

Rethinking the Profession

Formerly Known as Advertising

How Data Science

Is Disrupting the Work of Agencies

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Editor's Note:

"Speaker's Box" invites academics and practitioners to identify potential areas of research affecting marketing and advertising. Its intention is to bridge the gap between the length of time it takes to produce rigorous work and the acceleration of change within practice. With this contribution, John Deighton shows how data technology sits within its industry, which he defines as the "commercial Internet." He depicts this industry as a supply chain and shows how a small number of firms have defied the chain metaphor to integrate all the way from data source to data application. These integrators, he argues, are titans in a battle to create the dominant design for a platform on which all marketing will be practiced. But, he asks, who will do the work of marketing? Will it be done by an evolved version of the advertising agency; will it be institutionalized into the culture of data science; or will it not be professionalized at all but rather defer to one or more standard-setting industrialists, perhaps Google or Amazon?

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INTRODUCTION

There is nothing new about the claim that advertising is not what it used to be. In 2012, the annual report of WPP noted, "We are applying more and more technology to our business, along with big data. We are now Math Men as well as Mad Men (and Women). Thus, we go head-to-head not only with advertising and market research groups such as Omnicom, IPG, Publicis, Dentsu, Havas, Nielsen, Ipsos, and GfK, but also new technology companies—such as Google, Facebook, Twitter, Apple and Amazon—and then with technology consulting companies such as Infosys, Wipro, Accenture and Deloitte."¹

Over the years, WPP has invested more than \$1 billion in response to this new competitive environment, integrating digital analytics with marketing and advertising. It now earns less than half of its revenue—40 percent—from advertising. As the chief executive officer, Sir Martin Sorrell, put it in the company's 2015 annual report, "About three

quarters of our \$19 billion is earned doing things that Don Draper [the protagonist in television's *Mad Men*] wouldn't recognize, such as digital communications, programmatic media planning and buying, and data investment."²

What are we to make of the fact that WPP, ranked by *Advertising Age* as the largest agency group in the world, wants it to be known that it is not principally in advertising? What are we to make of the fact that three of the largest agencies in the same ranking are information-technology (IT) consultants (Accenture, IBM, and Deloitte) that were not even on the list five years before? At a minimum, it must be clear that a profession that changed hardly at all in the 70-odd years since the commercialization of television is not recognizably that profession any longer. By all that defines a profession—skills, assets, clients, and heritage—it is time to declare a new regime.

Some, such as Lawrence P. Summers, former Harvard University president, see the personal-data

¹ WPP plc. (2012). "WPP Annual Report and Accounts 2012."

² Sorrell, M. (2015). "WPP Annual Report and Accounts 2015."

economy as exhilarating: “Data may be to the 21st century economy what oil was to the 20th, a hugely valuable asset essential to economic life...”³ Others call it surveillance capitalism. Shoshana Zuboff, the Charles Edward Wilson Professor of Business Administration (retired) at Harvard Business School, warned in 2015 of a “largely uncontested new expression of power” that “effectively exile[s] persons from their own behavior, while producing new markets of behavioral prediction and modification.”

When a new technology is born, nothing is more certain than that it will be deployed, whether for good or for evil, and data science will not be an exception. We will receive its benefits, and we will learn to live in and around its costs. But what role will the institutions and people of the advertising profession play in the emerging practice of data-driven marketing communications and customer management?

THE COMMERCIAL INTERNET

Growth and Structure

In a series of three collaborative studies for the Interactive Advertising Bureau conducted between 2008 and 2016, my coauthors and I mapped the remarkable growth of the commercial Internet in the United States (Deighton and Kornfeld, 2012; Deighton, Kornfeld, and Gerra, 2017; Hamilton Consultants, Deighton, and Quelch, 2009). It is fair to call the growth remarkable, because in an economy growing at 4 percent annually, the Internet has been growing at 20 percent, and that rate has begun to accelerate. Although it is two decades old, the Internet is showing the kind of growth normally associated with an industry’s take-off phase. In our generation, the United States is transforming from a manufacturing economy to an information economy.

³ Summers, L.H. (2014). In “What Stays in Vegas: The World of Personal Data—Lifeblood of Big Business—and the End of Privacy as We Know It.” Tanner, A., ed.

In two further studies (Deighton and Johnson, 2015, 2016), we found that in the United States, about \$260 billion, or about one-third of all marketing spending, is spent on services that could not be performed without personal consumer data. The transformation of marketing, in the sense of customer acquisition and retention, from reliance on broadcast methods to addressable, interactive methods is well underway.

Even more relevant to the purposes of this article is the Internet’s structure. Our studies identified four layers of the personal-data supply chain:

- The hard-infrastructure layer is concerned with data transmission (*e.g.*, Sprint), connectivity (cable providers and mobile carriers), hardware manufacturers, and data centers (*e.g.*, Rackspace).
- The soft-infrastructure layer comprises service firms (*e.g.*, IBM, Accenture, and Deloitte) and software vendors (*e.g.*, Oracle), in which category customer-relationship management software is important.
- Consumer-services support includes advertising agencies.
- Consumer services consist of content publishers, e-tailers and retailers, and social networks.

Since the Internet’s birth, there have been firms that did not fit tidily into just one of the layers, and these boundary spanners were particularly important to digital-market making. In the early days, a few firms broke from the horizontal-layer structure to create vertically integrated ecosystems in the hope that users of the Internet would find such rich and diverse content and services that they would become captive to the firms. Such firms called themselves portals, and they were called “walled gardens” by those they excluded.

Yahoo was one in the late 1990s, as were Excite, MSN, and Lycos. The most successful

was America Online (later AOL). Its merger with Time Warner created what one commentator called a leviathan of integrated marketing. Google, today often described as a walled garden itself, contributed to the disintegration of AOL/Time Warner by showing that a good search tool could deliver all the riches of the Internet at a single click.

In our 2016 study, we tracked eight U.S. companies that did not fit tidily into the four layers of the data-supply chain. Each pursued a leviathan-scale vision that, it might be argued, would make advertising agencies historical relics. As in the old vision of AOL and Time Warner, these companies would have such intimate relations with consumers that they could be medium and marketplace, targeter and messenger. To the extent that they were masters of their own destiny in the hard-infrastructure layer, they would be immune to hold-ups by those who transmitted data in the event that net-neutrality rules were to end.

These eight companies pursued integration from three directions. Google and Facebook were content marketers integrating back into data transmission. AT&T, Verizon, Comcast, and Cox Enterprises were data-transmission companies bent on integrating forward into content. Microsoft and Amazon sought to move from the middle of the supply chain in both directions.

Why was Apple not on the list? As we saw it, the critical asset that these walled-garden integrators were trying to monopolize was the personal data of their customers, and Apple appeared to be uninterested in personal data. The others, however, were very interested in data, particularly first-party data, which was not subject to regulation on trafficking in data.

The rest of the Internet, the so-called open Internet, depended on flow of data among firms in the ecosystem, so necessarily it dealt in third-party data. If regulation favored first- over third-party data, therefore, it would inhibit the entrepreneurial

Table 1 Top Eight U.S. Integrated-Data Companies

Company name	2016 U.S. Internet revenue (\$M)	2016 U.S. Internet employees
AT&T	\$65,860	126,269
Verizon	\$65,576	88,534
Amazon	\$57,337	122,324
Alphabet (Google)	\$34,800	126,269
Comcast	\$20,821	39,084
Microsoft	\$15,984	22,200
Facebook	\$8,513	88,534
Cox Enterprises	\$4,500	9,408

Source: Deighton, Kornfeld, and Gerra (2017)

climate of the open Internet and consolidate the power of the integrators. These eight companies either are setting or have the potential to set the dominant design for all of Internet marketing and to be the platforms on which all marketing runs (See Table 1).

Integration of Content Marketers Into Transmission

The integration path from content to data transmission is the path of Facebook and Google. Facebook has grown global revenues faster than any other Internet-dependent firm in recent years: to \$27.6 billion by the end of 2016, from \$3.7 billion in 2011.⁴ The user growth behind Facebook’s success similarly is impressive: 2 billion monthly active users in 2017 versus 350 million at the start of 2010.⁵

User growth on its own does not qualify Facebook for treatment as an integrated firm, because these acquisitions all are extensions of its content role. To house its platform services, however, Facebook has had to build storage infrastructure in four very large data centers and in projects under construction. It, moreover, has

joined an investment consortium to lay the Pacific Light Cable Network from Los Angeles to Hong Kong⁶ and helped build a transatlantic cable from Bilbao in Spain to Virginia in the United States.⁷

Google has had a longer history of expansion into transmission, starting with a bid on the wireless spectrum in 2008. It created the Access division of Alphabet in 2015 to house initiatives such as the manufacturing of a \$200 home router, a project to partner with an Indian public broadband provider known as Rail-Tel, and fiber installations in Kenya and Ghana. The largest venture is known as Google Fiber, which provides broadband Internet and cable-television access in eight U.S. cities. Cost difficulties have led to a halt in laying of fiber-optic cable to homes, but a search for a high-band wireless alternative continues.

Integration of Transmission Providers Into Content

There have been some vigorous moves by cable operators and phone carriers into areas of content. Two cable operators, Comcast and Cox, and two telecommunications companies, Verizon and AT&T,

have embarked on a range of acquisitions intended to diversify revenue sources.

As of 2017, Comcast is the largest home Internet-service provider (ISP) in the United States, by virtue of operating the country’s largest cable network. The cable infrastructure’s exclusive control of transmission of entertainment is being challenged, however. Consumers increasingly are able to unbundle cable’s previously very profitable channel bundles. They do so, in particular, by buying audio, video, and other media over the Internet directly from content publishers, using so-called over-the-top delivery services that give ISPs—including cable operators such as Comcast—no ability to share in the revenue of the content.

Anticipating a decline in the value of its infrastructure relative to the digital content that it carries, Comcast repeatedly has tried to buy content providers. It bid for Disney unsuccessfully in 2004,⁸ but in 2011 it took over NBCUniversal,⁹ which gave Comcast a significant presence in many Internet-dependent entities, including a share in Hulu.

Cox Enterprises, a privately held corporation, has followed a different path to content. Through Cox Automotive, it owns a number of automotive-content properties, including Kelly Blue Book and Autotrader.com. It also owns connected services in the automotive vertical, in particular Dealertrack Technologies, which provides online finance and insurance services to dealers. Cox, therefore, stands for a model of platform construction that specializes in an industry vertical.

Verizon, the largest wireless-communication service provider in the

⁴ Statista. (2017). “Facebook’s annual revenue and net income from 2007 to 2016 (in million U.S. dollars).” Retrieved August 24, 2017, from <https://www.statista.com/statistics/277229/facebook-annual-revenue-and-net-income/>

⁵ K. Finley. (2016, October 12). “Facebook now has 2 billion monthly users...and responsibility.” Retrieved August 24, 2017, from Wired website: <https://techcrunch.com/2017/06/27/facebook-2-billion-users/>

⁶ K. Finley. (2016, October 12). “Facebook and Google will stretch Internet cable from LA to Hong Kong.” Retrieved August 21, 2017, from Wired website: <https://www.wired.com/2016/10/facebook-google-wil-stretch-internet-cable-la-hong-kong/>

⁷ C. Metz. (2016, May 26). “Facebook and Microsoft are laying a giant cable across the Atlantic.” Retrieved August 21, 2017, from Wired website: <https://www.wired.com/2016/05/facebook-microsoft-laying-giant-cable-across-atlantic/>

⁸ G. Fabrikant. “Comcast pulls Disney bid off the table, and Wall Street breathes a sigh of relief.” The New York Times, April 29, 2004. Retrieved August 21, 2017, from <http://www.nytimes.com/2004/04/29/business/comcast-pulls-disney-bid-off-the-table-and-wall-street-breathes-a-sigh-of-relief.html?mcubz=1>

⁹ Comcast. (n.d.). “NBCUniversal transaction.” Retrieved August 21, 2017, from <http://corporate.comcast.com/news-information/nbcuniversal-transaction>

United States, has pursued a similar pattern of large-scale integration into consumer-marketing services. It acquired AOL in 2015¹⁰ and Yahoo in 2017¹¹ to create Oath and Straight Path, a large wireless-technology play.

AT&T's \$49 billion acquisition of satellite-infrastructure provider DirecTV in 2015¹² is not *per se* a step on the path to integration, but if the company's offer to acquire Time Warner is successful¹³ it will have made one of the largest moves to tie infrastructure to content. Even if it is not successful, AT&T has a substantial stake in the consumer-services support layer of the Internet through AT&T AdWorks. Since the DirecTV acquisition, AT&T AdWorks has grown to an annual revenue of \$1 billion in digital and cross-device advertising sales.

Integration into Transmission And Data Services

Amazon and Microsoft are building from commerce and content into cloud-based transmission. Amazon's dominance in e-commerce is growing. It sells one-fifth of all that is sold online, and its share is growing as the sector grows. Amazon alone captured 60 percent of all online sales growth in 2015.¹⁴

¹⁰ M. Shields and T. Gryta. "Verizon agrees to buy AOL for \$4.4 billion." The Wall Street Journal, May 12, 2015. Retrieved August 21, 2017, from <https://www.wsj.com/articles/verizon-to-buy-aol-for-4-4-billion-1431428458>

¹¹ V. Goel. "Verizon completes \$4.48 billion purchase of Yahoo, ending an era." The New York Times, June 13, 2017. Retrieved August 21, 2017, from <https://www.nytimes.com/2017/06/13/technology/yahoo-verizon-marissa-mayer.html?mcubz=1>

¹² T. Gryta. "AT&T closes \$49 billion DirecTV buy." The Wall Street Journal, July 24, 2015. Retrieved August 25, 2017, from <https://www.wsj.com/articles/at-t-closes-49-billion-directv-acquisition-1437766932>

¹³ C. Kang and M. J. de la Merced. "AT&T's blockbuster deal for Time Warner hangs in limbo." The New York Times, July 9, 2017. Retrieved August 21, 2017, from <https://www.nytimes.com/2017/07/09/technology/att-time-warner-merger.html?mcubz=1>

¹⁴ T. Garcia. (2016, May 3). "Amazon accounted for 60% of U.S. online sales growth in 2015." Retrieved August 21, 2017, from MarketWatch website: <http://www.marketwatch.com/story/amazon-accounted-for-60-of-online-sales-growth-in-2015-2016-05-03>

This unusual pattern, in which the largest company in an industry increases its share as it grows, suggests increasing returns to scale. The larger the company gets, the more strongly it competes, likely because its technology investments yield higher returns than those of competitors. By offering its technology to the market as Amazon Web Services (AWS) infrastructure, Amazon has grown its scale and the attendant benefits to its core business. By offering advertising and customer-management services to third-party vendors selling on AWS, moreover, it competes with Google and Facebook.

Microsoft is building its walled garden from a more fragmented base of content elements. It has the search engine Bing; Skype; and Internet-dependent gaming software and Xbox hardware. Microsoft entered the transmission space with the AWS rival, Azure. Finally, Microsoft has a powerful presence in enterprise productivity with its Office suite and its customer-relationship management tools. In this respect, Microsoft's 2016 \$26.2 billion acquisition of LinkedIn¹⁵ which intersected it with Salesforce and Workday, points up a walled garden role in business life as large as social media's role in personal life.

The Open Web versus Walled Gardens

The march toward a monopolizing dominant platform for all of marketing threatens—and perhaps is threatened by—two particular layers of our supply chain model of the Internet. They are the consumer services support layer, and the soft infrastructure layer.

Consumer services support contains the firms and technologies that make today's digital markets work. They include

¹⁵ J. Greene. "Microsoft to acquire LinkedIn for \$26.2 billion." The Wall Street Journal, June 14, 2016. Retrieved August 21, 2017, from <https://www.wsj.com/articles/microsoft-to-acquire-linkedin-in-deal-valued-at-26-2-billion-1465821523>

advertising agencies, advertising networks and exchanges, research, data, and analytics companies, measurement firms, and a large number of self-employed writers, web programmers, designers, and content marketing freelancers. They work as a complex web of interdependencies, whose great strength is that they are close to their clients.

The soft infrastructure contains some of the technology powerhouses that provide technological alternatives to the walled gardens and, increasingly, services that look a lot like advertising. Examples are IBM, Accenture, Oracle, and Deloitte among the enterprise IT consultants and software vendors. They make up a large number of the challengers to traditional advertising agency supremacy, noted at the beginning of this article. Each of these consultants and vendors is acquiring smaller advertising agencies and marketing technology specialists at what might be described without much hyperbole as a furious pace.

Through these acquisitions, pockets within the open web are starting to look a lot like the walled gardens. There is one vital exception, however: They do not monopolize troves of first-party personal data. Instead, these companies work with rich third-party personal data, combined with the customer files of their clients. In that sense, they contribute to the fertility of the open web, encouraging entrepreneurship over "intra-preneurship."

Among the walled gardens, Google, Facebook, and Amazon provide platform services to clients, mainly retailers, publishers, or advertisers. These services are walled in the sense that they restrict access and control over client firms' applications, content, and media running on their services. All data generated within their walls are the garden's first-party property, not the property of the client firms. In exchange for surrendering customer data to the gardens, the clients earn a return on their investments in

the form of retail sale, and reach audiences that are as large as, often larger than, those in the open Internet.

As of today, these gardens are extremely successful relative to the open Internet. All growth in spending on advertising so far in 2017, for example, occurred on Google and Facebook properties. Relative to the agency holding companies, however, they are matched more evenly because marketers, the ultimate clients for these services, still value the independent perspective of the agencies in buying media.

It appears that the cable providers and telecommunications companies are accumulating assets with the goal of being able to offer services competitive with today's walled gardens. Some depend on regulatory approval, and others rely on the ability to acquire complementary businesses at reasonable prices.

Will these systems be more successful than the walled gardens of 25 years ago? Firms can and do run campaigns in multiple walled garden environments, and allocate resources where results are best. Provided that objective measurements of results are available, walled gardens only will thrive if they deliver better results than collaborations among the firms that make up the open Internet.

THE FUTURE OF MARKETING AND ADVERTISING

A profession is a craft that applies abstract knowledge to particular kinds of problems, institutionalized by ethical standards, enforced by professional associations, and refined by university-based professional education and scholarly journals (Abbott, 1988). For about 70 years, perhaps longer, advertising agencies played all these roles in addressing the communication problems of the brand marketers in client firms. Meanwhile, a different profession, made up of IT professionals, refined by the computer-science departments of universities and

so on, took care of problems in the IT-functional area of client firms.

Now, the two kinds of problems are converging, because marketing problems increasingly are addressed by IT solutions. The questions addressed in this article are as follows: What is the effect of this convergence? Which professional values get to dominate? In more practical terms, because values live in institutions, which institutions will dominate?

The contenders are, in summary,

- the advertising holding companies;
- the present and future walled gardens;
- the IT consultants and software vendors;
- what is left of the open web, which is a community of independent advertising agencies, newer IT ventures, and brokers of third-party data.

Today the advertising holding companies have an edge over the walled gardens and are much stronger than the IT consultants. According to data from the Advertising Age Datacenter, global agency holding-company revenues are about \$60 billion, which surely is larger than the agency-services component of the walled gardens. This figure also dominates the approximately \$15 billion marketing-services revenues currently generated by the consultants. The open web may account for revenues about equal to the holding-company revenues, albeit spread across many more small and less-powerful actors.

Will this pattern continue into the future? It seems unlikely. The professional knowledge base of agency holding companies already is concentrated more in media advice than in creative counsel and execution. Media decision making, moreover, depends on the quality of the data by which sales effects can be attributed to spending, a domain in which the closed-loop solutions of walled gardens have an edge.

For the moment, as long as the data are open to question, agencies are needed as

referees. As data on marketing actions, advertising exposure, and sales consequences become more objective, the referee function degenerates into an auditing function, and at that point the audience reach of the large walled gardens starts to win. The future of marketing will be played out on a small set of dominant design platforms, kept honest by the efforts of the open web to displace them. **JAR**

ABOUT THE AUTHOR

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REFERENCES

- ABBOTT, A. *The System of Professions: An Essay on the Division of Expert Labor*. Chicago: University of Chicago Press, 1988.
- DEIGHTON, J., and P. A. JOHNSON. *The Value of Data 2015*. New York: Data and Marketing Association, 2015.
- DEIGHTON, J., and P. A. JOHNSON. *Value of Consumer Data 2016: Marketer Layer and Future Trends*. New York: Data and Marketing Association, 2016.
- DEIGHTON, J., and L. KORNFIELD. *Economic Value of the Advertising-Supported Internet Ecosystem*. New York: Interactive Advertising Bureau, 2012.
- DEIGHTON, J., L. D. KORNFIELD, and M. GERRA. *Economic Value of the Advertising-Supported Internet Ecosystem*. New York: Interactive Advertising Bureau, 2017.
- HAMILTON CONSULTANTS, J. DEIGHTON, and J. QUELCH. *Economic Value of the Advertising-Supported Internet Ecosystem*. New York: Interactive Advertising Bureau, 2009.
- ZUBOFF, S. "Big Other: Surveillance Capitalism and the Prospects of an Information Civilization." *Journal of Information Technology* 30 (2015): 75–89.

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