

S Y M P O S I U M

DYNAMIC CAPABILITIES AND MANAGING HUMAN CAPITAL

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We apply the dynamic capabilities framework to explore the management of human capital, with particular emphasis on the process of “acqui-hiring.” Acqui-hiring is the acquisition of small companies primarily to gain access to their employees and has been proliferating according to publicly available data. While this trend has received considerable attention from practitioners, scholars have not systematically explored these acquisitions or explained how they fit into the corporate strategy of the acquirers, mostly Silicon Valley-based technology companies. We use a hand-collected dataset to document recent trends in acqui-hiring and present two case studies to provide insights into how acqui-hiring works in practice. We then draw on prior work in strategic management on dynamic capabilities to explain how acqui-hiring relates to the broader set of strategies firms employ to sustain competitive advantage. Specifically, we present acqui-hiring as one example of asset orchestration—an important dynamic capability embodied in top management and implemented in the management of human capital. Finally, we outline potential directions for a more comprehensive and systematic research agenda on acqui-hiring.

What can managers do to drive superior performance? Recent work has emphasized the role of managers in identifying new or underutilized resources, devising ways to integrate them into their firm’s activities, and subsequently transforming existing processes to respond to changes in the competitive environment. This broad set of activities has been termed “asset orchestration” by scholars of dynamic capabilities, but few specific examples have been offered to demonstrate how this capability operates in practice and which contingencies constrain its impact on firm performance. In this paper, we explore one specific example of asset orchestration that is becoming increasingly popular among high technology firms: “acqui-hiring,” or the acquisition of small companies primarily to gain access to their employees. This emerging phenomenon has been well-documented in the popular press, but scholars have not explored how it fits into the corporate strategies of the acquiring firms. In the spirit of this symposium, we use the dynamic capabilities framework to analyze the acqui-hiring phenomenon and ponder its effectiveness as a tool in corporate strategy.

Scholars of strategic management have asserted that firm-level differences in capabilities, or sets of routines firms develop to perform a given activity (Winter, 2003), are fundamental to understanding differences in performance (Barney, 1991; Dosi, Nelson, & Winter, 2000; Nelson, 1991; Wernerfelt, 1984). This stream of research has more recently focused on the importance of a specific set of capabilities, dynamic capabilities (e.g., Teece, 2007; Teece, Pisano, & Shuen, 1997), including dynamic managerial capabilities (Helfat, Finkelstein, Mitchell, & Peteraf, 2007), which allow managers to change their firm’s resource base in response to changes in the competitive environment. One kind of dynamic managerial capability is asset orchestration, which Teece (2012, p. 1397) defined as “identifying complementarities, buying or building missing assets and then aligning them.”

Asset orchestration is primarily done by individual managers or the top management team (Teece, 2012, 2014). While this concept can apply to many different kinds of assets, we focus on human capital, which has been of great interest to scholars (e.g., Wright, Dunford, & Snell, 2001) and can be

particularly challenging to transform. The so-called “war for talent” (Michaels, Handfield-Jones, & Axelrod, 2001) among large companies for the best and brightest employees is one indicator that human capital is scarce and integral to sustained competitive advantage. However, it is still an open question as to how to best attract new human capital to the organization and how to transform existing human capital to seize new opportunities. While there is no fully articulated theory describing how human capital is created and transformed across organizational levels (Ployhart & Moliterno, 2011), we argue that recent work in dynamic capabilities can provide some insight into this question.

To motivate this exploration, we study an emerging phenomenon that raises interesting questions for dynamic capabilities and human capital management, *acqui-hiring*. *Acqui-hiring* has been a topic of intense media interest in recent years, primarily due to high-profile acquisitions by large technology companies such as Facebook, Twitter, and Google. Commentators disagree on the wisdom of these acquisitions.¹ For their part, strategic management scholars have yet to evaluate whether this type of acquisition is likely to create value, and if so, under what conditions.² In this paper, we take the first step in that direction by documenting some basic trends in *acqui-hiring* using publicly available data on over 100 transactions that were assembled as part of an ongoing data effort by the authors. To guide future research on this topic, we first situate *acqui-hiring* in the dynamic capabilities framework to better articulate how strategic management scholars can address questions about why firms are pursuing *acqui-hiring* and when it will lead to successful outcomes. Further, we use case studies to illustrate these points in the context of two prominent *acqui-hirers*, Google and Facebook.

A BRIEF REVIEW OF THE DYNAMIC CAPABILITIES FRAMEWORK

An influential literature in strategy research has identified capabilities, or collections of organizational routines (Winter, 2003), as a source of superior performance. In this perspective, differences in these capabilities help to explain heterogeneity in performance across firms, the fundamental question in strategic management research. However, as competition becomes more intense and the operating environment becomes less predictable, firms struggle to leverage existing capabilities to maintain competitive advantage. Teece and colleagues (1997) identified dynamic capabilities as those capabilities that allow firms to add, jettison, or rejuvenate operational capabilities in response to change. Dynamic capabilities do not directly impact output but rather indirectly influence performance through changing existing capabilities (Helfat & Peteraf, 2003; Zott, 2003).

Dynamic capabilities, argued Teece (2007), comprise three micro-foundations: (1) sensing; (2) seizing; and (3) reconfiguration. Sensing refers to an organization's capacity to recognize and appraise opportunities and threats in the competitive environment, as well within its own capabilities. Seizing is the firm's ability to amass resources and address the opportunities and threats it has identified. Reconfiguration is how firms organize new and old resources for maximum value. All three activities are under managerial discretion, so much of the recent work on dynamic capabilities has focused on the manager. Asset orchestration is one kind of dynamic capability thought to be embodied in particular managers or managerial teams. For our purposes, asset orchestration can be thought of as the capability to identify resource gaps and fill them in response to new opportunities, repeatedly. While the dynamic capabilities framework can be applied to any asset in theory, we narrow the focus of our inquiry to one key firm asset, human capital, which has long been viewed as essential to firm performance (Penrose, 1995; Peteraf, 1993; Ployhart & Moliterno, 2011; Teece, 1982).

Dynamic Capabilities and Human Capital

The acquisition of human capital has recently become an important research topic within the dynamic capabilities tradition (Adner & Helfat, 2003; Teece, 2007). Using the micro-foundations identified by Teece (2007), we can apply dynamic capabilities di-

¹ As representative examples see “The Corrosive Downside of Acqui-hires” (<http://www.bothsidesofthetable.com/2013/05/13/the-corrosive-downside-of-acqui-hires/>) and “Today's Acqui-Hires Will Become Tomorrow's Innovators” (<http://techcrunch.com/2013/06/22/why-todays-acqui-hires-will-become-tomorrows-innovators/>).

² The one other academic paper on *acqui-hiring* that the authors could identify is Coyle and Polsky (2013), which discusses the legal implications of these transactions.

rectly to explore the creation and transformation of human capital. After top management identifies a business opportunity or threat (an example of a sensing activity), the next question is how to address it. Frequently, the choice is between building resources organically and accessing external resources through a variety of mechanisms. This canonical management decision clearly implicates Teece's (2007) description of seizing. From a human capital perspective, a firm can seize opportunities internally, either by retraining existing employees or by hiring individuals or entire teams (lift-outs). Alternatively, the firm could seize opportunities by contracting with consultants or through acquisition.

What are the relevant dimensions a manager should consider when making this decision? What are the costs and benefits of each approach? We note that the dynamic capabilities approach is not the only framework to offer insights into this decision. Theories such as transaction cost economics (Williamson, 1975), resource dependency theory (Salancik & Pfeffer, 1978), and strategic factor market theory (Barney, 1986) also shed considerable light on this choice. For the sake of brevity, we focus on dynamic capabilities in this paper and leave a comparison to other theories for future work. In the next section, we apply the dynamic capabilities framework to better understand acqui-hiring.

ACQUI-HIRING AS A TOOL FOR ASSET ORCHESTRATION

While the dynamic capabilities framework is not the only theoretical lens that could be used to place acqui-hiring in proper perspective, it has two key advantages for our purposes. First, it offers a narrative for why firms engage in acqui-hiring and how these acquisitions could affect future performance. While there are several challenges with operationalizing this approach empirically, this general perspective might offer insight into where scholars should focus their future quantitative and qualitative research efforts. Second, the dynamic capabilities literature includes several papers that have explored acquisitions, providing direct insights into the acqui-hiring phenomenon.

For example, some work in this tradition has argued that large companies primarily acquire small technology startups to access technical knowledge and new capabilities (Arora, Fosfuri, & Gambardella, 2001; Coff, 1999; Puranam, Singh, & Zollo, 2006; Ranft & Lord, 2000, 2002). The knowledge acquired in these transactions is often combined with internal

knowledge to generate new products (Huber, 1991; Puranam, 2001). However, prior scholarship has documented that acquirers typically have significant difficulty integrating new capabilities post acquisition (Haspeslagh & Jemison, 1991; Jemison & Sitkin, 1986; Larsson & Finkelstein, 1999). This challenge is likely one reason why firms typically do not realize the anticipated value from these deals (e.g., Anand & Singh, 1997; Datta, Pinches, & Narayanan, 1992; Singh & Montgomery, 1987). More generally, post-acquisition integration is typically more costly and disruptive than managers initially assume, even when it involves small firms (Coff, 1999; Ranft & Lord, 2002), and there are often hurdles in assimilating new employees into the prevailing corporate culture (e.g., Cartwright & Cooper, 1993).

The upshot of this literature is that while the average acquisition does not meet expectations, some firms presumably possess capabilities that allow them to repeatedly perform this activity well and achieve their desired outcomes (e.g., adding a new capability) reliably. Clearly, this assertion is challenging to evaluate empirically. We rarely observe the ability of a firm to perform an activity separately from the activity itself. Further, to ascribe capabilities to any firm that performs a given activity would result in a tautology. In our setting specifically, we can observe only the acqui-hiring activity, not the capabilities that support it. While this point has been discussed in prior work (e.g., Arend & Bromiley, 2009; Helfat & Peteraf, 2003), we cannot solve this significant empirical challenge here. Instead, our intention is to try to shed some light on what these capabilities might look like inside firms through case studies and identify opportunities for future work.

There are some examples in the prior literature of the specific activities and processes firms employ to successfully manage acquisitions. Zollo and Singh (2004) found evidence that particular processes firms use before, during, and after acquisitions, such as developing tools for financial analysis, due diligence, and information systems integration, help to increase the odds of successful outcomes. Zollo and Winter (2002, p. 340) further argued that collections of these kind of routines constitute specific examples of dynamic capabilities, including "a process to manage [acquisitions] in a systematic and relatively predictable fashion" and "the ability to plan and effectively execute [post-acquisition] integration processes."

Based on this prior work articulating the connections between dynamic capabilities and acquisitions, where does the emerging phenomenon of acqui-

hiring fit? As discussed earlier, dynamic capabilities require a firm to *sense* new opportunities and threats, *seize* these opportunities by opting for internal growth or acquiring resources externally, and *reconfigure* the acquired resources to optimize their utilization. Asset orchestration is one specific dynamic capability possessed by managers that involves identifying resource gaps and filling them to meet new opportunities, repeatedly. We view *acqui-hiring* as one activity that managers use to orchestrate assets. Simply engaging in an *acqui-hire* does not confer a capability, of course, for the reasons discussed above. We believe a more fruitful path for future work lies in identifying different kinds of *acqui-hires* and assessing their particular advantages and disadvantages for asset orchestration.

What would a capability in asset orchestration entail? Once a firm decides to acquire resources externally (through alliances, joint ventures, corporate venture capital investments, *acqui-hiring*, etc.), the first step is to identify the right target at a favorable valuation. Some firms may develop processes or accumulate experience that allows them to be more effective in this task than others. Next, the effective integration of the acquired resources is paramount (Ambrosini & Bowman, 2009; Zahra, Nielsen, & Bogner, 1999). Once a team is *acqui-hired*, how will they fit into the firm? Will they stay autonomous or be integrated into existing divisions (Zollo & Singh, 2004). What processes will govern these decisions? Again, some firms may be able to manage this integration process better than others.

Based on this application of the dynamic capabilities framework, we can establish two insights. First, as discussed above, while firms often engage in acquisitions, they often do not achieve their goals. This same risk applies to *acqui-hiring*, where firms often pay large sums per employee and there is rapid attrition. However, our view is that *acqui-hiring* is different from traditional acquisitions because the primary motivation of these transactions appears to be to transform human capital inside the firm, as opposed to gaining market share or entering a new geography. This distinction is one reason we believe that studying *acqui-hiring* separately from traditional acquisitions using the dynamic capabilities framework may be fruitful. It may also be interesting to consider whether *acqui-hiring* avoids some of the pitfalls associated with traditional acquisitions, for example those related to challenges integrating new employees or conflicts between new and existing product teams over strategy.

Second, firms that repeatedly derive value from acquisitions are likely to have dynamic capabilities related to asset orchestration, though this would be nearly impossible to rigorously test. For scholars interested in whether *acqui-hiring* will benefit firms like Google and Facebook, the next step should be a careful qualitative investigation into the existence and strength of these capabilities at these firms. We surmise that the capacity of these firms to renew and transform human capital will be paramount to their future success. Attracting the best and brightest technical talent to large established companies in Silicon Valley may become increasingly difficult, especially when the outlook for new startups is promising. Firms like Google and Facebook need to find creative new ways to acquire and retain this talent. An interesting line of inquiry would be to explore whether there is systematic variation between how Google and Facebook use *acqui-hiring*, which might provide support for the notion of differences in capabilities between the firms.

Note that we do not recommend a large-scale empirical study on the topic of dynamic capabilities related to *acqui-hiring*. Empirical researchers will almost never be able to observe these capabilities directly, particularly among firms that do not engage in *acqui-hiring*. Further, as discussed above, one cannot simply observe an *acqui-hire* and ascribe the acquirer as having “*acqui-hiring* capabilities.” This is why we recommend scholars do in-depth qualitative work with large *acqui-hirers* to clearly identify the capabilities that support acquisitions of this kind. Through this approach, we could both gain insights in differences in same capability across different firms but also observe “latent” capabilities that exist even when the activity (*acqui-hiring*) occurs infrequently.

In the remaining sections of this paper, we present some descriptive statistics from our hand-collected data on *acqui-hiring* and two case studies of prominent *acqui-hirers*, Google and Facebook, to shed further light on asset orchestration and how it operates in practice. In doing so, we hope to identify promising avenues for more systematic research on this topic. The descriptive statistics are intended to provide the reader with broader context on the number of *acqui-hires* over time and the firms engaging in these transactions. In the Google case, we show how the development of Google Glass is an instructive example of asset orchestration by the top management at Google, where valuable resources are brought in through *acqui-hiring* along with traditional technology acquisitions.

With regards to Facebook, we demonstrate that the motivations for acqui-hiring can differ on a case-by-case basis. We provide examples of acqui-hires intended to (1) add value to existing product teams, (2) add individuals to the top management team, and (3) seize new business opportunities.

ACQUI-HIRING: DEFINITIONS AND DESCRIPTIVE STATISTICS

Nick D'Aloisio was only 17 years old when he sold his startup to Yahoo for \$30 million in 2013. However, it was not just D'Aloisio's age that made this acquisition notable. It was also the latest of a string of acquisitions by Yahoo, Facebook, Google, and Twitter of small companies with few employees, nascent products, and no revenue. Often, the products of these startups were shelved rather than being commercialized by the large acquirer. Moreover, it was well publicized at sale that these acquisitions were primarily about gaining access to the human capital of the startup, not its intellectual property, products, or customers. These kinds of acquisitions, termed "acqui-hires" in the popular press, have been proliferating in recent years, according to publicly available data.

Acqui-hiring³ typically refers to acquisitions of small startup firms, particularly in the pre-commercial stages, with the express purpose of acquiring human capital as opposed to the products, customers, or revenues of the acquired organization. Constructing a comprehensive database of acqui-hires is challenging. Ideally, researchers would use a database of acquisitions, such as Zephyr, and reliably code a proportion of these acquisitions as acqui-hires. However, since there is no reporting requirement with regards to the motivation behind acquisitions, researchers have to either interview participants directly (see Coyle & Polsky, 2013) or rely on media accounts. To complement these sources, it would also be advisable to collect additional data that are likely indicators of acqui-hires (i.e., Was the startup's product discontinued after acquisition? Did most

of the acquired team stay on with the acquirer and build a new product?).

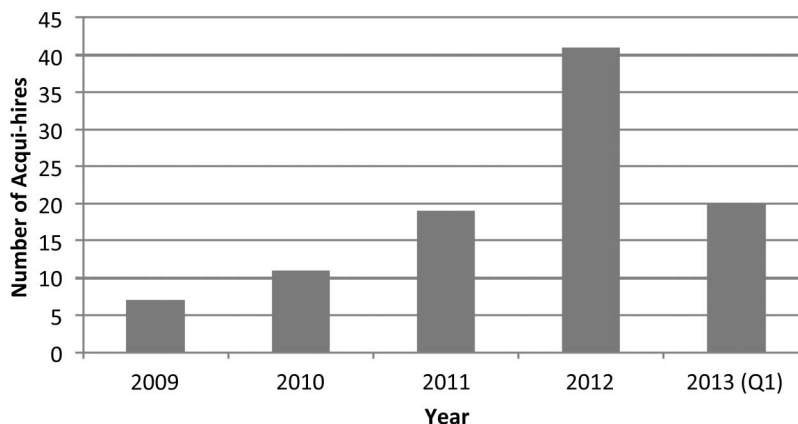
Even with access to these data, there are at least two additional hurdles for researchers working in this area. First, the classification of an acquisition as an acqui-hire is inherently subjective. A corporate executive, venture capitalist, or entrepreneur may use the term in a press release, or it may be categorized as such by business reporters or anonymous press sources. Even acquisitions that are primarily driven by human capital may include other valuable assets, so acqui-hires likely exist on a spectrum as opposed to being a binary construct. Second, the term was not popular before 2011, so even if earlier acquisitions were indeed acqui-hires, they might not be described as such in press reports.

We recognize that these are significant challenges that must be overcome if researchers hope to establish reliable empirical insights about acqui-hires. The most important priority in future work will be to establish a clear and consistent definition, perhaps by employing surveys of deal participants and employing sensitivity checks using alternative criteria. In this exploratory paper, we use preliminary data from a larger, ongoing data collection effort to provide basic insights into this phenomenon.

We started with the universe of 1,964 acquisitions by U.S. information technology firms listed in Zephyr and Crunchbase from 2009 to 2012 and in the first quarter of 2013. We categorized acquisitions into six major industry subclasses: mobile applications, software, social media, hosting and analytics, other web applications, and other categories (which includes content providers). This exercise produced 1,132 unique acquiring firms. We then entered each of these deal terms in Internet search engines along with the following keywords: "acqui-hire," "acqhire," "talent acquired," "talent," and "key personnel acquired." We analyzed the search results to learn more details about each acquisition, and based on media articles, company press releases, and other materials, we classified a small subset of acquisitions as "acqui-hires." The resulting dataset includes 26 unique acquirers and 98 acquisitions that we coded as acqui-hires over the sample period. As expected, the most prolific acqui-hirers were Facebook, Google, Twitter, Zynga, Yahoo, and LinkedIn. Some of the other firms in our data include Palantir, Airbnb, and HubSpot. Of course, these are well-known firms that are widely covered by the media. Clearly, this data collection approach biases our sample to more prominent firms, so we are likely understating the prevalence of this

³ As representative examples please see "Yahoo's Acqui-Hiring and Its Tax Implications" (<http://dealbook.nytimes.com/2013/03/26/yahoos-acqui-hiring-and-its-tax-implications/>) and "Employee Shopping: Acqui-hire Is the New Normal in Silicon Valley" (<http://www.npr.org/blogs/alltechconsidered/2012/09/25/161573307/employee-shopping-acqui-hire-is-the-new-normal-in-silicon-valley>).

FIGURE 1
Trends in Acqui-hiring
Acqui-hires 2009–2013



phenomenon. As seen in Figure 1, the number of acqui-hires in our data increases rapidly year over year.

For each acqui-hire, we also tried to obtain data on company financials, specific individuals involved and retention, the new job titles of the acqui-hired team, the funding stage of the startup at acquisition, whether the startup's product was discontinued, and whether the acquirer had publicly reported product development in the same domain. The financial and product details came from Internet searches and company Web sites. Information on individuals came from LinkedIn, TechCrunch, ZoomInfo, EDGAR, and Internet searches.⁴ These variables are reported in Table 1.

There are interesting patterns in our data. First, as reported in the business press, Facebook is a significant acqui-hirer, contributing over 27% of the acqui-hires in our data. The typical acqui-hired firm has around six employees. According to our best estimates, 10.74% of the employees who remained at the acquiring firm quit within a year of the acquisition. Most of the acqui-hired firms had raised a seed round of funding but had yet to raise the next round. Without further investigation, it is difficult to know whether these firms were simply

unable to raise additional financing. In nearly 90% of our deals, the startup's product was discontinued. For these reasons, some observers have characterized acqui-hires as "bailouts" for struggling companies rather than a dedicated attempt to acquire talent (see Coyle & Polsky, 2013). We discuss this issue further in the concluding section of the paper. Next, we delve deeper into two prominent acqui-hirers, Google and Facebook, to better understand how these deals work in practice.

CASE EXAMPLE I: GOOGLE GLASS—SEIZING NEW OPPORTUNITIES

Google Glass is a widely publicized pre-commercial product that Google has been developing over the last several years. The product is a hands-free, voice- and motion-commanded, lightweight, mobile computer that can be worn as eyewear. While one might assume that Google developed this innovative product entirely through internal channels, this was not the case. Nor did it acquire the fully formed product from a startup company. Instead, after sensing an opportunity in the space of wearable technology, the firm used various methods to seize an opportunity and produce Google Glass.

Figure 2 presents a snapshot of some of the people and organizations behind this innovation. A product as complex as Google Glass requires a diverse array of technical knowledge ranging from specialty micro-display devices to computing hardware to the software that powers the device. As shown in Figure 2, Google used multiple channels

⁴ All the data reported in this paper is derived from public sources. This approach introduces several limitations. For example, if an employee has not made his or her information available on LinkedIn, we would not be able to ascertain whether he or she remained at the acquirer or not.

TABLE 1
Variable Descriptions

Variable	No. of Obs.	Variable details
Deal details		
Date of acquisition	98	Year and date of acquisition
Funds raised by acqui-hired firm	42	Average funds raised in the range of \$1 million–\$2 million
Number of rounds of funding	45	Average 1.05 rounds completed
Deal value	45	Deal value ranged between \$1 million and \$47.5 million (10th–90th percentile: \$2.5 million–\$7.5 million)
Industry subclass	96	Six subclasses used: Mobile applications, software, social media, hosting and analytics, other web applications, and other categories
Talent acquisition details		
Number of employees	72	Average number of employees = 6.05
Number of founders	76	Average number of founders = 2.15
% founders hired by acquiring firm	56	Average % of founders hired = 88%
% founders remaining at the acquiring firm (currently)	50	Average % founders remaining = 94%
Number of engineers	52	Average number of engineers = 3.08
% engineers acqui-hired by the acquiring firm	44	Average % engineers acquired = 61.10%
% engineers remaining at acquiring firm	44	Average % engineers remaining = 77.77%
% engineers moving in less than a year post-acquisition	16	Average % engineers moving = 10.74%
Product details		
Start-up product description	98	
Start-up product discontinued	92	Average of 90.22% products discontinued
Start-up product integrated with acquirer product portfolio	56	Average of 14.28% products partially integrated

to source the technology and talent, including technology acquisitions, internal development, consultants, traditional acquisitions, and acqui-hires. Importantly, acqui-hiring is often used to complement other kinds of activities to obtain new resources and capabilities. The asset orchestration process involves stitching these different resources and capabilities together to seize a new opportunity. This observation suggests that future work on the phenomenon of acqui-hiring should avoid studying these transactions in isolation and instead consider them in conjunction with other business development activities.

Asset Orchestration at Google

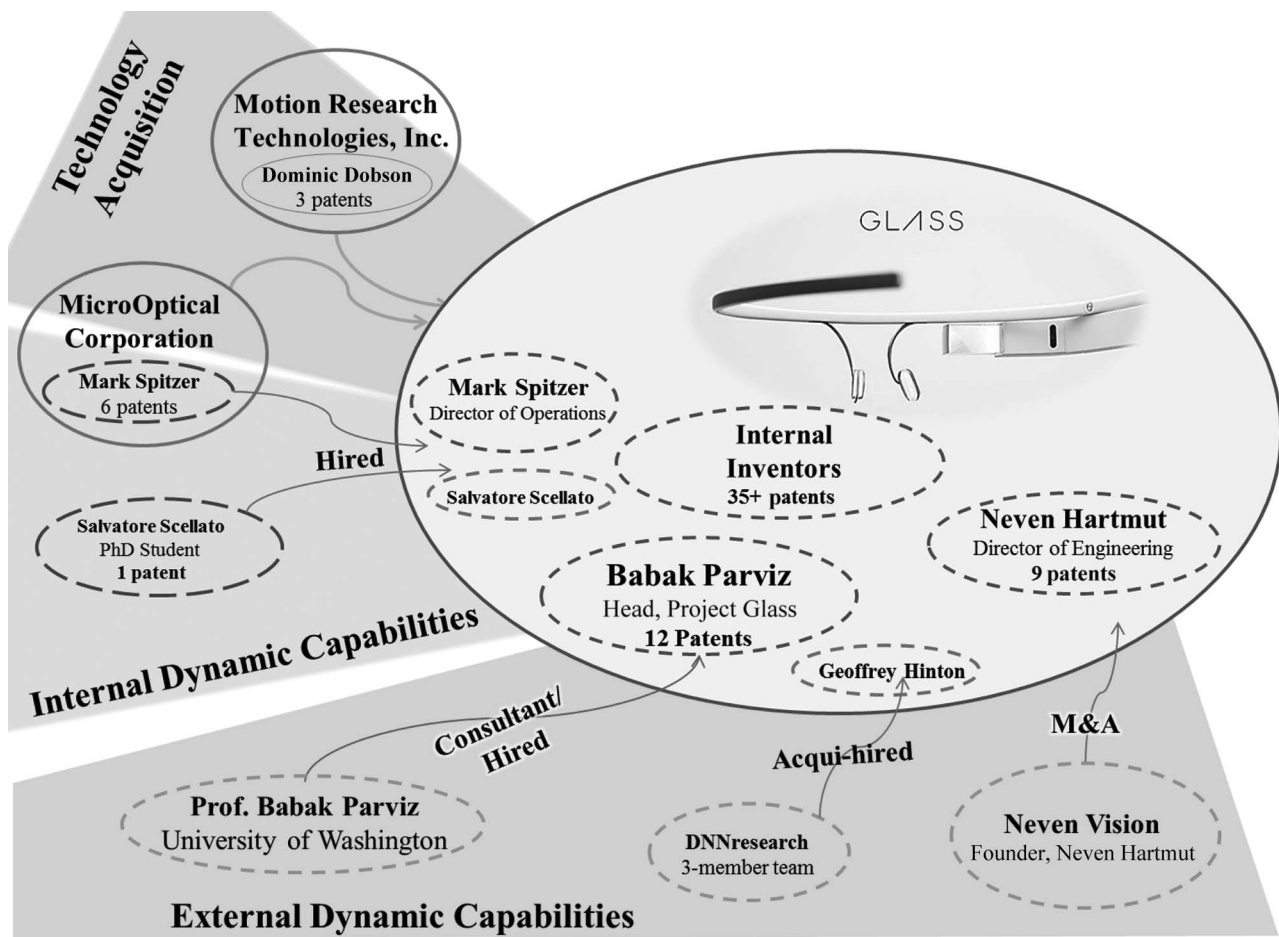
When Google first identified the opportunity for Google Glass, they procured the consulting services of Babak Parviz, who was then a professor at the University of Washington. Parviz, a specialist in nanofabrication, now manages Google Glass (Mischke, 2012). A second key player in the development of Google Glass—Neven Hartmut, currently director of engineering for the project—is a face and

object recognition expert who came to Google in 2006 through the acquisition of his firm, Neven Vision. Hartmut is the inventor of nine of the patents that protect the intellectual property behind Google Glass.⁵ Google also acqui-hired the three-member firm DNN Research, which specialized in object recognition but had not commercialized any products (Thomas, 2013). The founder of DNN Research, Geoffrey Hinton, a professor at the University of Toronto, now works part time at Google.

Google also acquired additional knowledge assets (patents) from MicroOptical Corporation and hired the inventor behind the patents (Mark Spitzer, currently director of operations at Google X). In addition, Google acquired the patents of Motion Research Technologies, Inc., though not their inventor, Dominic Dobson (Slawski, 2014). Finally,

⁵ For a comprehensive review of Google Glass, see “Google Glass Hardware Patents (Part 1 and 2)” by Bill Slawski (<http://www.seobythesea.com/2013/01/google-glass-hardware-patents/> and <http://www.seobythesea.com/2013/01/project-glass-patents/>).

FIGURE 2
The People Behind Google Glass



Google's internal R&D team—composed of existing and newly acquired employees—also generated a significant number of patents. Carefully orchestrating these assets through acqui-hiring, Google was able to develop Glass.

While this description of product development does not fit the classic “build or buy” framework, it requires the acquirer to develop capabilities around identifying critical pieces of the technological puzzles underlying new opportunities and building the capacity to stitch them together into a cohesive whole. It is this class of dynamic capabilities that would be most interesting to study further at Google, especially given that many of its well-known products have come through acquisition (e.g., YouTube). For example, it would be instructive to know whether specific processes are in place to decide whether to acquire the founders, the technology, or both. Similarly, how are employ-

ment contracts designed, and what process does Google use to build teams from parts of different acqui-hires? Finally, it would be useful to learn whether the capabilities supporting acqui-hiring differ from the more traditional ones associated with acquisitions, where Google has also been active.

CASE EXAMPLE II: FACEBOOK—DIFFERING MOTIVATIONS FOR ACQUI-HIRING

At an event in 2010 at Stanford University, Mark Zuckerberg (CEO of Facebook) said, “We have never once bought a company for the company. We buy companies for excellent people” (Ha, 2010). Facebook's acquisition of “excellent people” started as early as 2007 with the acquisition of Parakey, a seed-funded firm that worked on creating a platform to help users work seamlessly on

applications when online or offline. Since then, Facebook's emphasis on people has been apparent, evidenced by several cases where they acquired employees but not the assets of the associated startup.

Of the 35 acquisitions made by Facebook between 2007 and mid-2013, 26 can be classified as being motivated, at least partially, by the acquisition of talent. Nearly half of these deals are coded as pure acqui-hires by our rubric, where the sole purpose of the acquisition appears to be to access human capital. For example, Facebook recently acquired Carsabi, an online car price comparison portal that had no direct links to its core product. After being acqui-hired, the founders of Carsabi—Dwight Crow and Christopher Berner—put their site up for sale, and eventually sold it to Ark.com. According to press reports (Tiku, 2012), Crow and Berner were expected to use their expertise to improve features on Facebook related to Gifts and Events.

In Table 2, we detail recent representative acquisitions using a wide variety of criteria, including whether the startup founder joined senior management and whether the product was continued after acquisition. According to our research using public sources, each acqui-hire listed in the table has apparently had some impact on Facebook features. What is particularly striking is the variation in terms of whether the acqui-hired team's product was integrated into Facebook or completely shut down. We classify Facebook's acqui-hires under three main categories: strategic, innovation driven, and product improvement. In each case, the resource gap is related to human capital, but varies by the specific opportunity in question. Strategic acqui-hires add top managers to the firm to craft corporate strategy around the core product. Acqui-hires to drive innovation are aimed at bringing in new employees to develop a novel product. Acqui-hires for product improvement are more modest attempts to bring in outside talent to improve an existing product offering. In all three cases, top managers have to assess gaps that are human capital related, identify individuals to fill these gaps, hire them, and then integrate them with the existing teams. Facebook's acqui-hires all share this common broad motivation for asset orchestration, but the exact nature of the prospective opportunity differs widely across cases. Below, we discuss each variety in detail.

TABLE 2
Partial List of Facebook Acqui-Hires

	Firm	Year	Product	Product integrated?	Product shutdown?	Number of founders hired	Founders integrated as			Helped develop
							Top mgmt.	Mid mgmt.	Design/engineering	
Strategic	FriendFeed	2009	Social networking aggregator	Some features	No	4	✓	✓	✓	Facebook messages, camera, app center, etc.
	Drop.io	2010	File hosting and sharing	Some features	Yes	1	✓	×	×	Improve photo sharing
	Chai Labs	2010	Internet applications	Yes	Yes	2	✓	✓	×	Facebook advertising
	Rel8tion	2011	Mobile advertising	Some features	No	1	✓	×	×	User-specific advertising
Innovation driven	Storylane	2013	Community story-sharing service	No	Yes	1	×	✓	×	Timeline
	Lightbox	2012	Photo sharing	No	Yes	2	×	✓	✓	Mobile photo sharing
	Gowalla	2012	Location-based (check-in) service	No	Yes	2	×	✓	✓	Facebook Timeline
	Carsabi	2012	Car price-comparison	No	No	2	×	✓	✓	Facebook Gifts/Events (expected)
	Strobe Corp.	2012	HTML5 mobile apps, SproutCore	No	No	1	×	✓	×	Mobile platform; Facebook Home
	Daytum	2012	Information graphics	No	No	2	×	×	✓	Timeline, Facebook analytics
Product improvement	Spaceport.io	2012	HTML5 game platform	No	No	1	×	×	✓	Mobile gaming
	Spool	2012	Mobile bookmarking and sharing content	No	No	2	×	×	✓	Mobile platform

Strategic Acqui-hiring

In some cases, acqui-hired founders are offered prominent roles on Facebook's top management team to help reconfigure the company's capabilities around its core product. Facebook's acquisition of FriendFeed in 2009 was primarily motivated by the desire to hire FriendFeed CEO Bret Taylor, according to Mark Zuckerberg. Taylor became chief technology officer of Facebook and departed to start his own company in 2012. During his stay at Facebook, Taylor was central to Facebook's integration into Apple's iOS and oversaw the launch of multiple features such as Open Graph, Facebook Camera, and App Center.

Other high-profile acqui-hires include Gokul Rajaram of Chai Labs, Sam Lessin from Drop.io, and Peter Wilson from Rel8tion, each of whom appears to have contributed to reconfiguring Facebook's technical and managerial capabilities. Indeed, as much as technical expertise, Facebook values the ethos brought in by these key people, something Zuckerberg referred to in a 2010 interview (Gannes, 2010), in which he noted, "We have a big footprint but we want to operate like a startup and take risks, and the best way to do that is to get people who self-select towards being entrepreneurs." Facebook has spent more than \$67 million to hire these "excellent people," and Taylor, Rajaram, Lessin, and Wilson have since managed critical product launches instrumental to the growth of Facebook. Rajaram, who originally made his mark as the product manager of Google AdSense, is now in charge of Facebook's advertising technology. Lessin leads the identity product group at Facebook. He was also critical in the launch of Timeline and several privacy-related projects. Wilson, who moved to Google in 2013, was the engineering director at Facebook and managed the Places and Ads team along with launching several new features.

In adding these members to top management, Facebook reorganized its corporate structure in 2011 (Kelly, 2011). Bret Taylor, Sam Lessin and three others were elevated to lead key product areas, where they reported directly to CEO Mark Zuckerberg.

Acqui-hiring to Drive Innovation

Facebook has successfully acquired firms to develop new products under aggressive deadlines. For example, Facebook acquired Beluga—a mobile-based messenger service—in 2010. In just five months, the founders of Beluga—Lucy Zhang, Ben Davenport,

and Jonathan Perlow—enhanced their interface to handle extremely heavy volumes to meet the needs of Facebook's 750 million users. Since then, Facebook Messenger has become one of the most popular applications on Apple's iOS since its launch. Similarly, the acquisition of Karma directly led to the launch of Facebook Gifts, another important innovation.

Acqui-hiring has also played a role in helping Facebook seize entirely new opportunities. For example, facing challenges from other sites where users could share photos and stories, Facebook decided to acqui-hire Storylane, a community story-sharing service, in 2013. Storylane's web and mobile platform lets users tell personal stories and share the stories with their network. The *Wall Street Journal* (Rusli, 2013) reported in 2013 that Facebook was aiming to expand beyond social media and monetize storytelling with photo-heavy, extended narratives as opposed to brief status updates or 140-character tweets. Lacking this capability in-house, acquiring Storylane was one potential avenue to develop this capability.

At Facebook, acqui-hires can augment the expertise of existing product teams, as with Storylane, or lead to the creation of new product teams. For example, when Facebook acquired Gowalla, a location-based social network company, its founder, Josh Williams, became the product manager for Facebook Pages, Locations, and Events and revamped the Pages product to include user ratings and reviews. In a similar example, after Facebook acquired Strobe Corp, an HTML5 app distribution platform company, its former CEO, Charles Jolley, joined Facebook's mobile engineering team and helped launch Facebook Home.

Acqui-hiring for Product Improvement

Most of the firm's acqui-hires have been utilized to improve existing features of Facebook. For example, in late 2011, Facebook launched an HTML5-based mobile gaming platform. The mobile platform was created to eventually work across iOS, web, and Android. However, developers continued to prefer to build applications native to operating systems to have better access to the hardware and enhanced graphics capabilities. Facebook eventually realized that its platform ran too slowly and abandoned years of work on the mobile web project in an effort to reconfigure their capabilities in response to competitive threats. Facebook acqui-hired Spaceport.io in 2012 reportedly to enhance its mobile gaming capabilities. Spaceport lets game

developers build a game one time, using JavaScript, and it can run across all operating systems, with a native app-like experience and superior performance. With Spaceport, developers just need to revise the JavaScript code for their game in the HTML page once. After doing so, they will see immediate updates in their game across every device.

According to press reports at the time of acquisition, the Spaceport team could either help Facebook build a more sophisticated mobile platform or help “port” Facebook applications to the mobile web, enabling them to launch mobile products more quickly. As is typical in transactions that are labeled *acqui-hires*, Facebook acquired only the developers behind Spaceport, but not its technology. Similarly, Ryan Case and Nicholas Felton, the founders of Daytum, a phone app that lets users collect and communicate important statistics about their life, joined the product design team of Facebook and helped design Facebook Timeline, which was the third-generation redesign of the user-profile page. The list of other firms *acqui-hired* to improve existing Facebook features can be found in Table 2. While the above examples give us an overview of how *acqui-hires* are contributing to enhancing Facebook, studying the exact process by which Facebook integrates new startup teams and orients their work toward the Facebook site could prove fruitful. An open question here is whether there is a repeatable process across these *acqui-hires* or whether they are being conducted *ad hoc* by top management, particularly Mark Zuckerberg.

Taken together, Facebook’s *acqui-hires* indicate that these transactions can be used to accomplish different goals. While the underlying resource gaps are related to human capital in all cases, the particular motivations may be to add to the top management team, improve existing products, or create new products. Future work seeking to estimate the impact of *acqui-hires* should consider what the firm is trying to achieve through these transactions in the first place.

DISCUSSION

In this exploratory study, we have tried to understand an emerging phenomenon, *acqui-hiring*, through the lens of dynamic capabilities, the subject of this symposium. We are certain that other theories can be brought to bear to study these transactions, so our goal is to provide a starting point to consider the conceptual and empirical dimensions

of *acqui-hiring*. We view *acqui-hiring* as an example of asset orchestration, which Helfat and colleagues (2007) identified as one specific kind of dynamic capability possessed by the top management team. Placing *acqui-hiring* in this framework allows us to identify interesting attributes for future research. First, since simply engaging in *acqui-hires* does not confer a capability, what kinds of processes and activities help firms develop asset orchestration capabilities? Is the dynamic capability of asset orchestration an unobserved ability of firms, as suggested by Di Stefano, Peteraf, and Verona (2014) in this symposium, or a set of processes that could be empirically identified? Is it solely embedded in top managers, or can organizations possess this capability? Second, given that *acqui-hires* have different rationales (i.e., strategic, innovation driven, product improvement), how should we evaluate whether a firm has capabilities in this domain or not?

As we are the first scholars to present systematic data on *acqui-hiring*, research in this area is at the very earliest stages, and we expect future work to leverage higher quality data and develop more reliable insights. However, there is still an open question about which theories to use to interpret these data and what kinds of discriminating empirical tests can be developed. For example, if *acqui-hiring* is indeed an activity based on a specific dynamic capability—say, asset orchestration—then what testable predictions can we generate? If the right research question is about the impact of *acqui-hiring* on firm performance, scholars must consider what the counterfactual is. Do we compare *acqui-hiring* to other kinds of acquisitions or to the alternative of taking no action at all? Now that *acqui-hiring* is becoming more prevalent, might we see it emerge more broadly as an alternative (as opposed to a complement) for traditional acquisitions, and would this development increase the likelihood of success for these kinds of transactions? Are there processes, sometimes called second-order dynamic capabilities (Schilke, 2014), in place at firms like Google and Facebook to review business development activities and identify gaps where new strategies should be implemented?

At a deeper level, it is not clear how empirical researchers can separate a particular capability from the *acqui-hiring* activity itself. The econometrician will most often observe only *acqui-hiring* events, not the underlying capability. So it will be difficult to test the impact of a capability on firm performance in this context or trace the develop-

ment of this capability systematically. Deeper qualitative work, as suggested by Teece (2012) and illustrated by Kahl (2014), may be the best approach in the short term, but it will likely be more challenging to develop general insights.

An alternative and potentially more fruitful approach may be to focus on the impact of acqui-hiring on the careers of the entrepreneurs who join the acquired firm. Once these entrepreneurs join the firm, their effectiveness may depend on how quickly internal social networks adapt to reflect the change in formal organizational structure (Kleinbaum & Stuart, 2014). In the Facebook example, we find acqui-hired employees reporting directly to the CEO, but we cannot observe whether or not internal social networks have adapted accordingly. This distinction between formal and informal structure could have an important impact on whether these transactions achieve their goals.

We can also follow the careers of these entrepreneurs after they leave the acquirer. Coyle and Polsky (2013) suggested that acqui-hires might be a method to “bail out” struggling companies, rather than an earnest attempt to acquire talent.⁶ Under this scenario, we might observe longer-term effects on the entrepreneur’s next career move, whether starting a new company or joining another established firm. Our data do not allow us to evaluate this contention comprehensively, although looking at cross-ownership patterns of venture capital firms would be feasible. We do note that this scenario would involve a high level of cooperation among various players, most importantly the entrepreneur, the venture capitalist, and the acquirer. Further, it is not clear why the acquirer would participate in these transactions repeatedly. To explore this contention further, it might be useful to compare the career trajectories of comparable entrepreneurs across at least three categories: (1) those who sold their firms in traditional acquisitions; (2) those who were acqui-hired, and (3) those who failed to raise the next round of financing and closed their firms. Even so, it would be challenging to identify the “treatment effect” of being acqui-hired, or attribute it solely to enhanced legitimacy from being acquired by a prominent firm (e.g., Burton, Sørensen, & Beckman, 2002). A final useful piece of

data would be the frequency of common ownership in the acquirer and the startup company by the same venture capital firm, which might increase the odds of coordination, although this evidence on its own would hardly be definitive.

Finally, another rationale for acqui-hiring could be a simple foreclosure story where large incumbent firms purchase smaller companies that pose competitive threats and subsequently “shelve” the venture’s product to increase market power. It will be challenging to discern the precise motivations of the acquirer from secondary data alone, suggesting once again that qualitative work may be the logical first step.

In sum, the practice of acqui-hiring is proliferating and becoming an important feature of the high-technology business environment, particularly in Silicon Valley. We recommend that scholars of strategic management apply existing theoretical frameworks to better understand why firms are pursuing these deals and what the likely impact will be on performance. While some systematic quantitative data will be available to researchers, we also see considerable promise in qualitative research agendas on acqui-hiring.

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⁶ As an example see “Whatever Happened to Failure in Silicon Valley?” by Sarah Lacy (<http://pandodaily.com/2012/08/25/the-acqui-hire-scourge-whatever-happened-to-failure-in-silicon-valley/>).

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