholar and practitioner panels in phase 1), and North-American consumer samples (in phases 2 and 3), and consumers with a different cultural background may classify some practices differently.

Underlying Dimensions

The taxonomy revealed at least two theoretical underlying dimensions. First of all, consumers distinguished digital practices by means of their hedonic or utilitarian character (i.e., practices for fun or for learning). It indicates that consumers consider some digital practices as inherently more fun or informative. Second, consumers seemed to consider that practices may differ in the extent to which they are initiated by the consumer or by the brand (i.e., brand to customer: for fun, for learning; customer to brand: customer feedback, working for the brand; and customer to customer: talking about the brand). These can be interesting dimensions within digital engagement practices to explore further. For example, experimental work could test differences in effects of engaging in for

fun (hedonic) versus learning (utilitarian) digital practices on brand evaluations, perhaps even for different types of brand. Also, effects could be researched of practices with different senders and receivers on perceived trustworthiness of the brand.

Drivers

While our third research phase gives some insight into the motivational drivers of different engagement types, more research is required in this area. For example, altruism and concern for other consumers can be explored as a key driver for talking about a brand with other consumers (Hennig-Thurau et al. 2004), and sensation seeking as a key driver for fun practices (Holbrook and Hirschman 1982). Azar et al. (2016) define different types of consumer groups (i.e., brand detached, brand profiteers, brand companions, brand reliants), which have different relations with brands and are differently motivated to engage in social media practices with a brand. Because our taxonomy does not classify consumer practices in terms of motivations, these prior classifications can give input for future research that aims to create a profile of digital engagement practices (using our taxonomy) for different customer segments (using classifications of consumers or motivations). Another angle is to look at the brand as a driver. The ideal deployment of digital practices might differ between brands (Hollebeek 2013). Dependent on the brands' product category, such as an insurance brand versus a fast food chain versus a personal care brand, consumers might be more likely to engage in different types of digital practices. Future research could explore how and why brands differ in their ideal deployment of digital customer engagement practices, using our taxonomy, and thereby explore effective targeting strategies along the customer journey.

Consequences

Which consequences result from taking part in the different practices? Would specific types of digital engagement practices contribute differently to brand equity and brand evaluations? For example, can undertaking practices for fun, more than the other types of practices, positively influence consumers' affective attitude towards a brand? Research has related playing of advergames (i.e., a fun activity) to brand attitude for games with a thematic connection to a brand (Wise et al. 2008). But how does this relate to other digital practices for fun or even other types of practices? In the case of learning practices, can they, more than other practices, drive purchase related activities (browsing a webshop, making a product wishlist), as a result of better brand knowledge? As to feedback and working practices, it could be speculated that they drive customer satisfaction more than other practices because these practices allow a brand to better cater to customer needs, although the effects might be stronger or weaker for feedback versus working practices.

Longitudinal Research

Future research should carefully consider the types of practices under study, and more specifically the dynamics between feeling engaged with a brand and digital behavioral engagement with a brand. Because customer engagement is an

iterative, dynamic and ongoing outcome of interactions between the customer and the brand, it is likely that customer engagement fosters undertaking digital engagement practices, and the other way around. Because customer engagement results from an interactive process between the customer and the brand (Brodie et al. 2013), longitudinal studies could shed more light on this dynamic process. At what point in the customer engagement process do consumers try out new types of digital engagement practices and how does this alter emotional, cognitive and behavioral brand engagement? For example, given that emotional engagement with a brand develops over time and over interactions (Sashi 2012), and fun practices are related to this type of engagement, should one start off by targeting informative digital practices, before fun practices? In other words, should fun practices come later in the customer journey of brand engagement?

Managerial Implications

Marketers, and practitioners in the field of digital and mobile applications more generally, benefit from this research in a number of ways. First, our taxonomy – robust to changes in the media landscape – enables brands to make an inventory of their existing digital engagement practices — linking each of their employed practices to one of the 17 practices, and one of the five types in the taxonomy. By analyzing their portfolios of digital engagement practices, blind spots and opportunities for employing or facilitating new practices can be revealed. For instance, a brand may decide to create an advergame instead of a video (if not already done), to reach consumers in a different way.

Second, our results highlight that there are different kinds of digital practices that fit different types of consumers. The final study in our paper provides an illustration of such linkage, based on customer engagement, age, and online media use, yet companies can use their own set of customer segmentation variables to find out how to target different segments of consumers with the right type of digital practices (i.e., employment of content). Our results suggest that advergames might be an effective engagement practice to target at emotionally engaged consumers because the practices for fun were strongly related to emotional engagement. A brand with mostly older customers might want to be aware that their customers are less interested in creating advertisements for the brand than youngsters are, as age was strongly associated with willingness to work for the brand. Brands might also want to be aware that customer feedback is potentially more spontaneously given by more heavy users, which is indicated by the association between behavioral brand engagement state and digital feedback practices. By administering our measure of engagement in digital practices (see Appendix B) among defined brand segments of users (e.g., based on lifestyle), a company can find out how these different segments differ in their digital engagement practices, or, related to our first suggestion, which types of practices are most relevant to consider launching. It should be noted here that customer engagement, and also consumer initiated digital engagement practices, can turn negative as a result of negative experiences

(Hollebeek and Chen 2014). Recommending a brand to a friend could become discommending a brand, or an advertisement made by a consumer could become disregarding of a brand. This highlights the importance of tailoring digital engagement practices to customer segments so that they are positive customer experiences. Our taxonomy thus helps (digital) marketers to make more informed strategic decisions about their digital practices portfolio.

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Appendix A. Analyzing Card Sorting Data

In a card sorting task, a respondent i ($i = 1, \dots, N$) sorts J items (i.e. engagement practices) into L_i piles. The raw data indicate, for each item j , if the respondent put it in his or her l_i^{th} pile (such that $y_{ilj} = 1$), or not ($y_{ilj} = 0$). Until recently, no methodology existed to analyze these sorts *directly*. Instead, researchers often converted the data into pairwise similarities between sorted items, such that the data indicate, for each item j and k ($k \neq j$), if the respondent sorted them into the same pile (such that $y_{ijk}' = 1$), or not ($y_{ijk}' = 0$). In a next step, the pairwise similarities were summarized in a $J \times J$ pairwise count matrix by counting the number of respondents putting each pair into the same pile and analyzed using (hierarchical) cluster analysis. The issue with this approach is that cluster analysis requires distances as input and one must first convert the pairwise count matrix into a distance matrix. This conversion, however, may have a significant impact on the solutions (e.g., Green and Rao 1969). The approach by Blanchard, Aloise, and Desarbo (2017) allows one to analyze sorts *directly*, without any arbitrary transformations.

A.1. Model Specification

The objective of the approach proposed by Blanchard, Aloise, and Desarbo (2017) is to identify a small set of piles that best summarize the piles made by the respondents (i.e., with minimal mispredictions).

Following Blanchard, Aloise, and Desarbo (2017), let $x_{il,m}$ be 1 if respondent i 's l_i^{th} pile is assigned to summary pile m ($m = 1, \dots, K$), and 0 otherwise and let p_{mj} be 1 if summary pile m includes item j , and 0 otherwise. Next, let $z_{il,j}$ be the misprediction error of using p_{mj} to predict the presence of j in respondent i 's l_i^{th} pile ($y_{il,j}$), such that $z_{il,j} = 0$ (no misprediction error) if (1) $y_{il,j}$, $x_{il,m}$, and p_{mj} are 1 (respondent i assigned item j to pile l_i , pile l_i is assigned to summary pile m , and summary pile m contains item j) or (2) $y_{il,j}$ is 0, $x_{il,m}$ is 1, and p_{mj} is 0 (respondent i did *not* assign item j to pile l_i , pile l_i is assigned to

summary pile m , and summary pile m does *not* contain item j), and $z_{ilj} = 1$ (misprediction error) in all other cases. For a given number of K summary piles, the best representation of the respondents' heterogeneous sorts can then be found by minimizing the total misprediction error Z . The model is expressed as a binary integer programming model with quadratic binary constraints:

$$\min Z = \sum_{i=1}^N \sum_{l_i=1}^{L_i} \sum_{j=1}^J z_{ilj}, \quad (1)$$

s.t.

$$\sum_{m=1}^K x_{il,m} p_{mj} \leq z_{ilj}, \forall i = 1, \dots, N, \forall l_i = 1, \dots, L_i, \forall j = 1, \dots, J \text{ if } y_{ilj} = 0, \quad (2)$$

$$\sum_{m=1}^K x_{il,m} (1 - p_{mj}) \leq z_{ilj}, \forall i = 1, \dots, N, \forall l_i = 1, \dots, L_i, \forall j = 1, \dots, J \text{ if } y_{ilj} = 1, \quad (3)$$

$$\sum_{m=1}^K x_{il,m} = 1, \forall i = 1, \dots, N, \forall l_i = 1, \dots, L_i, \quad (4)$$

$$\sum_{j=1}^J p_{mj} \geq 1, \forall m = 1, \dots, K, \quad (5)$$

$$x_{il,m} \in \{0, 1\}, \forall i = 1, \dots, N, \forall l_i = 1, \dots, L_i, \forall m = 1, \dots, K, \quad (6)$$

$$z_{ilj} \in \{0, 1\}, \forall i = 1, \dots, N, \forall l_i = 1, \dots, L_i, \forall j = 1, \dots, J, \quad (7)$$

and

$$z_{ilj} \in \{0, 1\}, \forall m = 1, \dots, K, \forall j = 1, \dots, J, \quad (8)$$

where expressions (2) and (3) generate the constraints regarding z_{ilj} , expression (4) ensures that each pile created by the respondents is assigned to one and only one summary pile, expression (5) ensures that there is no empty summary pile, and expressions (6)–(8) ensure that $x_{il,m}$, z_{ilj} , and z_{ilj} are either 0 or 1.

A.2. Model Optimization

As Blanchard, Aloise, and Desarbo (2017) suggest, the model is best solved using a variant of the variable neighborhood search heuristic, a framework aimed at solving combinatorial and global optimization problems (see the appendix to Blanchard, Aloise, and Desarbo 2017 for more details on this heuristic). The optimal number of summary piles K to extract can be determined by solving the model for an increasing number of summary piles and examining the percentage of improvement in fit (i.e., percentage decrease in the total misprediction error Z) of each

new solution, looking for the “elbow in the curve” — the point where adding another summary pile does not produce a sufficient improvement in fit anymore.

A.3. Comparison to Cluster Analysis and Latent Dirichlet Allocation

To test the robustness of our results to alternative approaches, we also analyzed the card sorting data using cluster analysis and latent Dirichlet allocation (LDA) (Blei, Ng, and Jordan 2003), a machine learning technique that is typically used to find representative “topics” in text documents.

We used the $J \times J$ pairwise count matrix C converted into distances as input for cluster analysis. For ease of comparison, we selected the five-cluster solution. Across the different ways to convert C into distances and the different clustering methods,⁵ the clusters generally resemble the summary piles that we extracted well. The main exception was “making an advertisement for the brand” which was assigned to a cluster with the “feedback” practices a number of times. Presumably, some respondents mainly think of consumer-generated ads as testimonials. Another interesting observation was that the “feedback” practices “writing a recommendation for X” and “responding to content about X” were assigned to a cluster with the “talking about” practices a number of times. This is not surprising, however, as this is feedback that is (generally) shared with others as well. In all, though some practices were assigned to other clusters a number of times, the clusters represent the same five distinct types of digital engagement (practices for fun, learning practices, feedback practices, working for practices, talking about practices).

As for LDA, the intuition behind the technique is to analyze the vocabulary used in different documents to identify the set of topics that best summarize the entire set. As Blanchard, Aloise, and Desarbo (2017) indicate, in the context of a card sorting data, the piles generated by the respondents represent the set of documents and the items (i.e. engagement practices) represent the vocabulary. We use the topic model proposed by Steyvers and Griffiths (2007), which uses Gibbs sampling for inference. For ease of comparison, we selected the five-topic solution. Though we find the results to depend on the choice of the hyperparameters of the LDA (as was also observed by Blanchard, Aloise, and Desarbo 2017), they again generally resemble the summary piles that we extracted well. As with cluster analysis, an interesting observation was that the “feedback” practices “writing a recommendation for X” and “responding to content about X” were assigned to a cluster with the “talking about” practices a number of times. However, as indicated above, this is not surprising. Moreover, the topics again represent the same five distinct types of digital engagement (practices for fun, learning practices, feedback practices, working for practices, talking about practices).

⁵ Specifically, we converted the pairwise count matrix C into distance matrix D by setting $D = 1/(1 + C)$ or $D = 1 - (C/N)$ and used either average-linkage, centroid-linkage, or Ward's clustering method.

Summing up, these robustness checks support the validity of our classification and strengthen our confidence in the findings.

Appendix B. Measurement of Undertaking Digital Brand Engagement Practices

All activities in this survey represent **consumer activities** that can occur on **online platforms** such as Facebook, a brands website, apps, or brand communities, accessed via a laptop, smartphone or tablet.

1) How likely are you to engage in consumer activities on online platforms that are for fun:

- Participating in a contest of [fill in brand]
- Playing a game of [fill in brand]

Very unlikely | 0 ----- 100 | Very likely

2) How likely are you to engage in consumer activities on online platforms that are for learning about [fill in brand]:

- Viewing a video about [fill in brand]
- Watching pictures of [fill in brand]
- Signing up for updates about [fill in brand]

Very unlikely | 0 ----- 100 | Very likely

3) How likely are you to engage in consumer activities on online platforms, where you give customer feedback to [fill in brand]:

- Providing feedback to [fill in brand]
- Filling out a customer satisfaction survey about [fill in brand]
- Making suggestions for service or product improvements of [fill in brand]
- Responding to content about [fill in brand]
- Writing a recommendation for [fill in brand]

Very unlikely | 0 ----- 100 | Very likely

4) How likely are you to engage in consumer activities on online platforms, where you work for [fill in brand]:

- Providing assistance to [fill in brand]
- Making an advertisement for [fill in brand]

Very unlikely | 0 ----- 100 | Very likely

5) How likely are you to engage in consumer activities on online platforms, where you talk about [fill in brand]:

- Blogging about [fill in brand]
- Interacting with other consumers of [fill in brand]
- Recommending [fill in brand] to a friend
- Engaging in conversations about [fill in brand]
- Helping other customers of [fill in brand]

Very unlikely | 0 ----- 100 | Very likely

Measure	M	SD	1.	2.	3.	4.	5.
1. For fun practices	43.70	32.38					
2. Learning practices	38.68	30.95	0.49				
3. Feedback practices	37.90	29.51	0.48	0.58			
4. Working for practices	24.49	29.07	0.37	0.33	0.40		
5. Talking about practices	31.18	29.49	0.53	0.63	0.62	0.37	

Note. Off-diagonal elements are the correlations between the measures.

Appendix C. Scale Customer Brand Engagement (CBE; Hollebeek, Glynn, and Brodie 2014)

To measure customer brand engagement, we used the scale of Hollebeek, Glynn, and Brodie (2014, p. 10). All items are statements for which participants indicated the extent to which they agreed with on a 7-point scale (1 = totally disagree, 7 = totally agree). We present the items in Table C1 and discuss the psychometric properties below.

Construct and items	Factor loading	Cronbach's alpha	CR	AVE
1. CBE Cognitive processing (Cognitive engagement)	0.783		0.778	0.540
a. Using [brand name] gets me to think about [brand name]	0.667			
b. I think about [brand name] a lot when I'm using it	0.720			
c. Using [brand name] stimulates my interest to learn more about [brand name]	0.767			
2. CBE Affection (Emotional engagement)	0.925		0.927	0.761
a. I feel very positive when I use [brand name]	0.853			
b. Using [brand name] makes me happy	0.841			
c. I feel good when I use [brand name]	0.866			
d. I'm proud to use [brand name]	0.803			
3. CBE Activation (Behavioral engagement)	0.933		0.934	0.824
a. I spend a lot of time using [brand name], compared to other [brand category]	0.916			
b. Whenever I'm using [brand category], I usually use [brand name]	0.919			
c. [Brand name] is one of the brands I usually use when I use [brand category]	0.860			

Note. We standardized all factor indicators before conducting the CFA. All factor loadings $p < .001$ (two-tailed). CR = composite reliability, AVE = average variance extracted.

We used a Confirmatory Factor Analysis (CFA) to assess the psychometric properties of the customer brand engagement scale and report the results in Table C1. The fit of the measurement model was good ($\chi^2(32) = 102.742$ ($p < .001$), RMSEA = 0.069, 90% CI = [0.055, 0.085], CFI = 0.980, SRMR = 0.040). The composite reliability (CR) of each of the latent constructs exceeded 0.70, indicating that the internal consistency is acceptable. All factor loadings of items were >0.50 and significant at $p < .001$ and the average variance extracted (AVE) values for each construct were >0.50 , suggesting strong convergent validity. Furthermore, as Table C2 shows, no correlation is greater than the square root of the AVE values, indicating strong discriminant validity.

Construct	M	SD	1.	2.	3.
1. Cognitive engagement	3.90	1.34	0.735		
2. Emotional engagement	4.43	1.32	0.669	0.872	
3. Behavioral engagement	3.97	1.71	0.544	0.715	0.908

Note. Off-diagonal elements are the correlations between the constructs. Diagonal elements are the square roots of AVE.

Appendix D. Effects of CBE Measures on Engagement Practices per Brand

Table D1 shows the effects of the CBE measures on engagement practices per brand. We find that, in line with the main analyses, engaging in practices where customers talk about the brand is significantly related to cognitive customer engagement, for all brands except Apple. Engaging in learning practices (except Apple) and feedback practices (except Coca-Cola) are also related to cognitive customer engagement. For the other types of practices, consumer characteristics are differently related to willingness to engage in digital practices for each brand. For example, the practices for fun are related to cognitive engagement for Toyota, and additionally to emotional and behavioral engagement for GE, while they are only related to emotional engagement for Coca-Cola. The findings indicate that cognitive engagement, or being prominent in the mind of consumers, is important. At the same time, the findings highlight our core message, namely that engaging in the five types of digital practices can be differently related to consumer characteristics.

	For fun practices	Learning practices	Feedback practices	Working for practices	Talking about practices
<i>A: Apple</i>					
Cognitive engagement	1.72 (2.71)	4.53 (2.63)	7.17 (2.36)**	1.58 (2.67)	5.27 (2.62)
Emotional engagement	6.09 (3.92)	-0.35 (3.80)	5.48 (3.42)	5.19 (3.86)	5.04 (3.79)
Behavioral engagement	1.93 (2.53)	5.15 (2.11)*	0.91 (2.20)	1.16 (2.49)	2.48 (2.44)
Age	-0.25 (0.37)	0.26 (0.36)	-0.16 (0.32)	-0.54 (0.37)	0.25 (0.36)
Online media use	0.09 (0.12)	0.26 (0.12)*	0.13 (0.10)	-0.13 (0.12)	0.18 (0.12)
X ² (df)	19.47 (5)**	30.07 (5)***	44.83 (5)***	14.11 (5)*	38.35 (5)***
R ²	0.18	0.257	0.34	0.14	0.31
<i>B: Coca-Cola</i>					
Cognitive engagement	4.43 (2.65)	6.18 (2.15)**	1.16 (2.21)	1.98 (2.61)	5.88 (2.37)*
Emotional engagement	8.87 (3.4)**	6.61 (2.76)*	3.11 (2.83)	6.25 (3.35)	5.66 (3.04)
Behavioral engagement	-0.11 (2.53)	2.82 (2.05)	5.21 (2.11)*	-1.77 (2.5)	3.09 (2.26)
Age	0.44 (0.28)	0.07 (0.23)	-0.25 (0.23)	-0.35 (0.28)	-0.13 (0.25)
Online media use	0.25 (0.13)	0.13 (0.11)	0.08 (0.11)	0.04 (0.13)	0.12 (0.12)
X ² (df)	34.23 (5)***	66.74 (5)**	32.98 (5)***	11.74 (5)*	50.65 (5)***
R ²	0.26	0.41	0.26	0.11	0.35
<i>C: GE</i>					
Cognitive engagement	5.64 (2.28)*	9.91 (2.12)***	5.89 (2.25)**	4.42 (2.47)	7.29 (2.1)***
Emotional engagement	9.52 (3.02)**	5.28 (2.8)	6.43 (2.98)*	4.35 (3.28)	2.34 (2.79)
Behavioral engagement	6.53 (2.57)*	4.64 (2.38)	2.29 (2.54)	1.29 (2.79)	4.85 (2.37)*
Age	-0.3 (0.21)	-0.05 (0.2)	-0.27 (0.21)	-0.15 (0.23)	0.16 (0.2)
Online media use	-0.01 (0.1)	-0.08 (0.1)	-0.12 (0.1)	-0.12 (0.11)	0.03 (0.09)
X ² (df)	75.02 (5)***	83.16 (5)***	38.61 (5)***	16.12 (5)**	46.23 (5)***
R ²	0.43	0.46	0.28	0.14	0.32
<i>D: McDonald's</i>					
Cognitive engagement	8.46 (2.71)**	10.76 (2.72)***	9.41 (2.79)***	2.62 (2.66)	7.2 (2.26)***
Emotional engagement	9.43 (2.78)***	0.65 (2.79)	0.31 (2.86)	1.29 (2.72)	4.81 (2.32)*
Behavioral engagement	-0.75 (2.18)	1.13 (2.18)	3.61 (2.24)	4.16 (2.13)	0.2 (1.81)
Age	0.12 (0.28)	0.1 (0.28)	0.33 (0.29)	-0.48 (0.27)	0.14 (0.23)
Online media use	0.22 (0.12)	-0.04 (0.12)	0 (0.12)	0.08 (0.12)	0.01 (0.1)
X ² (df)	67.42 (5)***	31.71 (5)***	36.78 (5)***	19.23 (5)**	44.22 (5)***
R ²	0.43	0.26	0.29	0.17	0.33
<i>E: Toyota</i>					
Cognitive engagement	6.13 (2.89)*	6.58 (2.55)*	6.34 (2.61)*	3.70 (2.87)	7.88 (2.25)***
Emotional engagement	1.01 (4.31)	6.38 (3.80)	6.11 (3.90)	2.73 (4.28)	2.70 (3.36)
Behavioral engagement	-0.48 (2.33)	0.44 (2.05)	1.97 (2.11)	-0.83 (2.31)	3.35 (1.81)
Age	0.06 (0.31)	-0.16 (0.27)	-0.13 (0.28)	-0.57 (0.31)	-0.03 (0.24)
Online media use	0.06	0.10 (0.13)	0.02 (0.14)	-0.27 (0.15)	0.05 (0.12)
X ² (df)	7.44 (5)	26.5 (5)***	29.35 (5)***	9.12 (5)	42.75 (5)***
R ²	0.07	0.23	0.25	0.09	0.32

Note. Standard errors in parentheses. All *p*-values are two-tailed.

p < .001.

p < .01.

p < .05.

References

- Alba, Joseph W. and Amitava Chattopadhyay (1986), "Salience Effects in Brand Recall," *Journal of Marketing Research*, 23, 4, 363–9.
- Alvarez, Claudio and Susan Fournier (2016), "Consumers' Relationships with Brands," *Current Opinion in Psychology*, 10, 129–35.
- Ashley, Christy, Erin A. Gillespie, and Stephanie M. Noble (2016), "The Effect of Loyalty Program Fees on Program Perceptions," *Journal of Business Research*, 964–73.
- Azar, Salim L., Joana César Machado, Leonor Vacas-De-Carvalho, and Ana Mendes (2016), "Motivations to Interact with Brands on Facebook — Towards a Typology of Consumer–Brand Interactions," *Journal of Brand Management*, 23, 153–78.
- Bagozzi, Richard P. and Utpal M. Dholakia (2006), "Antecedents and Purchase Consequences of Customer Participation in Small Group Brand Communities," *International Journal of Research in Marketing*, 23, 1, 45–61.
- Bellman, Steven, Robert F. Potter, Shiree Treleaven-Hassard, Jennifer Robinson, and Duane Varan (2011), "The Effectiveness of Branded Mobile Phone Apps," *Journal of Interactive Marketing*, 25, 4, 191–200.
- Bernritter, Stefan F., Peeter W.J. Verlegh, and Edith G. Smit (2016), "Why Nonprofits Are Easier to Endorse on Social Media: The Roles of Warmth and Brand Symbolism," *Journal of Interactive Marketing*, 33, 27–42.
- Bijmolt, Tammo, H.A., Peter S.H. Leeflang, Frank Block, Maik Eisenbeiss, Bruce G.S. Hardie, Aurélie Lemmens, and Peter Saffert (2010), "Analytics for Customer Engagement," *Journal of Service Research*, 13, 3, 341–56.
- Blanchard, Simon J. and Ishani Banerji (2016), "Evidence-based Recommendations for Designing Free-sorting Experiments," *Behavioral Research*, 48, 4, 1318–36.
- , Daniel Aloise, and Wayne S. Desarbo (2017), "Extracting Summary Piles from Sorting Task Data," *Journal of Marketing Research*, 54, 3, 398–414.
- Blasco-Arcas, Lorena, Blanca Hernandez-Ortega, and Julio Jimenez-Martinez (2014), "The Online Purchase as a Context for Co-creating Experiences. Drivers of and Consequences for Customer Behavior," *Internet Research*, 24, 3, 393–412.
- Blei, David M., Andrew Y. Ng, and Michael I. Jordan (2003), "Latent Dirichlet Allocation," *Journal of Machine Learning Research*, 3, 993–1022.
- Bowden, Jana L., Jodie Conduit, Linda D. Hollebeek, Vilma Luoma-Aho, and Birgit Apenes Solem (2017), "Engagement Valence Duality and Spillover Effects in Online Brand Communities," *Journal of Service Theory and Practice*, 27, 4, 877–97.
- Brodie, Roderick J., Linda D. Hollebeek, Biljana Juric, and Ana Ilic (2011), "Customer Engagement," *Journal of Service Research*, 14, 3, 252–71.
- , Ana Ilic, ———, and Linda Hollebeek (2013), "Consumer Engagement in a Virtual Brand Community: An Exploratory Analysis," *Journal of Business Research*, 66, 105–14.
- De Vries, Lisette, Sonja Gensler, and Peter S.H. Leeflang (2012), "Popularity of Brand Posts on Brand Fan Pages: An Investigation of the Effects of Social Media Marketing," *Journal of Interactive Marketing*, 26, 2, 83–91.
- Demangeot, Catherine and Amanda J. Broderick (2016), "Engaging Customers During a Website Visit: A Model of Website Customer Engagement," *International Journal of Retail & Distribution Management*, 44, 8, 814–39.
- Eelen, Jiska, Peren Ozturan, and Peeter W.J. Verlegh (2005), "The Differential Impact of Brand Loyalty on Traditional and Online Word of Mouth: The Moderating Roles of Self-brand Connection and the Desire to Help the Brand," *International Journal of Research in Marketing*, 34, 4, 872–91.
- Escalas, Jennifer E. and James R. Bettman (2005), "Self-construal, Reference Groups, and Brand Meaning," *Journal of Consumer Research*, 32, 3, 378–89.
- Gensler, Sonja, Franziska Völckner, Yuping Liu-Thompkins, and Caroline Wiertz (2013), "Managing Brands in the Social Media Environment," *Journal of Interactive Marketing*, 27, 4, 242–56.
- Green, Paul E. and Vithala R. Rao (1969), "A Note on Proximity Measures and Cluster Analysis," *Journal of Marketing Research*, 6, 3, 359–64.
- Greene, William H. (2002), *Econometric Analysis*. New Jersey: Prentice Hall.
- Hall-Phillips, Adrienne, Joohyung Park, Te-Lin Chung, Nwamaka A. Anaza, and Sandra R. Rathod (2016), "I (Heart) Social Ventures: Identification and Social Media Engagement," *Journal of Business Research*, 69, 484–91.
- Hamby, Anne, Kim Daniloski, and David Brinberg (2015), "How Consumer Reviews Persuade Through Narratives," *Journal of Business Research*, 68, 1242–50.
- Hamilton, Mitchel, Velitchka D. Kaltcheva, and Andrew J. Rohm (2016), "Hashtags and Handshakes: Consumer Motives and Platform Use in Brand–Consumer Interactions," *Journal of Consumer Marketing*, 33, 2, 135–44.
- Hamilton, Rebecca W., Stefano Puntoni, and Nader T. Tavassoli (2010), "Categorization by Groups and Individuals," *Organizational Behavior and Human Decision Processes*, 112, 1, 70–81.
- Hennig-Thurau, Thorsten, Kevin P. Gwinner, Gianfranco Walsh, and Dwayne D. Gremler (2004), "Electronic Word-of-Mouth via Consumer-opinion Platforms: What Motivates Consumers to Articulate Themselves on the Internet?" *Journal of Interactive Marketing*, 18, 1, 38–52.
- , Edward C. Malthouse, Christian Friege, Sonja Gensler, Lara Lobschat, Arvind Rangaswamy, and Bernd Skiera (2010), "The Impact of New Media on Customer Relationships," *Journal of Service Research*, 13, 3, 311–30.
- Holbrook, Morris B. and Elizabeth C. Hirschman (1982), "The Experiential Aspects of Consumption: Consumer Fantasies, Feelings, and Fun," *Journal of Consumer Research*, 9, 2, 132–40.
- Hollebeek, Linda (2013), "The Customer Engagement/Value Interface: An Exploratory Investigation," *Australasian Marketing Journal*, 21, 17–24.
- and Tom Chen (2014), "Exploring Positively- Versus Negatively Valenced Brand Engagement: A Conceptual Model," *Journal of Product and Brand Management*, 32, 1, 62–74.
- , Mark S. Glynn, and Roderick J. Brodie (2014), "Consumer Brand Engagement in Social Media: Conceptualization, Scale Development and Validation," *Journal of Interactive Marketing*, 28, 2, 149–65.
- , Rajendra K. Srivastava, and Tom Chen (2016), "S-D Logic-Informed Customer Engagement: Integrative Framework, Revised Fundamental Propositions, and Application to CRM," *Journal of the Academy of Marketing Science*, 1–25.
- , Biljana Juric, and Wenyan Tang (2017), "Virtual Brand Community Engagement Practices: A Refined Typology and Model," *Journal of Services Marketing*, 31, 204–17.
- Hu, Ye, Du Rex Yuxing, and Sina Damangir (2014), "Decomposing the Impact of Advertising: Augmenting Sales with Online Search Data," *Journal of Marketing Research*, 51, 3, 300–19.
- Hudson, Simon, Li Huang, Martin S. Roth, and Thomas J. Madden (2016), "The Influence of Social Media Interactions on Consumer–Brand Relationships: A Three-country Study of Brand Perceptions and Marketing Behaviors," *International Journal of Research in Marketing*, 33, 1, 27–41.
- Interbrand (2016), "Best Global Brand Rankings," Retrieved from: <http://interbrand.com/best-brands/best-global-brands/2016/ranking>.
- Irwin, Julie R. and Rebecca Walker Naylor (2009), "Ethical Decisions and Response Mode Compatibility: Weighting of Ethical Attributes in Consideration Sets Formed by Excluding Versus Including Product Alternatives," *Journal of Marketing Research*, 46, 2, 234–46.
- Jaakkola, Elina and Matthew Alexander (2014), "The Role of Customer Engagement Behavior in Value Co-creation: A Service System Perspective," *Journal of Service Research*, 17, 3, 247–61.
- Jahn, Benedikt and Werner Kunz (2012), "How to Transform Consumers into Fans of Your Brand," *Journal of Service Management*, 23, 3, 344–61.
- Jenkins, Rob, David White, Xandra van Montfoort, and A. Mike Burton (2011), "Variability in Photos of the Same Face," *Cognition*, 121, 3, 313–23.
- Kannan, P.K. and Hongshuang Alice Li (2017), "Digital Marketing: A Framework, Review and Research Agenda," *International Journal of Research in Marketing*, 34, 1, 22–45.
- Kaptein, Maurits, Petri Parvinen, and Essi Pöyry (2016), "The Danger of Engagement: Behavioral Observations of Online Community Activity and Service Spending in the Online Gaming Context," *International Journal of Electronic Commerce*, 20, 1, 50–75.
- Katz, Elihu (1959), "Mass Communication Research and the Study of Culture," *Studies in Public Communication*, 2, 1–6.
- , Jay G. Blumler, and Michael Gurevitch (1973/1974), "Uses and Gratifications Research," *Public Opinion Quarterly*, 37, 4, 509–23.
- Kees, Jeremy, Christopher Berry, Scot Burton, and Kim Sheehan (2017), "An Analysis of Data Quality: Professional Panels, Student Subject Pools, and Amazon's Mechanical Turk," *Journal of Advertising*, 46, 1, 141–55.

- Kim, Angella J. and Kim K.P. Johnson (2016), "Power of Consumers Using Social Media: Examining the Influences of Brand-related User-generated Content on Facebook," *Computers in Human Behavior*, 58, 98–108.
- Kumar, V.K., Lerzan Aksoy, Bas Donkers, Rajkumar Venkatesan, Thorsten Wiesel, and Sebastian Tillmanns (2010), "Undervalued or Overvalued Customers: Capturing Total Customer Engagement Value," *Journal of Service Research*, 13, 3, 297–310.
- and Shaphali Gupta (2016), "Conceptualizing the Evolution and Future of Advertising," *Journal of Advertising*, 45, 3, 302–17.
- and Anita Pansari (2016), "Competitive Advantage Through Engagement," *Journal of Marketing Research*, 53, 4, 497–514.
- Lam, Shun Y. and Venkatesh Shankar (2014), "Asymmetries in the Effects of Drivers of Brand Loyalty Between Early and Late Adopters and Across Technology Generations," *Journal of Interactive Marketing*, 28, 1, 26–42.
- Lamberton, Cait and Andrew T. Stephen (2016), "A Thematic Exploration of Digital, Social Media, and Mobile Marketing: Research Evolution from 2000 to 2015 and an Agenda for Future Inquiry," *Journal of Marketing*, 80, 6, 146–72.
- Laroche, Michel, Mohammad Reza Habibi, Marie-Odile Richard, and Ramesh Sankaranarayanan (2012), "The Effects of Social Media Based Brand Communities on Brand Community Markers, Value Creation Practices, Brand Trust and Brand Loyalty," *Computers in Human Behavior*, 28, 1755–67.
- Lawrence, Benjamin, Susan Fournier, and Frédéric Brunel (2013), "When Companies Don't Make the Ad: A Multimethod Inquiry into the Differential Effectiveness of Consumer-generated Advertising," *Journal of Advertising*, 42, 4, 292–307.
- Lee, Doohwang, Hyuk Soo Kim, and Jung Kyu Kim (2012), "The Role of Self-construal in Consumers' Electronic Word of Mouth (eWOM) in Social Networking Sites: A Social Cognitive Approach," *Computers in Human Behavior*, 28, 1054–62.
- Luo, Nuan, Mingli Zhang, and Wenhua Liu (2015), "The Effects of Value Co-creation Practices on Building Harmonious Brand Community and Achieving Brand Loyalty on Social Media in China," *Computers in Human Behavior*, 48, 492–9.
- Luo, Xueming and Jie Zhang (2013), "How Do Consumer Buzz and Traffic in Social Media Marketing Predict the Value of the Firm?" *Journal of Management Information Systems*, 30, 2, 213–38.
- Miceli, Gaetano N., Maria Antonietta Raimondo, and Stefania Farace (2013), "Customer Attitude and Dispositions Towards Customized Products: The Interaction Between Customization Model and Brand," *Journal of Interactive Marketing*, 27, 3, 209–25.
- Muntinga, Daniël G., Marjolein Moorman, and Edith G. Smit (2011), "Introducing COBRAs: Exploring Motivations for Brand-related Social Media Use," *International Journal of Advertising*, 30, 1, 13–46.
- Nambisan, Satish and Robert A. Baron (2007), "Interactions in Virtual Customer Environments: Implications for Product Support and Customer Relationship Management," *Journal of Interactive Marketing*, 21, 2, 42–62.
- Pauwels, Koen, Zeynep Aksehirli, and Andrew Lackman (2016), "Like the Ad or the Brand? Marketing Stimulates Different Electronic Word-of-Mouth Content to Drive Online and Offline Performance," *International Journal of Research in Marketing*, 33, 3, 639–55.
- Raïes, Karine, Hans Mühlbacher, and Marie-Laure Gavard-Perret (2015), "Consumption Community Commitment: Newbies' and Longstanding Members' Brand Engagement and Loyalty," *Journal of Business Research*, 68, 2634–44.
- Rooderkerk, Robert P. and Koen H. Pauwels (2016), "No Comment?! The Drivers of Reactions to Online Posts in Professional Groups," *Journal of Interactive Marketing*, 35, 3, 1–15.
- Saldaña, J. (2009), *The Coding Manual for Qualitative Researchers*. London: Sage.
- Sashi, C.M. (2012), "Customer Engagement, Buyer–Seller Relationships, and Social Media," *Management Decision*, 50, 2, 253–72.
- Schau, Hope J., Albert M. Muñoz Jr., and Eric J. Arnould (2009), "How Brand Community Practices Create Value," *Journal of Marketing*, 73, 30–51.
- Schultz, Don (2016), "The Future of Advertising or Whatever We're Going to Call It," *Journal of Advertising*, 45, 3, 276–85.
- Sprott, David, Sandor Czellar, and Eric Spangenberg (2009), "The Importance of a General Measure of Brand Engagement on Market Behavior: Development and Validation of a Scale," *Journal of Marketing Research*, 46, 92–104.
- Srinivasan, Shuba, Oliver J. Rutz, and Koen Pauwels (2016), "Paths To and Off Purchase: Quantifying the Impact of Traditional Marketing and Online Consumer Activity," *Journal of the Academy of Marketing Science*, 44, 4, 440–53.
- Steyvers, Mark and Tom Griffiths (2007), "Probabilistic Topic Models," in *Latent Semantic Analysis: A Road to Meaning*. T. Landauer, D. McNamara, S. Dennis, W. Kintsch, editors. Mahwah, NJ: Laurence Erlbaum Associates.
- Sujan, Mita and James R. Bettman (1989), "The Effects of Brand Positioning Strategies on Consumers' Brand and Category Perceptions: Some Insights from Schema Research," *Journal of Marketing Research*, 26, 4, 454–67.
- Sultan, Fareena, Andrew J. Rohm, and Toa Gao (2009), "Factors Influencing Consumer Acceptance of Mobile Marketing: A Two-country Study of Youth Markets," *Journal of Interactive Marketing*, 23, 4, 308–20.
- Terlutter, Ralf and Michael L. Capella (2013), "The Gamification of Advertising: Analysis and Research Directions of In-game Advertising, Advergaming, and Advertising in Social Network Games," *Journal of Advertising*, 42, 2–3, 95–112.
- Ülkümen, Gülden, Amitav Chakravarti, and Vicki G. Morwitz (2010), "Categories Create Mind-sets: The Effect of Exposure to Broad Versus Narrow Categorizations on Subsequent, Unrelated Decisions," *Journal of Marketing Research*, 47, 4, 659–71.
- Van Doorn, Jenny, Katherine N. Lemon, Vikas Mittal, Stephan Nass, Doreén Pick, Peter Pirner, and Peter C. Verhoef (2010), "Customer Engagement Behavior: Theoretical Foundations and Research Directions," *Journal of Service Research*, 13, 3, 253–66.
- Van Noort, Guda, Hilde A.M. Voorveld, and Eva A. Van Reijmersdal (2012), "Interactivity in Brand Web Sites: Cognitive, Affective, and Behavioral Responses Explained by Consumers' Online Flow Experience," *Journal of Interactive Marketing*, 26, 4, 223–34.
- Vandecasteele, Bert and Maggie Geuens (2010), "Motivated Consumer Innovativeness: Concept, Measurement, and Validation," *International Journal of Research in Marketing*, 27, 308–18.
- VanMeter, Rebecca A., Douglas B. Grisaffe, and Lawrence B. Chonko (2015), "Of "Likes" and "Pins": The Effects of Consumers' Attachment to Social Media," *Journal of Interactive Marketing*, 32, 70–88.
- Verhagen, Tibert, Erik Swen, Frans Feldberg, and Jani Merikivi (2015), "Benefitting from Virtual Customer Environments: An Empirical Study of Customer Engagement," *Computers in Human Behavior*, 48, 340–57.
- Verleye, Katrien, Paul Gemmel, and Deva Rangarajan (2013), "Managing Engagement Behaviors in a Network of Customers and Stakeholders: Evidence from the Nursing Home Sector," *Journal of Service Research*, 17, 1, 68–84.
- Wise, Kevin, Paul D. Bolls, Hyo Kim, Arun Venkataraman, and Ryan Meyer (2008), "Enjoyment of Advergaming and Brand Attitudes: The Impact of Thematic Relevance," *Journal of Interactive Advertising*, 9, 1, 27–36.
- Zadeh, Amir H. and Ramesh Sharda (2014), "Modeling Brand Post Popularity Dynamics in Online Social Networks," *Decision Support Systems*, 65, 59–68.