Trends in Digital Marketing: The Digital Last Mile[+]

Nirvikar Singh[*]

Simon Yencken[**]

January 2020

Abstract

This paper reviews standard textbook formulations of the process of digital marketing, and offers an updated, alternative perspective that emphasizes the stage of "customer conversion and care," as opposed to a more common focus on attracting traffic. It argues that focusing on this kind of "digital last mile" of e-commerce leads to greater efficiency and effectiveness, and is consistent with emerging regulatory trends.

Introduction

The disruptive societal impact of the Internet is well known, in media, social networks, travel, politics, and of course, consumer retail purchases, or "shopping." In some cases, the digitization of content has changed modes of access and consumption. Where supply and demand are time-sensitive, digital information supports better matching of two sides of the market. Personal connections and collective action opportunities can benefit from scale and spontaneity.

Online retailing is one of the central facets of the Internet, thanks to the disruption created by giants such as Amazon, which has contributed to the demise of some large retail chains and the shrinking of others. Online retailers can manage inventory more efficiently, taking advantage of economies of both scale and scope together. Consumers can search more easily for product and price options, to make better comparisons and better choices. Especially for younger consumers, mobile devices add immediacy to this process. In some cases, consumers can bypass traditional retail intermediaries, buying direct from producers.

Even with all this disruption, online retailing still accounts for just a tenth of the US market. Future growth may depend on how retailers evolve in the deployment of digital technology. In particular, while advertising designed to funnel potential buyers to competing web sites has become ever more sophisticated and ubiquitous, and back-end systems for managing inventory, payment and fulfillment have kept pace, not enough attention has been paid to the critical details of how online retailers interact with visitors to their sites, including the need to personalize,[1] and to overcome short attention spans.[2]

In fact, this issue extends well beyond retailing as typically defined. It applies to all e-commerce situations where two sides of the market interact. Consider two examples. In many definitions of retailing, such as that of the US Department of Commerce, travel is not included, but treated as a separate category. In this case, physical services are being provided, possibly including different modes of transportation as well as lodging. Myriad bundling options and combinations are possible, and the services themselves have almost infinite scope for variation. The purchaser is still a customer, but the website is not a virtual store, in the sense of being a digital analogue of a brick-and-mortar premises, but instead is a service location, replacing the travel agent as intermediary. The airport, airplane, car rental location and hotel still exist – only the process of planning and purchasing changes. This process is crucial but also complex, because the choices are complex. Ultimately, customer satisfaction will depend on the quality of service delivery (was the vacation fun?), but a well-crafted digital interaction process between customer and provider(s) can be vital in creating a service bundle that is more likely to lead to a satisfying final outcome.

Financial services provide a second example of the importance of what we can call the "digital last mile."[3] In this case, visits to an ATM or a safe deposit box still require physical presence,

---

[1] See, for example, DesJardins (2013) and Honigman (2016), on how Amazon operates in this dimension.
[2] See Microsoft Canada (2015) for a widely cited recent study.
[3] We use the term "digital last mile" to distinguish it from the "last mile" of fulfillment, which involves logistics for physical products, and a great variety of actions for service delivery.

but almost all financial services and transactions can be completely digitized, leading to a different kind of transformation than what retailing is experiencing. Bank branches are disappearing, and those that remain are being reconfigured. The physical location is needed for interactions where high-touch is needed, or where regulations kick in. A bank customer (or client, with a slightly different connotation) may be required to physically sign documents to open a particular kind of account, but there is also a matter of comfort and assurance in discussing options and procedures face-to-face. Where does an effective digital presence fit in? Many financial transactions are routine or automated. But when a customer or client, existing or potential, wants to initiate a process of doing something less routine, such as a reallocation of investments, the website must be up to the task of managing this, from initial information gathering to setting up an appointment at a physical location, if needed. Here one has the complexity of travel services, combined with a need for comfort and reassurance, such as in retirement planning.

In this paper, we review standard "textbook" models of the process of online consumer behavior, including digital marketing. We proceed to contrast these standard frameworks with an alternative perspective that puts a greater emphasis on the "digital last mile," including the critical "customer conversion" aspect of the interaction. We conclude with some reflections on the changing environment for digital marketing, especially concerns about privacy and regulatory responses.

The Standard Model

A broad depiction of the consumer decision process is shown in Figure 1, which is adapted from a leading US textbook on e-commerce, though it has its origins in more general analyses of marketing and consumer decision making. The figure is relatively self-explanatory. In practice, there are significant possibilities that are left out. For example, there may be a looping back and forth between search and evaluation. Or the search for alternatives may lead to a modification of the initial need recognition, or the triggering of additional needs. The evaluation of alternatives may end with the process being abandoned, without reaching the purchase stage. The fifth and final stage also consists of a complex set of actions that constitute post-purchase behavior, as well as the possible build-up of customer loyalty, affecting future iterations of the process.

Figure 1: The Consumer Decision Process

Awareness – Need Recognition ⟩ Search ⟩ Evaluation of Alternatives ⟩ Purchase ⟩ Post-Purchase Behavior – Loyalty

Source: Adapted from Laudon and Traver (2016)

Furthermore, at the level of granularity that matters for practical decision-making by online retailers or service providers, additional possibilities must be considered. A consumer may be

"just looking," with no immediate intention to buy – the search is not fully intentional, but may trigger some need recognition. Another person may be browsing to build a wish list for future reference, or until they have the spending money. Someone may be looking on behalf of a friend or family member. Evaluation may end not in immediate purchase or complete abandonment, but in an intermediate situation of waiting for a better price, and so on. A consumer may leave a site without buying, but change their mind and return. The flow chart for these possibilities is no longer simple or linear.

In this process, the seller or provider has the potential to influence consumer choices in a dynamic fashion. An almost-abandoned online shopping cart may be "rescued" with an offer that responds to a signal of exit intent. A well-crafted retargeting effort may bring the consumer back to the site to go through with the purchase at a later time. Even before these "extreme" situations, a seller can potentially adjust product and price offerings that are displayed to the visitor to its web site, without waiting for the checkout stage.[4]
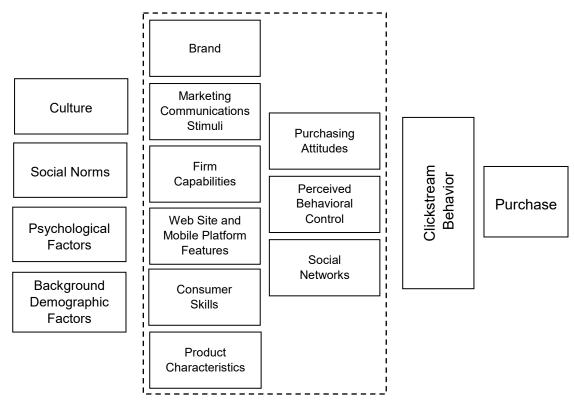
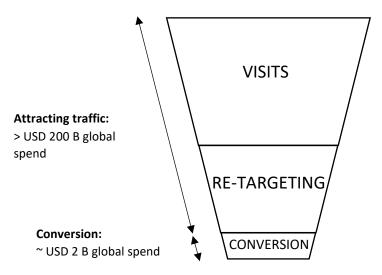**Figure 2: A Model of Online Consumer Behavior**

Source: Adapted from Laudon and Traver (2016)

The stages of the consumer decision process occur in a context that includes underlying demographic, social and psychological factors, as well as intervening variables such as

---

[4] For further details of possibilities, see, for example Behera et al. (2019, in press).

marketing communications, branding and other firm capabilities, and, most recently, social networks. An expanded version of this traditional marketing model is displayed in Figure 2, again adapted from a leading e-commerce text. This is obviously a more comprehensive and complex view of consumer decision-making than Figure 1. Along with this kind of conceptualization, analysts have been updating post-World War II models of consumer behavior, which first drew on modern psychology, and later, neuroscience and behavioral economics, to provide guides for the conduct of e-commerce.[5] The newer models seek to capture the new reality of rich data and new forms of interaction, often drilling down to minute details of behavior.

The comprehensiveness of the representation in Figure 2 is useful, but it also carries the danger of losing focus. With so many variables and sources of data, the vital stage of interaction with the customer (existing or potential) is comparatively neglected. This is reflected in the relative visual emphases in Figure 2, and its implications can be illustrated in practical terms. Figure 3 concretizes the imbalance: it is a representation of a "conversion funnel," showing how online traffic is channeled to websites, with the hope of "converting" browsers to buyers. Hundreds of billions of dollars are spent globally in attracting visitors, and trying to get them to return. But only a tiny fraction of that, as little as one percent, is spent on the digital last mile, on converting those visitors to customers or clients, or optimizing the value created for those already "converted," namely, existing customers or clients. To create a framework for addressing this imbalance, in the next section, we lay out an alternative perspective, which takes the components of the standard model of the consumer decision process (Figures 1 and 2) but refocuses attention on the "digital last mile."
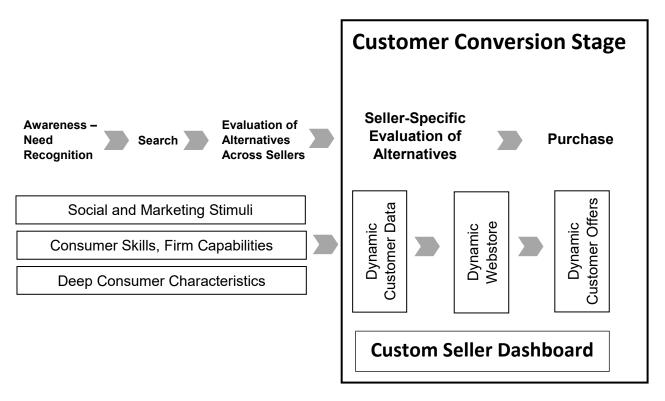
Figure 3: The Conversion Funnel

Source: Adapted from Fanplayr (2019) internal documents

---

[5] For a simple illustration of these applications, see Ezra (2016). Important examples of the research behind this approach are Ariely (2010, 2016).

The Digital Last Mile

The conversion stage of the consumer decision process (the bottom of the conversion funnel), where purchase decisions are made, is what we term the "digital last mile." To provide an effective visualization, we have combined features of the standard model, illustrated in Figures 1 and 2, and included key components of how sellers or service providers can manage this stage. Figure 4 is our alternative model in visual form.

Figure 4: Customer-Focused E-Commerce

Source: Adapted from Singh (2017)

The visual contrast with Figure 2 is clear. Whereas the textbook representation just referred to "clickstream behavior," Figure 4 emphasizes dynamic seller or service provider responses. Importantly, while Figure 1 refers to "evaluation of alternatives," Figure 4 splits this into evaluation across sellers and evaluation of seller-specific alternatives, with the latter being the proper focus of the provider at the moment that the visitor is on their web site. Note that, in the interest of compactness, the post-purchase stage from Figure 1 has been omitted in Figure 4, but it is easy to include it, and the digital last mile then can be described as the stage of "customer conversion *and care*."

One illustration of the refocusing encapsulated in Figure 4 comes from the experience of Runa, which provided a software platform for dynamic responses[6] to site visitors, specifically aimed at increasing conversion rates. In particular, Runa focused on calculating optimal discounts that would convert more visitors to buyers, rather than the more common approach of paying for increased traffic (recall Figure 3). The company first found success with a focus on serving the 100 largest online retailers, and met success with a free shipping offer program for eBay, using an algorithm for optimal targeting of offers.[7] Soon after Runa began adding other customers, in 2013 it was acquired by Staples, the second-largest online retailer and largest seller of office supplies,[8] a clear validation of their approach.

While Runa was eliminated as an independent provider of customer engagement tools for online retailers, other specialist technology providers have stepped in. For example Fanplayr offers a broader array of tools for the customer conversion stage, serving not just retailers, but service firms in sectors such as travel, finance and utilities. This entry of platform specialists for the "digital last mile" is a natural development, since all but the largest online sellers are likely to find it challenging to handle the intense demands of flexibility and personalization imposed by e-commerce.
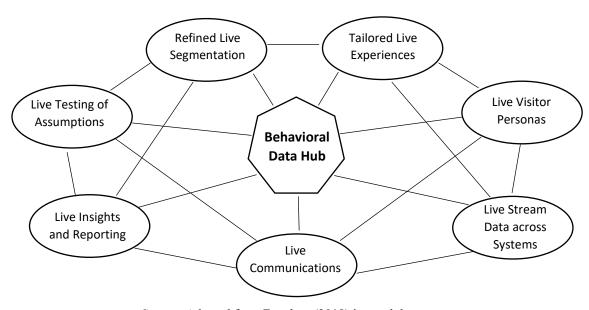
Figure 5: Behavioral Data Hub (Fanplayr)

Source: Adapted from Fanplayr (2019) internal documents

---

[6] In other words, machine learning algorithms, which are ubiquitous, but in this case are applied with a very targeted purpose, and site-specificity for sellers and service providers.

[7] This can be seen as a refinement of the kind of approach that Amazon has taken, but taking it in a different direction: Amazon is large enough to offer more blanket programs, like Amazon Prime, to capitalize on the impact that free shipping has on conversion rates. Amazon has also been well-known for sacrificing profits to build market share, something other retailers cannot get away with.

[8] See Guleri (2013). This article describes Big Data and Big Retail as a "marriage made in heaven," and emphasizes that the future of Big Data is in vertical applications within retailing: that insight can be extended to services such as finance and travel.

An additional representation of possible seller and service provider responses within the digital last mile is also based on Fanplayr's experience. This is what the company calls a Behavioral Data Hub, and it is illustrated in Figure 5. It is important to clarify that this "hub" is focused on the customer conversion and care stage, and is quite distinct from a similar-sounding formulation, that of the Customer Engagement Hub (CEH), due to Gartner Research.[9] According to Gartner, a CEH is not a packaged item of software, but a "system of systems" that need to be integrated. The CEH can be seen as seeking to create a way of comprehensively managing the complexity inherent in the model of online consumer behavior illustrated in Figure 2.[10] The CEH is a significant idea, but there are two challenges with making the concept implementable. One is the heterogeneous and encompassing nature of the postulated CEH, and a second is that this comprehensiveness could put it out of reach of any but the largest companies.[11] Therefore, we would argue that the CEH attempts to tame all the complexity inherent in Figure 2, but without the focus that will lead to manageable and measurable improvements in customer conversion and care.[12] Therefore, the approach taken by firms such as Runa (before it was acquired) and Fanplayr, is very different, and the latter's Behavioral Data Hub is conceptually distinct from the CEH.

Conclusion

Digital innovation surrounding the internet has increased complexity and created a sometimes-confusing set of responses in the world of commerce. How marketing and customer engagement in general have been handled is one example. Disproportionate attention and too many dollars have focused on the earlier parts of the value delivery chain, rather than on the "digital last mile" of converting e-commerce web site visitors to buyers.

---

[9] See Maoz (2012). Similar ideas, without explicit use of the CEH concept, can be found in another Gartner document, "Magic Quadrant for Ecommerce," (Sengar, et al, 2013).

[10] According to a Gartner research director, Olive Huang, "to offer an end-to-end customer experience across channels and departments, IT leaders must build a CEH. Only a CEH can connect employees across departments, employees with customers, and customers with their peers, while also managing and optimizing personalized customer interaction." See Goasduff (2016).

[11] Gartner does implicitly recognize this. For example, Maoz (2012) states, "The CEH includes general purpose tools/applications such as:

          CRM customer service and support functionality
          Content management (including video)
          Expertise and presence management
          Knowledge management
          Portals (or work spaces)
          Mobile platforms for customer support
          Web conferencing/collaboration/cobrowsing technologies
          Business process modeling and rule servers
          Analytics and workflows
          Linguistics/natural language processing engines
          Social CRM tools, such as peer-to-peer community support applications"
Comparing this list with the Behavioral Data Hub in Figure 5 makes clear that they are very different concepts.

[12] Further discussion of measurement, along dimensions such as Average Order Value (AOV) and conversion rate, see Singh (2017).

Tackling this new last mile problem requires focus and precision. In practice, precision can be thought of as analysis of real-time, actionable behavioral data that is specific to a seller or service provider's web site and site visitors. We have illustrated this focus both visually, in reconceptualization of standard representations of consumer decision processes, and by discussing examples of firms such as Runa and Fanplayr.

One can argue that the precision of newer, more focused digital solutions to the needs of buyers and sellers, clients and service providers, delivers on the promise of greater productivity that has often been unrealized up to now, in the rapidly evolving world of e-commerce. Productivity translates into shared tangible benefits, better returns on digital investments on one side of the market, and greater satisfaction on the other, and these have been the often-unrealized promise of digital marketing up till now.

The precision of Behavioral Data Hubs, a term introduced by Fanplayr, also addresses a looming problem for the digital world: that of individual privacy. European regulators have already begun to act on increasing concerns for the protection of demographic and personal characteristic data that fundamentally erodes privacy.[13] An approach that is based on more precise behavioral data, not necessarily tied to fundamental personal identities, delivers productive digital interactions and transactions with greater privacy protection. Such an approach is a better way forward for everyone.

References

Ariely, Dan (2010), *Predictably Irrational, Revised and Expanded Edition: The Hidden Forces That Shape Our Decisions*, revised and expanded edition, New York: Harper Collins.

Ariely, Dan (2016), *Payoff: The Hidden Logic That Shapes Our Motivations*, New York: TED Books.

Behera, Rajat Kumar, Angappa Gunasekaran, Shivam Gupta, Shampy Kamboj, and Pradip Kumar Bala (2019), Personalized Digital Marketing Recommender Engine, *Journal of Retailing and Consumer Services*, (in press), https://doi.org/10.1016/j.jretconser.2019.03.026.

De Groot, Juliana (2019), What is the General Data Protection Regulation? Understanding & Complying with GDPR Requirements in 2019, *DataInsider: Digital Guardian's Blog*, July 15, https://digitalguardian.com/blog/what-gdpr-general-data-protection-regulation-understanding-and-complying-gdpr-data-protection, accessed October 7, 2019.

DesJardins, Lisa (2013), "How Amazon Uses Market Personalization," *Nectarom*, October 7, available at https://www.nectarom.com/amazon-targets-customers/.

---

[13] For example, see De Groot (2019) for a discussion. The European Union's own site (eugdpr.org) is very blunt about the changes, which will have global impacts, not just in Europe: "The EU General Data Protection Regulation (GDPR) is the most important change in data privacy regulation in 20 years. The regulation will fundamentally reshape the way in which data is handled across every sector, from healthcare to banking and beyond."

Ezra, Aron (2016), 5 Ways Retailers Are Using Behavioral Economics to Supercharge Offers, *retail TouchPoints*, August 8, https://www.retailtouchpoints.com/features/executive-viewpoints/5-ways-retailers-are-using-behavioral-economics-to-supercharge-offers, accessed October 7, 2019.

Goasduff, Lawrence (2016), "Ten Steps to Plan a Next-Generation Customer Engagement Hub," *Gartner Inc.*, May 10, available at http://www.gartner.com/smarterwithgartner/ten-steps-to-plan-a-next-generation-customer-engagement-hub/.

Guleri, Tim (2013), "Staples Hits the Easy Button in Big Data and Acquires RUNA," October 3, *Sierra Ventures*, available at http://www.sierraventures.com/2013/10/staples-hits-easy-button-big-data-acquires-runa-2/.

Honigman, Brian (2016), "How to Personalize Your Content Like Amazon Does with its Recommendations," *Social Media Today*, October 19, available at http://www.socialmediatoday.com/marketing/how-personalize-your-content-amazon-does-its-recommendations.

Laudon, Kenneth C., and Carol Guercio Traver (2016), *E-Commerce: Business, Technology, Society*, 12th edition, New York: Pearson.

Maoz, Michael (2012), "CRM Technologies for the Emerging Customer Engagement Hub," March 13, available at https://www.gartner.com/doc/1949416/crm-technologies-emerging-customer-engagement.

Microsoft Canada (2015), *Attention Spans*, Consumer Insights, Spring, available at https://advertising.microsoft.com/en/wwdocs/user/display/cl/researchreport/31966/en/microsoft-attention-spans-research-report.pdf.

Sengar, Praveen, Gene Alvarez and Chris Fletcher (2013), "Magic Quadrant for E-Commerce," *Gartner, Inc.*, May 8, available at https://www.gartner.com/doc/2478815/magic-quadrant-ecommerce.

Singh, Nirvikar (2017), *The Transformation of Retailing: Empowering the Online Retailer*, Fanplayr Whitepaper, June, https://www.slideshare.net/PaulFox59/fanplayr-whitepaper.

Singh, Nirvikar (2019), *The Digital Last Mile in E-Commerce: The Fanplayr Behavioral Data Hub*, Fanplayr Whitepaper, December, https://fanplayr.com/files/Fanplayr_Whitepaper.pdf.