CORE CURRICULUM

Marketing

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Harvard Business Publishing Education

READING + INTERACTIVE ILLUSTRATIONS

# Digital Marketing

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8224 | Revised: December 19, 2019

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# 1 INTRODUCTION

In May 2019, Schick, the company known for its razors, announced its intention to buy Harry's, a six-year-old direct-to-consumer shaving and men's personal care company, for $1.37 billion. This announcement came three years after Unilever bought another direct-to-consumer shaving startup, Dollar Shave Club, for $1 billion. Harry's and Dollar Shave Club are among a long list of direct-to-consumer startups that have attracted the attention of venture capitalists alongside incumbents like Unilever. Other examples include Bonobos, Casper, Allbirds, Glossier, and Honest (see **Exhibit 1**).

**EXHIBIT 1** Direct-to-Consumer Startups

| Company | Product | Founded In | Valuation* |
|---|---|---|---|
| Dollar Shave Club | Shaving | 2011 | $1 billion |
| Harry's | Shaving | 2013 | $1.3 billion |
| Bonobos | Apparel | 2007 | $310 million |
| Casper | Mattress | 2011 | $1.1 billion |
| Allbirds | Shoes | 2014 | $1.4 billion |
| Glossier | Beauty | 2010 | $1.2 billion |
| Honest | Baby, Beauty, Home | 2011 | ~$1 billion |

* Valuations for the first three companies reflect the price at which they were sold. For others, the numbers denote their 2019 valuation.

Sources: Various.[1]

For decades, large, established companies such as Proctor & Gamble and Unilever had dominated the consumer market, and it was impossible for any new entrant to make any headway. What explains the sudden rise of these direct-to-consumer companies?

In the past, new entrants in any consumer product category faced two major obstacles: distribution and advertising. Large, established players, such as Unilever and Coca-Cola, controlled the shelf space at retailers. This made it difficult for startups to get distribution for their products. In addition, the dominant form of advertising to create brand awareness was television, which was prohibitively expensive for most startups. However, both these factors are less restrictive in the digital era. With the rise of e-commerce, retail shelf space in no longer the only channel for distribution. The emergence of digital marketing has made it easy for small players to reach their targeted customers in a very cost-effective fashion.

This shift in technology has not only allowed new startups to flourish, but also changed consumer behavior and the marketing practice of established firms. Digital technology has changed how consumers search for information, interact with each other, and buy products and services. This new consumer behavior, in turn, has dramatically altered the way firms engage with consumers and build brands. Digital ***cookies*** track customers as they surf the web. ***Content-curation websites*** (e.g., BuzzFeed and Reddit)[a] and ***content-sharing websites*** (e.g., SlideShare, LinkedIn, Medium, and YouTube)[b] not only enable individuals to achieve a new level of self-expression, but also offer businesses new marketing tools. Social media technologies such as Facebook, Instagram, and WhatsApp[c] empower consumers to create or share content that reaches a wide audience within seconds. And the unprecedented penetration of mobile phones has opened up vast possibilities, especially in developing countries where large populations of consumers did not previously have access to broadband internet.

All this means that digital technology has made it possible for companies to better understand their customers' decision journeys and subsequent word-of-mouth discussions about products. Managers are no longer dependent solely on surveys, transaction records, and focus groups for market insights. Not only can they hear directly what people are saying about their products, they may also know who is talking about the products and, sometimes, to whom. Having this information enables better targeting and linking of marketing touch points to sales and ***customer lifetime value (CLV)***. In 2019, spending on digital advertising reached $129 billion (54% of total ad spend) in the United States and $333 billion (50% of total) worldwide. Digital advertising is expected to account for more than 60% of all ad spend by 2023 (see **Exhibit 2**). Therefore, firms need to understand how to use digital marketing—the use of digital

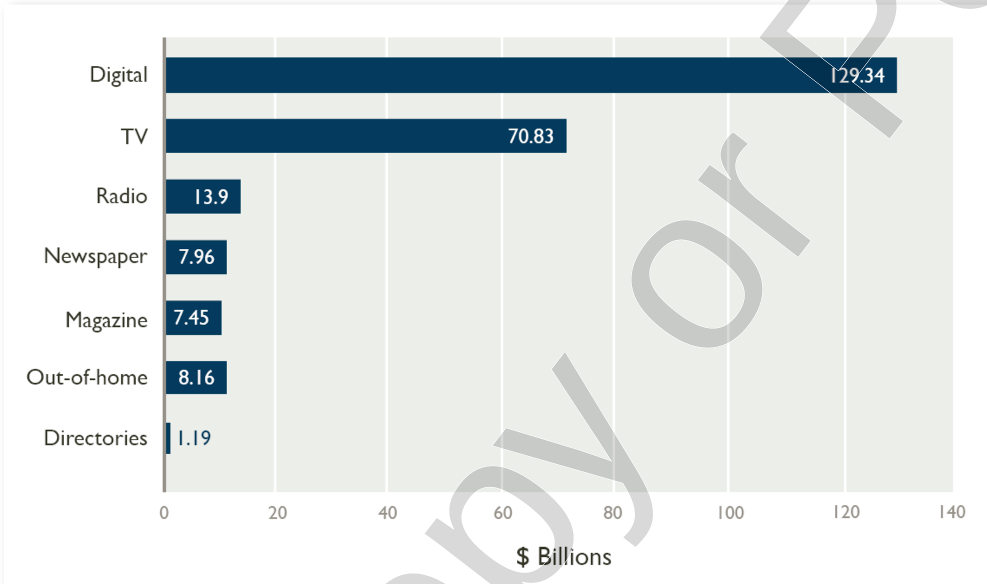
[a] BuzzFeed is a media, news, and entertainment site with both curated and original content. Reddit allows members to rate content and supports news aggregation and online discussion.

[b] SlideShare allows individuals and businesses to share presentations and infographics. LinkedIn supports professional networking as well as articles posted by members and influencers. Medium is an online platform that publishes both open and curated written content, and YouTube supports video content.

[c] Facebook is a social networking website that allows registered users to create profiles, upload photos and video, send messages, and keep in touch with friends, family, and colleagues. Instagram is a photo- and video-sharing social network platform. WhatsApp Messenger is a cross-platform instant messaging application that allows smartphone users to exchange text, images, video, and audio messages.

channels to communicate with, engage, and influence consumers effectively—alongside traditional marketing.

**EXHIBIT 2** US Media Ad Spending, 2019



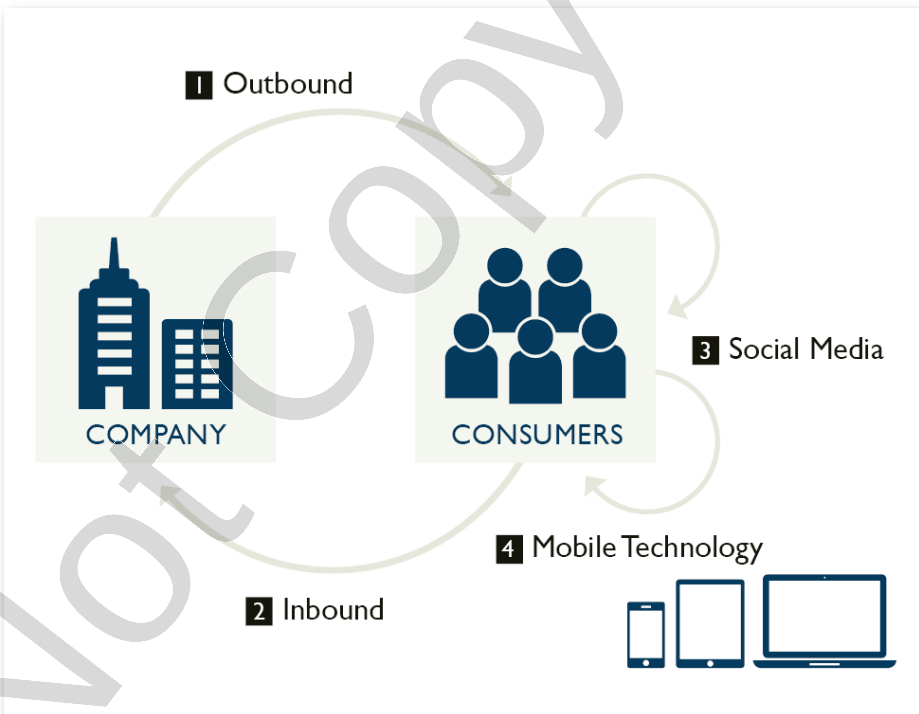

Source: eMarketer, October 2019, https://forecasts-na1.emarketer.com/584b26021403070290f93a2f/5851918b0626310a2c186b4c. Used by permission.

Clearly, digital marketing requires a new approach for reaching and engaging consumers. This reading offers a framework for increasing companies' efficiency in allocating media budgets in the digital environment and provides an overview of the set of marketing technologies available in the digital landscape. Note that the focus of this reading is not on digital strategy or new business models that have used digital technology to disrupt existing industries.

In the digital context, a company must manage many different moving parts. It needs to consider ***paid media*** (e.g., a 30-second TV commercial or a Google Ad), ***owned media*** (e.g., exposure through the company's own website), and ***earned media*** (e.g., consumer sharing of information on Twitter and Facebook). Other sources of information for consumers, like word of mouth or ***review websites*** such as Yelp, can reduce the need for traditional advertising or amplify its effectiveness. These myriad options can leave marketing managers feeling paralyzed. Indeed, the amount of data accessed digitally is staggering—and continues to grow. By 2018, there were more than 4 million YouTube videos viewed, along with 2,000 new comments on Reddit, and almost 500,000 tweets in an average "Internet minute."[2] As more and more consumers create and access content online, managers need to understand how to leverage digital marketing to influence them.

**Exhibit 3** offers a framework for digital marketing, illustrating the four key elements that we will explore in this reading. *Outbound marketing* refers to the ways that firms reach out to target consumers. This has been the modus operandi of traditional marketing (print, radio, and television ads). Digital outbound marketing consists mainly of search, display, and video advertisements. *Inbound marketing* refers to the ways companies ensure they can be found when consumers search for a service or product. Because it requires firms to align their websites to consumer search processes as well as to search engine algorithms, an entirely new process of ***search engine optimization (SEO)*** has emerged along with it.

**EXHIBIT 3** A Framework for Digital Marketing




*Social media* comprises digital platforms where consumers actively create content (e.g., product review websites, Twitter, Facebook) to influence other consumers' purchasing decisions. Firms actively participate in these platforms to reach and serve customers in innovative ways. Finally, ***mobile technology*** has changed the way consumers search for and buy products and services by keeping the consumer connected anytime, anywhere. It thus presents unique challenges for marketing managers.

Some consumer–company interactions employ a combination of these different processes. (For an example, see the sidebar "The Role of Native Advertising.")

## The Role of Native Advertising

*Native advertising* is a form of online advertising in which brands create sponsored content that blends into the main story or editorial content of an article. On BuzzFeed in 2014, Starbucks sponsored the article "10 Summer Emojis That Should Definitely Exist" and Pepsi produced "What Should You Do Before the Summer Ends?" These were distinguishable from the standard news articles only by yellow "Promoted By" tags and company logos. This kind of native advertising creates compelling content to engage consumers who are increasingly ignoring both offline and online ads. By 2018, over half of the top US brands advertised on Buzzfeed. B2B companies are creating thought leadership articles in related domains in LinkedIn to attract professionals.

The use of native advertising is growing quickly as an alternative to traditional digital ads. Unlike banner ads that have dismal ***click-through rates (CTR)*** of about 0.02%, native ads on BuzzFeed had CTRs as high as 1% to 3%.[3] In 2013, BuzzFeed ran approximately 50 native advertising campaigns each month for large multinational corporations such as General Electric (GE), PepsiCo, and Google.

In 2015, Buzzfeed launched Tasty, a site for instructional videos on food. By 2018, Tasty had more than 500 million monthly viewers, and it attracted more than 2 billion views each month. The company integrated brands with Tasty videos, such as a recipe for Green Bean Casserole Cups that used Ritz Crackers as one of its ingredients. Encouraged by Tasty's success, Buzzfeed launched Top Knot, a beauty video page; Goodful, a wellness vertical; and Nifty, a do-it-yourself page—all providing new opportunities to partner with brands.

To be successful, sponsored stories have to emulate the voice and tone of the unsponsored "editorial" pieces (by neutral, third-party writers or reporters) on the website. For example, as **Exhibit 4** shows, the unsponsored "100 Incredible Views Out of Airplane Windows" is transformed into JetBlue's "The 50 Most Beautiful Shots Taken Out of Airplane Windows," and the story "28 Incredibly Beautiful Places You Won't Believe Actually Exist" becomes BBC America's native advertising piece "Ten Unbelievably Beautiful Places You've Probably Never Heard Of." Native ads tend to use rich media (web pages with videos or interactive advertisements), are usually mobile-friendly, and are designed to encourage enough social sharing to make the content ***go viral***.

**EXHIBIT 4** Editorial Articles Adapted for Native Advertising

| Editorial Stories | Native Advertising Stories |
|---|---|
| "100 Incredible Views Out of Airplane Windows" | "The 50 Most Beautiful Shots Taken Out of Airplane Windows" by JetBlue |
| "28 Incredibly Beautiful Places You Won't Believe Actually Exist" | "10 Unbelievably Beautiful Places You've Probably Never Heard Of" by BBC America<br>"10 Beautiful Places in the World That actually Exist" by Pepsi<br>"10 Places That Are Almost Too Beautiful to Be Real" by Campbell's Soup |

Source: Adapted from Harvard Business School, "BuzzFeed—The Promise of Native Advertising," HBS No. 714-512, by Felix Oberholzer-Gee, copyright 2014 by the President and Fellows of Harvard College; and "BuzzFeed—What Future for Native Advertising and Branded Content?" HBS No 718-511, by Felix Oberholzer-Gee, copyright 2018 by the President and Fellows of Harvard College.

Perhaps not surprisingly, native advertising has garnered attention not only from advertisers, but also from industry associations and government regulators who are concerned about the blurring of editorial and sponsored content. The US Federal Trade Commission (FTC) is scrutinizing native ads for deceptive practices. Nevertheless, savvy marketers will continue to explore this tool as part of their digital marketing strategy.

In the Essential Reading that follows, we will examine each of the four main elements of digital marketing in detail. We conclude with the Supplemental Reading, which looks at the role big data and data science play in digital marketing and how issues related to personalization and privacy affect the industry and offers a sampling of online resources for building digital marketing campaigns.

# 2 ESSENTIAL READING

## 2.1 Outbound Marketing

In outbound marketing, the first element in our digital marketing framework, a firm initiates a conversation and sends a message to target consumers. In digital channels, outbound marketing takes the form of *search*, *display*, and *video ads*.[4] In this section, we explain the basics of such ads, including metrics and profitability, key industry structures, and essential issues for marketing managers. We wrap up with the challenges of measuring the effectiveness of outbound marketing.

## 2.1.1 Search Ads

Eighty percent of all online sessions on PCs and laptops start with a search of some kind. Thus, ***search engines*** such as Google, along with Yahoo! Search, Baidu (China), and Yandex (Russia), have become the gateway of the Internet.[5] Since most consumers search for relevant terms and then select links to explore, rather than starting with specific URLs, the search ads that appear on search results pages are powerful points of interaction.

Consider a US consumer researching ideas for her next vacation. She opens Google and types the keyword "resort vacations" into the search bar. In response, Google returns *organic links* (links to websites based on relevance or user popularity, for which companies do not pay anything) as well as *paid links* (also called *sponsored links* or ***search ads***, for which companies pay). These paid links typically appear above organic links, or in a column alongside them (see **Exhibit 5**).

**EXHIBIT 5** Example of Search Ads in a Search Engine

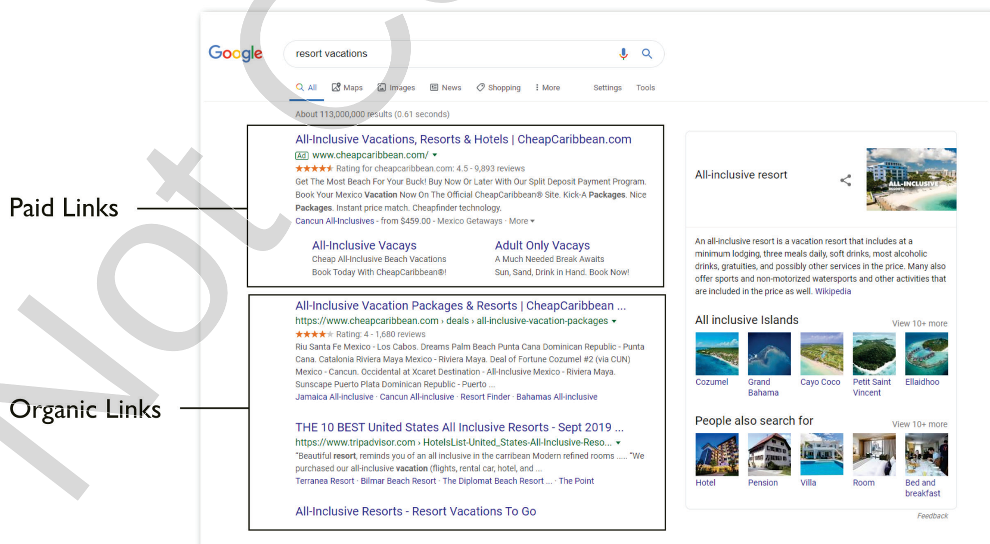



Exhibit 5 shows that CheapCarribean.com appears both as a paid ad for this keyword, appearing at the top of the options, and in the organic search results. Companies can bid (this process will be discussed later) on individual words, such as *resort* and *vacations*, as well as multiword phrases (*resort vacations*), and consumer searches using different combinations of keywords will turn up different results. (See the sidebar "Search Engine Marketing [SEM]" for a step-by-step process for creating a search advertisement.) Google remains the dominant player in search ads, but Amazon is increasingly becoming a strong competitor to Google, especially for product ads.

## Search Engine Marketing (SEM)

To create search advertisements, companies generally follow a four-step process.

1. First, the firm must answer three key questions regarding keywords:
   - For which keywords should it bid? For example, *resort vacations* and *summer vacation* could both be relevant to CheapCarribean.com. The choice is governed by the product or service category, target segment, and the degree of competition for the keywords.
   - How much should it bid per keyword? Search engines do not charge a fixed price for search ads; instead, they use a generalized second-price auction,[6] which charges advertisers for each click-through. The higher the bid, the more likely the ad is to appear in a more visible spot.
   - What is the total available budget for search ads? This decision is based on the effectiveness and profitability of search ads.
2. After choosing the keywords, the firm's creative team designs search ads that would appear on the search results pages they link to. Typically, keywords also appear in the text of the search ad to improve the visual placement and relevance of the ad to consumers.
3. Now the ad campaign is launched. Whenever a consumer searches for keywords that the company has bid on, the ad *may* be displayed to the consumer if it ranks high enough to appear on the search results page. The search engine decides which ads to show on the basis of the size of a company's bid, as well as the "quality" of its ads (a topic that we will discuss later). If the ad is displayed, it costs the advertiser nothing at this point; it is only when a consumer actually clicks on an ad that the advertiser incurs a cost, which, at most, is equal to the bid amount (the exact cost that a company pays will be discussed later). If 1,000 consumers click on the ad and the bid amount is $0.10 per click, then the company incurs a maximum cost of 1,000 x $0.10 = $100.
4. The firm also prepares a number of web pages designed specifically for consumers to land on after they click on one of its ads. These *landing pages* (typically not the homepage) show content that is most relevant for that particular product or service search.

## Buying Keywords

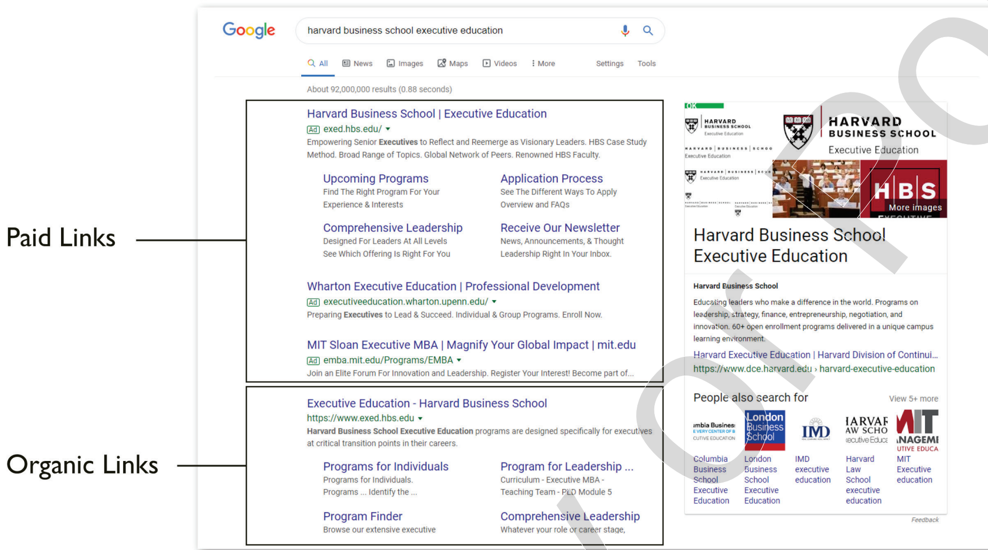
Since consumers searching for the same information or product could use different words or terms, keyword portfolios require careful curation and management—the number of possible keyword choices for even a single idea is enormous. For example, TripAdvisor, one of the largest travel websites in the world, purchased over 100 million keywords in 2010.[7] In the third quarter of 2018, Booking.com spent more than $1 billion on Google Ads, and a large portion of that was spendt specifically on search ads.[8] The number of key words can proliferate for the following reasons:

- A single product may require variations on the same theme. For example, a consumer looking for hotels in Los Angeles could search for “Los Angeles hotel,” “Hollywood hotel,” “room in LA,” or “three-star hotel in Los Angeles.” Each modifier expands the number of key words associated with a single search idea.
- Keywords in different languages reach customers with different demographics.
- Misspellings and typos are common, so firms may buy common misspellings of keywords (though this is becoming less prevalent as search engines incorporate autocorrect and spelling suggestions).
- Negative keywords may be needed to prevent ads from appearing in some searches. For example, a beauty company may be interested in a consumer searching for “skin treatment” but not “skin *cancer* treatment.” By ruling out “cancer,” the company avoids wasting money on searches that are unlikely to result in a conversion.

Let’s look now at the two types of keywords that companies can buy: *branded* and *generic*.

**Branded Keywords.** Companies sometimes buy their own branded keywords. For example, while the keywords *Harvard Business School executive education* are likely to put Harvard’s executive program website on top of the organic search results, a competitor might bid for a search ad spot that is higher on the search page than Harvard’s organic link, and which could siphon away potential participants (see **Exhibit 6,** where an MIT ad appears in a paid link above Harvard’s organic link). Bidding on one’s own brand helps defend against this possibility—and also improves organic performance. A study showed that search ads helped increase click-through rates of organic links of the same company by 25%.[9] Thus, from both a defensive and offensive point of view, bidding on branded keywords may make sense.

**EXHIBIT 6** Buying Branded Keywords

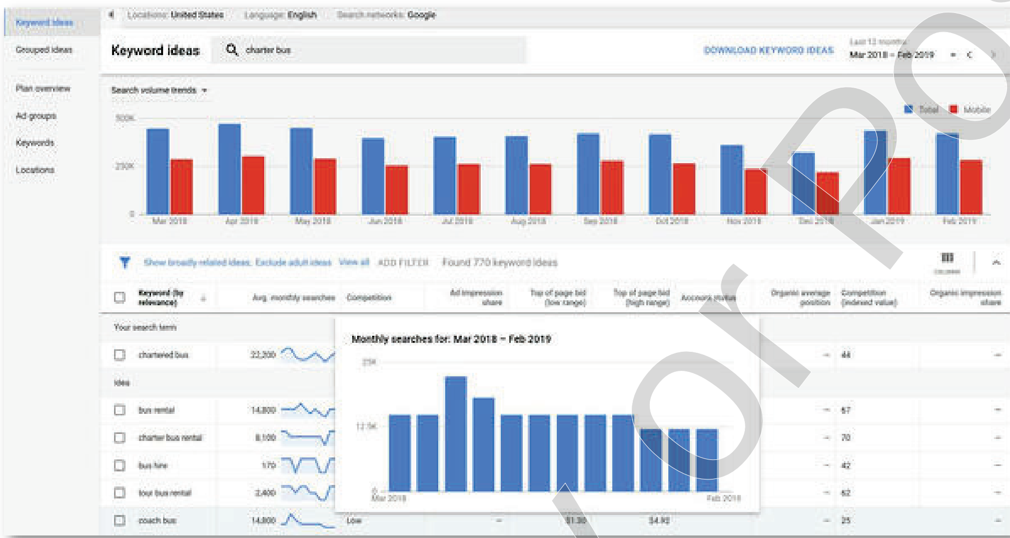



**Generic Keywords.** It is also useful for companies to bid on generic or category keywords. For example, Hilton may bid on *Bangkok hotels*. This plays two roles. First, the consumer may not be looking for Hilton specifically, or even have Hilton in her consideration set, but the ad could influence her to click through to explore Hilton. Second, even if the consumer does not click on the ad, she may become aware that there is a Hilton in Bangkok and look for more information later.[10]

Across both branded and generic keywords, a company needs to monitor its portfolio. Sophisticated companies use *scripts* (programmed computer code that executes tasks automatically) to do this, although manual monitoring is required to assess the popularity of search terms, adapt to changes in linguistics, or reposition keywords to respond to competitors' tactics. Most search engines offer services to help companies choose keywords. Google Ads (known until 2018 as Google AdWords), for instance, offers its Keyword Planner, which tracks the web traffic for different keywords.[d] **Exhibit 7** shows an example of web traffic trends for several variations of the keyword *charter bus*. See Resources for Social Media Marketing in the Supplemental Reading section for additional information on how to plan a Google Ads campaign.

[d] For information on how to use Google's Keyword Planner and guidance on creating a good keyword list, see Resources for Social Media Marketing in the Supplemental Reading section.

**EXHIBIT 7** Google Ads Keyword Planner

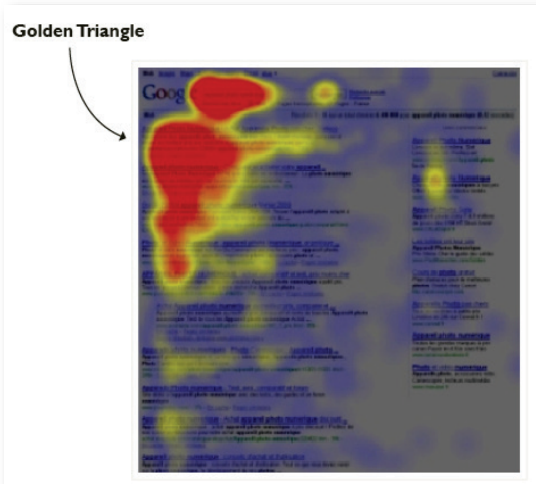



Source: SearchEngine Land, "Google Ads Keyword Planner Gets New (and Old) Features," https://searchengineland.com/google-ads-keyword-planner-gets-new-and-old-features-314618.

## Paying for Keywords

The next decision is how much to bid for each keyword selected. Eye-tracking studies, which track how people view a search page, found a change in people's viewing habits within a decade. **Exhibit 8** presents the results of a 2005 study: a *heat map* that plots the time people spend viewing different parts of a search website. The red and yellow fields indicate that the top left side of the page receives the most attention, making it the most valuable advertising position and consequently, the most expensive. This region is called the *golden triangle* by marketers. For the ads that appear on the right-hand side, the top positions attract the most attention.

**EXHIBIT 8** The "Golden Triangle" for Search Engine Results, 2005




Source: Miratech, "How Users Behave on a Google Search Results Page," http://miratech.com/blog/eye-tracking-google1.html, accessed November 23, 2014. Reproduced by permission.

The results of a 2014 study[11] show that eyes still first go to the upper left of the Google search result page. However, now people scan the entire page very quickly, that is, a quick vertical scan and less horizontal scanning. This is attributed to two factors: the increasing use of smartphones, where people scroll down quickly, and the shift in Google's approach to serving ads on desktops because of users' mobile use behavior. The 2014 study also found that we now take 8–9 seconds to find the relevant result from a Google search page, compared to 14–15 seconds a decade ago.

The implication of this new study is that since people are scanning the top three or four results on a page, it is not as critical for a company to capture the very top search result. In general, however, higher position or ranking of an ad in the search results still draws more attention and a higher number of clicks.

Given the importance of ad rank on a search page, it is useful to know that Google determines the ad ranks based on two factors: the cost-per-click bid amount and the quality score of the ad.

### *Cost-per-Click Bid*

The ***cost-per-click*** **(*CPC*)** bid is the amount a firm bids on a particular keyword. As we noted previously, keywords that attract higher traffic are also more expensive. The cost varies dramatically by product category; for example, in 2018, travel companies paid an average of $1.53 per click on desktop and $2.43 on mobile, whereas educational institutions paid an average of $18.91 per click on desktop and $13.95 on mobile.[12] A company's bid amount depends on competition, its search budget, the expected click-through, and the *conversion rate* (the percentage of clicks by visitors that results in a product sale or desired action, such as membership registration).

Google uses the "generalized second-price auction," which is based on the extension of the Nobel–prize winning research of William Vickery, where the highest bidder gets the first ad position but pays the bid amount of the second-highest bidder, who in turn gets the second position but pays the bid amount of the third-highest bidder, and so on. Research shows that this mechanism leads to "truth telling," whereby advertisers bid the maximum amount on the basis of their own willingness to pay.

Even though the top position on a Google search attracts the most consumer attention, it actually may not be the most profitable position for an ad. Although the click-through rate decreases with a lower position, the conversion rate may increase because consumers who click on links at lower positions implicitly express higher interest in those companies.[13] Continuous testing, measurement, and analytics are key to finding the best position and optimal bid for each set of keywords.

### *Quality Score*

The second factor that determines the rank or position of an ad on a search page is the *quality score* of the ad, which is assigned by the search engine (e.g., Google). Why doesn't Google simply rank the ads on the basis of the bid amount? Google uses this quality score to balance the goals of three parties: consumer, advertiser, and Google. By using a quality score, Google ensures that a large company with a big ad budget does not show irrelevant ads that will only annoy and alienate consumers.

To manage this delicate balance, the quality score is based on three factors:

- Potential click-through rate (CTR) of an ad
- Its relevance to consumers
- The quality of the landing page (the page on the advertiser's website where a consumer lands when she clicks on the ad)

*Click-through rate* (clicks divided by impressions) is a measure of a consumer's revealed preference—users won't click an ad unless they find it helpful. It is also the way Google makes money. Recall that Google doesn't get paid unless a user clicks on an ad. *Relevance* is determined by the match between the keywords used by a consumer while searching and the content of the ad. *Quality* of the landing page is measured by the bounce rate, or how quickly consumers leave the advertiser's website after landing there. This factor is included to prevent an advertiser from baiting a consumer to click on an ad and land on a website that is completely inconsistent with the ad and irrelevant to the consumer.[e]

To better understand how bid amount and quality score determine the rank of an ad, consider the example in **Exhibit 9**. In this example, four advertisers are competing for three available ad slots for a specified keyword. The Maximum Bid column represents advertisers' bid amount, and Google ensures that the advertisers will never be charged more than their bid amount. Since Google uses a generalized second-price auction approach, each bidder pays the bid amount of the next highest bidder. The Price Paid column indicates the prices that each advertiser would have paid if quality score were not considered.

**EXHIBIT 9** Ad Rank Based on Bid Amount and Quality Score

| Advertiser | Maximum Bid | Price Paid | Quality Score | Bid* Quality | Ad Rank | Actual CPC |
|---|---|---|---|---|---|---|
| **W** | $4.00 | $3.00 | 1 | 4 | 4 | - |
| **X** | $3.00 | $2.00 | 3 | 9 | 2 | 8/3 = $2.67 |
| **Y** | $2.00 | $1.00 | 6 | 12 | 1 | 9/6 = $1.50 |
| **Z** | $1.00 | | 8 | 8 | 3 | 4/8 = $0.50 |

In Exhibit 9, the Quality Score column indicates the quality of each ad (on a 1-to-10 scale) as determined by Google's algorithms. Advertisers do not know the algorithms behind this quality score; they are kept secret by Google. Quality Score simply multiplies the advertiser's maximum bid amount by its quality score to capture the combined effect of both these factors. As a result, even though advertiser Y bid only $2, compared to the $4 bid by W, Google will give Y a higher rank since it has a higher-quality score. Ad Rank indicates the ad placement position for each advertiser, which is based on its Quality Score. In this example, where there are only three available slots, W is not able to show its ad even though it bid the highest.

The CPC calculation is based on the minimum amount a bidder would have to pay to keep its ad rank, given the quality scores assigned to all advertisers. This means that if the second-ranked advertiser, with a quality score of Q2, bid an

[e] For more background on improving the quality score of a company's keywords, see Resources for Social Media Marketing in the Supplemental Reading section.

amount B2, this determines the first-ranked advertiser's minimum price, P1, with quality score Q1. This minimum price must satisfy the following equation:

$P_1*Q_1 = B_2*Q_2$

or $P_1 = B_2*Q_2/Q_1$

Using this equation, we can see how the actual CPC in Exhibit 9 is calculated. For example, the CPC for the top-ranked advertiser, Y, depends on the bid and quality score of the second-ranked advertiser, X. Specifically, the actual price or CPC for Y will be:

$Price_Y = Bid_x*Quality_x/Quality_y$, or 3*3/6 = $1.50

Note a few important things from this example:

- The CPC for Y is less than its bid amount of $2. This is always true—Google ensures that advertisers never pay more than their maximum bid amount, and usually they pay less.
- A higher-quality score for an ad reduces the CPC for an advertiser. This is the way Google encourages advertisers to create relevant ads for consumers instead of simply bidding more to get their attention.
- The actual CPC for an advertiser also depends on the bid and quality of its competitors. Since competition for each keyword is different and can change over time, and is often unknown to advertisers, it is impossible for an advertiser to know the exact amount of money it will end up spending on a search ad. All the advertiser knows is that this amount will be not more than the budgeted amount.

If you want to test your understanding of how Google Ad ranks works, see if you can determine the rank and actual CPC of the four advertisers if

(a) Y increases its quality score from 6 to 10.

(b) X increases its quality score from 3 to 7 (and Y remains at 6).

### Assessing the Effectiveness of Search Ads

Unlike evaluating traditional media advertising, assessing the effectiveness of digital ads is relatively simple, since firms can automatically track consumers after they are exposed to an online ad. Several metrics are used to measure the effectiveness of search ads. ***Impressions***, or the number of times a search ad is seen by consumers, show the reach of an ad. But because simple exposure does not indicate whether consumers were influenced by or even noticed an ad, search engines do not charge companies for impressions. Better metrics of advertising effectiveness are the click-through rate (CTR), or the number of clicks per impression, and the conversion rate. The CTR of most search ads is in the low single digits. **Exhibit 10** shows these metrics for a search campaign of BBVA Compass Bank in 2010.

**EXHIBIT 10** Metrics Used to Assess a Bank's Search Ads

| Site[f] | Media Spend | Impressions | Clicks | Applications Completed | Click-Through Rate (CTR) | Conversion Rate |
|---|---|---|---|---|---|---|
| Google | $288,000 | 5,575,637 | 234,963 | 3,717 | 4.21% | 1.58% |
| MSN | $37,000 | 897,406 | 50,242 | 663 | 5.60% | 1.32% |
| SuperPages | $70 | 116,922 | 1,410 | 16 | 1.21% | 1.13% |
| Yahoo! | $177,000 | 4,435,709 | 165,166 | 2,419 | 3.72% | 1.46% |
| Unified Marketplace | $14,000 | 503,563 | 20,652 | 292 | 4.10% | 1.41% |
| Total | $516,070 | 11,529,237 | 472,433 | 7,107 | 4.10% | 1.50% |

**Note**: *Conversion rate* is defined here as the percentage of clicks that led to a completed application for a checking account.

Source: Adapted from Harvard Business School, "BBVA Compass: Marketing Resource Allocation," HBS No. 511-096, by Sunil Gupta and Joseph Davies-Gavin. Copyright 2011 by the President and Fellows of Harvard College.

To illustrate, let's look at some calculations for one website, Google. The exhibit shows that BBVA spent $288,000 on search ads with Google that led to almost 5.6 million impressions, or exposures, and about 235,000 clicks, which equaled a CTR of 234,963/5,575,637, or 4.21%. The CPC was $288,000/234,963, or $1.23. The company could conduct detailed analysis of CPC for all its keywords to further optimize its spending. About 3,700 of these clicks resulted in a completed application for a checking account, a conversion rate of 3,717/234,963, or 1.58%.

Combining these metrics with the profit margin and cost of search ads, we can arrive at the profitability of search ads:

Search ad profit = (impressions × click-through rate × conversion rate × margin)
– search ad cost

Thus, for BBVA, if each completed checking account application is worth a $100 profit, then the profitability of placing a search ad with Google is:

Search ad profit = (5,575,637 × 4.21% × 1.58% × $100) – $288,000
= (3,717 completed applications × $100) – $288,000
= $83,700

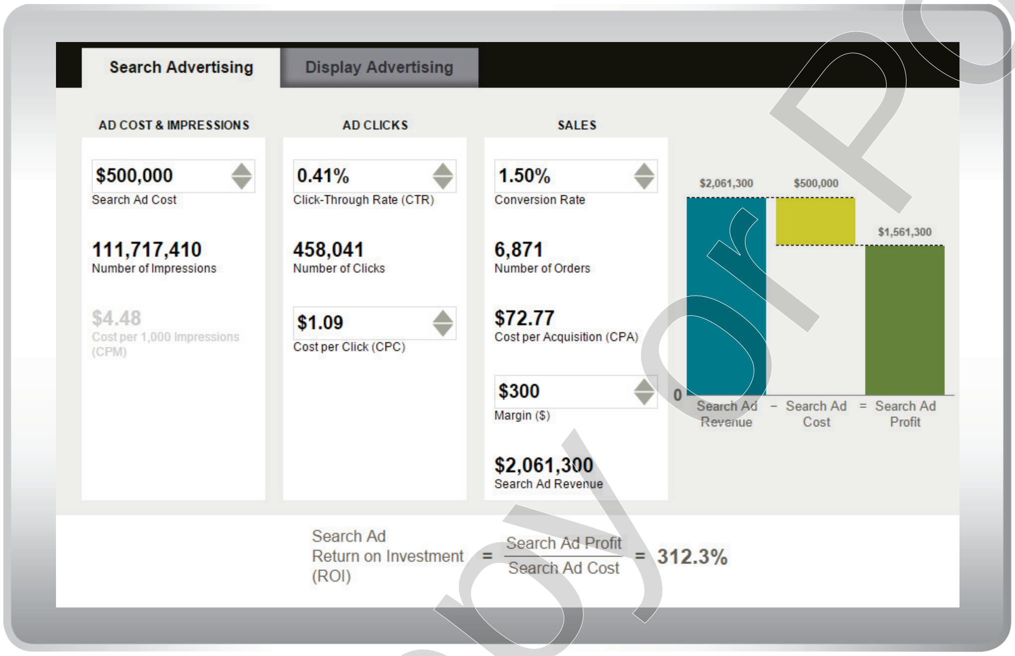
(Note that the number of completed applications in these calculations is slightly different from the actual because of rounding off of the click-through and conversion rates.)

Although commonly used, this profitability calculation ignores several considerations, such as ad attribution, that are discussed in detail later. Even so, this analysis provides a good first step to determine the effectiveness and return on investment (ROI) of search ads. **Interactive Illustration 1.1** provides a web-based tool for performing such calculations.

**INTERACTIVE ILLUSTRATION 1.1**

Search and Display Advertising ROI: Search View

*Scan this QR code, click the image, or use the link to access the interactive illustration:* [bit.ly/hbsp2r9UH4I.](bit.ly/hbsp2r9UH4I)




**Note**: *Cost per acquisition (CPA)* here is defined as total cost divided by total number of acquired customers (or purchases or buyers), usually used in contractual businesses such as credit cards and software-as-a-service (SaaS).

## 2.1.2 Display Ads

While *search ads* are designed for immediate action or sale, ***display ads*** can have two objectives. They can be designed like search ads for immediate action or like TV or print ads with the goal of increasing brand awareness. Consumers see a search ad only when they are hunting a specific keyword, but display ads can appear on a website that the brand may consider relevant for its target audience. For example, Citibank may advertise its credit card to consumers who visit the *Wall Street Journal* website.

While display ads come in various formats, the most commonly used are:

- *Banner ads*: These are one of the oldest and most traditional forms of display ads, and they usually appear at the top of a web page.
- *Interstitial ads*: These ads appear as full web pages before users are directed to the original page they requested. These ads capture greater user attention but are also likely to be more intrusive to users.
- *Expandable banner ads*: These banner ads automatically expand to a large portion of the user screen. In terms of size and impact, they fall somewhere between banner and interstitial ads.

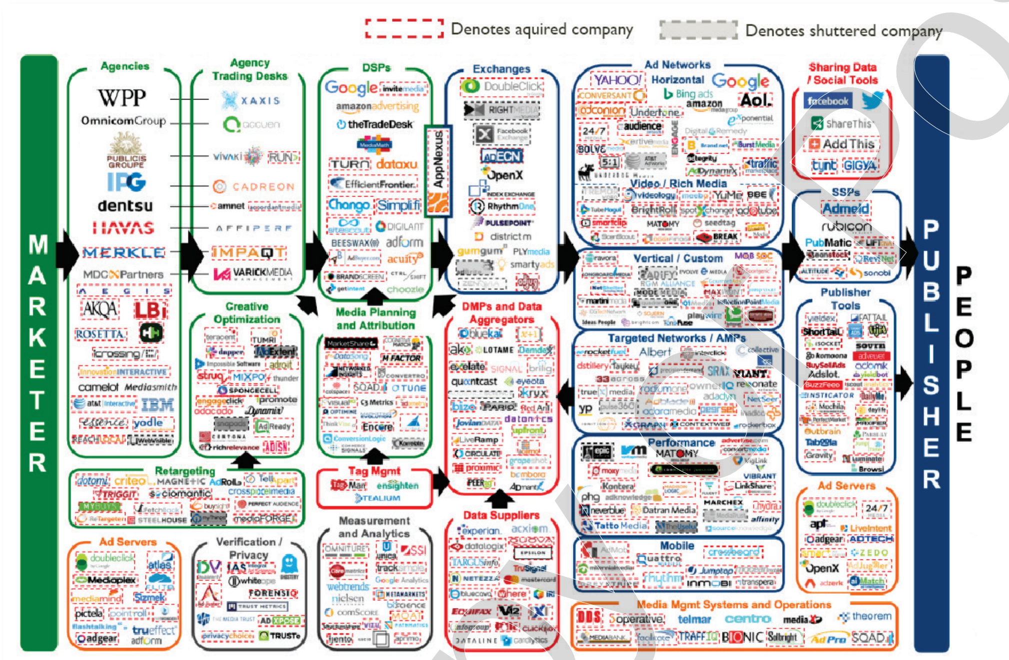
- *Overlay*: These are similar to interstitial ads, but with a transparent background so that a user can still see the original web page.
- *Rich media*: These ads include interactive components such as video, audio, or hyperlinks to click.
- *360-degree ads*: These ads are specially designed for mobile phones and provide a 360-degree view to the user as she moves her phone around.

### Display Ads Industry

In comparison with search ads, where a few top search engine companies dominate the landscape, display ads are part of a fragmented industry comprising many different players in a variety of roles along the value chain. **Exhibit 11** is a map of the display ad industry landscape. (Note the acquired and shuttered companies that are listed in each of the various roles.)

The process in Exhibit 11—from the *marketer* (on the left) to the *people* consuming the ad (on the right)—starts with the advertisers who wish to buy digital space for ads. It ends with an ad that is displayed by the *content publisher* and ultimately reaches consumers.

**EXHIBIT 11** Display Advertising Industry Landscape




Source: LUMA Partners, https://lumapartners.com/content/lumascapes/display-ad-tech-lumascape/, accessed June 2019.

Advertisers range from large consumer products companies like P&G to small startup businesses. Large corporations typically hire advertising *agencies* to help manage their campaign creative and purchasing processes, while small businesses can use online tools available through Google Ads and similar services.

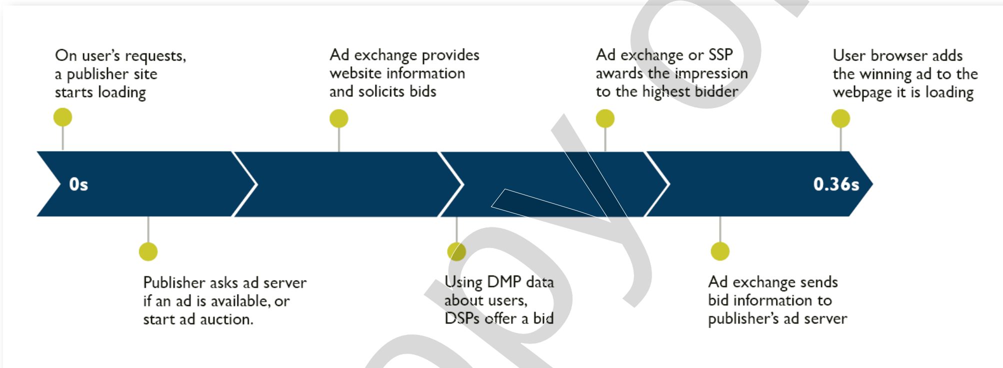
*Content publishers* sell space to advertisers on their websites. These range from large online publishers like the *New York Times* to small websites or personal blogs. The advertising rate each site commands depends on various factors such as its traffic, its prestige, and the demographic of customers it draws.

Exhibit 11 also highlights two types of intermediaries that help connect advertisers (buyers) with publishers (suppliers): *ad networks* and *exchanges*. These intermediaries connect buyers and sellers in most ad-space transactions. In some instances, large advertisers also buy directly from large publishers.

*Ad networks,* such as AdSense by Google, aggregate the supply of advertising space from a variety of publishers and match it with the advertiser's demand. In addition to buying and selling ad space, ad networks develop proprietary algorithms to help their clients optimally place ads on various websites.

*Ad exchanges,* such as Rubicon, automate the matching between advertisers and publishers, often called *programmatic buying,* which uses a real-time bidding (RTB) process. Like stock exchanges, which price company shares according to supply and demand, ad exchanges decide the placement and pricing of advertisements by using the supply and demand of the ads. By 2017, almost 72% of all US digital display ad spending was done by programmatic buying through ad exchanges.[14] Real-time bidding and placement of ads happens in a fraction of a second—as shown in **Exhibit 12**.

**EXHIBIT 12** Real-Time Bidding Process




Source: Frank V. Cespedes, John Deighton, Lisa Cox, and Olivia Hull, *DataXu: Selling Ad Tech*, Harvard Business School Case No. 817012, April 20, 2018.

In addition, there are several *demand-side platforms* (DSPs) and *supply-side platforms* (SSPs) that act as brokers connecting various players in this complex landscape. DSPs work as buyers' brokers, helping buyers (such as ad agencies) manage ad inventory across multiple exchanges and networks through one interface. Similarly, SSPs are the connection between ad networks and publishers. SSPs are the content suppliers' or publishers' brokers, and they help publishers get the best prices for their ad space inventory from various buyers.

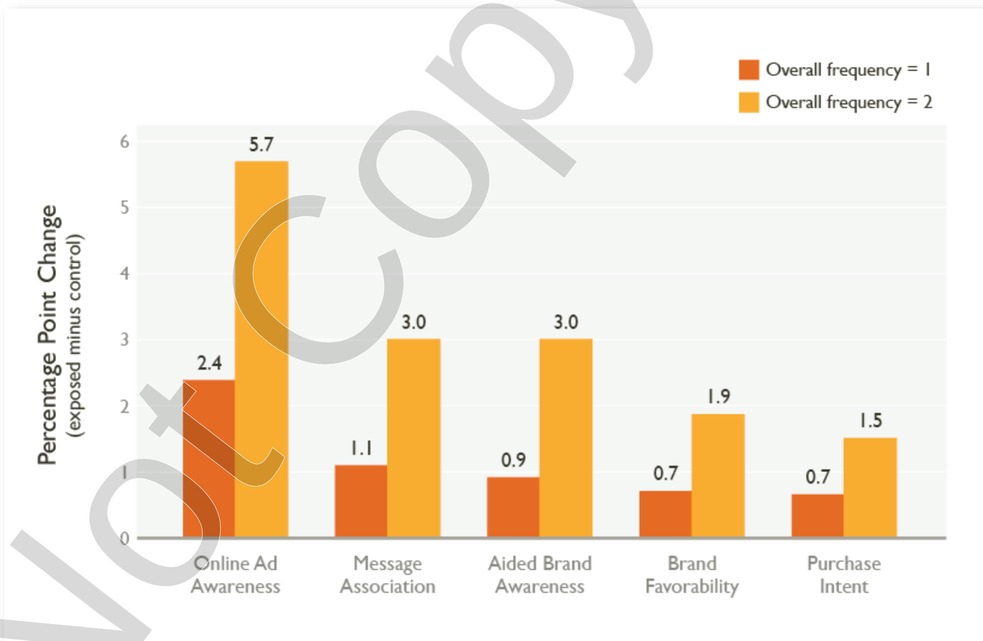
There are also many *data management platforms (DMPs)*, which collect, interpret, and sell customer browsing and other information that may help advertisers more effectively target their ads. These, along with specialists in areas such as privacy, ***tag*** management, and analytics, round out the roles in this sprawling landscape.

## Assessing the Effectiveness of Display Ads

Display ads can be bought in two ways, depending on their goal. The first is on the basis of impressions, commonly using the *CPM* (cost per thousand impressions) metric. Every time a consumer sees a display ad, the company incurs a cost, whether or not a consumer clicks through. An advertiser may choose CPM pricing if its goal is to build brand awareness or brand image. However, it's more likely to choose the second pricing system, based on clicks, if it's running a direct-response campaign with the goal of maximizing clicks and conversion rates.

The research company Millward Brown used a ***test-control methodology*** to measure the impact of display ads on brand metrics such as brand awareness, favorability, and purchase intent. In an analysis of data from 6,400 display ad campaigns for three years (2008–2010), the researchers found significant impact of display ads on brand measures (see **Exhibit 13**). These results were confirmed by a 2018 study by Internet Advertising Bureau (IAB) of the UK that examined 675 ad campaigns from 2008 to 2017 and found that compared to a control group, digital display ads increased unaided brand awareness up to 12%, improved brand perceptions by 2%, and increased purchase intentions by 3%.[15]

**EXHIBIT 13** Brand Impact of Display Ads




Source: DoubleClick and Dynamic Logic, "Better Brand Engagement with Display Formats," http://www.millwardbrown.com/docs/default-source/insight-documents/articles-and-reports/Better-Brand-Engagement-with-Display-Formats-Feb-2012.pdf?sfvrsn=4, accessed November 23, 2014. Reprinted by permission of Millward Brown Digital.

If the goal of display ads is to generate clicks and conversion, their effectiveness can be measured using the same metrics used for search ads, such as CTR and conversion rate. **Exhibit 14** shows an example of these metrics for the bank described in Exhibit 10. This exhibit lists various ad networks used by BBVA's agency for display ads, the money spent with each ad network, and the number of impressions, clicks, and completed account applications from consumers that the bank received.

**EXHIBIT 14** Metrics Used to Assess a Bank's Display Ads

| Ad Network | Media Spend | Impressions | Clicks | Applications Completed | Click-Through Rate (CTR) | Conversion Rate |
|---|---|---|---|---|---|---|
| AOL (now Verizon Media) | $176,000 | 97,466,342 | 34,777 | 2,934 | 0.04% | 8.44% |
| Tribal Fusion (now Exponential Interactive) | $107,000 | 38,780,477 | 21,861 | 1,002 | 0.06% | 4.58% |
| Casale | $90,000 | 64,222,377 | 38,450 | 881 | 0.06% | 2.29% |
| Revenue Science | $74,000 | 30,949,214 | 11,572 | 862 | 0.04% | 7.45% |
| 24/7 Media | $62,000 | 13,979,255 | 4,635 | 577 | 0.03% | 12.45% |
| InterClick (acquired by Yahoo) | $38,000 | 12,678,327 | 9,643 | 411 | 0.08% | 4.26% |
| Other | $87,000 | 50,703,224 | 18,238 | 523 | 0.04% | 2.87% |
| Total | $634,000 | 308,779,216 | 139,176 | 7,190 | 0.05% | 5.17% |

Source: Adapted from Harvard Business School, "BBVA Compass: Marketing Resource Allocation," HBS No. 511-096, by Sunil Gupta and Joseph Davies-Gavin. Copyright 2011 by the President and Fellows of Harvard College.

The profitability of display ads that are priced as cost per thousand impressions (CPM) can be calculated as follows:

$$\text{CPM display ad profit} = \text{impressions} \times [(\text{click-through rate} \times \text{conversion rate} \times \text{margin}) - \text{cost per thousand impressions or CPM}/1{,}000]$$

Some channels (e.g., Facebook) offer the option to buy display ads by CPM or CPC.

$$\text{CPC display ad profit} = \text{impressions} \times \text{click-through rate} \times [(\text{conversion rate} \times \text{margin}) - \text{cost per click}]$$

In Exhibit 15, the relevant metrics for the first listed ad network, AOL, are (assuming profit margin per applicant as $100):

$$\text{CPM} = (\$176{,}000/97{,}466{,}342) \times 1{,}000 = \$1.81$$

$$\text{CTR} = 34{,}777/97{,}466{,}342 = 0.04\%$$

Conversion rate = 2,934/34,777 = 8.44%

CPC = $176,000/34,777 = $5.06

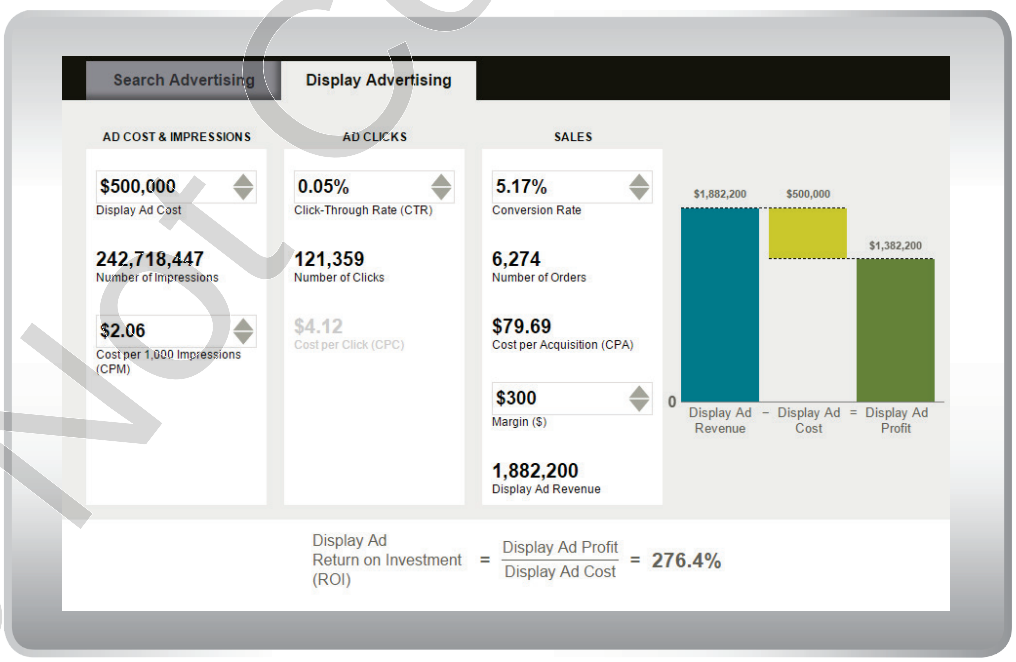
Display ad profit = 97,466,342 × (0.04% × 8.44% × $100 – $1.81/1,000) = $117,400
or, more simply,
(2,934 applications × $100 margin) – ($176,000 ad cost) = $117,400

(Note that the calculations using CTR and conversion rate may differ because of rounding.)

Exhibits 10 and 14 show that, compared with display ads, search ads in this example have a higher CTR (Google = 4.2%, AOL = 0.04%), a lower CPC (Google = $1.23, AOL = $5.06), but also a lower conversion rate (Google = 1.58%, AOL = 8.44%). Refer to **Interactive Illustration 1.2**, Search and Display Advertising ROI (Display View), which embeds these calculations in a web tool.

**INTERACTIVE ILLUSTRATION 1.2**
Search and Display Advertising ROI (Display View)

*Scan this QR code, click the image, or use the link to access the interactive illustration: bit.ly/hbsp2unHxWH.*



### Improving Effectiveness of Display Ads

Companies often use *contextual ads*—ads that match the website topic—to improve a display ad's effectiveness. For example, a car ad on an automobile review website is likely to perform better because it not only successfully attracts the target customer (a person who is interested in cars) but may also provide useful information to the consumer.

Another way to improve effectiveness is to use a *highly visible ad*, usually a pop-up or an auto-play. Although consumers often find them annoying, high-visibility media are effective in grabbing consumer attention. However, they do not contribute incrementally toward ad effectiveness if an ad is already contextual.[16]

*Retargeting ads* are display ads shown to consumers who have previously visited a company's website. For example, if a consumer looked at a pair of Skechers shoes at Skechers.com, that visit created a cookie. If this consumer later shops for books or reads the news, a retargeting ad based on that cookie may appear to remind the consumer about Skechers. Retargeting ads work best when the consumer is actively searching in the product category.[17] Overenthusiastic retargeting ads, however, can be perceived as stalking and create adverse feelings toward the brand.[18]

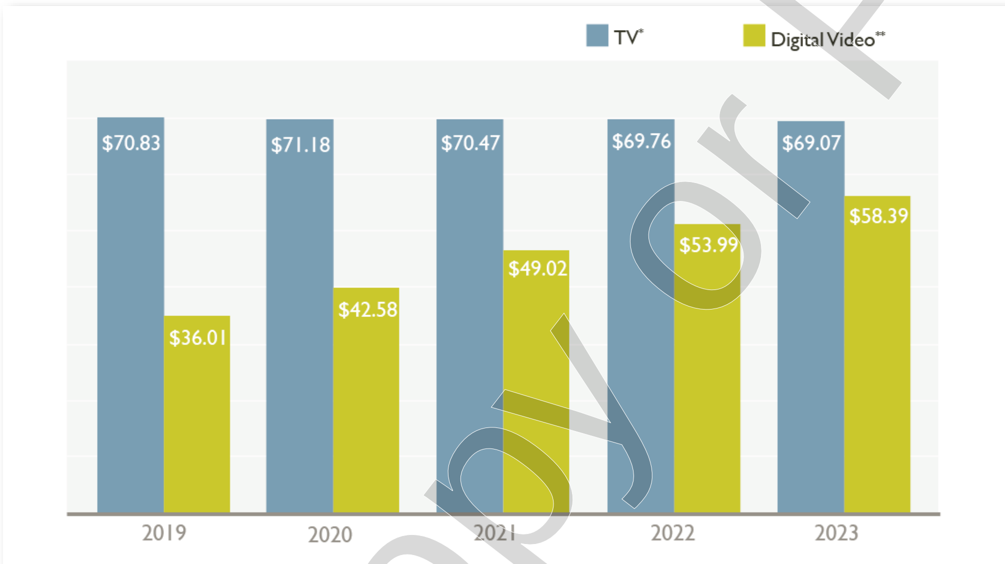
*Morphing display ads* represent a newer approach to improving display ad performance. Unlike print ads, which are static, these display ads vary for different individuals visiting the same web page. They are algorithmically selected from a portfolio of potential ads on the basis of known consumer attributes (e.g., websites visited and demographics). In a field test, matching display ads to inferred cognitive style (how the person processes information), based on which pages people chose to look at, almost doubled click-through rates. The increase in effectiveness was attributed to the fact that some people are persuaded by facts and numbers, whereas others understand concepts through graphics. In another test with an automobile website, matching ads to cognitive style, buying stage, and preference for auto-body type resulted in a more than tripling of CTR, as well as significant lifts in brand consideration and purchase intent.[19]

## 2.1.3 Video Ads

While display ads are static image ads on websites or apps, video ads show more dynamic images. Some companies group them together under the heading of display ads because of similarities in the advertising objective and measurement of these two formats. For example, if you advertise on the Google Ads platform, you can target the same audience with display ads (on Google's Display

Network) and video ads (on YouTube). Facebook and Instagram also allow videos as well as static images. However, given the increasing use of video ads (see **Exhibit 15**), it is helpful to understand some unique aspects of this format.

**EXHIBIT 15** TV and Digital Video Ad Spending, US




Adapted from Paul Verna, "Digital Video Advertising Best Practices 2019: Industry Experts Weigh in on Privacy, Context, Formats and Measurement," eMarketer, February 25, 2019, https://www.emarketer.com/content/digital-video-advertising-best-practices-2019.

Digital video ads are not limited only to digital platforms like YouTube or Facebook. The emergence of smart TV and streaming services such as Roku, Hulu, Sling TV, and DirecTV is allowing brands to target television audiences in the same way they reach audiences through digital platforms. While ad spending on digital TV players and streaming services accounted for less than 1% of the $129 billion US online advertising market in 2019, it is expected to rise rapidly in the future.[20] Companies such as CBS, Fox, and Viacom are working to add these new capabilities to make targeted TV advertising more effective and measurable.[21]

The basic steps of video ads are the same as for search or display ads: (1) start with the goal (e.g., enhance brand awareness, drive traffic to website, increase purchases, etc.); (2) select a target audience (by age group, geography, interests, etc.); (3) create an ad; (4) set a budget; and (5) measure and monitor results.

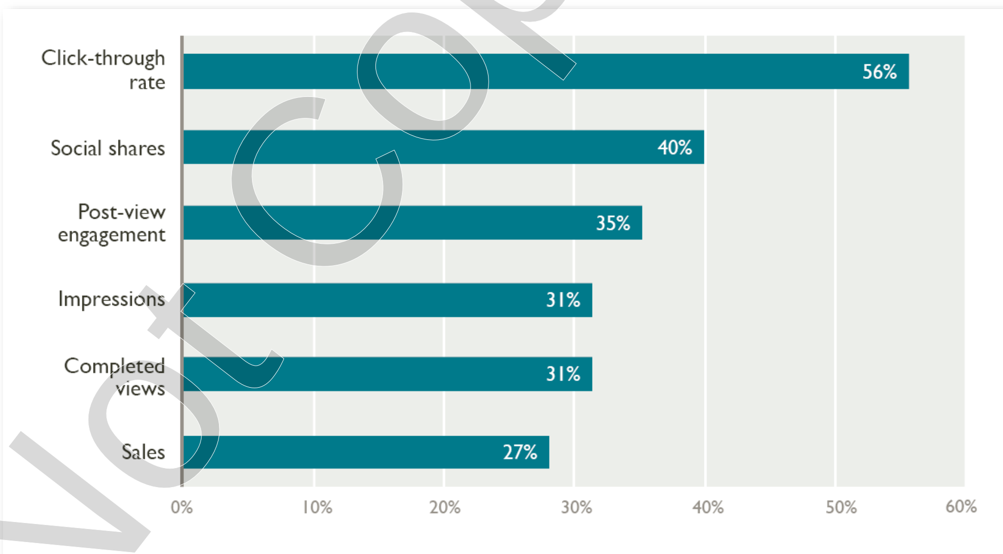
Though there are many formats of video ads, these are the most common formats used on YouTube:

- *Skippable in-stream ad*: A video ad that plays before, during, or after the main video and can be skipped by the user after a few seconds
- *Non-skippable in-stream ad:* A 15- to 20-second ad that cannot be skipped by the user
- *Bumper ad:* Non-skippable video ads of less than 6 seconds

See Resources for Social Media Marketing in the Supplemental Reading section for details on other video formats on YouTube and Facebook.

**Exhibit 16** shows how marketers typically measure the effectiveness of video ads. While some video ads may have a specific call to action that may warrant a click from a user, most video ads are designed to build awareness and brand. Therefore, metrics such as click-through rates, which are useful for search ads, are not the most appropriate metrics for video ads. Instead, impressions are typically used, much like the metrics used for TV campaigns, where ads are bought based on CPM.

**EXHIBIT 16** How Marketers Measure Video Ad Effectiveness




Source: Anya Pratskevich, "How Marketers Measure Video Campaign Effectiveness," AdStage, https://blog.adstage.io/2018/05/07/video-campaigns, accessed July 2019.

Other measures, such as social shares and post-view engagement, also try to capture effects that are unique to digital platforms. However, these metrics do not help a marketer assess the exact ROI of the campaign. Although it can be difficult—and may not even always be possible—managers are now trying to link video ads to sales or purchase intention.

## 2.1.4 Measuring the Effectiveness of Outbound Marketing

So far, we have discussed measuring the effectiveness of search, display, and video ads on the basis of impressions or CTR. While these simple approaches are commonly used, companies are beginning to tackle the complexities inherent in measuring the effectiveness of outbound marketing campaigns more precisely. In this section, we look at five of these issues: correlation versus causation; attribution; dynamics; online-offline interaction; and customer lifetime value.

### Correlation versus Causation

A large-scale field experiment conducted on eBay challenges the measurement of search ad effectiveness using traditional methods.[22] The study found that measurements of online clicks and sales do not necessarily prove that online advertising *caused* an increase in sales. Furthermore, branded keywords seem to have no measurable short-term benefits, and, in general, the returns on paid search ads are far lower than conventional estimates. The study's authors argue that traditional metrics ignore the fact that many consumers who click on a search ad would have either clicked on organic results or bought the product anyway. In other words, traditional methods simply correlate clicks and sales, whereas only an experimental study can uncover causality.

In response to this study, a Google spokesperson noted:

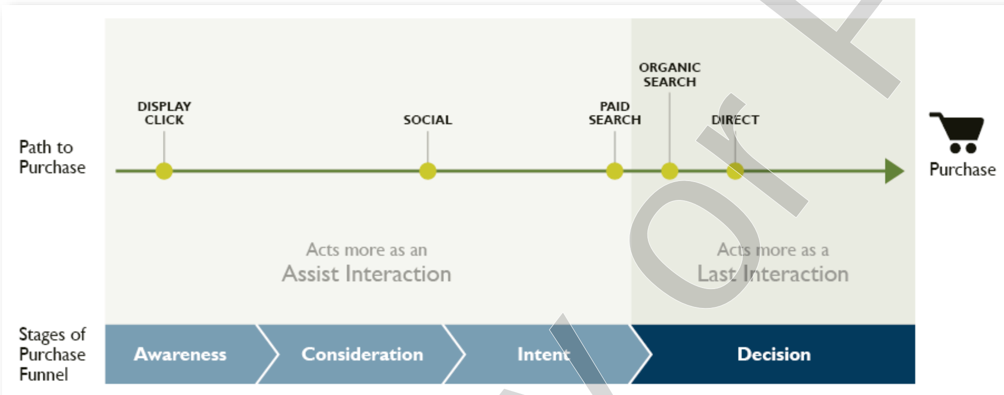
> *Google's own studies, based on results from hundreds of advertisers, have found that more than 89% of search ad clicks were incremental and that 50% of the search ad clicks were incremental even when there was an organic search result for the advertiser in the top position. Since outcomes differ so much among advertisers and are influenced by many different factors, we encourage advertisers to experiment with their own campaigns.*[23]

The conflicting findings of the eBay and Google studies attest to the fact that the question of correlation versus causation is open to further research.

### Attribution

How can marketers more accurately attribute the role of a particular digital ad in a purchase? Before making an online purchase, a consumer may engage with a brand through many different media channels. For example, she may become aware of it through television or print advertising, be influenced by online display ads, and end up making the purchase by clicking on a search ad. A commonly used measure of effectiveness, *last-click attribution*, gives all the credit for the sale to the search ad—even though other media channels helped move the consumer along in the buying-decision journey. **Exhibit 17** shows an example of the influence of various channels at different stages of a purchase decision.

**EXHIBIT 17** The Role of Digital Channels in a Sample Purchasing Decision

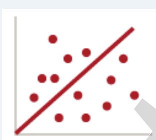
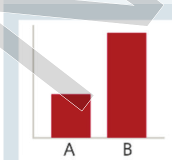



Source: Adapted with permission from "The Customer Journey to Online Purchase," *Google Inside AdWord*, April 25, 2013, https://adwords.googleblog.com/2013/04/the-customer-journey-to-online-purchase.html, accessed July 2019.

Ignoring the impact of media that assisted the consumer through a buying-decision journey can inflate the effectiveness of search ads that are typically associated with the last interaction. Some experts have begun to address the attribution problem using a variety of approaches, shown in **Exhibit 18**. The first five (*last interaction*, *first interaction*, *linear*, *time decay*, and *position-based*) are commonly used, but they are ad hoc models with no scientific grounding. The last two, *regression-* or *model-based* and *experiment-based*, are more rigorous approaches to evaluating ad effectiveness. Model-based evaluations use existing data on consumer interactions with each ad or search along their purchasing path to model the effect of each interaction. Experiments randomize ads to treatment and control groups; differences in response or conversion between the two groups can be attributed to exposure to ads.

**EXHIBIT 18** Attribution Models

| Attribution Model | | Description | Comments |
| --- | --- | --- | --- |
|  | **Last Interaction** | Last ad or click gets 100% of the sale | Ignores long-term effects of ads earlier in the funnel<br>Overweights ads that appear frequently |

| Attribution Model | | Description | Comments |
|---|---|---|---|
|  | **First Interaction** | First ad or click accounts for 100% of sale | Ignores ads later in the funnel that convert customer<br>Overweights ads that appear frequently |
|  | **Linear** | All ads or clicks get a uniform weight | Ad hoc allocation<br>Overweights ads that appear frequently |
|  | **Time Decay** | All ads or clicks get some attribution; more recent ads get higher weight | Ad hoc weights (How much decay?)<br>Overweights ads that appear frequently<br>Unclear why ads later in the funnel should have higher weight |
|  | **Position-Based** | Ads get attribution based on position in the path | Ad hoc weights |
|  | **Regression or Model-Based** | Attribute weight based on regression- or other model-based approaches | Scientific way to allocate weights to ads along consumer journey path<br>Ignores that some ads are viewed simply because they are on the relevant site (e.g., contextual ads) even if the ads themselves have no impact |
|   | **Experiment-Based** | Attribution based on ***A/B testing*** | Most accurate way to determine ad effectiveness but difficult to manage across many different ad networks and consumers<br>Difficult or expensive to conduct |

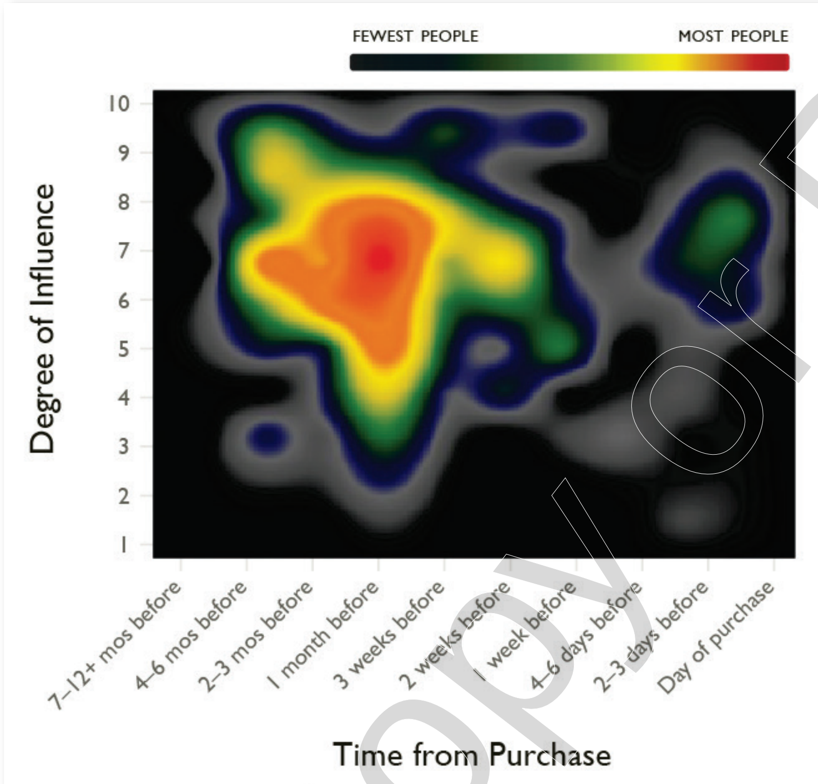
Source: Adapted from Google Analytics Help, "Attribution Modeling Overview," https://support.google.com/analytics/answer/1662518?hl=en, accessed October 25, 2014.

Since search and display ads do not work in isolation, attribution models need to take their interaction into account. For example, a study across 11 advertisers found that combining search and display ads provided a 22% lift in conversion rate compared to search alone and a 400% better conversion rate than display ads alone.[24] Several academic experiments confirmed that ignoring the interaction of the two media forms can lead to underestimating the effectiveness of display ads.[25,26]

### Dynamics (Delayed Impact of Advertising)

For many expensive or complicated products and services (e.g., automobiles, brokerage accounts), a consumer's purchase may not occur immediately upon seeing an ad. Instead, consumers often spend several weeks or months iteratively using multiple online and offline information sources, including review websites, to look for and decide between alternatives, which leads to a phenomenon that Google has dubbed the "Zero Moment of Truth (ZMOT)." **Exhibit 19** depicts a heat map for car searches, which reveals that most consumers conducted intense information searches for several months before finally making a purchase. The conventional model of measuring advertising effectiveness inherently focuses on the short-term effects of ads and ignores their potential long-term impact. But measurement of long-term effects is especially difficult, unless a model carefully controls for all other factors that may have changed over time.

**EXHIBIT 19** Temporal Pattern of Influence in Consumer Auto Searches




Source: Jim Lecinski, *Winning the Zero Moment of Truth* (Palo Alto, CA: Think with Google, 2011), PDF eBook, p. 25, https://ssl.gstatic.com/think/docs/2011-winning-zmot-ebook_research-studies.pdf, accessed July 2019.

One study that used a multivariate time series model for a bank's online advertising campaign found that ignoring dynamic or long-term effects of ads underestimated ROI by up to 40%.[27] This study also found that the dynamic effect was much stronger for search ads than for display ads, which suggests that the bank should shift a greater share of its online ad budget to search ads, even after accounting for the attribution effect of display ads.[28]

## Online-Offline Interaction

Most companies use both online and offline channels for marketing. This poses two key challenges for managers: (1) understanding the interaction or potential synergy between online and offline marketing and (2) assessing the impact of online marketing on offline purchases and vice versa (also called *omnichannel shopping*).

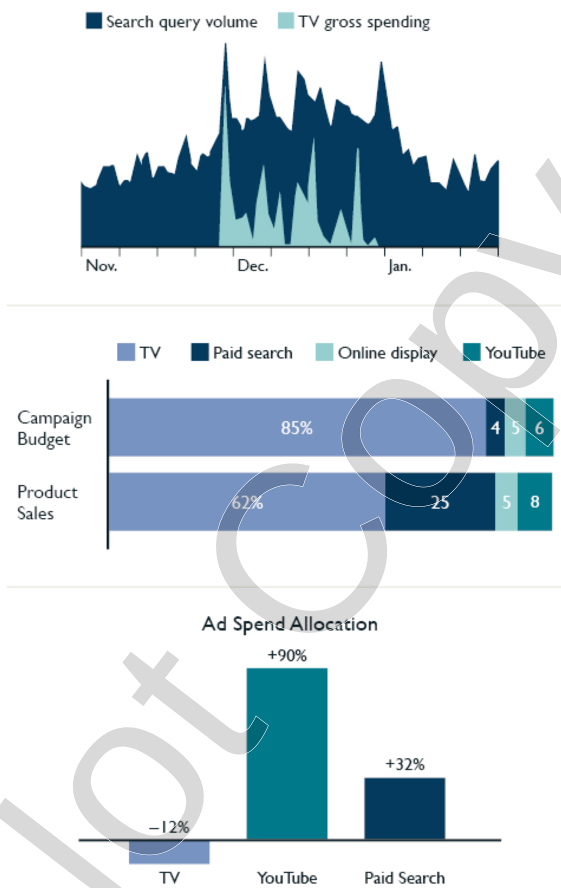
**Synergy between Online and Offline Marketing.** Consumers base purchase decisions on both online and offline information. One study found that in-store and other offline interactions were as important as online interactions and word of mouth across many product categories. In fact, an offline experience at a retail store was ranked as *most influential* for consumer purchase decisions where personal fit was important (e.g., clothing, footwear, personal care products, and beauty products) and where real-life experience was especially valuable (e.g., automobiles, over-the-counter health-care products, home goods, and groceries).[29] A study for an auto company found strong interactions between online and offline marketing channels. When the company took both channels into account, it found that the optimal offline marketing spend should be lower by 12% and that online channels spend should increase by 7%.[30] (See the sidebar "Optimizing Online and Offline Marketing Resources.")

## Optimizing Online and Offline Marketing Resources

"Half the money I spend on advertising is wasted; the trouble is, I don't know which half."
—attributed to John Wanamaker

How should managers allocate marketing resources between traditional and digital channels? See **Exhibit 20** for one approach from a consumer electronics company.

**EXHIBIT 20** Advertising Allocation Analysis

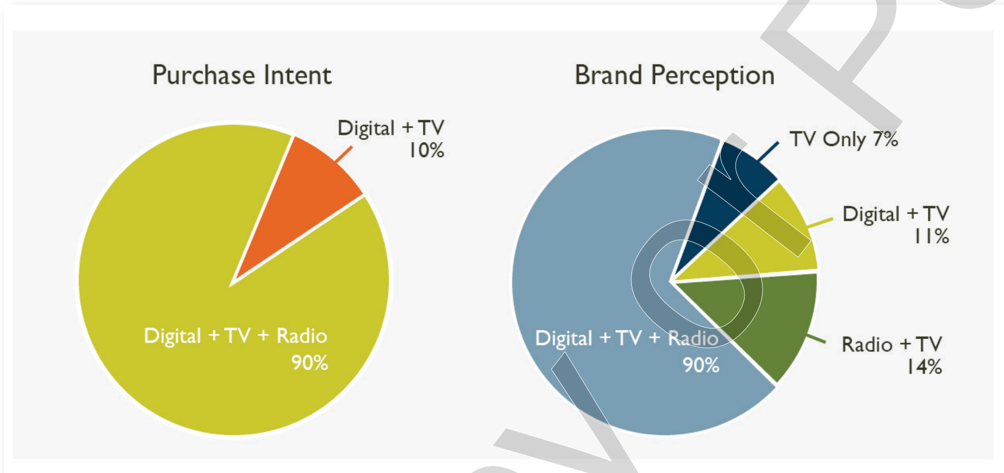



1. Explore: The company started by exploring the internally and externally sourced data, and found a correlation between TV commercial spending and online search volume. This led to the hypothesis that TV ads were attracting consumers to find out more about the product online, where the company had an opportunity to convert the consumer into a purchasing customer.
2. Analyze: Investigating the issue further, analysts found that paid search accounted for a small proportion of the company's budget but a sizeable portion of its sales. YouTube budgeting was also underweighted relative to TV.
3. Optimize: As a consequence, it rebalanced the budget to reflect the value of each channel in converting consumers. The company reduced TV only slightly because it was still an important channel for raising product awareness and motivating consumers to find out more via YouTube and online searches.
4. Test and refine: With the new allocation, the company increased revenue by 9% while keeping marketing spend constant. Companies should test new budgets with test and control markets or switch different aspects of the allocation on and off across weeks to refine a budget allocation.



Collectively, these studies suggest that companies may be underperforming if they plan online and offline advertising budgets separately. A cross-media study conducted by Interactive Advertising Bureau (IAB) in 2017 found the power of online and offline media synergy on customer purchase intent and brand awareness for one major US retailer (see **Exhibit 21**).

**EXHIBIT 21** Media Contribution for a Major US Retailer, 2017




Source: "Cross-Media Ad Effectiveness Study," IAB, January 2017, https://www.iab.com/wp-content/uploads/2017/01/IAB-Cross-Media-Ad-Effectiveness-Study-Jan-11-2017.pdf.

Successful integration of online and traditional venues requires creativity. For example, Coca-Cola's campaign in Hong Kong used a smartphone app to interact with a commercial running on TV and in movie theaters. By shaking the smartphone during the commercial, consumers received special Coca-Cola discounts or promotions. This campaign not only engaged the consumers, but also generated high-visibility activities that spurred ***word-of-mouth marketing***. Within a day, the app earned the number-one spot on the local app store and garnered over 380,000 downloads in a month.[31] (See **Video 1**.)

**VIDEO 1** Coca-Cola Hong Kong Multiscreen Ad Campaign: "Chok! Chok! Chok!"

*Scan this QR code, click the icon, or use the link to access the video: bit.ly/hbsp2uoCvZP.*

Source: Video courtesy of McCann Worldgroup Hong Kong Limited.

**Omnichannel Shopping.** Just as consumers are exposed to advertising from different media channels, they are also comfortable buying from different distribution channels. For example, a consumer may see a retailer's online ad and decide to visit that retailer's physical store to buy the product. In this case, the simple metrics of CTR and conversion rates significantly underestimate the effectiveness of online ads. Or consider a beauty company that has online and offline stores. Many consumers will use the company's online store for research, then go to the store to try out products and make their purchase offline. If this company treated each distribution channel separately and evaluated the performance of its e-commerce and physical store managers acccordingly, it would severely penalize the e-commerce manager for underperforming—even though the website is crucial for driving sales to the physical stores.

Since some of the largest advertisers, such as Coca-Cola, Unilever, and General Motors, conduct most sales through retail channels, it is extremely important for them to know the impact of online ads on offline sales. Companies are thus beginning to conduct experiments to understand the cross-channel effectiveness of ads. Advertising platforms such as Facebook can help: IKEA ran an experiment and found that there was an 11% increase in store visits among consumers who were shown Facebook ads versus an identical control group who were not shown ads.[32] Measuring ***offline conversions***, Michael Kors concluded that Facebook ads accounted for a 31% increase in its in-store transactions.[33]

### Customer Lifetime Value

Although many companies still measure the effectiveness of their online ads using click-through rates, studies show that CTR does not always correlate with return on investment. Companies therefore need to move beyond CTR and instead evaluate the effectiveness of ad campaigns on the basis of their impact on sales or profitability. Gaming companies previously measured the effectiveness of their digital campaigns on the basis of cost per install (CPI) of their games by a mobile user. However, over the years the industry realized that majority of the games retain only 35% of the players after day one, and a staggering 94% of players tend to abandon a mobile game after a month.[34] Retention of players is not the only problem facing gaming companies. Most games are free to play and are monetized only when players buy in-app currency, weapons, or other artifacts. But less than 4% of players spend money on these games.[35] Digital channels may look effective because of CTR or CPI, but that may not be the optimal approach if they don't attract the long-term paying customers. As a result, the gaming industry now focuses on CLV in evalauting the effectiveness of its digital campaigns.

A shift from CPC to CLV may also change the budget allocation to various advertising channels. For example, a bank may find that it is cheaper to acquire new customers through online channels than through traditional channels, which may encourage the bank to shift marketing resources. But it is also possible that the customers acquired through online channels are more price sensitive, since they like to shop around.

In other words, customers acquired through online channels may have lower retention rates, and consequently lower lifetime value, than those acquired through offline channels. For a detailed discussion of the concept of customer lifetime value, see *Core Reading: Customer Management* (HBP No. 8162).

## 2.2 Inbound Marketing

If outbound marketing is similar to looking for a needle (or a sale or a customer) in a haystack, inbound marketing is similar to using a magnet to draw in that customer. Rather than seeking potential customers through advertising, inbound marketing positions the company as a target consumers search for. While outbound marketing seeks to achieve the best ad placement on the search results page, the focus of inbound marketing is to ensure that, in keyword searches by search engines, organic links for a firm rank higher than competing links.

Two forces drive the increasing importance of inbound marketing: the diminished influence of advertising and the rise of consumer search. In the United States, approximately 86% of TV viewers skip commercials altogether, and 84% of consumers between the ages of 25 and 34 have clicked out of a website due to "irrelevant or intrusive" ads.[36] At the same time, 82% of US consumers conduct online research before buying a product.[37] Inbound marketing is a way to engage consumers by creating content, including blogs, podcasts, white papers, and search engine optimization (SEO), so that a company—its brand, products, and services—is found when consumers search for information.

In this section, we focus on how to attract potential customers to your company by offering three main questions for marketing managers: How do consumers find me? What content should I create to attract potential customers? and How do I optimize my website for engagement?[38] (See **Video 2** for additional information on inbound marketing.)

**VIDEO 2** Interview with HubSpot CEO Brian Halligan about Inbound Marketing 2.0

*Scan this QR code, click the icon, or use the link to access the video:* *bit.ly/hbsp2I7qgTs*

Source: Courtesy of David Meerman Scott, marketing & sales strategist, http://www.davidmeermanscott.com/.

### 2.2.1 Getting Found

When a consumer uses an Internet search engine like Google, organic links show up in a specific order. Since research has shown that most consumers do not look beyond the top few organic links on the first page of search results, companies need to find ways to achieve higher rankings in search engines. Continuing with this example, companies first need to understand how Google works. It does two basic things. First, it indexes web pages on the internet, just like a catalog in a library. Second, it ranks web pages on the bases of relevance and importance to consumers' search queries. The process of gaining ranks in search results is called search engine optimization.

Google's ranking is based on two key factors—*relevance* and *authority*. Relevance is a measure of how closely Google can match a consumer's search query and a particular web page. This is based on factors such as page title, page content, and *meta tags* (lines of code in the head section of a web page containing further information about its structure). The authority of a page is Google's measure of its importance, which is based on the number and authority of other web pages that link to it. Google measures the authority of web pages using its proprietary algorithm, PageRank, which is derived from the PhD thesis of Google's cofounder Larry Page. The idea behind PageRank comes from assessing importance and credibility of academic papers and is based on the number of third-party papers that cite a particular paper. A citation from a third-party paper that itself has a large number of citations improves the authority of a paper.

Therefore, inbound marketing requires two key actions. First, the company must ensure that its website has the content, keywords, and meta tags that improve its relevance to a particular search query—thereby achieving a high rank in an organic search engine results listing. To do this, it needs to anticipate the keywords and search queries consumers may be using. Second, the firm needs to find ways to garner inbound links from other websites to build its authority. It can do this by savvy content creation.

### 2.2.2 Creating Content

Content creation for digital marketing has two main goals. The first is to answer customers' questions and needs beyond basic product information. The second is to create trustworthy, original, and interesting content that improves its authority by encouraging other websites from other organizations or individuals to link to the website.

To achieve the first goal, companies should adopt a customer-centric view of the world, finding ways to solve a consumer's problem regardless of any immediate, direct connection to product sales. In the process, even if the consumer eventually buys from a competitor, the company has improved its relationship with the consumer and has also increased awareness of and need for the product. For example, Home Depot, the world's largest home improvement specialty retailer, considered how consumers think about home improvement projects. To parallel the practical advice that its representatives offer in the retail stores, it created new videos and blogs at its website to provide general home improvement advice. As its website's relevance to consumers increased, so did its web traffic. Similarly, cosmetics companies have shifted from simply advertising their products to creating online video content that offers advice about how to apply makeup. These videos simultaneously address consumers' informational needs and introduce products organically without a commercial-sounding script.

To achieve the second goal—creating original content that encourages other websites to provide links to it—the content should contribute to a company's brand reputation. For example, Whole Foods writes blog posts not just about groceries and recipes but also about organic and sustainable living. American Express manages a platform for content on diverse business topics such as leadership, marketing, and digital tools. In doing so, American Express may become the go-to expert not only for credit but for every aspect of business.[39] In a way, every firm has the potential to become a publisher. And just like a traditional magazine publisher, a company needs to designate an editor in chief for creating, managing, and distributing its online content.

### 2.2.3 Optimizing Landing Pages

Getting the consumer to click on an organic link is half the battle; the other half is deciding what content should appear on the landing page to convert the consumer into a customer. At this point, user experience is paramount. Using consumer focus groups to test website design (including the use of colors, button shapes, position, wording, fonts, images, and logos, as well as usability and performance) can show a company which style choices would resonate most effectively with target customers. For example, when a US government agency redesigned its website for usability, the task success rate almost doubled, the time to completion was reduced, and user satisfaction soared. The increasing use of smartphones is also shifting companies to a mobile-first mentality for website design.

## 2.3 Social Media

Whereas outbound and inbound marketing are concerned with company-to-consumer interactions, social media is a powerful tool that allows people to create and share information and ideas across the globe. For example, in world politics, Facebook and Twitter were instrumental in the Arab Spring uprising that began in December 2010.[40] Facebook also played a significant role in the 2016 US presidential elections and was a focal point in the probe into Russia's interference in American elections.

In public health, the Ice Bucket Challenge, which raised awareness and funds for amyotrophic lateral sclerosis (ALS) medical research, began in Boston but quickly spread to the rest of the United States and ultimately worldwide. Between June 1 and September 1, 2014, more than 17 million Ice Bucket Challenge videos were shared on Facebook, which were viewed over 10 billion times by more than 440 million people. (See this link for Facebook's graphical representation of the viral activity related to the Ice Bucket Challenge.)

In international culture and entertainment, *Gangnam Style*, the 2012 pop video by the South Korean musician Psy, was seen over two billion times on YouTube within two years. It had reached 3.29 billion views by February 2019 and was listed as the sixth most-watched video on YouTube.[41] Before the May 2019 release of the Warner Bros. movie *Detective Pikachu*, the actor Ryan Reynolds tweeted about a supposed leak of the full-length movie on a YouTube consumer account called Inspector Pikachu. The Warner Bros. marketing team, which presumably owns that YouTube account, then posted a clip of Pikachu dancing for the full runtime (1 hour and 44 minutes) of the film.[42] Within two months, this YouTube video was viewed almost 25 million times.

For companies, the importance of social media was summed up by Intuit's cofounder Scott Cook: "A brand is no longer what we tell the consumer it is—it is what consumers tell each other it is."[43] Word of mouth and social interactions are now key influencers in the purchase process. The management consulting firm McKinsey & Company estimates that between 20% and 50% of all purchases are driven primarily by word-of-mouth recommendations. Researchers have found that a person is three times more likely to adopt a mobile app if a friend also adopts it.[44] A 2017 study examined 170 brands and found that "online and offline conversations drive an estimated 19% of brand sales, which equates to between $7 trillion and $10 trillion of annual consumer spending in the USA."[45] Other studies have found that customers acquired through word-of-mouth avenues are worth twice as much as those attracted through other channels.[46] Beyond creating new customers, social interactions contribute to retention of existing customers. A study of a mobile phone carrier network found that the probability of defection to a competitor increased by 80% if a customer's friend had defected.[47]

Social media has also created a new breed of social influencers and digital celebrities such as Huda Kattan, a beauty expert who, by mid-2019, had 38 million Instagram followers; and Cameron Dallas, an internet personality and actor with 21 million Instagram followers and 35 million YouTube video views.

Companies are increasingly using these influencers to support their brands, and in some cases the social media celebrities have gone on to launch their own brands.

In this section, we will discuss five topics to explore how managers can use social media to engage with consumers: (1) listening to social conversations, (2) participating in social discussions, (3) leveraging and amplifying messages, (4) measuring social media effectiveness, and (5) managing the impact of social media.

### 2.3.1 Listening to Social Conversations

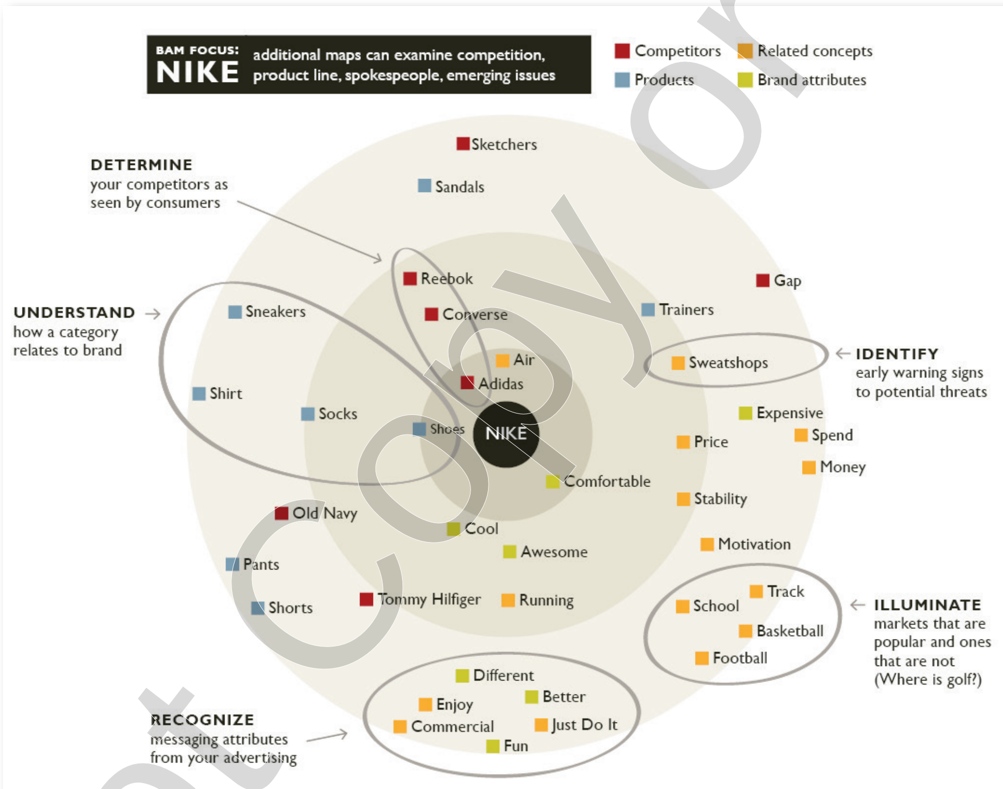
Conversations on social media contain valuable information that companies leverage for a variety of purposes.

**Understanding Customers.** Unlike surveys, which use predefined questions, or focus groups, which sample only a few customers, social media provides a forum for companies to hear and understand their consumers' attitudes and behaviors at a broader and deeper level. For example, PatientsLikeMe provides a platform for patients, typically those undergoing significant medical treatments such as organ transplants or suffering from chronic diseases such as ALS or multiple sclerosis (MS), to share personal experiences with the disease and to hear from others with the same condition. While patients typically receive medical advice from their physicians, many are eager to learn and share about self-care issues, such as managing side effects or pain.

Pharmaceutical companies can also learn from patients' conversations. In 2011, one of the executives of PatientsLikeMe noted, "Novartis partnered with us in a significant fashion to build a community of patients with organ transplants and learn about the experiences of patients."[48] Partnerships between companies and social media platforms open up possibilities to detect and analyze consumer needs and to tailor products, pricing, and communications appropriately. By 2019, PatientsLikeMe had become the world's largest personalized health network, where more than 650,000 people with 2,900 medical conditions have generated more than 43 million data points. This rich source of information and the network's extensive patient reach encouraged UnitedHealth Group, one of the largest health-care companies in the world, to acquire PatientsLikeMe in June 2019. (For more on the impact of data science on marketing, see Big Data and Data Science in the Supplemental Reading section.)

**Brand Perceptions.** How do consumers perceive your brand? What do they like or dislike about it? What do they associate your brand with? These are critical questions for a brand manager. To answer such questions, companies often conduct custom studies to generate ***perceptual maps***. Yet millions of casual social conversations by consumers can also provide a window into the consumer mind. Using *sentiment analysis* and *text-mining techniques*, companies can create brand association maps in real time (see **Exhibit 22** for an example of such a map for Nike).[49] For details on perceptual maps, see *Core Reading: Brand Positioning* (HBP No. 8197).

**EXHIBIT 22** Brand Association Map Using Social Conversation Data




Source: Adapted from Nielsen Company, "Brand Association Map," 2009, http://www.nielsen-online.com/downloads/us/BAM_US.pdf, accessed February 7, 2014. Copyrighted information, © 2014, of the Nielsen Company; licensed for use herein. The Brand Association Map is a retired product.

**Customer Satisfaction and Future Behavior.** Social conversations and online reviews reveal consumers' satisfaction with a product and predict their future purchasing behavior. For example, consumers routinely check hotel reviews on TripAdvisor or restaurant reviews on Yelp before making a booking. One study found that a one-star increase in Yelp ratings was associated with a 5% to 9% increase in sales for restaurants.[50] Another found that TV shows that were discussed across a wide number of communities did better than TV shows discussed within a focused community.[51] And in one study, participant interactions between members of one online community encouraged higher consumer spending on books, music, and movies, especially among the most active and connected participants on the platform.[52] Using data from a multichannel entertainment products retailer, one study found a double-digit increase in spending that could be attributed to the purchase behavior of consumers who joined the firm's online community.[53]

### 2.3.2 Participating in Social Discussions

Instead of simply listening to what consumers say on social media, companies can also actively participate and shape the conversation. For example, Starbucks created a product suggestions website called My Starbucks Idea to source new ideas from customers. The platform connects enthusiasts with each other and allows them to participate in the brand community while Starbucks employees review content and implement selected ideas. On a broader scale, C Space manages hundreds of online communities by recruiting members who fit the target profile of its client companies. The C Space team actively facilitates discussions to help its corporate clients learn about their customers' behavior and unmet needs. The snack food manufacturer Nabisco launched its 100 Calorie Pack after receiving such input.

Participating in social media also creates opportunities for potent real-time marketing. When a blackout brought the Super Bowl to a halt in 2013, agile companies took advantage of the situation and connected with consumers on social media. Walgreens tweeted, "We do carry candles," and Oreo posted "Power out? No problem. You can still dunk in the dark." In the course of five hours that day, the number of followers on Oreo's Instagram account rose from 5,000 to 34,000.[54]

### 2.3.3 Leveraging Social Media and Amplifying the Message

Companies can leverage social media to amplify their message and create brand advocates. Tremor, a company started by P&G in 2002, uses its community of over one million mothers—along with audiences including boomers, millennials, and US Hispanic consumers—to generate word-of-mouth recognition and advocacy by influential consumers. Companies now use a combination of paid and social media to amplify their message. In 2017, the New Zealand Police, which was 80% white and 70% male, wanted to recruit a more diverse spectrum of the population. To achieve this, the organization created a YouTube video that featured a diverse group of 70 of its police officers and promoted it through influencers.[55] Within a week of its release, it reached over 91 million people and was the top trending video on YouTube and Facebook. It increased web traffic to newcops.co.nz by 898%, which resulted in a 615% increase in applications from diverse populations, and eventually helped the police attract the largest number of female recruits ever.

Creativity and humor tend to amplify social content. In 2018, Wendy's created a mixtape, a compilation of rap songs aimed at its rivals McDonald's and Burger King, called "*We Beefin'?*" It included tracks such as "Rest in Grease" and "Clownin" and its lyrics made fun of its rivals: "You number one? That's a joke. Why your ice cream machine always broke? Why your drive-thru always slow? Why your innovation can't grow?"[56] This mixtape was promoted on Twitter and later released on Apple Music, Google Play, and Spotify. Soon after its launch, it climbed to the top 50 on Spotify's Global Viral list and third on the Apple Music hip-hop charts. It also garnered 76 years' worth of streaming in just one week.[57]

To amplify their messages through social media and create brand advocates, managers need to understand three things: (1) *why* consumers share content, (2) *what* content consumers share, and (3) *how* consumers share content.

**Why.** Consumers share information for both intrinsic and extrinsic reasons. *Intrinsic motivations* include intangible customer rewards such as social status. For example, Yelp organizes special events for elite members who contribute content (e.g., reviews of restaurants or dentists). By giving them VIP status, Yelp motivates these members to advocate for the website and increase its popularity among their friends. *Extrinsic motivations* include tangible incentives such as monetary rewards or free products. Social influencers who have large number of followers can earn substantial income, which provides them incentive to be at the forefront of new product and fashion trends to keep their followers informed and engaged.

**What.** To stimulate intrinsic motivations for sharing, the content must connect emotionally with viewers. Research on viral video ads found that following a time-tested advertising strategy generated the most shares: open the advertisement with a joyous tone to grab viewers instantly; build an emotional roller coaster to hold viewers' attention; surprise the viewer to encourage sharing (but don't shock—shocking videos may be interesting, but viewers are less likely to share them); and, finally, target customers who are likely to share.[58] Humor usually works in engaging consumers and encouraging them to share, as witnessed by the Amazon commercial showcasing celebrities testing out improbable uses for Alexa, which generated almost 40 million views within seven months of its release.

Advertisements with high entertainment value are likely to be shared by consumers on social media networks more frequently, but marketers should be aware that such ads are not necessarily good for the company, since the brand message may be lost.[59] (See **Video 3.**) Therefore, brands need to strike a careful balance between entertainment to encourage sharing and brand message to encourage brand association and purchase intent.

**VIDEO 3** Advertising Symbiosis: The Key to Viral Videos

*Scan this QR code, click the icon, or use the link to access the video: bit.ly/hbsp2uoB5yt.*



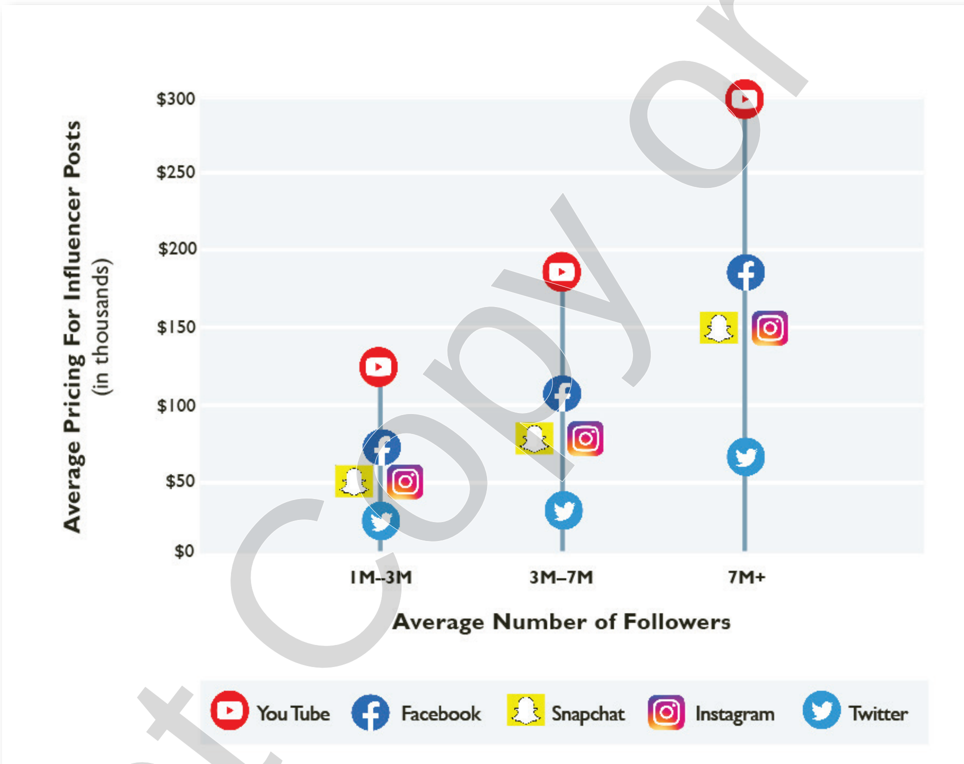
**How.** Can you make your content go viral and, if so, how? There is a strong debate in both academia and industry on this topic. While proponents, such as Mekanism, a San Francisco–based social media company, guarantees that it "can engineer virality,"[60] others disagree. A 2012 study examined the spread of millions of messages on Twitter and Yahoo and found that more than 90% of the messages did not spread at all beyond the recipient. About 4% of the messages were shared only once, and less than 1% were shared more than seven times.[61] The difficulty of creating viral content is also evident on YouTube, where the average number of views of a YouTube video is less than 10,000.[62] Although as of 2017 there were almost 11,000 videos on YouTube with over a billion views,[63] this constituted a very small fraction of the billions of videos on the site.

There is a distinction between virality and amplification. The notion of virality comes from epidemiology, where a single person infected with a disease, such as Ebola, can spread it to the entire population. In other words, the rate of diffusion is typically greater than one (i.e., each person infected with a disease passes it on to more than one non-infected persons). The higher the diffusion rate, the faster is the spread of disease. However, most studies find that the diffusion rate for social media content is far less than one. Jonah Peretti, founder of Buzzfeed, argues that while messages on social media can be amplified two to three times, they cannot go viral.

This distinction has a strong implication for how to amplify social media content. Social media influencers with a large number of followers who command large fees are sought after by many brands. However, it is unclear if their message goes beyond the followers of these celebrities. A 2011 study tracked 74 million events from 1.6 million Twitter users and found that "under a wide range of plausible assumptions the most cost-effective performance can be realized using 'ordinary influencers'—individuals who exert average or even less than average influence."[64] These researchers suggest that instead of focusing on a few influencers, brands should use a *big seed* strategy: the message should be seeded with a large number of average users.

This is an ongoing debate, and it has not stopped brands from seeking out influencers and paying them hefty fees. **Exhibit 23** shows average earnings for influencer posts in various social media. This exhibit shows that in 2016, a social influencer with 3 million to 7 million followers could charge $187,000 per post on YouTube. When converted in terms of cost per thousand (CPM) impressions, this translates into CPM of $26 to $62, significantly higher than the YouTube's average CPM of $7.60 as reported by TubeMogul.[65] In spite of these high costs of social influencers, many marketing managers believe that influencers create more customer engagement than other forms of paid media.

**EXHIBIT 23** Average Earnings for Influencer Posts on Social Media Platforms, 2016




Source: Used by permission of Captiv8.

Success in social media has also encouraged social media celebrities to launch their own brands. Notable examples have included Ipsy (formerly MyGlam), a beauty products subscription service, launched by Michelle Phan; Kylie Cosmetics by Kylie Jenner; Huda Beauty by Huda Kuttan; and Attico, an Italian shoe company, by Gilda Ambrosio and Giorgia Tordini.

## 2.3.4 Measuring Social Media

It is hard to measure the impact of social media on sales, so most firms use metrics such as number of followers, fans, shares, "likes," etc., as surrogates for the success of their social media campaigns. Companies often convert these metrics into the amount of money they would have to spend to expose an equivalent number of customers to their message—a measure of so-called earned media.

In the quest to quantify these impacts, Syncapse, a social media analytics company, came out with a study in 2013 that reported the average value of a Facebook fan across several brands as $174. How did the firm come up with this number? It compared the spending of people who "liked" a brand, say, Coke, on Facebook with another group of consumers who did not "like" Coke on Facebook. The difference in spending of these groups was, in their view, the value of a Facebook fan for that brand. This interpretation has an obvious flaw due to *self-selection*: heavy consumers of Coca-Cola (who like the brand and consume it more) may click the "Like" button on Coke's Facebook page more than light Coke drinkers. In other words, it is quite possible that "liking" Coke on Facebook does not cause a consumer to increase her purchase of Coke. In fact, the causality may go the other way around.

Self-selection is not the only challenge in measuring the effect of social media. A second challenge is due to *homophily*, which means that people with similar preferences tend to belong to the same social community or group—"birds of a feather flock together." Why does this create a problem in measuring social media effects? Consider the case of a music studio that is interested in finding out the social or peer effect on its sales. The company observes that you bought their latest album online, and two days later one of your Facebook friends also bought the same album. Did your friend buy that album because of you (social effect), or did he buy it because you have similar taste in music (homophily effect)? It is hard to separate these two effects. Using instant messaging data from 27 million users and the adoption of a mobile service application, one study found that homophily explains more than 50% of perceived contagion behavior.[66] Another study used lab and field experiments on over 14,000 users to control for self-selection and homophily and concluded that the dollar value of a "like" on Facebook is close to zero.[67]

As a result of these measurement challenges, estimating the effectiveness of social media remains an area that needs further research.

### 2.3.5 Managing Social Media

Social media can be a double-edged sword. On the one hand, consumers can promote a brand and share information and content with other consumers, generating awareness and positive feeling for a company. On the other hand, consumers can air their negative experiences in public. When this negative word of mouth strikes a chord in a social network, it can quickly spread like wildfire and become a public relations disaster.

Even if 99% of these customers are happy, a single customer can potentially create a nightmare for a company. How do you manage customers in such an environment? Perhaps the best advice for managing social media disasters comes from those who manage forest fires. They abide by two simple rules: make sure your forest is not dry because you don't know where lightning may strike; and if a forest catches fire, act quickly.

The same two principles are suitable for managing a company's social media crises. The first principle suggests that if a consumer complaint catches the attention of thousands or millions of people on social media, it is an indication of a "dry forest," or an inherent problem with the company's product or service. We live in a transparent world where companies cannot hide from consumers. So it is the responsibility of the managers to avoid such disasters before they happen.

The second principle suggests that in case of social media crisis (or forest fire), you have to act quickly before the damage spreads. Today, customers expect an immediate response. One study found that 42% of customers expect a response to their complaints on social media within an hour.[68] Another study found that 80% of customers expect a response within 24 hours. Almost 50% of customers claim that they would stop doing business with a firm if it does not respond to their social media complaints, and these complaints negatively influence 62% of customers.[69] (See the sidebar "When Social Media Turns Bad.")

### When Social Media Turns Bad

After the musician Dave Carroll's guitar was damaged because of mishandling during a United Airlines flight, he created a song titled "United Breaks Guitars." In 2009, the song became a YouTube hit and generated bad press for United Airlines. The effect was so powerful that the company now uses this video in its employee training program (see **Video 4**).

**VIDEO 4** United Breaks Guitars

*Scan this QR code, click the icon, or use the link to access the video: bit.ly/hbsp2uoAz3v.*

Source: Video courtesy of Dave Carroll Music, Big Break Enterprises, Inc., and Curve Productions, Inc.

Social media can also drag companies into full-blown scandals. Consider the Taco Bell employee who in 2013 posted to his Facebook page a photograph of himself licking 30 taco shells. The photo was picked up by national news media. Taco Bell responded quickly by standing behind its food-handling policy, firing the employee, and verifying that the taco shells in question were not served to customers.

For more examples of social media failures, see any one of a number of annual lists of corporate media debacles.

Source: Jared Wiener, Zach Fannin, and Kristi Berner, "'United Breaks Guitars': Hot on YouTube," *ABC News Blog*, July 9, 2009, http://blogs.abcnews.com/theworldnewser/2009/07/united-breaks-guitars-hot-on-youtube.html. Susanna Kim, "Licked Taco Bell Shells Not Served to Customers, Company Says," ABC News, June 5, 2013, http://abcnews.go.com/Business/taco-bell-licked-taco-shells-served/story?id=19328741.

## 2.4 Mobile Technology

Since the launch of the iPhone in 2007, mobile use has increased dramatically all over the world. In emerging markets like India and Indonesia, a majority of people had their first exposure to the internet on their mobile devices. Many new businesses are based on mobile technology, including Waze, Uber, Postmates, Grubhub, and HotelTonight, to name a few, and legacy companies are now trying to build their sites with a mobile-first mentality.

Why is mobile so different from desktop or laptop use? Is it simply the smaller screen size? Or does the technology change the way consumers behave and therefore have an impact on how brands engage users? In this section we will look at these questions.

First, screen size matters. With smaller screens, people are less inclined to read for long periods. This makes mobile devices most suitable for visually rich content, such as photos, maps, videos, and games. Facebook is increasingly relying on photos and videos, instead of text, in its newsfeed and on Instagram.

Second, mobile phones provide valuable location information about consumers that companies can use to refine targeted marketing messages. Consumers who are within one mile (1.6 km) of a store, for instance, are 23% more likely to click on its ad.[70] Almost every major company is now using location data to target consumers.

Third, mobile offers consumers easy access to information about competitive prices and customer reviews about a product while they are shopping in an offline store. This price transparency has created a significant challenge for many retailers. A number of US retailers have faced the negative bottom-line effects of "showrooming," whereby consumers experience a product in a store, check its price on Amazon.com on their mobile phone, and end up buying from Amazon.

Fourth, unlike desktops or laptops, where most consumer time is spent surfing the web, 90% of the time consumers spend on smartphones is devoted to using apps, not browsing the internet.[71] Thus, display or search ads that worked well on desktops or laptops will reach a smartphone user only 10% of the time. This requires a shift in mobile digital strategy. (See the sidebar "Apps, Not Ads" for a description of the marketing challenges that mobile technology presents marketers.)

## Apps, Not Ads

Savvy marketers have embraced mobile marketing because that is where consumers are spending an increasing amount of time. As a result, global mobile advertising spend is expected to increase from $231 billion in 2019 to $396 billion in 2023.[72] However, an effective mobile marketing strategy cannot rely solely on principles that worked on larger laptop or desktop formats. For one thing, some consumers find in-app or banner ads intrusive and irrelevant, whether on PCs or on mobile devices. Furthermore, measuring the effectiveness of mobile ads with the CTR metric may be misleading because of the "fat finger" phenomenon (unintended or inaccurate clicks, particularly on touchscreens).

Also, a search ad that worked well on a desktop may not work on a mobile screen. Consumers spend over 90% of their mobile screen time with apps. Yet getting an app in front of a consumer is no easy feat: a typical smartphone user has about 40 to 50 apps, 10 to 15 of which are used regularly.

This poses a new challenge for marketers––how to encourage consumers to download the app for their brand. A typical consumer has no incentive to download an app for Coke beverages or Dove soap, for example, and the traditional ways to reach consumers through online banner or display ads don't seem to work on smartphones.

**EXHIBIT 24** "Virtual" Grocery Store

Source: Park Ji-Hwan/AFP/Getty Images.

Companies need to create apps that provide unique value to consumers. For example, when the UK grocery retailer Tesco entered the South Korean market, its research showed that a large proportion of its target consumers commute to work by trains, and that they also dislike grocery shopping after returning from work. So Tesco plastered metro stations with a "virtual shelf" of its products (see **Exhibit 24**). A consumer waiting for a train could pull out his smartphone and use the Tesco app to scan and order groceries from the virtual shelf that would be delivered to his home address within a specified period. Tesco gave consumers a compelling reason to download its app by solving their shopping "problem," a mobile marketing strategy that increased its market share significantly within a short time.

Source: Adapted from "For Mobile Devices, Think Apps, Not Ads," by Sunil Gupta, *Harvard Business Review,* March 2013. Copyright © 2013 by the Harvard Business Publishing Corporation; all rights reserved.

Finally, consumers see mobile devices as very personal and consider ads as intrusions. As of December 2016, there were 600 million devices running ad-blocking software globally, 62% of which were on mobile devices, and the rate of ad blocking increased 30% in a year.[73] Because consumers are becoming savvier at avoiding advertising, no matter how compelling the story, M. V. Rajamannar, chief marketing officer of Mastercard, believes that we need to shift from storytelling to story making with consumers.[74] Google suggests ***moment-based marketing***, whereby the advertiser can wait for the right moment before sending the right message to a consumer. Google defines these as ***micro moments*** and classifies them into four groups: "I want to know," "I want to go," "I want to do," and "I want to buy."[75] For example, if you book an Uber on Friday evening, ads for restaurants and movies may be relevant at that moment. Driving on a highway at noontime may be the best moment for Google Maps to show an ad for a nearby restaurant. Using this moment-based strategy, Red Roof Inn converted flight cancellations into bookings (see the video at "Red Roof Inn Turns Cancellations into Customers").

More examples of how to use mobile effectively can be found in Google's Mobile Playbook (see Resources for Social Media Marketing in the Supplemental Reading section).

The digital landscape is evolving quickly. Keeping pace with digital marketing presents significant challenges—best practices even a year old can quickly become obsolete. But digital media also offer great opportunities for companies to connect with consumers in fresh new ways. Meeting the challenges requires different and creative thinking about underlying consumer behavior, reaching and engaging consumers, measurement, and organizational structure.

# 3 SUPPLEMENTAL READING

## 3.1 Big Data and Data Science

In this section, we focus on challenges and successful applications of big data and data science in marketing and other business functions. *Big data* refers to large *volumes* of *varied* data that come in at high *velocity* (often referred to as the 3Vs of big data). *Data science* is the analytic process of exploring and modeling information to inform marketers' decisions. Combined, they can bring powerful changes to digital marketing. Some examples have been documented in the reading, such as analyzing web browsing behavior to adapt websites to fit cognitive styles or using social media to build a comprehensive view of multiscreen content consumption. Here we look at some of the challenges involved in using big data and data science and provide additional successful examples.

The first challenge is to get the right data and analysis technique. No matter how big, the wrong data can skew outcomes. In one instance, a large survey of Xbox users resulted in an atypical prediction for their votes in a US presidential election. As soon as demographics were controlled for, the bias was corrected and the subsequent prediction was in line with other polling data.[76] On the analysis side, big data cannot account for all consumer behavior. Some marketing problems require data visualization and exploratory analysis, while others require statistical and machine-learning models. Some questions can be answered by correlation, whereas other situations require a causal model or experiment. Finding the right tool for the data set requires expertise, but this expertise is in short supply.

The second challenge is that tackling big data requires many different business units to work in tandem. Information technology needs to receive the data and warehouse them properly. In companies, human resources officers face the challenge of acquiring the proper talent to extract insight from the data and fostering the type of organizational structure that allows findings to circulate through the organization. In turn, marketing and operations departments need to apply the insights toward revenue generation or cost management. For this reason, many companies have a chief information officer (CIO) who reports to, or collaborates closely with, the chief marketing officer (CMO).

Once companies address these two major challenges, they can reap huge benefits. For example, data science already has changed how pricing occurs online. The Macy's department store chain uses real-time demand information to price 73 million online products hourly.[77] Credit-scoring companies such as FICO are exploring using alternative data sources such as social media to price credit risk, especially in developing countries where traditional credit-scoring data inputs may not be available.[78] The mobile app–based transportation company Uber uses "surge pricing" that dynamically adjusts pricing according to geography-based supply and demand.[79] Airbnb, a vacation rental company that includes shared-space accommodations, built a predictive model that is based on multiple sources of information, including rental property and neighborhood information. Thus, this site can suggest rental prices to users offering housing through the platform.[80] Developing pricing models that take advantage of the variety and velocity of consumer data is an example of how data science has changed marketing.

Promotions have also been affected by data science. Linking geography-based information with product features and consumer needs is one way that data science can be used. Pantene, a P&G hair-care brand, varied its consumer targeting by postal zip code weather patterns. Aligning advertised products to consumers experiencing differing weather conditions (e.g., humid versus dry) increased sales by 28%.[81]

Data science has the opportunity to transform operations. UPS optimizes its driver routes, which saves the company 100 million driving miles per year, reducing fuel consumption by 10 million gallons and carbon dioxide emissions by about 100,000 metric tons.[82] General Electric sensors on jet engines and wind turbines could lead to hundreds of billions of dollars in savings across multiple industries.[83]

The never-ending search by organizations for new talent and innovations could also evolve with data science. Knack.it Corporation, a mobile app company, offers games to consumers, whose choices while playing a game generate data for behavioral matching with employers. Using its approach, Knack accurately predicted which employees would come up with the best innovation ideas for one company.

In the end, big data and data science have the potential to improve company decision making significantly. They can have an enormous positive impact on corporate marketing strategy, but this requires various business units to work together to use the right analysis on the right data.

## 3.2 Personalization and Privacy

Not only is digital marketing reaching consumers in new spaces, but it can also track consumer details to target and customize their experience. There is ample evidence that personalization works. Adapting websites to match consumers' cognitive styles increased purchase intent on a website by almost 20%.[84] Ads that directly address an individual have almost doubled the CTR of those that target consumers simply on the basis of demographics and interest.[85] Retargeted ads have higher CTRs at the appropriate purchase stage.[86]

Targeting consumers for direct marketing is a time-tested marketing tool. But digital marketing takes it to new levels by (1) incorporating detailed data and (2) automating personalization at the machine (e.g., server or smartphone) level. This brings a huge amount of power to the marketer's fingertips.

Personalization can, however, raise consumer privacy concerns. Though 61% of American consumers and 48% of UK consumers are willing to share personal data for personalized marketing communications,[87] consumers are increasingly concerned about their information being compromised. In general, they are comfortable sharing data with trusted brands and companies, although periodic incidents of personal online data theft create worries for these brands as well. Lack of transparency and frequent updating or reversal of privacy policies also feed consumer doubts. That is why some countries, especially in Europe, impose even stricter guidelines than does the United States for collecting and using private information.

Finally, consumers are beginning to wonder why third-party vendors and market research firms should benefit from selling their data without sharing profits with them. A new set of companies, such as Streamr and UBDI, provide a platform where consumers can sell their personal data. Roger Haenni, co-founder of the startup Datum, estimates that our data might be worth almost $2,000 a year, though others have estimated this number to be much lower.[88]

## 3.3 Resources for Social Media Marketing

This section offers a sampling of marketing resources offered by Google, YouTube, Facebook, Instagram, and Twitter, including campaign management tools, ad samples, and format specifications.

### 3.3.1 Google and YouTube Resources

#### Google Ads

**Overview** *https://support.google.com/google-ads/answer/6398605*

**Creating a Campaign** *https://support.google.com/google-ads/answer/6324971*

#### Keywords

**About Keywords** *https://support.google.com/google-ads/answer/1704371*

**Keyword Planner** *https://support.google.com/google-ads/answer/7337243*

**Basic Tips for Building a Keyword List** *https://support.google.com/adwords/answer/2453981*

#### Quality Score

**About Your Quality Score** *https://support.google.com/google-ads/answer/7050591*

**Checking Your Quality Score** *https://support.google.com/adwords/answer/2454010*

#### Video and YouTube Campaigns

**Overview** *https://www.youtube.com/ads/how-it-works/#show-up*

**Ads and Marketing Goals** *https://www.youtube.com/ads/running-a-video-ad/*

**Video Ad Formats** *https://support.google.com/google-ads/answer/2375464*

#### Search Engine Optimization (SEO)

**Campaign Tools** *https://ads.google.com/aw/campaigns/new/express?campaign*

**SEO Starter Guide** *https://support.google.com/webmasters/answer/7451184*

#### Mobile Marketing Strategy

**Campaign Tools:** *Google Mobile Playbook: http://www.themobileplaybook.com/en-us/*

### 3.3.2 Facebook and Instagram Resources

**Facebook Ad campaigns** *https://www.facebook.com/business/help/337584869654348*

### Tools

**Facebook Business Manager** *https://business.facebook.com/*

**Ads Manager Introduction** *https://www.facebook.com/business/tools/ads-manager*

**Reporting from Ads Manager** *https://www.facebook.com/business/help/318580098318734*

### Ad Formats

**Overview** *https://www.facebook.com/business/ads-guide/*

**Display Ads** *https://www.facebook.com/business/help/714656935225188*

**Video Ad Campaigns** *https://www.facebook.com/business/help/1989095221359964*

**Video Ad Formats** *https://www.facebook.com/business/ads-guide/video*

### Offline Conversion

**Offline Events** *https://www.facebook.com/business/help/1142103235885551*

### Instagram Campaigns

**Ad Formats** *https://business.instagram.com/advertising/*

**Tools** *https://business.instagram.com/advertising/#precise-targeting*

## 3.3.3 Twitter Resources

**Overview: Twitter Ad Campaigns** *https://business.twitter.com/en/solutions/twitter-ads.html*

### Ad Types

**Format Overview**
*https://business.twitter.com/en/help/campaign-setup/advertiser-card-specifications.html*

**Video** *https://business.twitter.com/en/help/campaign-setup/create-a-video-views-campaign.html*

### Tools and Tracking

**Campaign Dashboards** *https://business.twitter.com/en/analytics/campaign-dashboard.html*

**Conversion Tracking and Setting Conversion Events**

*https://business.twitter.com/en/help/campaign-measurement-and-analytics/conversion-tracking-for-websites.html*

# 4 KEY TERMS

**A/B testing** Experiments in which the impact of a single variable is tested. A/B tests are commonly used to test ad copy and landing page copy or designs to determine which version better drives the desired result.

**click-through rate (CTR)** *Click-through* is the process of clicking through an online advertisement to the advertiser's destination. *Click-through rate (CTR)* is the average number of click-throughs per hundred ad impressions, expressed as a percentage. The CTR is a way of measuring the success of an online advertising campaign for a particular website as well as the effectiveness of an email campaign.

**content-curation website** A type of website that supports the gathering, organizing, and online presentation of content related to a particular theme or topic. For most companies, content curation is being used to drive search engine optimization (SEO). A company that links multiple pieces of content about a specific subject increases its exposure when that topic is searched. A particularly collaborative subtype of content curation is called *social curation*.

**content-sharing website** A type of website that supports the posting or publishing of a user's own material (content). Content sharing can be used as a way to target an audience with a specific niche interest or professional expertise.

**cookie** Information stored on a computer by a website that remembers user's preferences. Cookies enable marketers to customize web pages for identified users, but privacy advocates raise concerns about tracking cookies that compile long-term records of individuals' browsing histories.

**cost per click (CPC)** An Internet advertising metric that can be defined simply as "the amount spent to get an advertisement clicked." Cost per click is used as a billing mechanism in the pay-per-click advertising model.

**customer lifetime value (CLV)** The dollar value of a customer relationship, based on the present value (PV) of the projected future cash flows from the customer relationship. It represents an upper limit on spending to acquire new customers.

**display ad** Graphic advertising on the Internet that appears next to content on web pages, instant messaging (IM) applications, email, and so forth. These ads come in standardized ad sizes and can include text, logos, pictures, or, more recently, rich media (videos).

**earned media** Media spread when customers, the press, and the public share a company's content or discuss a company's brand through word of mouth. It is stimulated by viral and social media marketing.

**going viral** The rapid spread of a popular image, video, or link through a population by its being frequently shared with a number of individuals through electronic mail and social networking sites. *Virality* refers to the degree to which a piece of Internet content has been or might be shared in a short amount of time. *Viral marketing* refers to a marketing approach that facilitates and encourages people to pass along a marketing message.

**impression** A single instance of an online advertisement being displayed. Many websites sell advertising space by the number of impressions displayed to users. Also known as *view.*

**micro moments** Google coined this term to describe an intent-rich moment when a person turns to a device to act on a need—to know, go, do, or buy. This identifies moments of decision making, often in just a few seconds, throughout the consumer journey (e.g., a search such as "find a restaurant near me").

**mobile technologies** Technologies that are not desktop/laptop based, such as web-enabled phones, smartphones, tablets, wearable technology (e.g., Google Glass and smart watches), and hybrid devices (e.g., phablets).

**moment-based marketing (or moment marketing)** The strategy of sending appropriate ads or messages at the moment when the consumer is about to make a decision about a relevant product or service. For example, some airlines include ads for Uber in their mobile boarding passes.

**offline conversions** A metric that tracks the transactions that occur in a physical business or retail location, and in other offline channels (e.g., phone orders), after a customer sees or engages with offline or online campaigns.

**owned media** Media or channels created and controlled by the brand, such as its websites, blogs, and mobile apps, or its social presence on Facebook, LinkedIn, or Twitter.

**paid media** The media for which a company pays an online search engine or publisher to attract potential customers.

**perceptual map** A map that shows consumers' perception of various brands. Brands that are close to each other in this map are pereceived by consumers as substitutes for one another, and therefore these brands compete more intensly with each other.

**review website** A website on which reviews and ratings can be posted about people, businesses, products, or services by either website users or writers employed by the website.

**search ad** A type of contextual advertising through which website owners pay an advertising fee, usually based on click-through rate or ad views, to have their ad shown on search result pages.

**search engine optimization (SEO)** The process of using features that make a company website rank higher in the organic link on a search engine without paying any money.

**search engines** Programs that search the web for documents containing specified keywords and return a list of findings. A search engine is really a general class of programs; however, the term is often used to describe specific systems such as Google, Bing, and Yahoo!

**tags** Labels or categories that describe the content of a website, bookmark, photo, or blog post. Tags provide a useful way of organizing, retrieving, and discovering information.

**test-control methodology** A controlled experiment in which subjects are randomized into either test or control groups.

**word-of-mouth marketing** A marketing method that relies on consumers spreading information about a product or service.

# 5 FOR FURTHER READING

Fisman, Ray, and Michael Luca. "Fixing Discrimination in Online Marketplaces." *Harvard Business Review* (December 2016): 88–95.

Gupta, Sunil. *Driving Digital Strategy: A Guide to Reimagining Your Business*. (Boston: Harvard Business Review Press, 2018).

Gupta, Sunil. "For Mobile Devices, Think Apps, Not Ads." *Harvard Business Review* 91 (March 2013): 70–75.

John, Leslie K., Tami Kim, and Kate Barasz. "Ads That Don't Overstep." *Harvard Business Review* (January–February 2018): 62–69.

Kohavi, Ron, and Stefan Thomke. "The Surprising Power of Online Experiments." *Harvard Business Review* (September–October 2017): 74–82.

Nichols, Wes. "Advertising Analytics 2.0." *Harvard Business Review* 91 (March 2013): 60–68.

Ofek, Elie, Barak Libai, and Eitan Muller. "Customer Lifetime Social Value (CLSV)," HBS No. 518-077 (Boston: Harvard Business School, 2018).

Teixeira, Thales S. "The New Science of Viral Ads." *Harvard Business Review* 90 (March 2012): 25–27.

# 6 ENDNOTES

1 Sources for the valuation data in Exhibit 1 include Mike Isaac and Michael J. de la Merced, "Dollar Shave Club Sells to Unilever for $1 Billion," *New York Times*, July 20, 2016, https://www.nytimes.com/2016/07/20/business/dealbook/unilever-dollar-shave-club.html; Michael J. de la Merced, "Shaving Start-Up Harry's Will Be Sold to Owner of Schick for $1.37 Billion," *New York Times*, May 9, 2019, https://www.nytimes.com/2019/05/09/business/dealbook/harrys-edgewell-acquisition.html; Michael de la Merced, "Walmart to Buy Bonobos, Men's Wear Company, Valued at $310 Million," *New York Times*, June 16, 2017, https://www.nytimes.com/2017/06/16/business/walmart-bonobos-merger.html; Kate Clark, "Mattress Startup Casper Valued at $1.1B with New Funding," TechCrunch, March 27, 2019, https://techcrunch.com/2019/03/27/mattress-startup-casper-said-to-be-valued-at-1-1b-with-new-funding/; Jay Coen Gilbert, "Allbirds' Reported Billion-Dollar Valuation: What Makes These Strange Birds Fly," *Forbes*, January 9, 2019, https://www.forbes.com/sites/jaycoengilbert/2019/01/09/allbirds-reported-billion-dollar-valuation-what-makes-these-strange-birds-fly/#3f2ffe337d38; Neil Stern, "Glossier: From Beauty Blog to Billion Dollar Brand," *Forbes*, March 19, 2019, https://www.forbes.com/sites/neilstern/2019/03/19/glossier-from-beauty-blog-to-billion-dollar-brand-valuation/#29908e84433c; Jordan Valinsky, "Jessica Alba's Honest Co. Just Got a $200 Million Lifeline," CNN Business, June 6, 2018, https://money.cnn.com/2018/06/06/news/companies/honest-company-funding/index.html, accessed August 2019.

2 "Data Never Sleeps 6.0," Domo, https://www.domo.com/assets/downloads/18_domo_data-never-sleeps-6+verticals.pdf, accessed July 2019.

3 Felix Oberholzer-Gee, "BuzzFeed—The Promise of Native Advertising," HBS No. 714-512 (Boston: Harvard Business School, 2014).

4 Other digital communication tools to nurture prospective and existing customers like email marketing are important next steps after outbound and inbound marketing; see Arthur Middleton Hughes, "Why Email Marketing Is King," *Harvard Business Review*, August 21, 2012, https://hbr.org/2012/08/why-email-marketing-is-king.

5 Bill Dyszel, "Eight Tips for Super Searching," *PC Magazine*, May 5, 2009, http://www.pcmag.com/article2/0,2817,2346373,00.asp, accessed August 2019.

6 In a generalized second-price auction, the highest bidder pays the amount bid by the second-highest bidder. Economic theory shows that this strategy allows bidders to reveal their true willingness to pay. For details, see Benjamin Edelman, Michael Ostrovsky, and Michael Schwarz, "Internet Advertising and the Generalized Second-Price Auction: Selling Billions of Dollars Worth of Keywords," *American Economic Review* 97, no. 1 (2007): 242–259, https://www.benedelman.org/publications/gsp-060801.pdf.

7 Sunil Gupta and Kerry Herman, "TripAdvisor," HBS No. 511-004 (Boston: Harvard Business School, 2011).

8 Jillian D'Onfro, "Google Got More Than $1 Billion in Ad Dollars Last Quarter from Travel Giant Booking" CNBC, November 6, 2018, https://www.cnbc.com/2018/11/05/travel-giant-booking-spent-1-billion-on-google-ads-in-the-quarter.html.

9 Anindya Ghose and Sha Yang, "An Empirical Analysis of Search Engine Advertising: Sponsored Search in Electronic Markets," *Management Science* 55 (October 2009): 1605–1622.

10 Oliver J. Rutz and Randolph E. Bucklin, "From Generic to Branded: A Model of Spillover in Paid Search Advertising," *Journal of Marketing Research* 48 (February 2011): 87–102.

11 Robert Hof, "How Do You Google? New Eye Tracking Study Reveals Huge Changes," *Forbes*, March 3, 2015, https://www.forbes.com/sites/roberthof/2015/03/03/how-do-you-google-new-eye-tracking-study-reveals-huge-changes/#1323d4638282, accessed July 2019.

[12] Eric Marcy, "It Costs 23% More to Advertise in Google Search Than Four Years Ago. Here's What You Can Do About It," Kantar, December 26, 2018, https://www.kantarmedia.com/us/newsroom/km-inthenews/it-costs-23-more-to-advertise-in-google-search-than-four-years-ago.

[13] Ashish Agarwal, Kartik Hosanagar, and Michael D. Smith, "Location, Location, Location: An Analysis of Profitability of Position in Online Advertising Markets," *Journal of Marketing Research* 48 (December 2011): 1057–1073.

[14] Frank V. Cespedes, John Deighton, Lisa Cox, and Olivia Hull, "DataXu: Selling Ad Tech," Harvard Business School Case 817012, April 20, 2018.

[15] "Digital Advertising Effectiveness," IAB UK, March 16, 2018, https://www.iabuk.com/research/digital-advertising-effectiveness, accessed July 2019.

[16] Avi Goldfarb and Catherine Tucker, "Online Display Advertising: Targeting and Obtrusiveness," *Marketing Science* 30 (May/June 2011): 389–404.

[17] Anja Lambrecht and Catherine Tucker, "When Does Retargeting Work? Information Specificity in Online Advertising," *Journal of Marketing Research* 50 (October 2013): 561–576.

[18] Miguel Helft and Tanzina Vega, "Retargeting Ads Follow Surfers to Other Sites," *New York Times*, August 29, 2010, http://www.nytimes.com/2010/08/30/technology/30adstalk.html, accessed August 2019.

[19] Glen L. Urban et al., "Morphing Banner Advertising," *Marketing Science* 33 (January/February 2014): 27–46.

[20] Ross Benes, "Q2 2019 Digital Video Trends: TV and Digital Video Upfront Ad Spending Remains Strong," eMarketer, June 28, 2019, https://content-na1.emarketer.com/q2-2019-digital-video-trend.<<this URL doesn't work>>

[21] Alexandra Bruell, "Targeted TV Advertising Is Taking Off," *Wall Street Journal*, June 16, 2019, https://www.wsj.com/articles/targeted-tv-advertising-is-taking-off-11560707549.

[22] Thomas Blake, Chris Nosko, and Steven Tadelis, "Consumer Heterogeneity and Paid Search Effectiveness: A Large-Scale Field Experiment," *Econometrica* 83, no. 1(2015): 155–174, https://onlinelibrary.wiley.com/doi/abs/10.3982/ECTA12423.

[23] Mark Sweney, "Google Keyword Advertising Is Waste of Money, Says eBay Report," *Guardian*, March 13, 2013, http://www.theguardian.com/technology/2013/mar/13/google-keyword-advertising-wastes-money-ebay, accessed July 2019.

[24] "Synergy between Search and Display Advertising Revealed," InternetMarketingAdvice.net, April 22, 2019, https://internetmarketingadvice.net/synergy-between-search-and-display-advertising-revealed/, accessed August 2019.

[25] Pavel Kireyev, Koen Pauwels, and Sunil Gupta, "Do Display Ads Influence Search? Attribution and Dynamics in Online Advertising," HBS Working Paper No. 13-070 (Boston: Harvard Business School, 2013).

[26] Hongshuang (Alice) Li and P. K. Kannan, "Attributing Conversions in a Multichannel Online Marketing Environment: An Empirical Model and a Field Experiment," *Journal of Marketing Research* 51 (February 2014): 40.

[27] Pavel Kireyev, Koen Pauwels, and Sunil Gupta, "Do Display Ads Influence Search? Attribution and Dynamics in Online Advertising," HBS Working Paper No. 13-070 (Boston: Harvard Business School, 2013).

[28] Michael Blanding, "Search vs. Display Advertising: Which Promises More Bang for the Buck?" *Forbes*, April 15, 2013, https://www.forbes.com/sites/hbsworkingknowledge/2013/04/15/search-vs-display-advertising-which-promises-more-bang-for-the-buck/#636b545c765f, accessed February 2014.

[29] David Court, Dave Elzinga, Susan Mulder, and Ole Jørgen Vetvik, "The Consumer Decision Journey," *McKinsey Quarterly* 3 (2009): 96.

30 Prasad A. Naik and Kay Peters, "A Hierarchical Marketing Communications Model of Online and Offline Media Synergies," *Journal of Interactive Marketing* 23 (November 2009): 288–299.

31 "Coca-Cola—Chok! Chok! Chok!" Adforum, http://www.adforum.com/creative-work/ad/player/34477321, accessed June 2019.

32 Chris Smith, "Ikea's Facebook Campaign Uses Mobile Data to Prove Effectiveness," *Guardian*, May 14, 2014, https://www.theguardian.com/media-network/media-network-blog/2014/may/14/ikea-facebook-mobile-campaign, accessed July 2019.

33 "Success Stories: Michael Kors," Facebook Business, https://www.facebook.com/business/success/michael-kors-2?ref=fbb_offline_conv, accessed July 2019.

34 Anne Freier, "Less Than 15% of Game Apps Retain 35% of Players after Day 1," *BusinessofApps*, October 24, 2018, https://www.businessofapps.com/news/less-than-15-of-game-apps-retain-35-of-players-after-day-1/.

35 "Lifetime Value: The Cornerstone of App Marketing (2018 Benchmarks)," AppsFlyer, https://www.appsflyer.com/resources/ecommerce/lifetime-value-the-cornerstone-of-app-marketing-2018-benchmarks/.

36 Lauren Drell, "Inbound Marketing vs. Outbound Marketing," Mashable.com, October 30, 2011, http://mashable.com/2011/10/30/inbound-outbound-marketing/, accessed July 2019.

37 Cory Munchbach, Tracy Stokes, Luca S. Paderni, and Alexandra Hayes, "The Role of Digital in the Path to Purchase," Forrester, August 27, 2012, https://www.forrester.com/The+Role+Of+Digital+In+The+Path+To+Purchase/fulltext/-/E-RES78961, accessed July 2019.

38 An excellent book that provides further details on inbound marketing is Brian Halligan and Dharmesh Shah, *Inbound Marketing: Get Found Using Google, Social Media, and Blogs* (Hoboken, NJ: John Wiley & Sons, 2010).

39 American Express, "Best of OPEN Forum," https://www.americanexpress.com/en-us/business/trends-and-insights/keywords/best-of-open-forum/, accessed August 2019.

40 John Pollock, "Streetbook: How Egyptian and Tunisian Youth Hacked the Arab Spring," *MIT Technology Review*, August 23, 2011, http://www.technologyreview.com/featuredstory/425137/streetbook/, accessed July 2019.

41 Tyler Lacoma and Jon Martindale, "These Are the 10 Most Viewed YouTube Videos of All Time," Digital Trends, August 29, 2019, https://www.digitaltrends.com/web/most-viewed-youtube-videos/, accessed July 2019.

42 Todd Spangler, "Ryan Reynolds Tweets Link to 'Pokémon Detective Pikachu' Bogus Full Movie on YouTube," *Variety*, May 8, 2019, https://variety.com/2019/digital/news/ryan-reynolds-detective-pikachu-full-movie-pirated-1203208649/, accessed July 2019.

43 Patrick Sayler, "Listening to Social Media Cues Doesn't Mean Ceding Control," *Forbes*, August 4, 2012, http://www.forbes.com/sites/ciocentral/2012/08/04/listening-to-social-media-cues-doesnt-mean-ceding-control/, accessed July 2019.

44 Sinan Aral and Dylan Walker, "Forget Viral Marketing—Make the Product Itself Viral," *Harvard Business Review* 89 (June 2011): 34–35.

45 "Social Conversations and WOM Drive Sales," WARC, November 28, 2017, https://www.warc.com/newsandopinion/news/social_conversations_and_wom_drive_sales/39664, accessed July 2019.

46 Julian Villanueva, Shijin Yoo, and Dominique M. Hanssens, "The Impact of Marketing-Induced Versus Word-of-Mouth Customer Acquisition on Customer Equity Growth," *Journal of Marketing Research* 45 (February 2008): 48–50.

47 Irit Nitzan and Barak Libai, "Social Effects on Customer Retention," *Journal of Marketing* 75 (November 2011): 24–38.

48 Sunil Gupta and Jason Riis, "PatientsLikeMe: An Online Community of Patients," HBS No. 511-093 (Boston: Harvard Business School, 2011).

49 Nielsen information represents Nielsen's opinion, which is based on its analysis of data and information, including data from sample households and other sources that may not be under Nielsen's control; Nielsen cannot guarantee the accuracy of Nielsen information. For more on text mining methodology and its application see Oded Netzer, Ronen Feldman, Jacob Goldenberg, and Moshe Fresko, "Mine Your Own Business: Market-Structure Surveillance through Text Mining," *Marketing Science* 31, no. 3 (2012): 521–543.

50 Michael Luca, "Reviews, Reputation, and Revenue: The Case of Yelp.com," HBS Working Paper No. 12-016 (Boston: Harvard Business School, 2011).

51 David Godes and Dina Mayzlin, "Using Online Conversations to Study Word-of-Mouth Communication," *Marketing Science* 23, no. 4 (2004): 545–560.

52 Puneet Manchanda, Grant M. Packard, and Adithya Pattabhiramaiah, "Social Dollars: The Economic Impact of Customer Participation in a Firm-Sponsored Online Customer Community," *Marketing Science* 34, no. 3 (2015): 367–387.

53 Puneet Manchanda, Grant M. Packard, and Adithya Pattabhiramaiah, "Social Dollars: The Economic Impact of Customer Participation in a Firm-Sponsored Online Customer Community," *Marketing Science* 34, no. 3 (2015): 367–387.

54 Kelly Clay, "Marketing Meets Mobile during the Super Bowl—but Did It Work?" *Forbes*, February 4, 2013, http://www.forbes.com/sites/kellyclay/2013/02/04/marketing-meets-mobile-during-the-super-bowl-but-did-it-work/, accessed August 2019.

55 Tim Nudd, "See the Unusual New Zealand Police Ad That Boosted Recruitment Inquiries by 600%," *AdWeek*, December 8, 2017, https://www.adweek.com/brand-marketing/see-the-unusual-new-zealand-police-ad-that-boosted-recruitment-inquiries-by-600/, accessed August 2019.

56 Carl Lamarre, "Wendy's Takes Aim at Fast Food Rivals McDonald's & Burger King with New Mixtape 'We Beefin','" *Billboard*, March 23, 2018, https://www.billboard.com/articles/columns/hip-hop/8258222/wendys-we-beefin-mixtape, accessed August 2019

57 Nina Aghadjanian, "How Wendy's Beefed-Up Social Media Presence Is Paying Off Big Time," a.list, June 19, 2019, https://www.alistdaily.com/lifestyle/wendys-brand-reinvention-cannes-lions/, accessed August 2019.

58 Thales Teixeira, "The New Science of Viral Ads," *Harvard Business Review* 90 (March 2012): 25–27.

59 Thales Teixeira, Rosalind Picard, and Rana el Kaliouby, "Why, When, and How Much to Entertain Consumers in Advertisements? A Web-Based Facial Tracking Field Study," *Marketing Science* 33 (November/December 2014): 809–827.

60 Mark Borden, "The Mekanism Guarantee: They Engineer Virality," *Fast Company*, February 1, 2010, https://www.fastcompany.com/1615327/mekanism-guarantee-they-engineer-virality, accessed July 2019.

61 Sharad Goel, Duncan Watts, and Daniel Goldstein, "The Structure of Online Diffusion Networks," in *Proceedings of the 13th ACM Conference on Electronic Commerce* (New York: ACM, 2012), 623–638, https://5harad.com/papers/diffusion.pdf.

62 Carla Marshall, "How Many Views Does a YouTube Video Get? Average Views by Category," Tubular Insights, February 2, 2015, https://tubularinsights.com/average-youtube-views/.

63 "36 Mind Blowing YouTube Facts, Figures and Statistics—2017," Videonitch, December 13, 2017, http://videonitch.com/2017/12/13/36-mind-blowing-youtube-facts-figures-statistics-2017-re-post/, accessed July 2019.

64 Eytan Bakshy, Jake Hofman, Winter Mason, and Duncan Watts, "Everyone's an Influencer: Quantifying Influence on Twitter," in *Proceedings of the Fourth ACM International Conference on Web Search and Data Mining* (New York: ACM, 2011), 65–74, http://snap.stanford.edu/class/cs224w-readings/bakshy11influencers.pdf.

65 "Video Ad CPM Rates: Looking to Monetize Your Videos," MonetizePros, June 8, 2016, https://monetizepros.com/cpm-rate-guide/video/.

66 Sinan Aral, Lev Muchnik, and Arun Sundarajan, "Distinguishing Influence-Based Contagion from Homophily-Driven Diffusion in Dynamic Networks," *PNAS*, December 22, 2009, https://www.pnas.org/content/106/51/21544, accessed July 2019.

67 Leslie John, Oliver Emrich, Sunil Gupta, and Michael Norton, "Does 'Liking' Lead to Loving? The Impact of Joining a Brand's Social Network on Marketing Outcomes," *Journal of Marketing Research* 54 (February 2017): 144–155.

68 Jay Baer, "42 Percent of Consumers Complaining in Social Media Expect 60 Minute Response Time," Convince & Convert, https://www.convinceandconvert.com/social-media-research/42-percent-of-consumers-complaining-in-social-media-expect-60-minute-response-time/, accessed July 2019.

69 Swetha Amaresan, "What Are Your Customers' Expectations for Social Media Response Time?" HubSpot, https://blog.hubspot.com/service/social-media-response-time, accessed July 2019.

70 Anindya Ghose, Avi Goldfarb, and Sang Pil Han, "How Is the Mobile Internet Different? Search Costs and Local Activities," *Information Systems Research* 24 (September 2013): 613–631.

71 Pietro Saccomani, "People Spent 90% of Their Mobile Time Using Apps in 2018," MobiLoud, https://www.mobiloud.com/blog/mobile-apps-vs-the-mobile-web/, accessed July 2019.

72 "Worldwide Mobile Ad Spending," eMarketer, https://forecasts-na1.emarketer.com/58a62ddc778579003826d176/58a32412bad7b702a0802ec2.

73 Matthew Cortland, "2017 Adblock Report," PageFair, February 1, 2017, https://pagefair.com/blog/2017/adblockreport/, accessed August 2019.

74 Sunil Gupta, *Driving Digital Strategy: A Guide to Reimagining Your Business* (Boston: Harvard Business Review Press, 2018).

75" Sridhar Ramaswamy, "How Micro-Moments Are Changing the Rules," Think with Google, April 2015, https://www.thinkwithgoogle.com/marketing-resources/micro-moments/how-micromoments-are-changing-rules/, accessed August 2019.

76 Wei Wang, David Rothschild, Sharad Goel, and Andrew Gelman, "Forecasting Elections with Non-Representative Polls," *International Journal of Forecasting* (September 10, 2014): 980–991.

77 Thomas H. Davenport and Jill Dyché, "Big Data in Big Companies," International Institute for Analytics, May 2013, https://docs.media.bitpipe.com/io_10x/io_102267/item_725049/Big-Data-in-Big-Companies.pdf, accessed June 2019.

78 Stephanie Armour, "Borrowers Hit Social-Media Hurdles," *Wall Street Journal*, January 8, 2014, http://www.wsj.com/articles/SB10001424052702304773104579266423512930050, accessed August 2019.

79 "How Surge Pricing Works," Uber, https://www.uber.com/us/en/drive/partner-app/how-surge-works/, accessed July 2019.

80 Drake Baer, "How Airbnb Solved the Mystery of Predictive Pricing," *Fast Company*, February 27, 2014, http://www.fastcompany.com/3026550/lessons-learned/how-airbnb-solved-the-mystery-of-predictive-pricing,<<I just get a blank page with this URL>> accessed July 2019.

81 Claire Suddath, "The Weather Channel's Secret: Less Weather, More Clickbait," *Bloomberg*, October 9, 2014, http://www.bloomberg.com/bw/articles/2014-10-09/weather-channels-web-mobile-growth-leads-to-advertising-insights, accessed July 2019.

82 "Orion Backgrounder," UPS, https://www.pressroom.ups.com/pressroom/ContentDetailsViewer.page?ConceptType=Factsheets&id=1426321616277-282, accessed July 2019.

83 Jon Gertner, "Behind GE's Vision for the Industrial Internet of Things," *Fast Company*, June 18, 2014, http://www.fastcompany.com/3031272/can-jeff-immelt-really-make-the-world-1-better, accessed July 2019.

[84] John R. Hauser, Glen L. Urban, Guilherme Liberali, and Michael Braun, "Website Morphing," *Marketing Science* 28 (March/April 2009): 202–223.

[85] Catherine E. Tucker, "The Reach and Persuasiveness of Viral Video Ads," *Marketing Science* 34 (October 2014): 281–296.

[86] Anja Lambrecht and Catherine Tucker, "When Does Retargeting Work? Information Specificity in Online Advertising," *Journal of Marketing Research* 50 (October 2013): 561–576.

[87] John Koetsier, "61% of Americans Will Share Personal Data for Personalized Marketing Communications," *Inc.*, August 8, 2018, https://www.inc.com/john-koetsier/61-of-consumers-will-share-personal-data-for-personalized-marketing-communications.html, accessed August 2019.

[88] Garrett Hazelwood, "Sell Your Data. Earn Passive Income. What Could Go Wrong?" *Slate,* May 28, 2019, https://slate.com/technology/2019/05/data-exchanges-streamr-ubdi-ocean-protocol-privacy.html, accessed August 2019.

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