

# Customer engagement in evolving technological environments: synopsis and guiding propositions

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This special issue has explored ways in which consumers engage with brands and firms within ever-evolving technological environments (Ostrom *et al.*, 2015). The articles show how firms adopt an increasingly broad array of emerging technologies to facilitate interactions with their prospects and customers (Letheren *et al.*, 2019; Willems *et al.*, 2019; Dessart *et al.*, 2019 or Marbach *et al.*, 2019 in this issue). New technology can be used at any stage of the marketing process, including during the segmentation, targeting or positioning sub-processes, to support or transform any of the marketing mix elements, thereby affecting consumer engagement with brands (Hollebeek *et al.*, 2014). For example, product customization options (e.g. personalized Starbucks beverages) can alter the product offering, thereby enabling firms to more responsively cater to customers' unique needs, wants or preferences (Keeling *et al.*, 2019 in this issue). Technology can also be used for promotional purposes (e.g. social media-based micro-targeting or virtual reality [VR]-based gamification to engage consumers; see Carlson *et al.*, 2019 in this Issue), to facilitate distribution (e.g. via additive manufacturing or 3D printing) or to influence consumers' willingness to adopt or pay for focal offerings (e.g. via mobile or contactless payments; Kuppelwieser *et al.*, 2014), thereby exerting potential effects on any of the marketing mix elements. In addition, firms' increasing replacement of human service staff with robotic customer interactions is expected to have important effects on customer perceptions, intentions and future behaviors (Huang and Rust, 2018). Therefore, technology is rapidly reshaping the ways in which customers engage with brands and firms (Hollebeek *et al.*, 2019).

To conclude this issue, we offer three propositions of customer engagement (CE) within evolving technological environments that build on the articles published in this issue that can be used to guide further research in this rapidly developing area. First, we propose the development of technology-specific user segmentation as a requirement to leverage firms' evolving technological capabilities. That is, while many customers will use *core* technology (e.g. electronic funds transfer at the point-of-purchase), technologies that are non-core or more peripheral to the market offering (e.g. gamification-based promotions) will likely see varying adoption levels across customer segments, including in terms of demographics, psychographics, or brand- or marketing-related preferences. This rationale supports CE's *boundedly volitional* nature, as detailed in Hollebeek *et al.* (2018; see also Weiger *et al.*, 2019 in



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this issue), which implies that while CE to some extent reflects customers' voluntary brand-related investments, it is also likely to exhibit a less voluntary aspect (e.g. conformity to firm-based rules or guidelines).

Correspondingly, relevant marketing mix elements need to be tailored or customized to meet different customers' technological needs, which may differ across product offerings or over time. For instance, we expect that young urban professionals' technological preferences differ from those of baby-boomers or empty nesters (Robertson *et al.*, 2019 in this issue). Within this environment, rapidly evolving technological or societal developments require companies to constantly review, and potentially revise, their customer or user segments to maintain their relevance. Moreover, insight into customers' *cross-technology* usage is needed (e.g. which technologies do they enjoy using integratively, such as social media, online product information, and secure blockchain-based payment options; see e.g. Connell *et al.*, 2019 or Piehler *et al.*, 2019 in this Issue). Based on this rationale, we follow Hollebeek *et al.*'s (2019), Hollebeek and Macky's (2019) and Brodie *et al.*'s (2011, 2016) approach, among others, to develop a set of Propositions of CE Within Evolving Technological Environments. Based on the above analyses, our first proposition (P1) reads: *Companies require a relevant user segmentation to inform high-value targeting and positioning decision-making with a view to leveraging rapidly evolving technology in marketing.*

Second, inherent in the notion of *evolving technology* is its continuous innovative nature, whether radical or incremental. As such, firms need to prepare for and invest in their own adaptive capability within fast-changing business environments. To do so, knowledge or skill-based resources form an important foundation for CE (Vargo and Lusch, 2016; Hollebeek, 2017), which predominantly reside in human capital, including (internal) personnel or (external) customers who are prepared to exhibit high brand-related engagement (e.g. peer-to-peer user support in *Apple Support Communities*). Here, the latter group takes on the role of co-producers through their brand-related activities (Xie *et al.*, 2008). Based on these observations, the following key managerial question emerges: *How can companies motivate customers to invest their scarce resources in interacting with their (vs competitors') brands or competing activities?* To foster insight into this question, companies require a deeper understanding of customers' available resources and those they are willing to invest into particular brand-related interactions and activities. This understanding can, in turn, be converted into marketing mix customization tools to optimally cater for specific customer needs, wants, or preferences (e.g. *BMW's Luxury Car Customizer*; Hollebeek *et al.*, 2019).

Given the growing availability of brand-related personalization options, customer brand evaluations are expected to rise. Moreover, as customers increasingly invest their skill- or knowledge-based resources in their brand interactions, firm costs are anticipated to decline (e.g. in Bring-Your-Own-Device educational environments; Hollebeek *et al.*, 2019). This approach therefore reduces firms' investment requirements in assortment and stock, thus freeing up resources to further grow the organization (e.g. through new R&D programs). However, as customers become habituated to using specific technologies, their initial customer delight is expected to transfer to their realm of expectation (vs. delight; Rust and Oliver, 2000). Therefore, to engage a customer over time, an adaptable, agile firm stance is required that fosters ongoing organizational learning and innovation (MSI, 2018). Based on this rationale, our second proposition of CE within evolving technological environments (P2) reads: *The successful deployment of evolving technology to foster long-term customer engagement with brands requires an innovative, adaptive firm stance centered on continuous learning and innovation, thereby triggering a virtuous innovation/CE cycle.*

Third, while emerging technology is typically designed to enhance customer or societal wellbeing (Orsingher *et al.*, 2019 and Sarmiento *et al.*, 2019 in this Issue), in some cases it can have a counter-productive effect on welfare (Hollebeek and Belk, 2018). For example, excessive technology use or addiction can be detrimental to the user's social capital, or even lead to

Proposition	Research avenues
<p><i>P1.</i> Companies require a relevant user segmentation to inform high-value targeting and positioning decision-making with a view to leveraging rapidly evolving technology in marketing</p>	<p>Which (combinations of) variables are most effective in segmenting (emerging) technology users? Once technology users are segmented, how should managers develop their targeting and positioning approaches to each (micro-)customer segment for particular brands? How stable are technology user segments and which conditions give rise to a need for revising specific user segments? What are the technological preferences of a brand's most profitable customers? Are distinct user segmentations required in different stages of the customer journey?</p>
<p><i>P2.</i> The successful deployment of evolving technology to foster long-term customer engagement with brands requires an innovative, adaptive firm stance centered on continuous learning and innovation, thereby triggering a virtuous innovation/CE cycle</p>	<p>What is the usage lifecycle and profit-generating potential for particular (emerging) technologies? To what extent is firm-based resource investment in fostering CE with a particular technology justifiable for specific technologies (particularly for those with shorter lifecycles)? What can managers do to prolong or extend CE with particular (new) technologies? How does CE using focal emerging technologies translate into heightened return-on-investment or firm performance? Which firm-based innovation and learning techniques (e.g. design thinking, co-innovation) are most effective in fostering CE with evolving or emerging technology? What factors are conducive (or adverse) to optimizing the innovation/CE cycle? How does the innovation/CE cycle differ across B2C vs. B2B settings?</p>
<p><i>P3.</i> To optimize customers' ensuing wellbeing from their brand- or firm-related technology usage, a suitable touch/tech balance is required</p>	<p>How is customer wellbeing that ensues from consumer usage of specific firm/brand-related technology best measured, tracked and optimized over time? Should the focus lie on subjective (i.e. users' self-assessed) or more objective measures of wellbeing, or should some combination thereof be deployed? For which types of services do customers prefer high-touch (e.g. high interactivity with frontline service staff) vs. high-tech? How and why do these preferences tend to evolve over time? Is there an optimal point up to which higher technology usage is conducive to CE's development, but beyond which decreasing marginal returns set in (e.g. due to the onset of user fatigue, draining, etc.), thereby revealing a curvilinear relationship between CE and its ensuing returns (Hollebeek, 2011)?</p>

**Table I.**  
Future research  
avenues

physical impairments (e.g. loss of eyesight, weight gain). Therefore, sensible controls (i.e. guidelines, rules) around suitable technology use are encouraged to help optimize its positive effect on users' lives, while minimizing any negative consequences. In addition, while full service automation may yield specific (e.g. efficiency) benefits, marketers may wish to retain a level of human service contact in their offerings, particularly for those customers exhibiting a preference for these over technology-driven interactions (e.g. elderly consumers). In line with these observations, our third and final proposition of CE within evolving technological environments posits *to optimize customers' ensuing wellbeing from their brand- or firm-related technology usage, a suitable touch/tech balance is required*. To conclude this special issue, we offer specific research directions based on our propositions of CE within evolving technological environments in **Table I**, which can be used to inform further study in this exciting, growing area.

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### Further reading

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