Strategy Science

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To cite this article:
Pinar Ozcan, Douglas Hannah (2020) Forced Ecosystems and Digital Stepchildren: Reconfiguring Advertising Suppliers to Realize Disruptive Social Media Technology. Strategy Science 5(3):193-217. https://doi.org/10.1287/stsc.2020.1366

http://pubsonline.informs.org/journal/stsc

STRATEGY SCIENCE
Vol. 5, No. 3, September 2020, pp. 193–217
ISSN 2333-2050 (print), ISSN 2333-2077 (online)

Forced Ecosystems and Digital Stepchildren: Reconfiguring Advertising Suppliers to Realize Disruptive Social Media Technology

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Received: April 30, 2019
Revised: July 11, 2019; December 24, 2019; March 2, 2020
Accepted: March 13, 2020
Published Online in Articles in Advance: August 10, 2020

https://doi.org/10.1287/stsc.2020.1366

Abstract. Research often examines disruption in the context of head-to-head competition between firms and technologies. In contrast, we examine the unique dynamics of disruptive technologies within supplier ecosystems. We do so through an inductive multiple case study set in the global advertising industry from 2008–2013, as the industry grappled with the emergence of social media. Using rich archival and field data, we closely track five global consumer goods manufacturers and their associated advertising suppliers as they attempted to integrate social media into their advertising activities. Our primary contribution is to unpack the process by which firms reconfigure their supplier ecosystems to address disruptive new technologies. Our framework reveals that integrating new technologies may require firms to reconfigure the distributions of both activity and power, and that fundamental trade-offs may leave the value of new technologies unrealized. Broadly, we contribute to research and theory on buyer-supplier relationships, alliances, and technology disruption by bringing a more realistic perspective that considers firms' network of suppliers and interfirm turf wars in technology adoption.

Supplemental Material: The online supplement is available at https://doi.org/10.1287/stsc.2020.1366.

Keywords: market transformation • technological change • ecosystems • competitive strategy • alliances • power • vertical integration

Introduction

There has long been interest in understanding Schumpeter's (1942, p. 84) "perennial gale of creative destruction," with a rich body of work in the strategy and organizations literature examining the dynamics of innovation and industry structure (e.g., Christensen and Rosenbloom 1995, Christensen and Bower 1996, Adner and Kapoor 2016). Most commonly, this work examines the phenomenon from the perspective of incumbent firms, who—caught off-guard and forced to respond defensively to protect their markets from innovative new entrants—can either make the "jump" to a new technology or face disruption by those who do (Christensen 1997, Hill and Rothaermel 2003, Daneels 2004). The underlying approach in this work has generally been to pit entrants and incumbents against one another in a head-to-head contest to dominate a given market, with the goal of identifying conditions under which incumbents survive and thrive (e.g., Tripsas 1997, Chandy and Tellis 2000, Klepper and Simons 2000) versus when they succumb to disruption and are replaced by entrants (e.g., Henderson and Clark 1990, Tripsas and Gavetti 2000, Adner 2002).

But while insightful, this focus on head-to-head competition between incumbents and entrants for dominance within narrowly defined markets is incomplete. In particular, firms often depend on complex networks of direct and indirect suppliers (Dyer 1997, Adner 2017). For example, in construction services, general contractors outsource work to networks of independent subcontractors (e.g., plumbers, bricklayers, carpenters; Eccles 1981). Similarly, mortgage banks depend on networks of securitizers and brokers (Jacobides 2005, Gartenberg and Pierce 2017), and automakers source critical inputs from tiers of primary and secondary suppliers (Dyer 1997, Jacobides et al. 2015). Relative to narrowly defined markets, *supplier ecosystems* such as these broaden the actors and challenges associated with new technologies.

In particular, examining disruption (and new technologies more broadly) within the context of supplier ecosystems foregrounds several important issues. First, supplier ecosystems expand the scope of the technological and competitive dynamics that affect a given firm. Firms may benefit, for example, when their suppliers introduce innovative new technologies or novel business practices (Dyer 1997, Baum et al. 2000). Conversely, they may suffer when their suppliers face challenges or disruption themselves (Afuah 2000, Adner and Kapoor 2010). Second, and relatedly, supplier

ecosystems expand the need to coordinate around new technologies, which rarely "stand alone" and may require coinnovation by other firms (Adner and Kapoor 2010, 2016). As a result, the decision about when to "make the leap" to a new technology may not be entirely within the control of a given firm (Ozcan and Eisenhardt 2009, Kapoor and Lee 2013).

A key issue, however, is that different firms may face different incentives with respect to new technologies as a function of their role and position within the ecosystem (Garud and Munir 2008, Adner 2012). For example, Casadesus-Masanell and Yoffie (2007) analyze a model of two complementors (Intel and Microsoft) and find that despite the two firms depending on one another to create value, they still have sharply diverging preferences with respect to product pricing and release timing (relative to Intel, Microsoft prefers to subsidize products and delay releases). Similarly, Pierce (2009) observes that, in the automotive industry, downstream lessors are actually *hurt* by the release of new vehicle platforms. Thus, a technology that is attractive to one firm may be unattractive (and even disruptive) to the members of its supplier ecosystem. When new technologies require buy-in from multiple firms, such misalignments can even lead to complete failure—as illustrated by the global mobile payments market, which was delayed for years due to participants' inability to agree on a technological architecture (Ozcan and Santos 2015).

Moreover, the challenges that new technologies pose for supplier ecosystems are likely to be exacerbated by the uncertainty that frequently accompanies new and disruptive technologies—for example, unclear operational characteristics and capability requirements (Rindova and Kotha 2001, Gruber et al. 2008), ambiguous impacts on the interfaces between firms (Hannah and Eisenhardt 2018), or unclear value to end users (Ozcan and Eisenhardt 2009, Dattée et al. 2018). In contrast to the "classic" depiction of disruption as head-to-head competition between firms and substitute technologies, an ecosystem perspective on new technologies thus highlights that it may not be clear who is affected, who is best positioned to respond, or how a new technology should be incorporated into the activities of a given supplier ecosystem.

In this study, we ask *how do firms reconfigure their supplier ecosystems in order to incorporate potentially disruptive new technologies?* We address this question through a multiple-case inductive study (Eisenhardt and Graebner 2007). Our setting is the global advertising industry in 2008–2013. This period coincides with the introduction and growth of social media, which offered a new (and potentially disruptive) means of advertising. Using rich archival and field data, we closely track five global consumer goods manufacturers as well as their advertising suppliers as they attempted to understand and incorporate social media into their existing activities. By adopting an embedded design, in which we analyze the dynamics of new and old technologies at the firm and ecosystem levels (Eisenhardt 1989, Yin 1994), we are able to examine how firms incorporate new technologies as well as the challenges that arise as they do.

Our findings contribute to research on market transformation and technology disruption by shedding light on the *process* by which firms navigate disruption that occurs outside their own boundaries (e.g., when suppliers are disrupted) and how they can incorporate new technologies within the context of their existing supplier ecosystems. A key insight is that realizing the value of new technologies may require reconfiguring both the distribution of activity within an ecosystem *as well as* the distribution of power, and that *adding* new technologies (rather than substituting incumbent technologies) may incur novel challenges. In particular, we observe that when new technologies are complementary to existing technologies but create value in a fundamentally different way, firms may be left in a catch-22 situation, unable to replace existing suppliers to "make room" for the new technology but unable to realize its value unless they do. Our study also offers the surprising insight that, rather than the uncertainty associated with new technologies *decreasing* with use, attempts to implement new technologies in ecosystem settings can actually *increase* uncertainty. This is due to firms' different responses blurring joint sense-making of the new technology and its link to existing technologies and is exacerbated by the power dynamics among the firms. Finally, we introduce the notion of *problematic complements* and identify unique challenges associated with managing portfolios of technologies and partners. Overall, we contribute to a nuanced view of disruption as a complex and multilateral process and of firms as proactive but fundamentally constrained in their efforts to transform their markets.

Theoretical Background

There is a rich body of work on the dynamics of disruptive innovations (e.g., Anderson and Tushman 1990, Christensen 1997, Chandy and Tellis 2000, Tripsas and Gavetti 2000, Ansari and Krop 2012). Much of this work frames the competition between old and new technologies as a fight between entrants bearing innovative new technologies and incumbents who are caught off-guard and forced to respond defensively to protect their markets (e.g., Christensen and Bower 1996, Benner and Tushman 2002, Helfat and Lieberman 2002, Macher and Richman 2004, Ahuja et al. 2008). In some cases, incumbents may succeed by either

forestalling entry or successfully adopting the new technology themselves. Research shows that incumbents fare particularly well when complementary capabilities are critical (Dyer 1996, Tripsas 1997, Klepper and Simons 2000), when they are able to maintain control of platforms and architectures (Eisenmann et al. 2006, Jacobides et al. 2006, Gawer and Cusumano 2008), and for systemic or architectural innovations (Henderson and Clark 1990, Kapoor 2013). In contrast, entrants may win out over incumbents when the latter are burdened with rigid cognitive frames or routines (Burgelman 1991, Tripsas and Gavetti 2000, Benner and Tushman 2002) or overly beholden to existing customers (Glasmeier 1991, Christensen 1997, Macher and Richman 2004, Daneels 2004, Tripsas 2009) and in dynamic or uncertain settings that attenuate incumbents' strengths (Madhavan et al. 1998, Jacobides et al. 2006).

A common focus in this prior work on disruption has been on head-to-head competition between substitute technologies and firms that use them. Examples include 14″ versus 8″ hard-disk drives (Christensen and Bower 1996, Christensen 1997), 2G versus 3G mobile telephony (Ansari and Garud, 2009), mechanical versus quartz watch movements (Glasmeier 1991, Raffaelli 2019), digital cathode ray tube (CRT) versus laser image setting (Tripsas 1997), analog versus digital synthesizers (Anthony et al. 2016), and improved masks, resists, and lenses in semiconductor lithography (Adner and Kapoor 2010, 2016). To the extent that a new technology threatens to directly replace its predecessor, the key strategic questions are whether a firm should adopt the new technology (Adner 2002, Benner 2010), when to make this jump (Klepper and Simons 2000), and who will win the subsequent fight (Tripsas 1997, Ansari and Garud 2009, Ansari and Krop 2012).

In contrast, expanding the view to include supplier ecosystems introduces a number of additional strategic considerations. Here, we define *supplier ecosystems* as the networks of direct and indirect suppliers on whom firms rely for inputs. Relying on supplier ecosystems allows firms to specialize in a narrow range of activities (Coase 1937, Gibbons 1999). By then portioning the activities that jointly create value across an ecosystem, individual firms are able to specialize, accumulate capabilities and hone organizational processes relevant to their subdomain, and benefit from the resulting physical and cognitive division of labor (Simon 1962, Rosenberg 1982). At the same time, relying on supplier ecosystems also entails a loss of control over the inputs and activities that firms depend on to create value (Williamson 1975, Jacobides et al. 2018). This introduces three related issues with respect to new technologies.

First, supplier ecosystems broaden the scope of technologies and technological changes that affect a given firm (Gawer and Henderson 2007, Adner and Kapoor 2010, Hannah et al. 2016). For example, Afuah (2000) studies 23 computer workstation manufacturers around the transition from complex instruction set computer (CISC) to reduced instruction set computer (RISC) chipset technology and finds that manufacturers suffered even when it was their chipset suppliers that were disrupted. Similarly, in the automotive industry, Pierce (2009) observes that automotive lessors undergo shakeouts when their upstream suppliers (automotive manufacturers) introduce design changes. Adner and Kapoor (2010) study 33 firms in the semiconductor lithography industry and find that, in contrast, firms actually *benefit* when their suppliers face technology challenges, but may suffer to the extent that challenges instead affect *complementors*. Overall, a key insight is that, within ecosystems, firms may be affected by new technologies even if they do not directly affect their own (internal) activities and operations.

Second, reliance on supplier ecosystems reduces firms' ability to dictate whether and how new technologies are implemented, especially when the new technologies affect activities or inputs provided by partners and suppliers (Cennamo and Santaló 2019, Rietveld et al. 2019). For example, in their case history of Intel, Gawer and Henderson (2007) observe that Intel was frequently constrained when suppliers were unable or unwilling to invest in new technologies. In mobile telephony, Ansari and Garud (2009) find that mobile network operators were unable to benefit from their investment in 3G network infrastructure due to the lack of investments by handset makers and content providers. Similarly, Hughes (1983) identifies how the adoption of advanced generation technologies by U.S. electricity utilities was stymied due to a lack of investment in transmission infrastructure. Broadly, this suggests that realizing new technologies in ecosystem settings may require coordination with and buy-in from suppliers (Adner 2012).

A third complication, however, is that coordinating investments may be difficult because firms are likely to face different incentives with respect to new technologies. For example, Adner (2012) observes in the movie industry that cinemas initially resisted the switch from 35mm film to (higher quality) digital projection technology, which benefited consumers and movie studios but not the cinemas themselves. Similarly, Garud and Munir (2008) study Polaroid's introduction of the SX-70 camera and observe that, despite a long history of collaboration with Polaroid, Kodak was unwilling to develop film for the SX-70, which it viewed as undermining its own technology and market position. More broadly, a consistent theme in prior work is that firms and their suppliers may perceive technologies differently as a function of their existing resources, business models, and market positions

(Benner and Tripsas 2012, Kapoor and Klueter 2015, Raffaelli et al. 2019). Thus, technologies that are attractive for one firm may be unattractive (and disruptive) to members of the broader ecosystem (Ansari et al. 2016, Christensen et al. 2018).

Reconfiguring Supplier Ecosystems

Although work on disruption has generally not addressed how firms can navigate disruption of their supplier ecosystems, research on alliances offers insight. To start, there is a vast body of empirical evidence that interfirm ties improve firm performance (Powell et al. 1996, Madhavan et al. 1998, Stuart et al. 1999, Baum et al. 2000, Doz et al. 2000, Hoffmann 2007, Lavie 2007). This work finds for example a strong impact of the number and richness of ties on firms' innovativeness (Shan et al. 1994, Baum et al. 2000, Stuart 2000), profitability (Baum et al. 2000, Lahiri and Narayanan 2013), and even survival (Singh 1997). It also highlights several mechanisms. For example, alliances are understood to facilitate resource access (Powell et al. 1996, Stuart at al. 1999, Kalaignanam et al. 2007), thus allowing firms to "emphasize [their] core strengths while 'alliancing' weaknesses" (Hoehn-Weiss et al. 2017, p. 56; see also Gulati 2007, Ozcan and Eisenhardt 2009, Hess and Rothaermel 2011). Alliances also facilitate fine-grained information transfer, which may allow firms to jointly navigate uncertain markets more readily than those that are either vertically integrated or rely on arms-length contracts (Dyer 1997, Kapoor and Lee 2013, Ozcan 2018). Long-standing supplier relationships may be particularly likely to realize these benefits, given that repeated interactions improve trust and lower coordination costs (Adner and Kapoor 2010).

Paradoxically, however, these same factors may make it hard for firms to adjust existing relationships with suppliers. In particular, stable firm-supplier relationships allow both parties to cospecialize and develop complementary capabilities (Glasmeier 1991, Reitzig and Wagner 2010). Interfaces and exchanges between firms are then likely to solidify, and effective patterns of interaction become formalized in shared organizational routines (Argyres and Liebeskind 1999, Dyer and Nobeoka 2000). Over time, social expectations and legal institutions are likely to congeal as well, reinforcing the existing distribution of activity and value (DiMaggio and Powell 1983, Jacobides et al. 2015). As a result, empirical examples of firms reconfiguring existing supplier ecosystems (i.e., substantially changing the distribution of activity and value across participants) are relatively rare.

Instead, research suggests that firms typically address new technologies by changing the *composition* of their existing alliance portfolios (Rindova et al. 2012, 2016; Ozcan 2018). Prior work identifies three primary strategies. The first is to *add new partners*, especially those with expertise in the new technology (e.g., Hoffmann 2007, Rothaermel and Boeker 2008, Anand et al. 2010, Kapoor 2013). For example, in his study of the emerging personal digital assistant market, Gomes-Casseres (2001) observes firms using probing alliances to experiment with the new technology. Similarly, Sandström et al. (2009) examine how an incumbent high-end film cameras maker initially struggled to develop a digital camera on its own, but later succeeded by collaborating with new suppliers like Phillips. A second and related strategy is to *cut ties with old or obsolete partners* (e.g., Afuah 2001, Kapoor and McGrath 2014). For example, Ozcan (2018) studies the U.S. wireless gaming market and finds that successful firms eliminated alliances with underperforming suppliers as the market matured. Similarly, Madhavan et al. (1998) find that alliance networks in the steel industry became less centralized as firms pruned their alliance networks following the introduction of a new production technology. Finally, *vertical integration* may be used as means to resolve the coordination issues associated with relying on suppliers to implement new technologies (e.g., Fixson and Park 2008, Garud and Munir 2008, Hannah and Eisenhardt 2018). For example, Gawer and Henderson (2007) study Intel from 1990 to 2004 and observe the firm internalizing components when suppliers were unwilling to implement new technologies themselves.

Overall, existing research thus provides rich insight into various strategies by which firms can manage dyadic alliances or portfolios of alliances in order to realize new technologies (Gawer and Henderson 2007, Lavie and Miller 2008, Ozcan 2018). But, in settings in which the implementation of new technologies requires broader coordination and buy-in—that is, within the multiple and multilateral relationships that comprise supplier ecosystems—these strategies may face important limitations.

In particular, when a new technology offers a direct substitute for an old as in a "classic" disruption context, firms face the (relatively) straightforward challenge of determining which input to procure and from whom. Moreover, implementation of the new technology is likely to be largely within the firm's control. In contrast, in an ecosystem context, realizing the value of a new technology (and possibly even clarifying what that value might be) is likely to require coordination and investment from a broad set of actors over whom the firm has limited hierarchical control. Thus, for example, suppliers may be unwilling to invest in a new technology that they perceive as disruptive. On the other hand, simply adding new suppliers may be ineffective as well, especially to the extent that buy-in and cooperation from existing (incumbent) suppliers may be necessary as well. Finally, replacing existing suppliers

may not be possible if, for example, firms depend on specific suppliers for a range of inputs or if few alternative providers exist. As a result, simply changing the composition of an existing alliance portfolio is unlikely to be sufficient. Instead, the question is how to work *with* existing (and potentially new) suppliers to reconfigure existing activities and interfaces in order to *collectively* realize the new technology.

Understanding new technology adoption and disruption more broadly within the intricate but highly common context of supplier ecosystems is important for developing a more nuanced picture of how industries change in the face of new technologies and how firms can succeed within them as they do. With this in mind, our study explores *how firms reconfigure their supplier ecosystems to address new, potentially disruptive technologies*. We do so by analyzing the introduction of a disruptive new technology (social media) in the advertising industry. The results shed light on the process by which firms attempt to address new technologies in ecosystem contexts, as well as the challenges that arise as they do.

Methods

Given the limited theory and empirical evidence on our topic, we follow an inductive approach with a multilevel design, where we analyze firm-level strategies and challenges along with their consequences at the interfirm and market levels. We use multiple cases as a basis to build theory inductively (Eisenhardt and Graebner 2007), by understanding the commonalities and differences across a set of firms and their broader ecosystems. Our research design and approaches follow the setup used by Ozcan and Santos (2015) in their study of the emergence of the mobile payments market.

The research setting is the global advertising industry following the emergence of social media platforms, between 2008 and 2013. Within this setting, we chose five global consumer goods firms and their advertising suppliers (agencies) as our cases. Details of how these agencies were structured around the client firm are given in the next section. This setting is attractive for our research question for several reasons. First, advertising is an industry with high interfirm dependence, where alliances and ad-hoc collaborations between advertising agencies are critically important for completing campaigns, particularly for large global clients. Second, focusing on global consumer goods companies as advertising clients is a good choice, because their business is particularly impacted by the changes in consumer behavior and, thus, by social media. Therefore, their response to the emergence of this new platform is

Table 1. Overview of Data Collection

Data collection period	2008–2013, with follow-up interviews in 2019				
Data sources	Semistructured interviews, plus observations at industry events and conferences in the United States and Europe (e.g., Advertising Week, Consumer Goods Sales and Marketing Summit, Content Marketing World, Marketing 2.0, Social Media Marketing World), and Internet sources (newspaper articles, business publications, reports)				
# Interviews	56				
# Informants	39 (in 2008–2013), plus 2 follow-up interviews and 2 new interviews in 2019				
Types of informants	Executives at global consumer goods manufacturers (17), at global advertising agencies (12), at social media and digital advertising agencies (7), and industry experts/consultants (5)				
Focal firm sector and ranking	Food and beverage, global top 10			Household and personal care, global top 10	
Focal firm (pseudonyms)	Alpha	Beta	Gamma	Delta	Epsilon
Headquarter location	United States		United Kingdom	United States	Netherlands
Informants at focal firm	Sr VP Mktg, Brand Director, Mktg Director, Product Mgr	VP Mktg, Commercial Strategy Director, Sr Brand Mgr, Brand Mgr	Head of Mktg Services, Head of Brands Mktg, Head of Agency Relations	VP Mktg, Brand Mgr, Head of Digital Mktg	Global VP Mktg, Head of Digital Strategy, Sr Global Brand Mgr
Informants at mother agency	Global Head of Client Teams, Chief Client Officer, Global Client Lead, Account Mgr	EVP Global Brand Director, Mktg and PR Director, Brand Strategy Director	Chief Strategy Officer, Senior Consultant	(Same as Alpha)	CEO, Project Mgr, Creative Director
Informants at social media agency	Co-Founder & CEO, Co-Founder & VP Business Development	Co-Founder & CEO	CEO	Co-Founder & CEO, Senior Client Lead	Co-Founder & VP Creative

Note. CEO, chief executive officer; EVP, executive vice president; Mgr, manager; Mktg, marketing; PR, public relations; Sr, senior; VP, vice president

potentially of high importance to their performance. Third, as is apparent in the quotes provided in the next section, social media was an entirely new type of technology platform for advertising, with operating characteristics and performance metrics that were highly ambiguous. This makes the case particularly suitable for examining variance in firms' collective strategies with respect to technology disruption.

Data Sources

We collected data from several sources: (1) in-depth semistructured interviews; (2) observations at industry events; and (3) extensive archival data including business publications, Internet sources, and corporate materials (see Table 1 for details). The triangulation of data from multiple sources strengthens confidence in the robustness of the findings (Eisenhardt 1989). A total of 56 semistructured interviews were conducted with marketing executives at five consumer goods firms that constituted our cases and at the advertising agencies that worked for them. The interviews ranged from 60 to 150 minutes in length and were divided into three sections. In the first section, we asked short-answer questions about the informant's background and role in the client or advertising firm. In the second section, we asked the informant to describe the changes the firm has experienced in the advertising activity after the rise of social media in an open-ended format. We prompted informants with questions such as how they got to work on specific advertising campaigns, which other organizations became involved, and how the campaign turned out from their perspective. In the third section, we asked a set of open-ended questions about the challenges they experienced in their work with the client firm and advertising agencies, respectively, and concluded with a general discussion about the current state of social media advertising where the informant was free to give relevant examples from the industry. This interview structure enabled the collection of specific and factual information (e.g., dates, events, managers, other firms involved) as well as more open-ended narrative data about important dynamics and challenges. Interviews were digitally recorded and transcribed.

A potential shortcoming of our data collection method is informant bias, which we addressed in the following ways. First, we collected interview data in several waves. This enabled both real-time and retrospective longitudinal data. This combination is ideal, with the retrospective data enabling efficient data collection of more observations (thus enabling stronger grounding) and real-time data mitigating retrospective bias (Leonard-Barton 1990) and capturing real-time changes in the phenomenon of interest. Second, we used interview techniques (e.g., "courtroom" questioning, event tracking, nondirective questioning) that research has shown to yield accurate information from informants (Huber 1985, Huber and Power 1985, Eisenhardt 1989). For example, "courtroom questioning" emphasizes facts (e.g., dates, participants, meetings) as well as open-ended narrative (e.g., intended strategy), and avoids questions that typically yield inaccurate answers such as broad speculations (e.g., why were they not willing to agree?). For "event tracking," informants described when and how they came into interaction with other firms, what they discussed, and how the interaction resulted. We also pressed informants to be specific when they were vague (e.g., asked for details when an informant termed the relationship as "unsuccessful"). Third, we relied on informants at multiple levels of hierarchy (e.g., CEO and VP levels) and in different functional areas. These diverse lenses improve the likelihood of obtaining a more complete, accurate picture. Finally, we complemented our interview data with wide-ranging archival and observational data. We used publications such as analyst reports, business journals, Internet and internal sources, and observational data from various industry conferences. Although no method is perfect, these measures helped us mitigate potential biases and capture more detailed and accurate accounts of the interactions between the different players.

Data Analysis

We began data analysis by incorporating interview transcriptions and observational and archival data into case histories (Yin 1994, Eisenhardt 1989). We used triangulation logic to give more validity to themes emerging from different data collection methods (Jick 1979). Factual data (e.g., announcements of new supplier agreements, joint ventures, acquisitions) from archival sources strengthened the comparison at this stage. We first built a global case history of the key facts, events and experts' views surrounding the emergence of social media in advertising. This global case history provided context for each of the five cases that we then built, where each case focused on a focal consumer goods firm and its management of advertising suppliers. The cases were about 15–20 pages each, including author observations, timelines, and quotes from focal firm and supplier informants. The authors independently reviewed each case.

As is typical with this method, we then used charts and tables to compare several categories at once within and across cases (Miles and Huberman 1994, Eisenhardt and Graebner 2007). These within- and cross-case comparisons revealed a set of constructs and patterns, such as different approaches to social media advertising taken by social media versus traditional agencies, or variance among focal firms themselves in terms of where to put social media agencies in the supplier ecosystem. As a theoretical frame clarified how

firms reconfigure supplier ecosystems and incorporate new technologies, we related it to extant research on alliances, supplier relationships, and technology disruption in order to strengthen the internal validity of findings, sharpen construct definitions, and raise the generalizability of the emergent theory (Eisenhardt 1989). We continued engaging in repeated iterations among data, literature, and theory until we had a strong match between theory and data. The result is a midrange theory that we present next (additional quotes and coding themes are provided in the appendix and the online supplement).

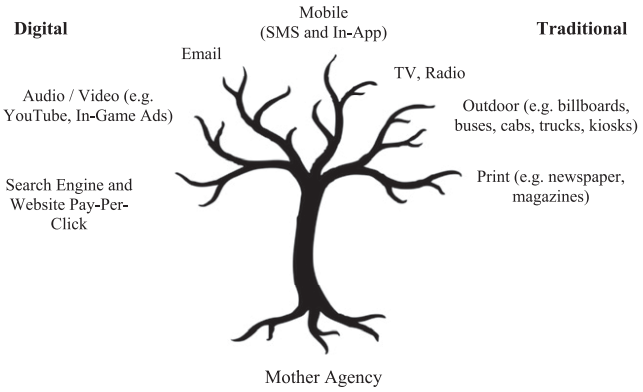
Findings

Initial Ecosystem Structure: Mother Agencies and the "Tree" Model

Before looking into the changes that the rise of social media platforms initiated in supplier relationships in advertising, it is helpful to lay out how large firms traditionally managed their advertising needs through supplier ecosystems. Prior to the advent of social media advertising, most global consumer goods companies had been working with one large advertising agency that covered their advertising needs across multiple channels including television, print, and online (Bart et al. 2014). These agencies typically held the clients' accounts at the country or global level. Even when these advertising clients relied on multiple agencies for different types of media (e.g., radio vs. print), there was one so-called "mother" (or lead) agency that ensured coordination among them, while also subcontracting and coordinating the work of the smaller agencies. These supplier ecosystems were thus based on what informants described as the *tree model* (also known as the general contractor model in the literature; see Eccles 1981), wherein a single agency coordinated the activities of multiple media-specific advertising platforms (e.g., television, print, out-of-home), which in turn were either subdivisions of the mother or independent specialists. Using this structure, big global advertising agencies such as Omnicom, Publicis, or WPP held the vast majority of accounts of global advertising spenders, including consumers goods firms such as Proctor & Gamble, pharmaceuticals such as Pfizer, auto manufacturers such as General Motors, and mobile network providers such as Verizon (Garrahan et al. 2017). Figure 1 depicts a typical advertising supplier ecosystem as drawn by a senior marketing executive in our sample and confirmed by other informants.

The tree model worked particularly well for coordinating suppliers in advertising for several reasons. First, as depicted above, advertising projects for large firms included many different platforms across which the advertising message needed to be coordinated and quality controlled. It was thus efficient for firms

Figure 1. Traditional Advertising Supplier Ecosystem Structure



to outsource coordination and quality checking across different platforms where a media campaign would be delivered: by relying on a central "mother" agency to develop and coordinate the outgoing advertising message, firms ensured that the message would be uniform across platforms. This principle, known as integrated marketing communications (IMC), was understood to promote brand awareness and sales (Duncan and Everett 1993, Kitchen et al. 2004). As one of our informants explained,

> Reinforcing the brand across different channels is one [of] the key principles of advertising. You have to see it repeatedly, in different places for it to stick with you. Which makes coordination across platforms critical.

Mother agencies thus had dual functions, in which they both (a) crafted the core creative content and (b) coordinated its delivery across the ecosystem. A mother agency executive explained:

> Once our team pitches the campaign and works out the details with the client, there is a lot of running around for us across different internal and external teams to make sure everybody is on the same page. (Chief Client Officer, Alpha's mother agency)

According to our informants, a key benefit of the tree model was that it offered a midpoint between having a vertically integrated system (which maximized coordination and control) and relying on a diverse set of external suppliers (which enhanced innovation). A marketing executive explained:

> Keeping advertising teams in-house is a no-no. You don't want to stop fresh ideas from coming in. So relying on an externally coordinated set of advertising agencies is the model that the industry has come up with. (Head of Marketing Services, Gamma)

Although the tree model offered several advantages, it also created a particular power distribution among suppliers wherein the mother agencies collected a large proportion of the resources and exercised a high

degree of power over other agencies and even clients. An industry analyst explained:

> [Clients] end up giving a lot of power to this one agency... As long as they innovate and keep the client happy, it works. But there is a sense of losing access to the rest of the market.

Nonetheless, the benefits of the tree model outweighed the costs, and it was thus the dominant supplier model in advertising in Europe and North America throughout the 20th century.

The Rise of Social Media Advertising

Social media refers to "online communities that are participatory, conversational, and fluid. These communities enable members to produce, publish, critique, rank, and interact with online content" (Tuten 2008, pp. 19–20). The first social media platforms were founded in 2003 (LinkedIn) and 2004 (Facebook). Soon after founding, Facebook launched its first advertisements and had reached $50 million in advertising revenue within two years. Choosing advertising as its main source of revenue, Facebook launched a marketing developer program and reached $1 billion in advertising revenues in 2010, and $50 billion in 2018, with 80 million company pages on its platform. Similarly, LinkedIn launched its first advertisements in 2006. It then reached $500 million in advertising revenue in 2014 and 30 million company pages with $2 billion in advertising revenue by 2018 (see Figure 2 for a timeline of social media's emergence).

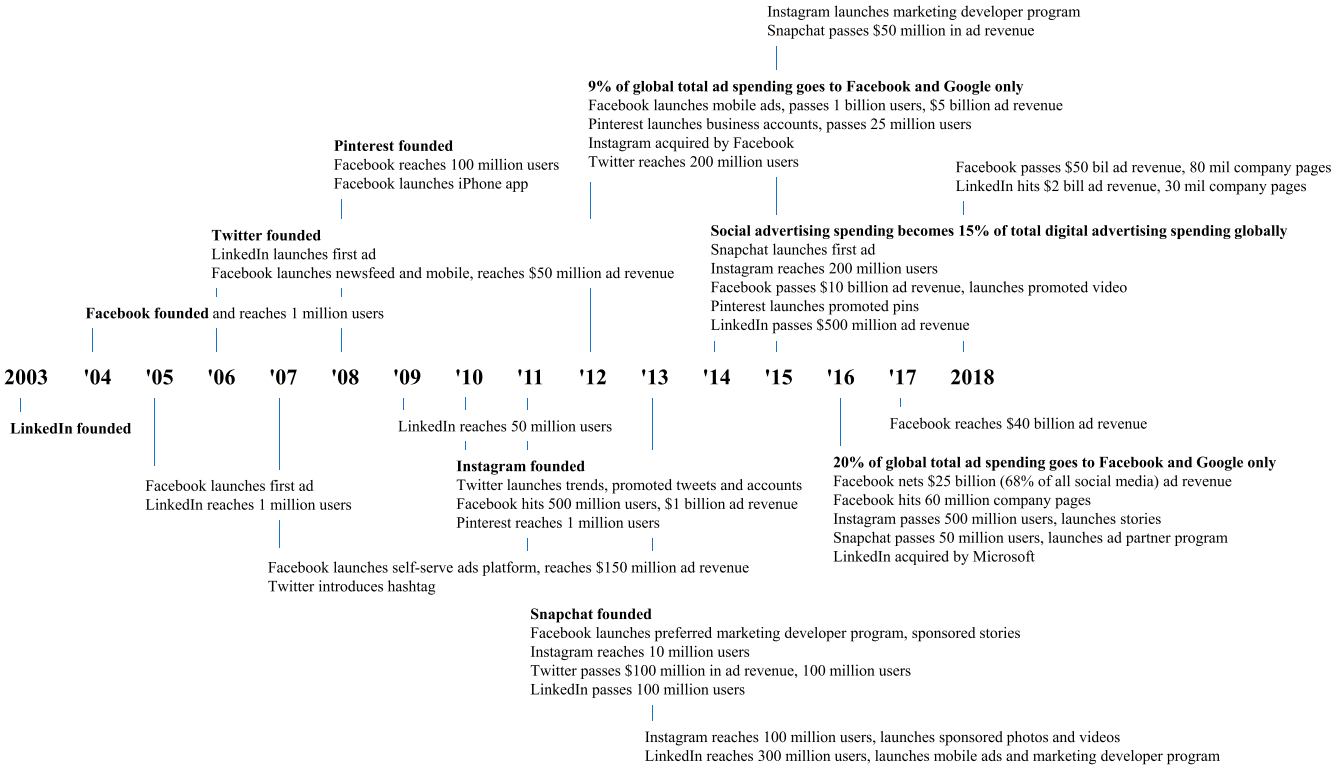
The first and rather straightforward way in which advertising started on social media websites was through *display ads* that targeted specific users on these sites. Informants described this type of advertising as an extension of online advertising, which was already taking place on Google and other highly visited websites. As one industry expert explained at the time, "I often get asked whether it makes sense to use Google Ads or Facebook Ads. If you're going for pay per click...then both are really effective."

In our sample, all five consumer goods firms confirmed that this first step of putting display ads on social media happened rather naturally, with either their own teams or the mother agencies bringing it up at routine meetings. For example, one social media agency executive explained,

> At that time, there was a rush to get onto Facebook. But it was simple stuff. Banners and displays, you know. Nobody did more. (CEO, Alpha's social media agency)

Soon, however, the firms began going beyond display ads with a new way of reaching customers on social media platforms. This later became known as *social media engagement* or *consumer engagement on social media*. According to experts, this second and more sophisticated type of social media presence was

Figure 2. (Color online) List of Key Developments in Social Media Advertising



what differentiated social media advertising from other forms of online advertising:

> You don't use social media to carry messages to people about your brand, you use it to find out what people think about your brand. You don't use it to create brand ambassadors within your consumers, you use it to create consumer ambassadors within your brand. (CEO, Alpha's social media agency)

A textbook on social media marketing published around the start of our study period similarly explained this new form of engagement-focused advertising as follows, writing that social media

> encourages interaction between consumers and brands. It can enhance perceptions of the brand as a person, thereby strengthening the brand's personality and differentiating it from its competitors. It can extend exposure time for a brand's message by encouraging sticky interactions that last far beyond a thirty second spot and repeat visits to the brand's site. It enhances opportunities for word-of-mouth communication to other friends and influentials about the brand. It can facilitate message internalization, a process by which a consumer adopts a brand belief as his or her own. (Tuten 2008, p. 20)

From the perspective of consumer goods companies, social media thus created a clear opportunity to engage customers more deeply with their brands and to create electronic word of mouth (E-WOM), a highly desired marketing goal for firms in the online age (Ha 2004). With this in mind, the firms in our sample began to work with their existing mother agencies to implement social media advertising.

First Response (2008): Mandate Technology Adoption by Existing Suppliers

Our data show that firms' first response to the new technology was to mandate its adoption by existing suppliers. Marketing executives at our sample firms unanimously explained how they initiated meetings with their mother agencies to discuss how the agencies intended to include the new platform in future campaigns. Similarly, mother agency executives were awake to the growing importance of social media and were eager to adopt the technology. For example,

> We went and asked our agencies to show how they can deliver a more holistic kind of campaign that includes new platforms like social media. (Brand Manager, Delta)

> We told [Gamma] that social media presence is a must-have. (Chief Strategy Officer, Gamma's mother agency)

Executives at mother agencies and clients identified two interrelated tasks associated with social media. The first was to develop and post display advertisements. From the start, this was managed by mother agencies and specialist subcontractors that they hired, as was the norm for other media platforms such as TV and search. The second task was to set up a social media profile for the company and post content for interaction with followers and potential followers drawn to the page through display ads. Until 2011, firms set up these pages on Facebook just like personal profile pages and followed a similar back-and-forth interaction with existing and potential customers on these pages.[1]

When these company profile pages were first set up, they were managed either by the client firms' marketing departments or by the mother agencies, with the content delivered by mothers and subcontractors. By 2008, however, as social media advertising started to gain traction among corporations, new specialist advertising agencies called digital or social media agencies started to enter the market. These agencies strongly advocated that social media engagement was fundamentally different from—and required a different "operational logic" —than display advertising (as well as from other forms of digital advertising such as email, search, and video). In particular, whereas the logic of traditional advertising media was a unidirectional flow of information from brand to consumer (and in which consumers made individual purchasing decisions), these firms argued that the value of social media was to allow participation in a community. As confirmed by our informants at client firms and social media entrants, social media specialists began to use press statements and conferences to diffuse the message that it was now necessary to "create conversations with consumers." For example, executives at Delta's social media agency shared,

> It takes an entirely different mindset to be able to create meaningful conversations. You need to listen, you need to respond, it's far from what these [traditional] guys know.

> We create a story for each client. We decide on the tone of the posts, of the replies, we decide who it should come from, how to address people, we create fake people who comment, who reply, you know. There is a whole science to handling social for a brand.

Nor were these claims just a way to get business. In fact, academic and practitioner articles and books published during that time confirmed that relative to their roles as passive receivers of information before, consumers were now becoming "content creators" in social media—directly contributing to the content and value that was being offered on the platform (Berthon et al. 2012). This content, in turn, became a key factor in consumers' consideration for their next purchase and was considered to be more genuine due to customers' involvement in the discussion regarding

the value offered by the firm (Evans and McKee 2010). As one industry analyst described at the time, "consumers are in control like never before."

As consumers gained a greater role and more power in shaping brands' public image, the ability to manage customer engagement was thus becoming paramount. Early negative examples highlighted the degree to which consumer goods firms and their suppliers lacked the ability to do so. In 2009, for example, Burger King received negative publicity for its "Whopper Sacrifice," which asked social media users to "unfriend 10 friends and get a burger." Gap similarly was forced to withdraw its new logo after thousands of Facebook and Twitter users protested on the brand's profile page. Firms' attempts to shape consumer engagement were often clumsy—Nestlé for example received a large amount of negative publicity in 2010 for telling customers "not to post on the Facebook page if they are not willing to play by the rules."

By 2009–2010, executives at the client firms were thus beginning to realize that social media required a set of capabilities and activities that both they and their existing suppliers currently lacked. As one Gamma marketing executive later recalled,

> We were finding out several things at that time. First, that you couldn't just dump content onto social media. Social media needed a different kind of content, much more interactive. . . . Also, once you posted, your job was only half done. You had to then receive the feedback, engage with consumers, and keep it going, you know? (Head of Marketing, Gamma)

The issue facing the consumer goods clients, however, was that they had long ago outsourced their advertising activities and, thus, depended on their advertising suppliers (and particularly the mother agencies) to evaluate and incorporate the new technology. But, the mother agencies viewed social media as an extension of the traditional media platforms they had been managing for decades. For example, the Global Client Lead at Alpha's mother agency executive described at the time,

> Like the Internet, which gave us a new platform to make the brands visible, social media is another platform that we use in order to convert our ideas to exciting messages.

This view contrasted with the arguments being made by the social media agencies—and increasingly the client firms themselves—who described social media as creating a fundamentally different type of value (i.e., creating conversations rather than delivering content) and requiring a fundamentally different set of activities (i.e., interaction and conversation management vs. content integration).

The result was growing frustration on the part of the client firms that the value of social media was not being realized. For example, a product manager at Alpha explained,

> They weren't thinking about conversations yet. In a pitch environment, they still tended to define the creative solution through TV initially, and then translate it to other channels. . . . Because [mother agency] didn't know how to deal with the dialogue, the strategy they built was only for one-way communication. So the feeling was that they were stuck in the past a bit.

We observed that, even in cases where the mother agency actively managed the social media profile page, as at Gamma, the frustration was similar. A Gamma marketing executive explained,

> "We had the profiles but there wasn't much traffic going on. Well, I guess that's better than lots of bad traffic [laughter]. . . . " (Head of Marketing, Gamma)

Our interviews revealed that the incumbent advertising agencies having so recently (over the past five years) adopted online advertising served to exacerbate these conflicting views. In particular, several informants emphasized that, while social media required learning in terms of metrics and targeting, online advertising was generally viewed to be an extension of traditional, unidirectional advertising media—albeit with richer customer metrics. For example, one industry analyst later reflected:

> Part of the problem is . . . these guys took on online advertising recently, and that stuff was new, but new in the sense of more targeted advertising and better tracking afterwards. It wasn't new in the sense of "I need to rethink my entire customer relationship."

Overall, a key insight is that firms' first approach was to address the new technology within the context of their existing relationships and activities. This is consistent with research that finds that firms often respond to disruption with "what they know" (e.g., Tripsas and Gavetti 2000, Kapoor and Klueter 2015, Raffaelli et al. 2019). But at the same time, it also meant that advertising content was being "dumped" onto pages and engagement was minimal outside of crises. The underlying reason for this failure was that, while social media and traditional media technologies had important complementarities, they also required different capabilities and had fundamentally different operating logics (see Table 2).

Second Response (2009–2010): Add New Suppliers into Existing Ecosystem

When existing suppliers proved to be unable to implement the new technology, we next observed all five consumer goods firms in our sample undertaking the same response, which was to assign social media engagement activity to a social media specialist agency

Table 2. Comparison of Advertising on Social Media vs. Traditional/Digital Advertising Platforms

	Traditional and digital advertising platforms	Social media platforms
Platforms involved	Print, TV, radio, mobile, online (e.g., email, display ads, including banners on social media; see Figure 1)	Facebook, Instagram, LinkedIn, Twitter
Operational logic of advertising activity	Value created by *unidirectional information flow*. Content reaches customers and influences buying decision	Value created by *interaction (bidirectional information flow)*. Content initiates interaction with customers, buying decision based on feelings and thoughts generated by the interaction
Capabilities required to create value	Generating creative content and coordinating repetition across various platforms	Engaging customers in meaningful, memorable interaction with the brand

Sources. Ha (2004), Tuten (2008), Evans and McKee (2010), Berthon et al. (2012), and qualitative data from this study, as described above.

and add this agency to the existing supplier ecosystem. Looking back, a senior brand manager at Beta explained, "We had to bring these guys in and make sure that they became part of the puzzle. It wasn't gonna happen by itself."

Out of the five client firms in the sample, four selected their own social media agency, whereas one (Delta) worked with its mother agency to choose a new supplier. In all cases, however, the new social media agencies were nested as subcontractors under the respective mother agencies. This had two advantages: it (a) preserved the existing distribution of activity within the ecosystem (in particular, the ability of mother agencies to coordinate activity and communication across various subcontractors) while also (b) ensuring the inclusion of actors with the capabilities that clients now realized were necessary for social media.

Despite these advantages, however, the addition of social media specialists to the existing supplier ecosystem soon proved problematic. In particular, the mother agencies continued to exert substantial power over what content was developed and how campaigns were run—and they did so according to the (older) unidirectional logic. In some cases, social media agency executives complained that the mother agencies were developing content and then handing it to the social media agencies for broadcast distribution, as they did with their other subcontractors. In other cases, the social media agencies were deliberately undermined or excluded. For example, a marketing executive at consumer goods firm Beta explained,

> We noticed that in the good cases, the mother agency undermined the social media part of the project. In the worse cases, there was actual sabotage going on. Lots of complaints from the social media agency. . . . And it's hard to figure out how much of it was actually going on. But for sure, it wasn't working out for anyone. (VP Marketing, Beta)

This sentiment was echoed by Beta's social media agency's cofounder and CEO:

> So what happened was that the mother agency was not eager to provide the details of the plan, and they wanted to play a leading role, but from a content perspective they were only providing the content for the TV. So there was a lot of friction.
>
> They had to play nice with us in this new scheme, but you could tell the incentives were not there. . . . They would say they shared some info a month ago and we would be like, really, where is it?

We observed this pattern across all of the firms in our sample. Although the issues were less severe at Delta, where client and mother agency had jointly chosen the social media partner, the mother agency was still not happy with the new arrangement. As one Delta mother agency executive said in an interview,

> Look, this ecosystem is currently being forced on us. It is because understanding about new platforms is still at its infant stage, and there is no trust from the client side that we can handle this. I think it's temporary. (Global Head of Client Teams)

An advertising expert/consultant explained the broader problem with another example:

> A case in point is [social media agency]. When they had to work together with a classical agency, more often than not, the relationship did not function both because the two agencies did not understand each other conceptually and they also fought over the budget. [Social media agency] was always the "digital stepchild."

Within months, the conflicts between the mother agencies and the social media agencies were leading to regular delays and tensions in ongoing campaigns. Interviews reveal that mother agency executives often resented the notion that the social media agencies (or social media in general) required special treatment, especially given the mothers' historical success in addressing and incorporating new technologies. For example, the CEO of Epsilon's mother agency explained,

> I always say that idea comes first. If you have a good idea, you can adapt it anywhere; social media, web page, television, billboard, etc. If you cannot adapt your idea, this proves that the idea is bad.

Other executives disparaged the lack of professionalism of the social media specialists:

> There is the 'let's make some bucks until people figure out what social media is' mentality, you know.... They say we know social media really well, but they offer short term solutions. I can increase fan numbers with fake accounts, too. But in the long-run, what does that bring me? It's not a pissing contest you know. (Brand Strategy Director, Beta mother agency)

Social media executives, in contrast, attributed the tensions to the mothers' control of client access and lobbied for a greater role in campaigns. The CEO of Gamma's social media agency explained,

> When a client sits together with its agencies, typically the lead agency doesn't even let the rest of its contractors have a seat at that table, and so many ideas aren't born digital cause there is no one there who thinks that way. Ideas are always translated to digital ex post.

Clients, for their part, soon came to realize that, because the mother agencies occupied such a central role in the ecosystem (i.e., both developing the broad outlines of advertising campaigns and coordinating the actions and interactions of the subcontractors), their inability to treat social media as novel meant that the value of the new technology would continue to go unrealized. In other words, adding social media agencies to the existing ecosystem seemed like an obvious solution in terms of activity distribution, but failed due to the existing power structure that continued to provide the mother agencies with control.

Third Response (2011–2012): Restructure the Supplier Ecosystem

When the attempts to adopt the new technology (first with existing suppliers, then with new suppliers) failed, the firms in our sample found themselves at a crossroads: the ecosystem of suppliers on whom they had long depended to implement new technologies now seemed incapable of doing so.

We observe that, by 2012, executives at all five sample firms recognized this problem. Although they all had initially reacted to the advent of social media in the same way, here their paths diverged. Two firms decided to separate and vertically integrate activities around the new technology, *maintaining the existing activity and power structure* in the supplier ecosystem while consolidating social media activities in a separate "skunkworks" unit. The other three firms instead internalized the coordinating role of the mother, thus *breaking the power structure* of the ecosystem, while *maintaining and collocating the activities* associated with the new technology within the ecosystem. As our analysis reveals, each of these approaches carried its own unique advantages, disadvantages, and trade-offs. Table 3 summarizes.

Separate the New Technology While Maintaining the Supplier Ecosystem: Alpha and Epsilon. Two consumer goods firms in our sample, Alpha and Epsilon, decided to separate activities around the new technology from the existing supplier ecosystem by building new social media units to operate in house, independently from their external advertising suppliers. Alpha did so by creating an in-house social media team from the ground up through the process described by the SVP of Marketing:

> In 2012, we put out an open call for start-ups in communications, media and technology through what we called the [brand name] 10 competition. From 20 finalists, we selected 10 entrepreneurs to spend a year working on a pilot project with us in the realm of

Table 3. Overview of Sample Firms' Response to the Emergence of the New Technology

Initial supplier structure (<2008)	First response to new technology (2008)	Second response to new technology (2009–2010)	Third response to new technology (2011–2012)	Fourth response to new technology (2013)
			Vertically integrated new technology (a) via in-house team (*Alpha*), (b) via JV w/ supplier (*Epsilon*) → **Trade-off:** Greater control, access to data, and attention to new technology, but reduced creativity and lack of coordination with other suppliers	
Tree/general contractor (*observed at all sample firms*)	Gave adoption to current suppliers (*observed at all sample firms*)	Added new suppliers within existing ecosystem (*observed at all sample firms*)	Broke current supplier structure to promote new technology (*Beta, Gamma, Delta*)	Allocated greater resources into supplier management (*Beta*) → **Trade-off:** New power structure did not match nature of value generation
	→ **Failed:** New technology undermined as current suppliers failed to invest in it	→ **Failed:** Power structure of current model undermined new supplier	→ **Failed:** Competition and coordination issues among suppliers led to cycle of increasing uncertainty and competition	Reverted to initial tree model (*Gamma, Delta*) → **Trade-off:** New technology undermined as current suppliers did not understand or prioritize it

social media. If this proves to be a success, the idea is that it will become a permanent function.

Epsilon instead created an in-house social media team by forming a joint venture with their mother agency. Epsilon and its mother agency executives explained:

> We are excited about [joint venture] because we believe that co-locating at the partner will lead to better work created and executed smarter and faster. (CEO, Epsilon's mother agency)

> The center also includes online consumer insight statistical analysis tools for the team to understand the real-time movement and to be able to execute a real-time online communication. (Head of Digital Strategy, Epsilon)

In both cases, vertically integrating social media allowed the clients to ensure that social media enjoyed a central role and adequate resources and that its value was being more effectively realized. As one Alpha marketing executive explained, "social media is more critical than other platforms. . .you need to have full control." Similarly, an Epsilon marketing executive explained how having their social media team in-house led to a successful campaign at a major soccer championship:

> This was a social-led campaign. . . We worked with the [internal] social media team 24/7 during launch and after. . . Us [Epsilon marketing department] and them, we worked as one unit. (Head of Digital Strategy, Epsilon)

The clients soon discovered other advantages as well. One was that the internal social media teams had direct access to the rest of the client operations, which was important due to the "real-time" nature of consumer interactions on social media. As one industry expert explained,

> Something positive about being inside is that because sometimes the client is not very open about their strategy or their new launches or whatever. If [social media] is inside they can work better on teasing the community or things like that and can have 100% access to information whereas you have different agencies working in the same project the information is flowing and is getting lost at the same time.

Keeping social media in-house also gave firms direct access to consumer data, which was critically important for R&D and marketing purposes. As an Alpha marketing director explained,

> Social media is a platform that can give you so much customer feedback and overall data. Frankly, for that to reside inside a separate entity is a loss of power for us.

Thus, vertically integrating social media allowed the clients to ensure its adequate implementation. But at the same time, it also recreated two problems that outsourcing had solved many decades ago. First, in a highly creative industry, external teams and collaborators have much higher exposure to ideas flowing in the industry (Hirschman 1989, Hackley 2003). Alpha and Epsilon recognized that their in-house social media teams had limited access to the idea exchange among advertising agencies. As one executive noted,

> Something positive about having the social media inside is that you can have 100% access to information. However, this strategy has the disadvantage that the social media team might become subjective over time. . . . (VP Marketing, Epsilon)

Similarly, as an industry analyst explained,

> The main reason why advertising agencies exist in the first place is that a person can't keep innovating if you don't expose them to outside ideas. Following this logic, I see serious issues with keeping social media in-house. It's great for control purposes, but honestly not for much else. . . .

In addition, vertically integrating social media meant that it was now separated from other media technologies (e.g., TV, radio, print). This limited the degree to which the firms in the ecosystem could coordinate the consistency of their messaging. As an Alpha mother agency account manager explained, "[Having] an internal social media team [is] like separating one of your children from the others."

In summary, integrating into social media allowed the clients to decrease the power of the mother agencies. But it also entailed trade-offs with respect to the flow of information between platforms and the ability of firms to coordinate a coherent brand identity. In other words, ensuring the implementation of the new technology from a power perspective undermined the very value it was supposed to create.

Restructure the Supplier Ecosystem: Beta, Gamma, Delta. Although some firms in our sample decided to separate and vertically integrate the new technology to ensure proper adoption, other firms chose not to separate the new technology but instead to restructure their supplier ecosystem. Specifically, Beta, Gamma, and Delta all rearranged their advertising suppliers such that all agencies would report to them directly, rather than to the mother agency. This new arrangement separated the *coordination* and *content creation* functions previously managed by the mothers and, thus, *broke the power structure* of the supplier ecosystem, while *maintaining activities* around the new technology within the ecosystem. The result was a move away from the long dominant "tree" model:

> Big agencies don't have this kind of expertise in-house and many times we have to collaborate with smaller agencies. So before, when I was presenting a new

> campaign to the market, I was thinking of it like a tree. I was saying here is the mother idea and here are the little branches that come out of it. These were almost separate branches like TV, Out of Home, Shopper, Radio. What is happening now is that I cannot draw a tree anymore, I have to draw a network where all the pieces connect with all the other pieces. (Global VP Marketing, Gamma)

On the one hand, actively facilitating coordination across individual agencies and directly managing advertising campaigns afforded the clients more control. In particular, clients could now ensure that campaigns were developed with both social and traditional media in mind, and that individual agencies (such as the mothers) were not able to act as gatekeepers. But, on the other hand, the move to a "network" model imposed its own set of significant challenges.

The first challenge was that managing suppliers required an additional set of capabilities the clients did not possess. In particular, clients found themselves needing to *coordinate among multiple partners* that worked on different media technologies in order to achieve an integrated campaign. In practice, this meant that marketing executives now needed deeper technical knowledge of the various media platforms than they had previously. One executive tasked with managing social media partners complained,

> We had to learn all those terms, like, rate of engagement, likes, and then, there is a whole set of new terms under each of those like organic versus paid likes, net likes. . . . (Brand Manager, Delta)

Similarly, a Beta brand manager echoed,

> It became clear that some of those agencies were speaking a different language compared to what we used to hear from our traditional agency. We were kind of stuck.

In addition to understanding multiple media technologies, the clients also now had to manage and integrate content from different agencies—a task that had previously been the province of the mothers. The VP of Marketing at Delta described this as an "internal revolution" at Delta, and one that the firm struggled with. As executives at Delta's and Gamma's social media agencies explained,

> The client . . . has to make sure that everyone is integrated in the process and to move them to the same goal. But they don't know enough to do this. (CEO, Delta's social media agency)

> What happens sometimes is that they have to deal with agencies on top of their old job so they have a double task, it is too much for them. (CEO, Gamma's social media agency)

The second and more substantive challenge, however, was managing the emerging competition among suppliers. Prior to the introduction of social media, agencies in the supplier ecosystem had to collaborate with the mother agency and, under the latter's guidance, with one another within a well-defined distribution of activity and value. The move away from this well-defined structure to one where the client managed the suppliers not only shook up the power dynamics in the ecosystem, but also increased the visibility of the individual agencies to the client, giving them a newfound opportunity to increase their role and importance relative to the other suppliers. One way that this competition manifested itself was that the individual agencies started to take on larger parts of the projects without being asked:

> So, you have always different agencies bumping into each other at the edges, because they are all trying to do everything. (VP Marketing, Beta)

The competition also manifested itself through the formation of cliques and sabotage, as shown in the quotes below from social media agencies:

> This instigates people to play the blame game in each other's court and that is when it becomes difficult. . . They all think in competitive terms, so there is lots of bashing of other agencies around the client. (CEO, Beta's social media agency)

> When the client doesn't manage the process strongly, agencies start to play dirty. . . . (Senior Client Lead, Delta's social media agency)

Paradoxically, the effort by suppliers to compete for a greater share of activity and value thus further hindered the clients' ability to coordinate the ecosystem because it reduced the clarity regarding how to appropriately distribute and coordinate activity within the ecosystem. In particular, clients were often unable to differentiate the strategic posturing of their suppliers from their actual (and typically greater) expertise with running campaigns. As one Beta executive explained, "It sort of becomes ugly because they try [to show] their clout, trying to tell the client what we can do and what so and so is doing." A social media specialist similarly explained,

> There can be tensions in a multiagency [network] model and in addition to everyone doing their own stuff they will also try to get more from the client and try to manipulate the perspective of the client in order for the client to start favoring them and giving them more parts of the project in future. (CEO, Delta's social media agency)

This sentiment was echoed by Delta executives as well,

> These processes don't progress very practically. There is always loss of productivity. The digital agency says I could have done mobile, offline guys say they wanna do social. The wrestling back and forth ends up in confusion. (Brand Manager, Delta)

Moreover, the challenge of determining how to best allocate activity across the various agencies in the ecosystem was compounded by the need to do so while *simultaneously* coordinating the ongoing campaigns. As the Delta brand manager explained, "You can't stop your ongoing campaigns to fix these issues." Similarly, the Head of Agency Relations at Gamma asked, "How do you change the tires of the car when you are driving it?"

The overall effect was that, as social media grew in importance from 2012–2013 and as social media agencies commanded an ever-greater share of clients' marketing budgets, the degree of uncertainty and ambiguity facing the client firms around how they could effectively implement the new technology and how to best integrate it with traditional media technologies actually grew as well.

Fourth Response (2013): Formalize Roles and Change Incentives

By 2013, executives at Beta, Gamma, and Delta began to impose rules to avoid competition and reward collaboration. One rule was to communicate to media specialists that future contracts would be awarded on the quality of work *and* the ability to work collaboratively with one another. A second was to formalize "rules of engagement" and interfaces across agencies. As client executives explained,

> You need to have several things. First, you need to have a very clear role distribution. We have some documents that describe all this, I can give them to you. These documents showed which agencies were proprieties of which piece of the work so that there are no overlaps. At the same time, you want to benefit from all the minds from all the agencies such that they cocreate work. So they cannot work in isolation, you have to create routines to let them share all the work that they are doing and cocreate. (VP Marketing, Delta)

> You have to have a strong mind to insist on collaboration to keep communication transparent and make sure that everybody is at the table at the same time. It requires a very clear role distribution. (Head of Marketing, Gamma)

A second and related action was to formalize dedicated coordination roles. Two firms (Beta, Delta) did so by creating internal roles for managing suppliers. As one informant shared,

> [Beta] has created a figure of digital marketing manager and this is the guy who is in touch with everything related to digital and the brand managers. He is an intermediary between them and I think he can understand both, has a wider perspective about online and he can understand a little bit about everything. (CEO, Beta's social media agency)

One firm (Beta) also introduced a new external role by hiring a dedicated agency that did not deliver any content but that was instead tasked with coordinating between different agencies. As the VP of Marketing explained in an interview,

> We had communication around the World Cup, working with 10 agencies. The way we worked for that one was we had an umbrella campaign that linked our overall communication. We had [agency] as the mother agency and we had 7 or 8 other agencies that were very specialized either in visual identity, PR or in shopper. And then we had another agency that was our connection planning agency that was ensuring that there was a good coordination among all of them. This agency that was doing the connection planning was forcing interaction among the different agencies and they were sharing how they were advancing their work. So for the World Cup and for the Olympics both, we had an agency that was expert in connection planning.

By the end of the data collection, the coordination manager (internal) and coordination agency (external) roles were becoming more common in the advertising industry. As a Beta senior brand manager explained, "Obviously, much more hands-on management is needed now, compared to before. You are much closer to the customer, the stakes are higher."

However, neither devoting additional resources to coordination nor formalizing explicit coordination roles solved the supplier management issue entirely. In particular, informants noted two issues as our study progressed. First, while the new distribution of activity improved the integration of social and traditional media technologies, it also introduced an artificial separation between content creation and coordination. In other words, the mother agencies (who in most cases were still responsible for developing the "big creative ideas") could now no longer ensure that these ideas were being correctly implemented. As a Delta mother agency account manager explained, "If the material isn't yours, how will you know where it works and where it doesn't?"

A second and related issue was whether the role of the new coordination agencies was stable. In particular, informants at both media specialists and mother agencies voiced concern that these new agencies would use the role to break into the clients' supplier network with the hope of getting more business over time. One industry analyst explained, "What is unclear is whether these agencies get to deliver any content or not." He/she continued, "This is a band-aid solution, as I call it…It would only work if everybody's workload was equal. But it isn't, and it can't be."

Despite their efforts to manage this new supplier structure effectively, the coordination difficulties were so significant that, by late 2013, Gamma and Delta had

both given up and reassigned coordination to mother agencies. In doing so, they reverted back to the "tree" structure, as below:

> We are realizing now that to make them really work seamlessly, you need to have one agency that is coordinating all of it. So now we are kind of moving in the opposite direction and this is coming out of the learning that we had. . . . We are now trying that model where we have one agency that is at least connecting the digital world which is more liquid with the TV, and on top of it we might have other agencies doing the shopper and PR, but more and more we are trying to collapse all of that into one big agency to avoid the trouble of coordinating all the different agencies, which is very hard. (VP Marketing, Delta)

Reverting back to the old ecosystem structure reduced client firms' challenges in managing competition and coordination among their suppliers. However, whether this reversal had any drawbacks for the realization of value using social media was a highly contested matter among our informants. Mother agencies and client executives spoke about mother agencies having internalized social media capabilities through mergers and acquisitions and the time being ripe "to let mother agencies handle social media." In support of this view, acquisitions of social media agencies were widespread at that time. In 2013, 56% of all advertising acquisitions globally were of social media agencies, while mobile advertising and ad analytics firms were other popular targets (AdAge 2014), and 2014 was later named the "Year of Consolidation" in advertising, particularly with regards to digital and social media agencies. In contrast, other informants (particularly social media agencies and industry analysts) stressed that these acquisitions did little to resolve the issue of how to manage social media, as social media agencies were now embedded in larger organizations that were still dominated by the traditional, unidirectional advertising logic. For example, one social media executive noted,

> If you talk to [client], they'll tell you that they are now convinced that their mother agency can handle social media. The truth from our side is that they got themselves into such a mess trying to handle everything that they just gave up. (CEO, Gamma Social Media Agency)

This view was echoed by an industry analyst:

> Well, there are two points of view on this. One says, look, over time, the big guys have the resources to figure this out, so it makes sense. But there are also many others who think there may be a lost opportunity here to turn social media into the powerful tool that it can be for your brand. I would say both are true.

In 2015, two years after data collection ended, a global survey of chief marketing officers reported that the majority of senior marketers were struggling to make their mobile, social, and web channels work together to provide an engaging customer experience (WARC 2015). In line with this, follow-up interviews with informants in 2019 showed that many agencies and clients still struggled to realize social media:

> What I will say is it will be another couple of years that the big agencies, including ours, build that skillset of community management. (Chief Client Officer, Alpha Mother Agency)

> The ability to integrate what you're doing and make sure it's one voice, I still think we see, for the most part, that television is what sets a tone. And a lot of times, in order for social to be relevant, it's really hard for it to ladder up directly because typically the message you're seeing on TV and traditional media is not the same message you can deliver on social. Right now I see that as one of the biggest challenges, how do you create a uniform voice across your channels because even if you do have a small agency doing one, and the big agencies doing another, and you try to connect them, I think given the nature of the channel, it's still very very hard to get that mix right. (VP Marketing, Beta)

That integrating social media into advertising continues to be an issue today provides evidence for the fundamental nature of the trade-offs associated with integrating new technologies within a supplier ecosystem, especially when they create value in a novel way.

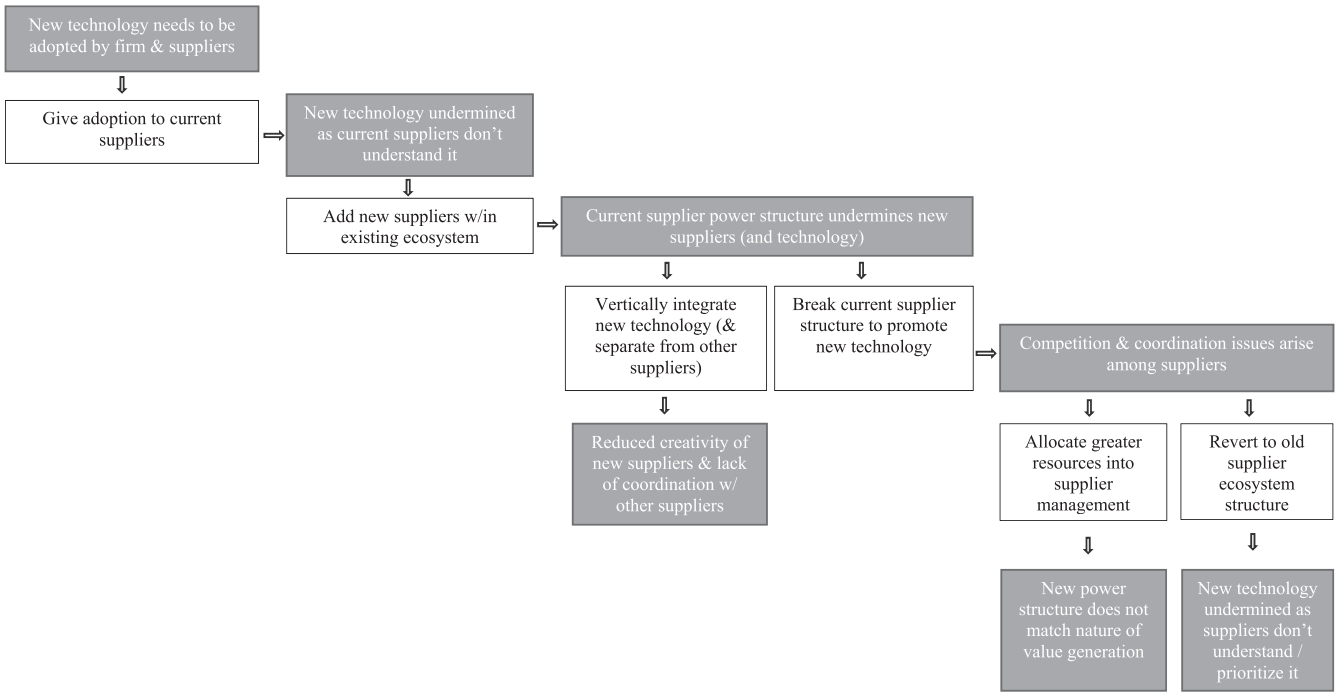
A Process Model of Firm Response to Supplier Disruption

Our findings uncover the process of how firms navigate the introduction of disruptive technologies within the context of their existing supplier ecosystems (Figure 3). Extant work shows that, when firms are embedded in networks of suppliers and complementors, they often depend on these external actors to evaluate and implement new technologies (Adner and Kapoor 2010, Hannah and Eisenhardt 2018). But at the same time, new technologies are frequently accompanied by substantial uncertainty and ambiguity (Rindova and Kotha 2001, Gruber et al. 2008). As a result, it may not always be clear what value a new technology offers or to whom, how this value can be achieved, or who is best positioned to respond.

In our setting, firms naturally responded to this uncertainty by attempting to implement the new technology within existing supplier relationships. This allowed firms and suppliers to implement the technology with minimal impact on existing routines and capabilities, consistent with studies finding that firms respond to disruption with "what they know" (e.g., Benner and Tripsas 2012, Kapoor and Klueter 2015).

The issue that arose, however, was that the new technology was both disruptive (in that it obviated

Figure 3. Conceptual Model of Firm Response to New Technology Affecting Supplier Ecosystem



Note. The figure provides a stage-wise conceptual model of firm response to new technology affecting a supplier ecosystem, with grey boxes depicting main challenges experienced by firms at different stages and white boxes depicting strategies deployed as responses to those challenges.

old capabilities and relationships) and complementary (in that it supplemented existing technologies, rather than directly replacing them). Due to their different roles and positions within the ecosystem, the firms and their suppliers (a) perceived the technology differently, and (b) faced different incentives with respect to its implementation. As a result, the existing distribution of activity in the ecosystem—which had allowed efficient interaction and high-quality output at the expense of conferring substantial power to the lead supplier—became a liability. With client firms who had "unlearned" their capabilities and lead suppliers who lacked the incentive and knowledge to fully implement the new technology, a period of futile adoption attempts took place, during which the value of the new technology went unrealized.

After this initial period, the client firms took a more active approach to implement the new technology by working with new and innovative market entrants, consistent with the literature on collaboration between large and small firms for the purposes of innovation (e.g., Stuart et al. 1999, Ozcan and Eisenhardt 2009). But whereas prior research typically observed such collaborations in the form of dyadic alliances, the client firms in our sample had long ago outsourced their advertising activities. Thus, they relied on their mother agencies to fold the new entrants into the existing ecosystem structure. However, doing so left the power structure unchanged and gave the mothers no incentive to "make room" for the new entrants, thus leaving the new technology largely underutilized.

Realizing that it was not possible to implement the new technology within the existing distribution of activity and power among their suppliers, the focal firms engaged in two different responses, each of which gave rise to different trade-offs. One approach was to keep the existing suppliers and power structure intact, but to separate and vertically integrate the new technology, in line with work on structural ambidexterity (e.g., O'Reilly and Tushman 2004, Daneels et al. 2017). The firms that pursued this approach faced an important trade-off in that vertical integration clashed with (a) the logic of outsourcing activities to suppliers in order to realize economies of scope and scale and (b) the logic of collocating the technologies (or modules) in order to achieve cross-technology synergies.

A second approach was to leave the new technology in the hands of specialist suppliers placed within the supplier ecosystem, but to "break" the power structure of the ecosystem by taking away the coordinating role of the general contractor and thus bringing all suppliers onto a level playing field. With this approach, however, focal firms faced significant costs as they lacked supplier coordination capabilities after having outsourced coordination to a general contractor

for a long time. Moreover, breaking the established supplier structure caused a "land grab" among suppliers, which, in a vicious cycle, blurred the focal firm's sensemaking of the new technology and further exacerbated their ability to coordinate suppliers. We observe that, to break this vicious cycle, some firms reverted to the original general contractor model—which left the new technology in the hands of powerful suppliers and thus largely unrealized.

Overall, our analysis reveals a typology of several distinct strategies by which firms attempt to implement new technologies within their existing supplier ecosystem, as well as fundamental trade-offs in terms of activity and power associated with each. We summarize these strategies in Table 4 and discuss the specific contributions they make to extant literature in the next section.

Discussion

This study explored how firms attempt to reconfigure their supplier ecosystems in order to implement new and potentially disruptive technologies. Following five global consumer goods brands and their advertising suppliers from 2008 to 2013, a period in which the advertising industry was rocked by the introduction of social media, we traced the *similar* initial approaches that the five firms took, as well as the *different* strategies they enacted over time and the trade-offs and tensions implicit in each. Our findings contribute broadly to research on supplier management, ecosystems, and industry disruption.

New Technologies and Existing Supplier Ecosystems

First, this paper expands our understanding of trade-offs in supplier management. Prior work highlights that outsourcing can increase both *efficiency*—that is, minimizing the costs of coordination, as well as *innovation*—that is, exposing innovative teams to greater contact with industry. The tree/general contractor model is thus particularly valuable when a firm outsources work to a large number of specialists such that coordination is resource intensive, as in the case of construction services (Eccles 1981, White and Lui 2005) and mortgage banking (Jacobides 2005, Gartenberg and Pierce 2017). The tree model is also useful when outsourcing is related to innovation, as it allows innovation within modular elements while preserving the ability to integrate and coordinate among modules, as in the automotive industry (Dyer 1997, Jacobides et al. 2015)

Table 4. Supplier Reconfiguration Strategies and Trade-offs to Adopt a New Technology

	Reconfiguration of power structure within existing supplier ecosystem	
Placement of activities involving new technology	Maintain power structure	Break power structure
Collocate new activity within existing supplier ecosystem	**Strategy:** Outsource new technology and maintain existing supplier ecosystem **Trade-off:** + Allows efficient coordination with other activities – Reduces realized value of new technology due to: (a) inadequate capabilities of existing suppliers (b) turf war between existing and new suppliers	**Strategy:** Outsource new technology and restructure existing supplier ecosystem **Trade-off:** + Allows efficient coordination with other activities + Prevents existing suppliers from undermining new technology due to inadequate capabilities and turf wars – Imposes additional capability requirements on focal firm – Reduces realized value of new technology via increased ambiguity and turf wars after disruption of existing supplier roles and interaction patterns
Separate new activity from existing supplier ecosystem	**Strategy:** Vertically integrate new technology and maintain existing supplier ecosystem **Trade-off:** + Allows greater attention and control over new technology and access to data generated by the new technology – Imposes additional capability requirements on focal firm – Reduces realized value of new technology due to reduced innovation of internalized supplier – Reduces realized value of overall activity system due to lower coordination among separated suppliers	**N/A** (No need to break existing power structure if activity is separated)

and many creative industries (Starkey et al. 2000, Ferraro and Gurses 2009).

Our paper shows important limitations of this model with respect to new technologies. Specifically, we find that, although outsourcing activity to a tightly coordinated supplier ecosystem can tick both boxes of efficiency and innovation, the uneven distribution of power in such an ecosystem may cause the suppliers to not fully embrace new technologies that are different from their knowledge base. Extant work suggests that adding new suppliers is a common response to new technologies (e.g., Hoffmann 2007, Rothaermel and Boeker 2008, Anand et al. 2010, Kapoor 2013). However, we show that existing suppliers, particularly powerful ones, have little incentive to work with new suppliers when they can increase their power and resources by adopting the new technology themselves. This competitive tension highlights a challenge for the general contractor model, in that contractors' ambition to protect their turf, despite their inability to realize the new technology, can "hold up" the ecosystem in a prolonged turf war and limit adoption.

At the same time, we also observe fundamental trade-offs associated with moving away from the general contractor model. In particular, we observe firms taking two approaches to implement the new technology: (a) separating and vertically integrating into the new technology, and (b) keeping the new technology within the ecosystem, but "levelling" the power structure across suppliers. Both approaches offer the important benefit of preventing incumbent suppliers from undermining the new technology. But they also impose important costs: beyond requiring additional capability development for focal firms, vertical integration limits coordination across technologies (e.g., traditional and social media), whereas transitioning to a network model can lead to the erosion of clear roles and interfaces between firms.

Overall, these findings indicate that reconfiguring a supplier ecosystem in the face of a new technology involves two interrelated tasks: (1) reconfiguring the distribution of *activity* and (2) reconfiguring the distribution of *power*. Optimizing the distribution of activity versus power can lead to insurmountable trade-offs, which means that, despite their best intentions, firms' efforts to realize a disruptive new technology within a general contractor model may not ever be globally optimal, but are rather satisficing. Power has been a lurking theme in several studies tof dyadic supplier relationships (Adegbesan and Higgins 2010, Gulati and Sytch 2007) and ecosystems (e.g., Ferraro and Gurses 2009, Jacobides et al. 2015, Ozcan and Santos 2015). We contribute to this growing literature by showing firms' different approaches to balance power versus formal distribution of activity and how failing to account for power can doom a distribution of activity that would otherwise appear optimal from a technology or capability perspective.

New Technologies and Industry Disruption

Our findings also contribute to work on technology disruption and industry transformation. A common approach in work on dynamics of disruptive innovations (e.g., Christensen 1997, Chandy and Tellis 2000, Tripsas and Gavetti 2000) is to frame the competition between old and new technologies as a fight between innovative new entrants and incumbent firms who are caught off guard and forced to respond to protect their markets (e.g., Christensen and Bower 1996, Benner and Tushman 2002, Ahuja et al. 2008), but who are unable to do so due to their focus on existing customers (Christensen and Bower 1996, Macher and Richman 2004) and inertial cognitive frames and organizational routines (Burgelman 1991, Tripsas and Gavetti 2000, Daneels et al. 2017). We extend this body of work in several important ways.

Our first contribution is to examine the dynamics of disruption when they occur beyond firms' own boundaries. We extend prior work on the potential for new technologies to affect firms by disrupting supplier markets (e.g., Afuah 2000, Pierce 2009, Hannah and Eisenhardt 2018), by examining the *process* by which firms navigate such disruption. A key insight is that in contrast to "classic" disruption contexts where focal firms themselves face potential disruption, considering disruption in an ecosystem context foregrounds *interfirm power dynamics*. We show that, even when firms recognize the value of a new technology *and* attempt to adopt it, they are unable to do so without buy-in from the powerful suppliers that they continue to heavily rely on within their ecosystem. This suggests that *adding* new technologies (rather than replacing incumbent technologies) presents unique challenges, as firms may be unable to replace existing suppliers to make room for the new technology but unable to realize its value unless they do.

A second and related contribution is to highlight the link between technologies and the distribution of activity within an ecosystem. A key finding in prior research is that distributing activity across multiple actors allows individual firms to specialize in a narrow range of activities (Coase 1937, Gibbons 1999), accumulate relevant capabilities and processes, and benefit from the resulting division of labor (Simon 1962, Rosenberg 1982). Building on this, work on modularity and transaction cost economics argues that activity tends to be distributed across firms such that the interfaces between firms occur where interdependencies are fewest and the necessary information exchange thinnest (Baldwin and Clark 2000). Our study suggests however that, when firms interact around multiple technologies *and* these technologies

imply different distributions of activity, it may not be possible to achieve an "optimal"—or even stable—distribution. In our case, traditional media technologies create value through message consistency, which requires coordination and control, thus leading to the general contractor ("tree") model that dominated advertising throughout the 20th century. In contrast, social media creates value through engagement, which requires flexibility and authenticity. Thus, the firms in our sample struggled (and still struggle) to reconcile these two conflicting demands. This observation introduces the intriguing notion of "problematic complements"—technologies that, while nominally value-increasing, require such different ecosystem structures that effectively reconciling them may be impossible.

A third contribution is to highlight the sources and evolution of uncertainty around new technologies. Extant work has found that new technologies give rise to a period of uncertainty when industry players lack the knowledge, capabilities, and resources required to develop and deliver them (e.g., Anderson and Tushman 1990, Rindova and Kotha 2001, Gruber et al. 2008). Over time, this uncertainty is reduced as firms develop the necessary relationships and jointly resolve the broad contours of the technology (Van de Ven 1993, Hargadon and Douglas 2001, Ozcan and Eisenhardt 2009, Santos and Eisenhardt 2009). In contrast, we illustrate a setting in which uncertainty *increased* with adoption, as reshuffling the power structure among suppliers to embrace the new technology led to competitive dynamics that affected the focal firms' sense-making of the same. Even as it became clear *what* value the new technology could provide, *how to achieve* this value was clouded by the "turf war" that emerged over activity distribution across existing players. This has implications for research on interpretations of new technologies (e.g., Kaplan and Tripsas 2008, Benner and Tripsas 2012, Pontikes 2012), bringing the coevolutionary relationship between the sense-making of a new technology and the interfirm relationships and competitive dynamics arising during its adoption into the foreground.

Finally, our study offers a fascinating counterpoint to the "classic" disruption story, where inertial firms focus on existing customers' needs and, thus, fail to recognize and invest in disruptive new technologies (Christensen and Bower 1996, Christensen 1997, Christensen et al. 2018). We observe that, in the advertising industry, downstream customers (global consumer goods clients) were proactive in their efforts to understand and implement the new technology, but constrained by their high dependence on existing suppliers, who were less willing (or able) to recognize the technology as fundamentally distinct and to develop capabilities to realize its value. An intriguing question is how common this dynamic—where customers are proactive and suppliers lag—may actually be and when it is likely to manifest.

More broadly, the dilemmas we document in this study highlight a critical but often overlooked dimension of industry disruption. The digitization of the economy and the unbundling of previously integrated products and services allow the emergence of new technologies that do not replace, but rather supplement today's products and services, thus expanding existing ecosystems. In these settings, *where and how to add a new technology* while continuing to work with a well-oiled supplier ecosystem presents a real strategic dilemma. Examples include the construction industry being disrupted by artificial intelligence and drones (KPMG 2019); the automotive industry, with a rise in autonomous and shared vehicles introducing a "mix of old and new imperatives requiring trade-offs and compromises" (Leney 2019) by automotive manufacturers; and music and television streaming, wherein platforms like Netflix and Spotify are battling with incumbent content owners to understand and establish favorable distributions of activity and value. In such settings, the existing distributions of activity and power are difficult to replace but also ill-equipped to succeed in the new technological regime, leaving firms in an intractable catch-22.

To understand these dilemmas and trade-offs, it is necessary to move away from primarily considering firms' internal challenges with adopting new technologies (e.g., Henderson and Clark 1990, Christensen and Bower 1996) to consider instead the broader ecosystem—and in particular how interfirm dynamics (e.g., redistribution of activities *and* power) can affect the adoption and realization of new technologies. Building on this insight, we suggest that studying how different technologies affect interfirm power dynamics in networked industries and how the distribution of activity and distribution of power co-evolve over time represent important areas of future study. More broadly, future research should continue to shed light on how incumbent and new firms interact with each other in a network of ties and with a wider set of stakeholders (e.g., partners, consumers) to realize new technologies within and across industries.

Appendix. Coding Themes and Representative Quotes

Primary themes	Secondary themes	Supporting quotes (IA = industry analyst; MA = mother agency; SMA = social media agency)
Emergence of social media advertising	. . .*introducing ambiguity*	→ Lots of agencies are making a lot of money managing Facebook pages, which, in my opinion, reflects the fact that very few brands have worked out how to use Facebook or social media as a whole effectively (IA). → Nobody knows what to do right now (Brand Manager, Beta).
	. . .*requiring new capabilities*	→ It is not that easy for a company to write a post on social media (IA). → You can't just throw someone who does creative or whatever onto social media. It really is a skill, and I still do think that it tends to work better when it's an agency that specializes in it (CEO, Beta SMA).
	. . .*requiring a distinct operational logic*	→ You don't use social media to carry messages to people about your brand, you use it to find out what people think about your brand. You don't use it to create brand ambassadors within your consumers, you use it to create consumer ambassadors within your brand (CEO, Alpha SMA). → Facebook is not a broadcast medium. The idea of the need for regular posting comes out of the world of blogging, where constant refreshment created Google-juice and visibility in the digital space (Senior Client Lead, Delta SMA).
Integrating social media into the ecosystem	. . .*initial adoption by mother agencies*	→ In the new environment of social, the easiest thing is any option which allows you to continue with conventional low engagement mass marketing albeit it with a few tweaks to make it more social. It is easy to understand Facebook as some sort of media platform that needs to be fed with content and thus easy and sensible to outsource its management to a regular agency (IA). → It was business as usual for them (Brand Manager, Beta).
	. . .*mother agencies view the new technology through the lens of current activities*	→ I always say that idea comes first. If you have a good idea, you can adapt it anywhere, social media, web page, television, billboard, etc. If you cannot adapt your idea, this proves that the idea is bad (CEO, Epsilon MA). → There may be new tools, new places to get your voice heard, but there is no such thing as "I do digital work only." It all belongs together, you know (Global Client Lead, Alpha MA). → Some say, digital and social are the future of advertising. Why do you worry about the future of advertising? The game is today, you are on the field right now. . . What help does it do to think about the game in 20 years (EVP Global Brand Director, Beta MA)?
	. . .*mother agencies lack appropriate capabilities*	→ It is easy for an agency to say that they do 'everything' under one roof, however, it is difficult to convince a client that the agency is capable of handling every component of the campaign finer than the agency or specialized shop they have already hired for the job (Senior Global Brand Manager, Epsilon). → What they provide for digital and social can't be compared with us in terms of technology and content. Once the client sees it, they are keen to get us involved (CEO, Beta SMA).
	. . .*value of new technology is not realized*	→ Large agencies have over-promised and under-delivered, prompting companies to take marketing in-house or shop around (VP Marketing, Beta). → Harley Davidson ending their contract with their long-term agency after 31 years, and Exxon Mobil ending their nearly 100 years relationship with McCann just goes to show how fragile these client-agency relationships have turned today (IA).
Adding actors within existing ecosystem structure	. . .*preserving existing roles and capabilities*	→ [Client] asked [Mother Agency] to work with [agency]—multiaward-winning global Word-of Mouth agency—and transformed the brand to be "the social partners" in 2011. This collaboration signals a view of advertising (creative) agency on the importance of the social media (IA's blog). → Our partners are not experts in social so we have to explain things to them so that they could properly deal with our mutual clients (CEO, Gamma SMA).
	. . .*existing power structure favors mothers*	→ When a client sits together with its agencies, typically the lead agency doesn't even let the rest of its contractors have a seat at that table, and so many ideas aren't born digital cause there is no one there who thinks that way. Ideas are always translated to digital ex post (CEO, Gamma SMA). → We cannot decide to not work with other agencies because that would imply less business for us (CEO, Gamma SMA).

Appendix. (Continued)

Primary themes	Secondary themes	Supporting quotes (IA = industry analyst; MA = mother agency; SMA = social media agency)
	. . .undermining social media agencies	→ The classic agencies, they definitely look down upon the work done on the digital side. 'We're the best, we know this business' attitude. Annoying. And hard to get a dialog going, you know (CEO, Beta SMA). → Agencies have these internal groups that are called 'social,' but they're very siloed off from the rest of the organization. Essentially, we're just another channel for them (CEO, Alpha SMA).
Internalizing social media	*. . .allowing greater control*	→ It's very expensive to out-source community management, right (CEO, Epsilon MA)? → If I have that capability in-house, I am naturally gonna try to do it in-house rather than working with third parties (Chief Strategy Officer, Gamma MA).
	. . .improving internal communication	→ We are excited about [joint venture] because we believe that colocating all the partners will lead to bigger ideas and better work created and executed smarter and faster (CEO, Epsilon MA). → If you're gonna do community management and you're working with an agency, and you gotta have a team of people if that's all they are doing. That they are really really are creative and that they're embedded in a way that they know what's happening on the day-to-day basis (Senior Global Brand Manager, Epsilon).
	. . .introducing an artificial separation and thus limiting innovation	→ The good thing about working in the agency is that even though I am working exclusively on one account I have other colleagues with other projects who can give me feedback and it is much more rich, while when you are in one client you would be completely in their work, it is very important to be open minded and to be constantly refilling from others' work (IA). → The disadvantage. . .creativity suffers. If internal people are managing social media, it doesn't go beyond a call center cause they can't use it creatively. They end up using it to listen to people complain (Brand Strategy Director, Beta MA).
Internalizing ecosystem coordination	*. . .allowing greater control*	→ Clients today have multiple agencies to handle their work and no longer hesitate to take their business elsewhere if they don't get the desired results (IA). → [Mother] agencies used to have a very strong influence on their clients, since the agency used to handle all of the client's communication. This has changed now (IA).
	. . .emerging competition	→ When agencies work together, it's almost never one plus one equals more than two. That synergy is often lost to competition. Not only the traditional agencies. The digital agencies also have attitude. They don't want to take something on as an extension of a traditional agency (Global VP Marketing, Epsilon). → The agencies try to take on additional assignments, without additional compensation because they want to show themselves. It's all a race for them, no matter what we say (Brand Manager, Beta).
	. . .formalizing roles	→ You have to have a strong mind to insist on collaboration to keep communication transparent and make sure that everybody is at the table at the same time. It requires a very clear role distribution. We couldn't do it (Head of Agency Relations, Gamma). → For each one of the agencies their reward is now based not only on the deliverables, but also on collaboration style (Head of Agency Relations, Gamma).
	. . .reverting to original tree structure	→ As a long-term solution, I wouldn't bet my money on it [referring to the new "decentralized" coordination models] (IA). → David Ogilvy once said in an interview: "After TV was invented, we struggled to adapt to this new medium." But after that initial period, the likes of Ogilvy, Leo Burnett, Benbach ended up being the best TV advertisers (CEO, Epsilon MA).

Note. Additional quotes are available in the online supplement.

Endnote

[1] In 2011, Facebook introduced Facebook Business Pages and announced that businesses that did not convert their profile to a business page could have their profile deleted. All global brands with Facebook presence created business pages after that. Business pages offered firms more relevant functionality and were clearly distinguished from personal pages, but like personal pages allowed direct interaction and engagement with consumers.

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