Startup Firm Acquisitions as a Human Resource Strategy for Innovation: The Acqhire Phenomenon

Abstract

As acquiring and retaining talented human resources becomes increasingly challenging in the search for competitive advantage in many dynamic markets, firms are increasingly engaging in acquisitions of startups with the goal of acquiring talented employees that can help solve problems that need innovative solutions. High technology industries have become increasingly characterized by rapid change and shortages of talented human resources and we observe a growing phenomenon, particularly prevalent amongst Silicon Valley firms, called an 'acqhire.' A portmanteau of the words "hire" and "acquire," this neologism describes a human resource strategy in which dominant firms acquire smaller startup companies in order to procure highly skilled personnel in lieu of traditional hiring practices. We seek to understand how this practice helps address competitive advantage from a resource-based view perspective as such acquisitions appear to be motivated by a desire to preserve the startup's team as a cohesive resource bundle. Individuals that join the firm as part of an 'acqhire' situation rather than being hired directly may receive increased incentives to remain with their team at the new organization. We propose that three distinct benefits may be derived via this strategy: 1) the preservation of dynamic capabilities and tacit knowledge embedded in the startup's team dynamics; 2) the prevention of knowledge leaks which might hasten the decay in value of the new human capital; and 3) the protection of the acquired firm's innovation potential. As environmental and competitive pressures increase the regularity of hiring via acquisition, these findings may have significant implications for the understanding of how firms compete via human resources.

Keywords: resource-based view, strategic human resource management, human capital acquisitions, dynamic capabilities, team dynamics, internal innovation

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Introduction:

"Facebook has not once bought a company for the company itself. We buy companies to get excellent people." – Mark Zuckerberg, CEO of Facebook

In many high technology environments, such as Silicon Valley, aggressive mergers and acquisition (M&A) activity is common; the high-tech sector typically ranks amongst the most active industries in the Securities Data Corporations annual filings of M&A (Ranft & Lord, 2000). For some decades, the swift pace imposed both by natural technological evolution and by the scheduled regularity of new product launches and service upgrades (Eisenhardt & Brown, 1998) has amplified competitive pressures. Fueled also by the increasing convergence of technologies across previously unrelated sectors, incumbent firms must continuously innovate to defend their positions in a climate of industry consolidation. The need for innovation has increased the need for talented human resources that can help firms enhance their competitive positions. The acquisition of small startups is a common strategy used by large technology firms competing to acquire critical technologies or capabilities or to combat organizational inertia via exposure to new innovations or business models (Benson & Ziedonis, 2010; Dushnitsky & Lenox, 2005).

However, over the past few years Facebook – as just one example amongst the leading technology firms – has purchased more than thirty startup companies and subsequently discarded their products and services.[1] In these acquisitions, called '*acqhires*'[2] in the popular press, the sole

[1] Data compiled from publicly available press reports.
[2] The term appears variously as *acqhire, acq-hire, acquhire, acqu-hire, acquihire,* and *acqui-hire* with each of these forms appearing with regular frequency as different media outlets have adopted their own preferred spelling. Noted linguist Ben Zimmer traces all variants back to the same original source (Zimmer, 2010) where it is spelled *acqhire.* To avoid confusion, we adopt the spellings *acqhire* and *acqhires* throughout this paper.

asset of interest is the firm's human capital. The phenomenon itself is not actually new. Cisco Systems Inc. in the late 1990s had also made dozens of acquisitions of small software companies for the primary reason that it wanted their product teams because "it takes too long to assemble them from the ground up" according to CEO John Chambers (in Ranft & Lord, 2000, p. 296). What *is* new in the current climate of high velocity environments like Silicon Valley is that increasingly such talent acquisitions are not viewed as an occasional departure from traditional hiring practices but as an integral and necessary part of the firm's human resource acquisition strategy.

Thus far, the emphasis on human capital as a primary strategic focus in M&A activity has received little attention in the management literature (see Lepak & Snell, 1999; Ranft & Lord, 2000, 2002 for notable exceptions) and the specific 'acqhire' phenomenon has been the focus of only a single academic study (Coyle & Polsky, 2012), which primarily addresses the reputational concerns of acquisition targets and details the most common financial structures for talent-based acquisitions . Historically, previous research has focused on purchases of technological assets held by startups as primary motivation for the acquisition of small startups (Ahuja & Katila, 2001; Puranam, 2001; Desyllas & Hughes, 2008), with co-located human capital (i.e., the engineers behind the technology) as complementary but secondary resources. The shift to a converse situation, where the acquirer targets the firm's human capital and the firm's product lines and patents serve little interest beyond acting as signaling devices challenges our assumptions of what types of resources and capabilities are most important in making M&A decisions—particularly when larger firms acquire startups.

The focus on technological assets like patents has shift attention away from the key human assets because it shifts the discussion of why M&A is undertaken in an important way.

Prior research views M&A as the search for solutions (e.g., the acquisition of key patents, products and/or customers that will solve some problem faced by the firm or simply increase growth). A focus on M&A in an acqhire context shows that M&A is actually driven by the need to solve problems and spur fresh innovation and that the solution is not the physical or technology assets held by the startup but is rather the human capital that the acquirer wants working on its most pressing problems. This suggests that the problem solving perspective (Nickerson & Zenger, 2004) is an important element of understanding what has been termed the acqhire phenomenon. Firms are searching for ways to solve complex innovation problems requiring highly specialized skills; not just for specific solutions embodied in a patent, a set of customers or product(s).

We seek to expand the discussion by first addressing the talent acquisition phenomenon as a strategic managerial initiative to develop a critical product-development capability that is in short supply. We then proceed by highlighting the firm's decision between hiring and acquisition as a focal point. Why do firms choose to acquire when they could just hire? While some employees may be tied to their current employers with restrictive employment contracts, this practice is relatively rare, in part because it is illegal in several states including California, where much of this activity takes place, and thus does not sufficiently explain the extensive use of acquisitions in lieu of hiring the individuals directly.

We examine how firms seek to acquire new knowledge and access talented human capital by looking at two choices: (1) whether to bring the resources inside the firm or access external resources, and (2) whether to focus on individuals or firms. The distinction is that even when firms seek to internalize new talent, it can be done via traditional hiring or acquiring a firm—the end result is the same but there is little theory to guide firms in deciding how to make this choice.

Alternatively, firms can access knowledge without hiring the human resources by either some type of alliance (accessing the knowledge at the firm level) or procuring the temporary services of independent contracts (accessing the knowledge of individuals directly). Thus we look at both decisions (internal vs. external and firm vs. individual) to better understand when firms may want to use M&A as means of acquiring key human assets to solve problems that require innovative solutions.

We posit that acquisitions are favorable to the goal of retaining the acquisition target's team of employees as an intact whole. Drawing from the dynamic capabilities and knowledge based view literatures we then argue that the acquisition of the team as a single resource bundle confers a number of strategic benefits onto the acquiring firm. We conclude by illustrating some possible implications of this phenomenon for management practices and competitive dynamics within the high-tech industry and outline avenues for future research.

The Battle for Talent

"Someone who is exceptional in their role is not just a little better than someone who is pretty good. They are 100 times better." – Mark Zuckerberg, CEO of Facebook

Amongst high-tech companies one notable source of sustained competitive advantage has typically been specialized engineering and computer science talent, of which a marked shortage over the past twenty years has led firms to engage in frenzied bidding wars for qualified individuals (Scaruffi & Rao, 2011). Significantly, nationwide unemployment amongst engineers *is actually higher* than in other knowledge-based professions[3] but specific and complex skills such as large-scale data analytics or competencies in the newest programming languages – not typically taught in universities – are in short supply (Miller & Wortham, 2011). Increasingly

[3] Roughly five percent in 2011, in part due to global outsourcing (Miller & Wortham, 2011).

such competencies are central to the information technology pursuits of firms managing massive amounts of data and whose services reach millions of customers.

Furthermore, the unremitting introduction of new technical standards as a result of dynamic competition leads to reduced 'half-lives' for specialized skills: the rate at which their relevance decays over time as compared to current standards (Anderson, Levy, & Tollison, 1989). Consequently, firms must choose to invest resources in continuous training for existing employees, build and maintain a dynamic capability in cutting-edge standards development by incorporating it into fixed work functions, or regularly bring in new hires to sustain and renew a competitive advantage in a given technical capability. The decision about human capital resources essentially comes down to "make or buy" or both. Because employee development is expensive and the engineering workforce is highly mobile, tending not to commit to one firm for the long haul, bringing in these skills from the outside labor market saves on investment costs and is a form of insurance (Lepak & Snell, 1999).

To lure in talent, perks such as stock options, signing bonuses, shuttles, and free food have been de rigeur since the 1970s (Coyle & Polsky, 2012) and more recently companies have offered more unusual incentives such as free haircuts, iPads, masseuses and offices with views (Miller & Wortham, 2011). Dominant firms such as Google and Facebook have also raised their starting salaries to between $90,000-$120,000, a range well above the industry average of $80,000 (Efrati & Tam, 2010). The difference in pay can be viewed as the premium the largest firms are willing to pay for an already developed skillset and is still less than the firm's estimated investment costs associated with training new hires themselves. To find technically skilled personnel firms pursue various tactics operating in parallel; they maintain expensive college campus recruiting campaigns , host coding competitions, throw parties at technology festivals,

(Miller & Wortham, 2011), use talent networks run by the venture funds (Bort, 2012), and 'poach' talent from each other (Perlroth, 2011). The '*acqhire*' strategy has gained increasing traction as an important method of shoring up asset stocks of talent, particularly upper-level engineers with proven experience.

The Acqhire Phenomenon

The portmanteau *acqhire* was originally coined by blogger Rex Hammock in 2005 after he observed that the recent purchase of Dodgeball, a two-person company, by search behemoth Google amounted to little more than a complex hiring procedure "with a signing bonus" (2005, n.p.). The term appeared again in 2006 on the well-known high tech blog GigaOm (Malik, 2006) in the wake of a spate of heavy *acqhire* activity by Google but was little used elsewhere. In 2010, however, the term quickly picked up traction when a large number of observers noted that prominent technology companies such as Google, Facebook, Apple, and Nokia were all purchasing startups primarily to hire their founders at great expense (Business Insider Staff, 2010; Cashmore, 2010; Gannes, 2010; Schonfeld, 2010). The word merited enough notoriety to receive a thorough analysis of its etymology by New York Times linguistics columnist Ben Zimmer on the website Visual Thesauraus (2010) and made it to the front page of the New York Times (Helft, 2011) in a story on the subject of talent acquisitions.

In recent months the *acqhire* phenomenon has also been described in such respected journalistic outlets as The Wall Street Journal (Needleman, 2012), National Public Radio (Bobkoff, 2012) and The Economist (2012). We summarize the spread of this neologism both to illustrate a growing public awareness of the phenomenon and to emphasize the recent growth in its adoption by the major tech firms as an important human resource acquisition strategy. In a single recent year the number of employees at firms Google, Facebook, LinkedIn, Twitter, and

Zynga grew by 19%, 70%, 100%, 178% and 203% respectively (Efrati & Tam, 2010). Furthermore, Google CEO Eric Schmidt reports that the firm *acqhires* roughly one small company each month in lieu of more standard hiring practices (Ingram, 2010). Yahoo CEO Marissa Mayer, heading a firm publicly plagued by personnel problems, announced in September of 2012 that the firm would sell its stake in Chinese Internet company Alibaba Group and that $1.3 billion of the proceeds would be put towards a campaign to finance new hires via startup acquisitions (Rafter, 2012). While the business press has been quick to point out the increasing prevalence of this method of obtaining human capital, it has not been as helpful in understanding why it is increasing so rapidly.

Human Resource Relationships as a Strategic Decision

Generally, strategies for human capital acquisition can be framed as a choice between four different modes of human resource affiliation, each with its own implications for the ensuing management relationship. The first two of these options involve market-type transactions in which the human assets are not "owned" (direct employees) of the firm, while the latter two involve the firm "internalizing" the human assets by making them employees of the firm.

One option is for firms to contract for skilled temporary workers (independent contractors), either directly or via the use of a professional staffing intermediary (Rassuli, 2005). Second, firms can acquire access to human resources with advanced capabilities at the firm level by forming a collaborative alliance, or partnership, with another firm that is their primary employer. A third method is to hire individuals directly by recruiting on the open labor market or by 'poaching' them away from their positions at other firms. Finally, a firm may acquire the desired human capital by purchasing the entire firm that employs them.

Figure 1: Ways to Acquire Human Capital

	External	**Internal**
Contract with a Firm	Alliance	Mergers & Acquisitions
Contract with/for an Individual	Procurement of Independent Contractors	Traditional Hiring of Individual Employees

Essentially, each of these four modes reflects two key issues as illustrated in Figure 1 : (1) internalizing versus using the market and (2) focusing on firms versus individuals. There are two distinct but inter-related decisions that must be made. While whether to internalize or not is a well-studied issue, we add two new things to this research area. First, we go beyond internal versus external and look at how firms might want to internalize human capital—either by hiring individual employees directly or by hiring the firm that currently employs them and thus obtain an entire team of employees. Second, in a parallel analysis, we look at different knowledge acquisitions questions that go into whether the firm should internalize the human resources at all by examining how the options for internalizing compare to the use of independent contractors (at the individual level) or to entering alliances to use the human resources of another firm (at the firm level). By framing M&A relative to the other options for acquiring human capital, we are better able to assess *when* and *how* such M&A should be conducted.

The first part of the decision is a boundary choice that is made by the organization about its activities (Santos & Eisenhardt, 2005); a choice regarding whether a specific function should be conducted inside the firm or allocated to outside human resources via a market transaction.

The factors that drive the decision between externalizing and internalizing employment have been extensively documented by both the transaction cost economics (TCE) and resource-

based view (RBV) schools of management research. The TCE arguments are well-known, beginning with the firm's incentive to set boundaries at the point where they will minimize the cost of governing transactions (Coase, 1937). When firms choose to outsource via hiring temporary workers, or by establishing an alliance, the risk of opportunism by such outside parties (Williamson, 1979) necessitates the establishment of a contract: a bundle of rewards, penalties, monitoring conditions, obligations and prices (Barthélemy & Quélin, 2006; Mayer & Salomon, 2006). Under circumstances where contracts are relatively cheap to define, monitor, and enforce, then migrating activities outside the firm may help to reduce the use of in-house resources (Munyon, Summers, & Ferris, 2011). A firm seeking to lower administrative and training costs for standard support activities such as IT management or customer service, or looking to switch peripheral activities without retraining employees may benefit by choosing to contract temporary workers (Munyon et al., 2011; Rousseau, 1995). Alternately, a firm seeking to expand its activities may engage in an alliance with a partner that has existing expertise in the area and thus gain access to technological skills or knowledge that might be too costly to develop on its own (Liao, Liao, & Hutchinson, 2010)

However, TCE posits that when transactions require significant specific investments or involve other exchange hazards such as appropriability concerns or measurement issues, the costs of governing outside activities will rise and it will become preferable for the firm to shift activities inside where managerial oversight and control are enhanced (Mayer & Nickerson, 2005; Oxley, 1997; Williamson, 1981, 1985). In addition, both theoretical and empirical studies grounded in the resource-based view of the firm (RBV) indicate that externalization is increasingly unlikely to occur the more closely activities are related to the firm's core business (Stanko & Calantone, 2011). As conceptualized under the resource-based view, core capabilities

drive the firm's differentiation from the competition and thus are the underlying source of competitive advantage (Liao et al., 2010). Advantage is more readily sustained when assets and capabilities are rare and difficult to copy (Barney, 1991). Where activities comprising core competencies are tied to a type of human capital – as is true for engineering talent across Silicon Valley firms, for example – studies suggest that coordinating and managing employees in-house enables more stable and predictable control and protection over the firm's stock of capabilities (Lepak & Snell, 1999; Agarwal, Anand, & Croson, 2006). Outsourcing runs the risks of transferring competencies and firm-specific knowledge to an outside provider (Liao et al, 2010).

The firm's demand for labor is heterogeneous, as different functions within the firm require different types of skills, and the pools of human capital performing these jobs differ in their interconnectedness as an asset stock to the firm's core business. Consequently the firm may simultaneously engage in multiple types of human resource relationships, their decisions driven by the 1) importance of the activity, 2) the required skill-set to perform the activity, and 3) the difficulty of managing exchange hazards associated with the activity. Within the high tech industries where innovation in product development is a core competency requiring closely aligned and highly-skilled people, the labor pool required to support this capability will necessarily be managed internally.

While the idea that firms will internalize transactions when exchange hazards are present or the knowledge is core is not new, we focus on the next step, which has not received much theoretical or empirical attention, which is how the firm may choose amongst two broad options for internalizing labor: hiring individuals directly or acquiring human capital via mergers and acquisitions. Both methods confer drawbacks and benefits. Bringing in human capital through direct long-term employment allows the firm to invest in training to develop human resource

capabilities that are highly tailored to the firm's core competencies but at higher cost, especially if the firm must later shift its activities in response to outside conditions (Lepak & Snell, 1999). Acquiring an entire firm allows the buyer to potentially bring an experienced team of high-expertise human resources into the firm without the drawbacks of an alliance but the purchase may come at high cost.

Figure 2: Ways to Acquire Human Capital

	External	**Internal**
Contract with a Firm	Alliance - Access to complementary skills & resources - Limited control and monitoring	Mergers & Acquisitions - Can bring in highly skilled team all at once - Increased management control at higher cost
Contract with/for an Individual	Procurement of Independent Contractors -Lowered administrative and training costs - Limited alignment of incentives	Traditional Hiring of Individual Employees - Firm-specific development possible - More closely aligned incentive at higher cost

Different ways to acquire human resources can help with different types of innovation problems. Traditional hiring will never go away and is good for bringing in people with some level of expertise in particular areas/technologies, but they need some training on how they will fit within the firm's processes, structure and culture. Many of the new ideas or ways of thinking of new hires may not survive their assimilation into the firm.

Procuring independent contractors can also be a very effective to get access to talented human capital that can address dilemmas posed by the need for innovation. Independent contractors are particularly useful when the need for a particular skillset may be temporary and only moderate levels of coordination are required between existing employees and the contractors to solve whatever innovation problem(s) the firm faces.

Accessing resources externally via alliances is also a frequently utilized approach to drive innovation. In this case the firm has even less control over the human resources, so the issues being addressed need to be less central to the firm, at least relatively modular and not expose too much of the firm's proprietary knowledge to the alliance partner.

There are some instances, however, when firms want to address an issue (e.g., a particular innovation dilemma) using internal resources due to the need to control their intellectual property (or other transaction cost-related concerns) or because it is core to the firm's competitive advantage, but hiring individual employees may not be a sufficient solution. The challenges with traditional hiring include taking time to bring the resources up to speed and fit them into a team (and the time to evaluate and negotiate with them) as well as concerns about whether they will be able to continue to think in a different way after undergoing all the requisite training within the firm. This can also be an issue if human resources with the right skill sets are scarce. M&A can be an interesting alternative that can help overcome these challenges when firms want internal resources working on key innovative problems.

Much of the activity to date of using mergers and acquisitions as a hiring strategy when the target firm has no other assets of interest appears to occur in Silicon Valley. Such an activity is costly and complex, while traditional hiring is cheaper and, when hiring individuals, much simpler. Additionally, one might easily surmise that firms might be able to find highly skilled human resources that can be hired individually. Given the ability to hire human resources, access them via an alliance or access them more directly as an independent contractor, the increasing use of acquisitions as a source of human capital merits additional study.

The Norms-Based Proposition

In a recent study, corporate lawyers Coyle and Polsky (2012) draw from 17 interviews with individuals who have first-hand knowledge of at least one *acqhire* to make the case that the use of acquisitions over traditional employment as a hiring practice is largely due to social norms – concerns about reputation and a fear of social sanctions.

Most *acqhire* transactions conform to the same basic financial structure in which two separate pools of consideration are paid out by the acquiring firm: the 'deal consideration' and the 'compensation pool' (Coyle & Polsky, 2012). The deal consideration is used to acquire the target firm and the cash from this pool is divvied up between the startup's investors and its employees who own shares of the firm. The compensation pool consists primarily of equity in the acquiring company and is used to compensate the startup's employees for their future service. The compensation pool is often tied to continued retention and typically requires a minimum of one, but more often three or four, years of employment to fully vest (Lee, 2012; Coyle & Polsky, 2012).

Coyle and Polsky propose that the *acqhire* is structured to allow the startup's employees to avoid angering their investors – who they may want to ask for money in the future - by allowing them to recoup at least a portion of their investment from the deal consideration rather than receiving little-to-nothing in the situation of a direct hire agreement or liquidation. One problem with this argument is that much evidence exists that many investors are strongly opposed to *acqhires.* Some investors have publicly complained that *acqhires*, rather than being an alternative to liquidation, cheat them out of the possibility of a 10x or even 1000x return that might be realized on a successful startup that reaches an IPO exit (Arrington, 2012; O'Neill, 2012). Even when the initial investment is recouped the venturing firm typically writes off the

acqhire as a failure (Raam, 2012). Some contend that the startups collude with buyers to maximize the compensation pool – already the lion's share of most deals – at the expense of the deal consideration, which pays both the startup and the investors (Coyle & Polsky, 2012; Arrington, 2011; Raam, 2012).

The authors maintain that most *acqhires* occur when the startup runs out of money and acquisition is then the only alternative to subsequent liquidation but at least one study indicates that venture-financed firm failures do not typically appear to be disguised as acquisitions (Puri & Zarutskie, 2008) and many startups with strong funding positions publicly report *acqhire* offers (Gage, 2010; Helft, 2011). Overall, such mixed evidence suggests that at best, the acquisition target's fear of social sanctions and reputational concerns may not provide a complete explanation for what motivates *acqhire* activity, particularly from the buyer's perspective.

The Teams-Based Proposition

We propose an alternate approach to the original puzzle of why firms internalize labor via M&A rather than traditional hiring, making the argument that the acquiring firms use *acqhires* to facilitate the hiring of proven teams with valuable skills that may then be applied to the complex problem-solving challenges facing the firm. Framing human capital acquisition as a strategic choice acquiring firms make between two internally-focused models of employment, we suggest 1) that buyers view the *acqhire* as the hiring strategy which will most likely maximize the successful retention of the target's human capital as an intact team and 2) that buyers prefer hiring teams to individuals due to a number of specific benefits associated with production by an already-established and highly-skilled team.

It is heavily documented in the management literature that the departure of an acquired firm's leadership or other valuable employees in the post-acquisition period is both surprisingly

frequent (Ranft & Lord, 2000; Coff, 1999; Hambrick & Cannella, 1993) and unsurprisingly detrimental to the acquiring firm (Ranft & Lord, 2000; Cannella & Hambrick, 1993;). Unlike strictly technical assets, such as patents, human assets cannot be truly purchased or formally owned by the acquiring firm and may exercise the option to depart at any time—barring specific contractual arrangements committing the employee to the acquiring firm. Engineers, being highly trained in a particular occupation rather than in a firm-specific role, are even less likely to be tied to a firm as they can effectively sell a skillset that is rare but widely applicable to a number of a firms to the highest bidder on the open labor market (Lepak & Snell, 1999; Rousseau, 1995). Thus, an emphasis on strategies that improve retention will be especially critical to the firm looking to improve its engineering human capital position.

Proposition 1: Where dominant firms seek to hire an existing team of highly skilled people already employed by a small firm, acquiring the entire firm via M&A will be a more efficient means of increasing intact team retention than hiring away each team member individually.

Studies indicate that trust (Graebner, Eisenhardt, & Roundy, 2010; Graebner, 2009), status (Ranft & Lord, 2002), commitment (Ranft & Lord, 2000; Raukko, 2009), and autonomy (Paruchuri, Nerkar, & Hambrick, 2006; Ranft & Lord, 2000) can all positively impact retention, but all are imperfect and of limited use in moving beyond simply retaining an important human asset to actually motivating that individual to work hard for the acquiring firm.

As noted earlier, different types of human resource affiliations result in different types of employment relationships, described by Rousseau as a “psychological contract [of] individual beliefs, shaped by the organization, regarding terms of an exchange agreement between individuals and their organizations" (1995, p. 9). In opting to make an acquisition offer, rather

than attempting to hire away a startup's engineering team or waiting until after a startup liquidates to extend an employment option at lower cost, we propose that the acquiring firm clearly demonstrates its commitment to the success of the employment relationship and may also increase the acquired firm's trust. In other words, the acquiring firm tries to build a relationship, a form of emotional contract, with the employees of the startup firm to ensure that they transition to the acquiring firm once the acquisition is complete.

The value of the compensation pool paid to the startup confers status to the new employees and the increased cost per individual above a traditional hiring package can be conceived as the premium the buyer is willing to pay to purchase an existing team rather than assemble one. Additionally there is some empirical evidence that the compensation pool's vesting period of multiple years – described in the business press variously as the 'handcuffs' (Yoskovitz, 2012), 'glue' or 'stay packages' (Lee, 2012) - may serve as a persuasive retention incentive (Needleman, 2012), at least during the period in which the option cannot be exercised (Balsam, Gifford, & Kim, 2007).

Finally, there are psychological incentives for an individual to stay with their team as part of an acquisition as compared to being hired away or hired after failure. Compared to being poached, the choice to be made is between joining the buyer or choosing unemployment (however temporary) as opposed to being part of a group defection from the still-existing startup, which would be the case if a group of startup employees left to join a larger firm but the startup continued to operate. In the case where liquidation is inevitable team morale will be significantly better in the scenario where the firm is acquired rather than hired post-liquidation or hired as a group leaving friends on a sinking ship.

Proposition 2: Where human capital is acquired via targeted M&A activity, the firm's acquisition of intact teams may create gains in human capital that is particularly valuable, rare, and inimitable.

The individuals comprising the teams at startups targeted for acquisition will have necessarily demonstrated cognitive ability, developed skill-sets, and experience in applying their abilities and experience to work together to solve problems. Empirical evidence consistently indicates the strength of cognitive ability as a measure of human capital value (Hunter & Hunter, 1984; Schmidt & Hunter, 2004). Furthermore, because complex engineering skills are rare within the labor population, as indicated earlier, teams of engineers with complementary skill-sets and experience will be logically even more rare. Finally, the entrepreneurial environment in which the team was developed, the social complexity of the team's work, and the causal ambiguity (to rival firms) caused by purchasing the entire firm to obtain the team all act together to greatly increase the inimitability of the startup team brought in through M&A.

In the following section we draw on the dynamic capabilities and resource-based view literatures to elaborate that the use of the *acqhire* structure as a group hiring strategy confers three types of specific benefits associated with the retention of a cohesive and highly-skilled team: 1) The preservation of dynamic capabilities and tacit knowledge embedded in the startup's team dynamics that can be used to solve problems that maybe eluding existing employees and partners of the acquiring firm; 2) the prevention of knowledge leaks which might hasten the decay in value of the new human capital; and 3) the protection of the acquired firm's productive innovation potential.

Literature Review and the Benefits of M&A for Human Resource Acquisition

Human Capital as a Strategic Resource

One answer to the eternal question of what causes performance differences across firms is heterogeneity in their stock of human capital. The resource-based view shifts emphasis away from external factors as a foundation for the firm's sustained competitive advantage towards the presence of internal resources which are valuable, uncommon, expensive to imitate, and have no direct substitutes (Barney, 1991; Amit & Schoemaker, 1993; Peteraf, 1993). Human resources are amongst the most critical components of the unique 'bundle' of resources, including both assets and capabilities, that provides the firm's means to engage in strategic competition in the marketplace (Peteraf, 1993; Wernerfelt, 1984). The firm's human capital is a socially complex and intangible asset, making it likely inimitable as well as being of great value to the firm but of uncertain value to external parties who are unable to easily measure it (Hitt et al, 2001). Thus, the ongoing acquisition, development and management of its stock of human capital will be amongst the firm's most important resource schemes (Hitt, Bierman, Shimizu, & Kochhar, 2001; Lepak & Snell, 1999).

Critically, human capital is also the repository of much of the firm's specific knowledge base, which fuels its ability to successfully leverage existing resources and to gain and defend critical positions in resource acquisition (Hitt et al., 2001; Teece, Pisano, & Shuen, 1997). In other words, the firm's human assets not only comprise a resource bundle of experience and skills necessary for production functions but also drive the dynamic capabilities by which the firm is able to build, rearrange, and combine its other assets and competencies to respond adaptively to external change and problem-solve. Particularly in markets characterized by rapid and unpredictable shifts, the firm must be able to quickly draw on knowledge assets that allow it to create and execute routines leading to speedy and responsive innovation (Eisenhardt & Martin, 2000; Teece et al., 1997; Winter, 2003). Consequently, in order to protect and develop

their dynamic capabilities, firms must build and maintain an advantage in the human capital in which their knowledge assets are so intrinsically enmeshed.

One reason that venture-funded startups are a prime location for high-value human capital lies in the way venture capitalists evaluate the startup's potential when making investment choices. Of the investment target's assets - including its business plan, technological assets, and access to support, it is the knowledge characteristics of the founding team, specifically their educational-attainment, the status of their degree-granting institutions, their technical know-how, and their experience, which drive the decision to venture above all other factors (Baum & Silverman, 2004; Colombo & Grilli, 2005, 2009). In this light, it is unsurprising the startup has become an important target for firms seeking high-skill individuals to improve their human capital positions.

Team Dynamics

Significantly for potential acquirers, the technological and knowledge capabilities of a firm are as deeply embedded in its collective human capital as they are in the individuals (Odom, Boxx, & Dunn, 1990; Ranft & Lord, 2002; Winter, 2003). Where a firm's employees are heavily engaged in team-based production and idiosyncratic problem-solving endeavors they develop socially complex and interdependent operational routines that lead to tacit knowledge and expertise as well as increased causal ambiguity, making it difficult for competitors to replicate (Lepak & Snell, 1999). As individuals in a team work together they may develop a shared construct of how to allocate tasks, retrieve knowledge and locate skills within the group that is called a transactive memory system (Wegner, 1987). Studies of transactive memory identify the tendency of group members to specialize in different types of knowledge or task functions (memory specialization), to trust each other's capabilities (task credibility), and work together

efficiently (task coordination) as three factors which lead to high performance (Argote & Ren, 2012; Faraj & Sproull, 2000; Lewis, 2003). This shared idea of 'who knows what' and 'who can do what' allows individuals within the team to access a greater pool of knowledge and skills than they possess on their own, particularly aiding the team in accomplishing complicated tasks such as software development (Faraj & Sproull, 2000).

Software development is, in fact, an indicative example of the difficult and nuanced innovation activities that drive firms to seek out high-level engineers. In a widely cited paper about design problems, computer scientist Fred Brooks (1987) distinguishes between 'accidental complexity,' which relates to the fixing of errors and suboptimal performance, and 'essential complexity,' which has to do with problems that must be solved in order to achieve the design outcome that has been precisely envisioned. To address essential complexity means that each member of the design team both understands and can communicate to other members the current, and potential, states of the software program and what functions will need to be invoked for it to work as specified (Brooks, 1987). As with any high-tech industry, the development of the software is subject to flux. End-specifications may change in response to competitors or user-needs or new ideas. It is a type of problem-solving activity that requires continuous flexibility and adaptation. The most complicated problems that face high-tech firms today are not fixes for technical or market problems but the development of concrete solutions to realize abstract technological ideas; it is the nature of these problems and their importance to the firm's core business that drives decisions about how to acquire and organize the necessary labor as a complementary asset (Nickerson & Zenger, 2004).

Teams from startups are perhaps uniquely suited to solving problems of essential complexity for two reasons. The first reason is that the founding individuals behind startups tend

to be “lead users,” which is to say that with respect to a particular class of product they have been far ahead of other users on a market trend and have expected to gain high benefits from a solution they have developed for a problem they have (Von Hippel, De Jong, & Flowers, 2010; Von Hippel, 2005). For instance, a study of 263 startup firms in the diverse juvenile products industry indicated that 84% were founded by entrepreneurs that had been lead users innovating in response to perceived product gap (Shah & Tripsas, 2007). The innovations produced by lead users tend to be different from those produced by large manufacturers; they are functionally more novel and less likely to improve on well-known needs (Von Hippel, 2005). Consequently a team of engineers that comes from a startup may have the same technical skills as a team that is assembled through traditional hiring but in addition they will generally have solved at least one essentially complex problem together in the course of developing their product and will be likely to have a style of innovation that differs from the approach of the acquiring firm and so increases the diversity of the firm’s knowledge assets.

The second reason that teams from startups are highly suited to complex problem-solving is that they are able, within a small firm, to build, complete, and deliver a solution. Brooks’s Law is an anecdotal rule of software development that states that for each person that is added to a project that is well underway, the time required to familiarize them with the project and group communication dynamic will be greater than the time saved by adding additional manpower (Brooks, 1995). The crux is that complicated projects that cannot be partitioned into discrete tasks will be best solved by a small number of people who can capably establish a complex set of interrelationships and communication protocols to allocate and perform tasks (Brooks, 1995). Startups are small and self-sufficient by nature. Individuals who form a part of task coordination routines or task performance routines (Helfat & Peteraf, 2003) may be located in different parts

of the organization, which leads to causal ambiguity and makes the system difficult for competitors to observe or imitate (Dierickx & Cool, 1989; Ranft & Lord, 2000). Engineers, for instance, may rely on the skills of an efficient project manager, or a support team, or may coordinate tasks amongst themselves. However, by acquiring what is still a small firm via an *acqhire* strategy the buyer has the option to bring over all its employees and more closely determine which personnel are critical to the functioning of team dynamics. Additionally, the acquisition of a firm in its entire means difficulty will remain for competitors in identifying all personnel comprising the problem-solving team to hire them away.

The complex and dynamic task routines within startup teams also confer advantage to the firm via time compression diseconomies (Dierickx & Cool, 1989). The close working relationships between team members are comprised of tacit knowledge that cannot be bought; they must be built and developed over time. These types of capabilities are typically considered nontradeable assets that competitors must build inside their own organizations (Argote & Ren, 2012; Conner, 1991; Dierickx & Cool, 1989) . However, the acquisition of the firm and the movement of its employees to the acquiring firm *as a collective* may preserve these team dynamics provided that the team remains intact and minimally disrupted at the new firm. The acquiring firm, while perhaps unable to distribute the knowledge embedded in the acquired human capital across its organization, nevertheless benefits greatly from the dynamic capabilities and performance of team assets it does not have the time to assemble and build on its own.

Asset Value Protection

Diericx and Cool (1989) suggest that resources that can be traded in the market cannot be the source of sustained competitive advantage because such assets can be bought, and thus imitated. Only the non-purchasable intangible assets reflected in the firm's store of tacit

knowledge and dynamic capabilities, such as its relationships with suppliers or its corporate reputation, are truly inimitable by competitors (Conner, 1991; Teece et al., 1997). However, where a strategic asset is tradeable but rare and valuable, as is the case with a lot of talented human capital, firms will want to act to extend their competitive advantage by sustaining competitor lags in imitation for as long as possible.

In this vein the acquisition of an entire startup helps to address two possible problems. First, even if the acquiring firm did not need the target firm's whole team it benefits not only by accumulating its stock of a strategic asset but also by disadvantaging its competitors by removing as much of the asset as possible from the open labor market (Conner, 1991). Furthermore, as members of the team spend more time at the acquiring company they develop firm-specific knowledge, such as a tacit understanding of the firm's routines and relationships across the organization, which is non-tradeable and improves their performance within the firm while being less likely to easily transfer to other organizations (Winter, 2003; Teece et al., 1997).

Second, because an acquired firm's capabilities are externally sourced they are not yet specific to the acquiring firm and the knowledge assets of individuals may be more readily applied to other firms than the capabilities of teams that are developed internally (Capron & Mitchell, 2009; Ranft & Lord, 2000). If the acquiring firm were to only hire or retain part of the acquired team, the knowledge held by those people is immediately less valuable than it would be if the firm acquired the team intact. The knowledge assets of the human capital that joins the buyer are known, and possibly can be imitated, by the individuals who are going off to join other firms. Thus, the departure of any one person from a functioning team not only hastens the asset erosion of the acquired team's value by decreasing its dynamic capabilities as a whole but also by increasing knowledge leakage.

Dierickx and Cool (1989) use the metaphor of a bathtub to explain this phenomenon. The level of water represents the value of the firm's current knowledge assets. The flow of water into the tub represents the increase in knowledge assets, augmented here via the firm's acquisition of new human resources. The transfer of knowledge contained in the team to the open labor market and potentially to other firms is represented by a hole at the bottom of the tub, through which the water flows out and quickens the pace of asset stock erosion. To the degree that *acqhires* may serve to improve the retention of the startup's whole team, the strategy serves to protect the value of newly acquired human capital.

Innovation Through Autonomy

One reason that large companies look to purchase small startups for their strategic human capital is to increase their own exposure to new ideas and entrepreneurial spirit and innovation (Dushnitsky & Lenox, 2005), as well as simultaneously guarding against the organizational inertia and rigidity that is more likely to happen in a large firm (Capron & Mitchell, 2009; Leonard-Barton, 1992; Puranam, Singh, & Zollo, 2006). However, one common hazard of post-acquisition integration is that acquirers who purchase small firms for their technological skills discover that absorbing the new employees into the firm can dissolve the innovative capabilities which provided value to the acquisition in the first place (Paruchuri et al., 2006; Puranam, Singh, & Chaudhuri, 2009). Several studies additionally note that the resulting loss of autonomy may lower employee motivation and productivity (Puranam et al., 2009) and that highly-skilled employees attracted to the entrepreneurial start-up environment may become unhappy and want to leave (Graebner, 2009; Paruchuri et al., 2006).

Positively, maintaining the acquired firm's autonomy has been shown to increase creativity, innovation, and exploratory learning (Drucker, 2002), as well as affording increased

flexibility to react to changing conditions (Beugelsdijk, 2008). Yet when acquired firms remain un-integrated, transfer of knowledge and capabilities does not occur which may constitute a loss in value for the acquiring firm (Puranam et al., 2009; Ranft & Lord, 2002).

In the case of an *acqhire*, the purchase of an entire – but small – team gives the acquirer the option of integrating the purchased firm into the company while preserving the team's independence. Where individuals are hired they must then be assembled into teams with higher transaction costs but the focus of the *acqhire* transaction is to obtain the team as a whole. The startup's employees can then be assigned to work on a standalone product or capability for the acquirer with the result that the team retains its autonomy (Puranam et al., 2009). Press reports indicate that this is typically the case, with startups *acqhired* by Google and Facebook being often assigned to new product development (Efrati & Tam, 2010; Helft, 2011; Miller & Wortham, 2011). Such teams are essentially modular resources that can be assigned to tasks and then later switched intact to other activities with likely minimal disruption to workflow, since the groups function as autonomous units. In this way, the acquiring firm benefits from increased resource flexibility and less asset-specificity, even where human capital is closely tied to core capabilities.

The knowledge assets of the acquired teams are largely contained in tacit team dynamics and individual technical skillsets and are more difficult to spread across the organization than they are to apply directly to a project. Thus, by accepting a small loss in knowledge transfer by isolating the new team the acquiring firm may trade for large gains in the team's productivity and minimize losses due to post-acquisition disruptions to the team dynamic (Paruchuri et al., 2006). The resulting autonomy increases the potential of team retention (Ranft, 2000) and allows the new hires to create a sort of 'skunkworks' environment within the new organization, isolating the

team and allowing it to retain the dynamics of a smaller company (Fosfuri & Rønde, 2009). The acquiring firm may then be able to profit from the innovative breakthroughs and entrepreneurial thinking that are much more typical in the startup environment (Marvel & Lumpkin, 2007).

Discussion and Conclusion

In this paper we began with the observation that firms in highly technological industries, faced with pressure to innovate and looking to expand, are increasingly acquiring startups with little interest in other assets beyond their human capital resources. Certainly there is a need for empirical study to better understand how this practice is developing and whether it is most readily applicable to firms for whom technological innovation is the core business or to industries whose fast pace precludes cost-effective training of skilled labor in-house. However, within the scope of this paper we focused on how the wide-scale adoption of *acqhires* by leading high tech and media firms draws attention to the needs and motivations that drive a firm's decision to pay a premium in order to choose one strategy for human resource acquisition over another.

Framing the decision to *acqhire* as a two-stage process we posited that M&A will be the preferred strategy of human capital acquisition when two conditions are fulfilled. First, based upon factors from transaction cost economics and the resource-based view of the firm, the firms will internalize when human capital activities are closely tied to core competencies and address issues facing high exchange hazards. Next, the firm will choose to engage in M&A over traditional hiring when the innovation problems they face require solutions in a relatively shorter timeframe and may benefit from the hiring a team of people who work well together and bring a different approach to the problem. Also, the ability to ensure that the team from the acquired firm will stay after the acquisition is a key factor in pursuing M&A in this instance.

We propose that firms who bring in teams via acquisition to work on knowledge-intensive activities and high-innovation tasks may benefit from an increased ability to maintain tacit and complex team dynamics, preserve the value of the team a knowledge asset, and retain the team as a modular unit. In outlining these propositions we hope to broaden the discussion about what firms hope to gain via M&A and why there has been a shift in focus from tangible, technical assets, to tacit human resources.

The idea that high tech and new media firms will invest in human capital to stimulate internal innovation and expand productive capacity, as iterated earlier, is not in opposition to a resource-based view of the firm (Peteraf, 1993). However, the literature on M&A in the context of improving the firm's innovative capacity has typically focused on the acquisition of physical or technical resources as a proxy for the firm's investment in technology (Ahuja & Katila, 2001; Kim & Kogut, 1996). Scholars have typically viewed human capital as too difficult to retain after an acquisition for human capital acquisition to be a consistent, primary motivation for M&A (see Ranft & Lord, 2000 for an exception).

Examining the choices that lead to M&A in the context of human capital acquisition illustrates that as the firm's competitive advantage is increasingly driven by knowledge-intensive activities closely tied to its core business, there will be resulting implications for the organization of labor and the allocation of activities to innovative problems that may require a different approach than what the firm typically employs (Nickerson & Zenger, 2004; Wright, Dunford, & Snell, 2001). In turn, the strategic allocation of activities informs decisions about the strategy for bringing human capital into the firm (Lepak & Snell, 1999) and its relationship to the productivity and value of the labor so acquired.

As knowledge workers become increasingly central to the production of new technologies and labor becomes more specialized, it is likely we will see greater heterogeneity and ingenuity both in the way that firms choose to set boundaries and organize different types of activities inside and outside the organization, and in the way that they select and manage labor relationships to support competitive advantage. One labor think tank estimates that by 2015, 60 percent of new jobs will require skills held by only 20 percent of the population, suggesting that a critical core competency for growth in the tech sector will not be the ability to overcome technical barriers but the ability to successfully acquire and retain labor with desired skillsets (Galagan, 2010). We suggest that further explorations of the relationship between knowledge and innovation production, the organization of work, and the acquisition of highly-skilled labor are an important avenue for future research.

Turning back to the phenomenon of *acqhire* itself, it is also important to consider that an increase in the prevalence of acquiring startups and then divesting their non-human assets may produce a number of competitive implications for market dynamics and even public policy. It is natural that firms engaging in *acqhire* strategies will seek to target the most successful and promising startups that would be open to being acquired. In this way, it is possible that in seeking to bring the people with the highest innovation potential *into* the firm, there may be less likelihood of innovation in the marketplace *outside* of the firm. While there remain many reasons for startups to reject acquisition offers, including but not limited to the startup's own growth and access to venture funding, the founder's commitment to the business plan etc., there are also valid arguments that the *acqhire* trend may lead to a decline in successful IPOs as startups choose instead to be *acqhired.* First, while startups may take several years to reach IPO and are typically backed by venture capital for between four and seven years prior to exit (Chemmanur,

Loutskina, & Tian, 2010), some *acqhire* offers are made within six-months or less (Needleman, 2012; Rosoff, 2011) in the period before the startup has gained any traction. Additionally, the promise of large sums of money may be persuasive as the large firms are known to pay upwards of $1 million – and sometimes much more - for each engineer they obtain (Dembosky, 2012; Needleman, 2012).

For some venture investors, as iterated earlier, *acqhires* are frequently perceived in a negative light as VCs feel that acquires cause them to lose out on a large potential payoff when a startup goes public. It is possible that investors may become more risk-averse, raising the bar to secure venture funding. Alternately, investors may choose to increase risk diversification by distributing smaller amounts of funding amongst larger numbers of startups. Within the industry press, there is also a popular perception that *acqhires* are used to disguise startup firm failures (Lacy, 2012; O'Neill, 2012) or that entrepreneurs are incentivized to put little effort into products, just hoping they'll get acquired (Lacy, 2012; Yoskovitz, 2012). In a well-publicized case of Cisco acquiring startup companies in order to rehire its own employees, it was observed that the technological assets of the startup company only needed to be good enough to indicate the potential of talent (Vance, 2006). Additionally some researchers have already expressed concern or criticism that the increasing tendency of venture capital investments to result in exit by acquisition rather than by taking the startup public has had negative results for overall market competitiveness, reducing drivers for innovation and new job creation and likely creating disincentives for potential market entrants (Merrill, 2009).

While it is unclear what the impact of human resource acquisition through M&A has been on the tech industry marketplace, there are clear managerial implications. The increased cost of M&A over traditional hiring reflects a premium for highly skilled labor, as signaled by

the innovation potential of a startup. Where a startup firm's goals are shifted away from product development and performance towards acquisition, venture firms and potential acquirers may find it difficult to accurately assess the value of human resources. Thus, in their efforts to 'buy up' a valuable source of human capital, dominant firms may run the risk of 'polluting' the pool from which they draw.

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