



Investigating  
the digital  
path to  
purchase for  
food &  
beverages:

A research agenda for the modern marketing age

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Lillian Seklir  
Laura Nixon, MPH  
Lori Dorfman, DrPH



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# Investigating the digital path to purchase for food & beverages: A research agenda for the modern marketing age

The food and beverage industry is at the forefront of conducting research and innovation in digital marketing to maximize product sales and revenue. The industry works with advertising agencies, marketing firms and digital media specialists to design campaigns that take advantage of the ways that consumers are engaged with social media and mobile devices. Many of these marketing techniques use “Big Data” — extremely large datasets of consumer and other information — to interact with potential consumers in new ways, with unprecedented precision and immediacy to promote brand awareness and loyalty. Food and beverage companies engineer a consumer’s path to purchase by using mobile technology, location tracking and other innovation to influence attitudes and behaviors of customers as they make decisions about what, where and when to buy products.<sup>1, 2</sup>

When the National Academy of Medicine published its landmark report on food marketing to children and youth in 2006, the expert committee that issued recommendations had documented that a majority of food, beverage and restaurant companies that targeted young people promoted branded products that were high in sugars, fats and salt, and low in nutrients.<sup>3</sup> The committee concluded that food and beverage marketing influences children’s preferences and dietary choices, and that current marketing practices create an environment that puts young people’s health at risk for obesity and other diet-related diseases. The report acknowledged the increasingly important role that the internet and other new marketing practices play in promoting branded food and beverage products to consumers, and the need for future



research on the diet and health effects of digital marketing on youth. A decade later, we find ourselves fully immersed in a society permeated with an “Internet of Things” in which every common device (e.g., smartphone, camera) has network connectivity that allows the sending and receiving of data from the internet.<sup>4</sup>

We now have a clearer understanding of the newer marketing methods used by food, beverage, restaurant and entertainment companies to target young and older consumers in retail and other marketplace settings. However, scholars still lack the knowledge about how these novel methods influence people’s diet-related behaviors and community health. There is a large infrastructure of proprietary marketing research collected for consumers in the United States and globally about interactive media in retail settings and other environments. These efforts are primarily intended to support commercial marketing and advertising. Therefore, the implications of digital and interactive marketing on public health is limited in the published literature.<sup>5</sup> Similarly, ethnographic scholars have conducted research on the use of social networking platforms, but for the most part have done so without consideration of the effects of digital food and beverage marketing.<sup>6</sup> In this memo, we briefly review existing research on the digital marketing strategies used in retail settings and their potential to impact nutrition and health outcomes for individuals and populations. We also share recommendations for future research developed at a convening held with leading experts in the disciplines of communications, media, food and nutrition policy, law, privacy, marketing and public health.

## **Academic research on digital marketing strategies in retail**

Marketing researchers have explored the impact and effectiveness of emerging retail marketing strategies that use consumer data, often called “shopper marketing,” in supermarkets and in other retail locations.<sup>7-15</sup> Some of this literature focuses specifically on the use of geo-location mobile tracking technologies to create “hyperlocal” or “location-based” advertising.<sup>16-24</sup> Researchers have also examined the potential impact of “smart labels”<sup>25-29</sup> or radio frequency identification (RFID) tags that track the products that consumers place in their shopping carts, as well as the privacy issues associated with using this technology.<sup>30-37</sup>

There is a robust marketing literature about mobile and online marketing (e.g., online coupons, mobile advertising and mobile e-shopping, etc.) and how these strategies affect online and in-store purchases.<sup>38-43</sup> Some of this research focuses specifically on food retailing.<sup>44, 45</sup> Marketing researchers have also analyzed consumer attitudes toward data-driven marketing practices,<sup>46-50</sup> particularly U.S. citizens’ concerns about privacy.<sup>51-53</sup> However, this body of research is focused on activating consumers and increasing profits and revenues. As a result, existing analyses of the best use of these new techniques does not consider the effects or consequences that they may have on the diet and health outcomes of children and teens or communities. Additionally, the majority of the marketing literature focuses on large retailers, such as supermarkets



and big box stores, leaving us with little information as to how these techniques are affecting those with limited grocery store access — particularly low-income individuals who shop primarily at small stores and corner stores.

### **Spotlight on supermarkets' digital and Big Data strategies**

Digital marketing is characterized by personalized interactions, new technologies, audience quantification, changing brand strategies and surveillance.<sup>54</sup> In retail environments, this digital marketing mix is exemplified in the supermarket. Moving past store layout as the *pièce de résistance* of marketing tactics,<sup>55, 56</sup> grocery stores are developing and circulating their own digital content and making surveillance via mobile phones and internet-connected objects an essential part of their integrated marketing communications (IMC) strategies.<sup>57</sup>

One mechanism that allows supermarkets to harness the power of Big Data and influence consumers' decisions and purchasing behaviors is the use of the supermarket rewards card.<sup>58</sup> These cards enable retailers to collect data on when and what consumers buy and are frequently linked to email accounts and mobile numbers, facilitating cross-device digital marketing. Researchers have examined the effects of these cards on purchasing habits and sales revenue and have raised concerns about privacy issues and the potential for pricing discrimination, especially for low-income consumers.<sup>4, 59</sup> However, beyond raising concerns about the potential for the government or insurance companies to monitor food purchases, there is limited research that has examined how supermarket card programs have impacted the nutritional value of food and beverage purchases or the health of consumers.<sup>60</sup> Professor Joseph Turow notes that communication researchers have paid little attention to these activities, as grocery retailers undertake them in the service of their primary goal of selling branded food and beverage products.<sup>59</sup>

### **The effect of digital marketing on nutrition and health**

In recent years, researchers have conducted analyses and experiments examining children's exposure to digital food marketing websites and advergames, the techniques used and their effects on food consumption.<sup>61-72</sup> Several studies have confirmed, for example, that playing food advergames increases children's food intake, particularly their intake of energy-dense foods.<sup>68, 69, 73, 74</sup> However, none of these analyses have examined the retail sphere or attempted to measure the effects of integrated digital marketing strategies now being employed in supermarkets and other retail settings.

In 2015, the American Journal of Public Health published a systematic review of studies that assessed the impact of food marketing (both traditional and digital) on children.<sup>75</sup> The conceptual model used by the investigators described the effects of junk food marketing on children's diet and health outcomes, and the analysis highlighted



the strengths and weaknesses of various methodologies for policy-relevant research on this issue. The investigators emphasized the need for future research about the impact of marketing on actual behavior and weight outcomes, the dose-response relationship between marketing exposure and impacts, the sustained effect of marketing exposure on food choices, and the impact of new media marketing on diet and health outcomes.<sup>75</sup>

### **The health effects of digital retail marketing on communities of color**

The possible negative health effects of the digital retail “path to purchase”<sup>2</sup> have the potential to exacerbate existing unfair practices and health disparities faced by communities of color and low-income communities.<sup>76-78</sup> Drawing the line between traditional and digital marketing practices, Kelly and Vandevijvere et al. (2015) discuss the negative effects of new media on the diet of children and teens and, consequently, on the increased risk of obesity.<sup>79</sup> These investigators postulated that “the impact of integrated campaigns, which reinforce commercial messages across multiple platforms, and of new media, which engage personally with potential consumers, is likely to be greater than that of traditional marketing.” Of particular concern are the adverse effects that new media will have on communities of color, who already suffer from higher rates of type 2 diabetes and other nutrition-related chronic diseases, and who often rely on mobile devices for internet access, making them continuously connected and accessible to marketers.<sup>80-82</sup> The practice of targeting potentially harmful products to vulnerable and disadvantaged consumers has incited criticism and litigation, but this outrage has not translated to research into the epidemiological impact of discriminatory retail advertising on communities of color.<sup>83, 84</sup>

### **Where do we go from here?**

In order to deepen our collective understanding of the evolving landscape of digital retail food marketing, we invited leading scholars and researchers with expertise in health and economic disparities, communication, consumer behavior, multicultural marketing, food and nutrition policy, and legal strategies to a convening at Northwestern University in Chicago, Illinois, on June 21 and 22, 2016. Participants at this meeting reviewed the latest research on digital food marketing and helped to formulate key research questions for future investigation to fully understand the public health implications of the “path to purchase” food and beverage marketing.

The research questions raised from the convening are summarized below. The priorities that emerged from the meeting were the need to quantify the scope of data-driven digital marketing and to establish the effects on purchasing behavior produced from these practices. Other key areas for future research included: clarifying the ethical and legal dimensions of path to purchase, the need to develop innovative methodologies to accommodate the new practices, and an interest in the strategic framing of messaging to facilitate the public’s understanding of this complex policy issue. All participants



identified the exploration of health and racial equity in all avenues of investigation and intervention as a guiding tenant. A companion paper, written by Jeff Chester, executive director of the Center for Digital Democracy, explores the recommendations for policy and advocacy that emerged from the meeting.<sup>57</sup>

**Research recommendation No. 1:**  
***Adapt research methods***

Digital target marketing exists within a newly formed and constantly evolving high-tech space. As such, the traditional methods that public health researchers have employed to assess effects may not be adequate or applicable in this realm. One area of investigation could be to survey the methodological approaches used by researchers in the marketing literature to assess their applicability to these new techniques. Another consideration is that different methodologies may be needed for large grocery stores versus small stores and corner stores that low-income, underserved folks are most likely to shop at.

**Research recommendation No. 2:**  
***Quantify the problem***

Before we can ask *how*, research needs to answer *who*. Who are the global players, the marketers, the food and beverage companies, retailers, public relations firms and industry trade associations that are engaging in and driving digital marketing in retail food environments, and how much money are they spending on these strategies? It is also important that, after we map these actors, we undertake continuous tracking to stay abreast of trends, social networks and stakeholders' relationships.

Once we answer *who*, we need to understand *how*. Technologically, the circumstances under which data are collected from individuals' mobile phones, computers and other devices is not largely known or understood in public health circles. Public health practitioners and researchers need to develop a concrete understanding of the mechanisms and contexts underlying the collection of these data. Partnerships with computer science and information experts could be of particular utility here.

In addition, insufficient attention has been given to exploring fully the range of marketing techniques to which consumers are exposed. The group suggested that a pilot study be undertaken to track participants' exposure to digital food retail marketing through mobile devices, computers and smart televisions. How do digital path-to-purchase tactics differ among delivery devices? Of the marketing practices to which consumers are exposed, what percentage is for unhealthy versus healthy food and beverage products and specific brands? How do these numbers differ based on the demographic characteristics of the person viewing them? Does prevalence differ for underserved, at-risk populations?

**Research recommendation No. 3:  
*Examine effects on behavior***

Discerning the impact that data-driven digital marketing has on behavior is paramount to understanding its public health implications. Does this marketing change purchasing behaviors? Does it change dietary intake? Are there certain groups that are particularly vulnerable to digital effects? What differences exist in this metric between different populations?

One area of particular interest is how data-driven digital marketing could or may be undermining the healthy choices that people are trying to make. For example, someone who is trying to cut down on their sugary drink consumption is sent coupons for sugary drinks at a store around the block from them, based on their location and previous purchasing habits. How do these coupons change this person's behavior? As mentioned above, market researchers have explored the impact and effectiveness of some digital retail marketing strategies, and an in-depth review of this literature could yield important insights. If there is an effect, researchers must also determine if there are possibilities to harness targeted marketing in ways that are beneficial to human health. For example, do coupons for healthful items have countervailing effects on behavior?

**Research recommendation No. 4:  
*Examine legal and ethical quandaries***

What ethical or legal questions does digital data collection raise, and what possible interventions arise from those questions? The thoroughly modern nature of data-driven digital marketing has created an untested legal landscape, characterized by uncertainty and flux. An analysis could elucidate what rights are being implicated by these practices and what area of law these practices fall under (i.e. contract or tort law). Does the current state of the law include rights for individuals to know what information is being collected and sold about them and how can we enhance our ability to access information that has been collected specifically about ourselves?

What ethical norms does data-driven digital marketing violate, and are these practices being held to any binding ethical standards? For example, the government frequently comes under fire for using or considering techniques like nudges, but the private sector has been using the same technique for decades — now in the digital realm.<sup>85</sup> Why are these practices not coming under the same amount of ethical scrutiny?





**Research recommendation No. 5:  
*Identify framing and messaging opportunities***

Marketing researchers have already analyzed how consumers conceive of data-driven digital marketing practices, especially as these conceptions concern privacy, but there has been little research on how, or if, the public takes into consideration the health implications of these practices. Further research into this area from a public health perspective is needed to gain insight into people's perceptions, concerns and personal strategies for dealing with digital marketing, especially as they pertain to how children are exposed. In addition, it will be important to explore people's knowledge and attitudes about digital marketing that is targeted based on demographic characteristics, such as race, ethnicity, gender and income, and how they perceive the risks and benefits of these practices.

Mapping the current framing of digital retail food marketing will be an important step in developing messages that help the public and policymakers understand its health consequences. Ultimately, in order to develop messaging, we have to answer the question: How can we frame the new marketing within the larger scope of the kind of culture we want to have?

**Conclusion**

The effects of the marriage between Big Data and digital marketing on health are largely unresearched and unknown, particularly in retail spaces, such as supermarkets, small corner stores and quick-service chain restaurants. Stakeholders in public health and elsewhere have suggested that Big Data techniques could be harnessed to improve nutrition,<sup>86, 87</sup> but these same techniques also have the potential to increase health disparities, worsen health outcomes and violate consumers' privacy. We need a canon of research that identifies how the use of Big Data practices in retail settings creates challenges to and opportunities for ongoing efforts to ensure all children and teens will grow up at a healthy weight.

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