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## **How and When Acqui-hires Create Value for Acquirers: A Real Options Analysis**

**Beril Boyacioglu**  
Koc University  
Management & Strategy  
bboyacioglu14@ku.edu.tr

**Mahmut Nedim Özdemir**  
Koc University  
Management & Strategy  
maozdemir@ku.edu.tr

### **Abstract**

HOW AND WHEN ACQUI-HIRES CREATE VALUE FOR ACQUIRERS: A REAL OPTIONS ANALYSIS Beril Boyacioglu Koç University bboyacioglu14@ku.edu.tr Enrollment Date: September 2014 Expected Final Date: June 2018 Acqui-hiring refers to the acquisition of a start-up and hiring of its founder and key employees by an established firm to utilize the talented human capital of the start-up to create new products and markets. Acqui-hiring is a prevalent mechanism frequently employed especially by technology-based companies in Silicon Valley. Recently scholars have also begun to pay special attention to this emerging phenomenon, however, there is disagreement about whether it is a strategic move that creates value for the acquirer or a cultural idiosyncrasy (Chatterji & Patro, 2014; Coyle & Polsky, 2013). On the one hand, Coyle and Polsky (2013) propose that an acqui-hire can hardly create value for the acquirer because it is usually a way of exiting a low-potential start-up for its investors and founders. They explain the practice of acqui-hiring as an emerging solution in a culture (Silicon Valley) where established technology firms cannot easily hire a talented start-up team because of the unique social structure and community norms that make the bypassing of venture capitalists costly in the long-term. On the other hand, Chatterji and Patro (2014) argue that acqui-hiring has the potential to create value for the acquirer because it allows for asset orchestration, the act of continuously identifying and obtaining missing resources and aligning them with the existing resources to respond to opportunities in a firm's environment (Teece, 2012). In this paper, we contribute to this debate by introducing a real options-based model that explains acqui-hiring can in fact be a strategic move that creates value for the acquirer depending on how the acqui-hire is structurally designed. Real options theory provides a framework for analyzing investment decisions under uncertainty (Amram & Kulatilaka, 1999; Dixit & Pindyck, 1994) and explains how future growth opportunities enhance the market value of firms (Kester, 1984; Myers, 1977). Because acqui-hires are investments made by established firms under considerable external uncertainty, real options theory has the

potential to offer key insights into value creation from acqui-hires. We argue that acqui-hires are real options that create value for acquirers by enabling, but not obligating, them to utilize the talented human capital of start-ups to enter new markets and create new solutions. Moreover, an acquirer may either commit to its acqui-hire early on or it may choose to wait for uncertainties to resolve before making a commitment. To capture this decision regarding the acquirers' pacing of their investments in the acquired start-up, we distinguish between two types of acqui-hires, growth acqui-hires and deferral acqui-hires. While a growth acqui-hire is characterized by high-status hiring and an immediate structural integration of the acquired team, a deferral acqui-hire is characterized by low-status hiring and an initial autonomy for the acquired team within the acquirer's organization. We posit that growth acqui-hires generate value by providing privileged accesses to growth opportunities, while deferral acqui-hires generate value by minimizing the opportunity costs of early commitments. We propose that the value of talent, the level of market uncertainty, and the costs of generating revenue streams from the know-how of the talent affect the relative values generated by growth and deferral acqui-hires.

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**HOW AND WHEN ACQUI-HIRES CREATE VALUE FOR ACQUIRERS:  
A REAL OPTIONS ANALYSIS**

**ABSTRACT**

Acqui-hiring refers to the acquisition of a start-up and hiring of its founder and key employees by an established firm. The primary goal of an acqui-hire is to use the talented human capital of the start-up to create new products and markets. While there is growing research on acqui-hires, extant work explains little the different types of acqui-hires and how they can create value for acquirers. In this paper, we draw on real options theory to explicate two different types of acqui-hires, to identify the different sources of value they generate and to establish the conditions under which the value generated by one type of acqui-hire dominates the other. We propose that acqui-hires are real options that create value for acquirers by enabling, but not obligating, them to utilize the talented human capital of start-ups to enter new markets and create new solutions. Moreover, we argue that the option value derived from an acqui-hire varies depending on how the acqui-hire is structurally designed. Specifically, we argue that while growth acqui-hires generate value from early commitments characterized by high-status hiring and an immediate structural integration of the acquired team, deferral acqui-hires generate value from deferred commitments characterized by low-status hiring and staged integration. We propose that the relative values generated by growth and deferral acqui-hires depend on the value of talent, market uncertainty, and the costs of realizing revenue streams from the know-how of the talent of an acquired start-up.

## INTRODUCTION

When Yahoo acquired mobile messaging application MessageMe in 2014, it appointed Arjun Sethi, the founder of MessageMe, as Senior Director of Product Management, Growth and Emerging Products. The application was shut down following the acquisition and MessageMe's team was directly integrated. In less than a year, Yahoo launched a new video-messaging app, LiveText, whose development efforts were led by Sethi. With LiveText offering a unique form of video texting that combined traditional text messages with audio-free video, Yahoo was able to offer a new solution in a market where it has been lagging behind the dominant players such as Whatsapp and Snapchat for several years. Another mobile application development start-up, Bump Technologies was acquired by Google in September 2013. Contrary to Yahoo's approach in the case of MessageMe, Google assigned Bump's three cofounders to relatively low status positions, e.g. product manager, and left the team independent initially. A few months after the acquisition Google shut down Bump's product and appointed David Lieb, one of Bump's cofounders, as Product Lead of Google Photos upon deciding to concentrate on photo sharing and utilize the skills of Bump's team to that end. As the Product Lead, Lieb rebuilt Google Photos and created what has been recently referred to as the world's smartest photo app (Eadicicco, 2015). Acquisition of MessageMe and the subsequent development of LiveText, and the acquisition of Bump Technologies with the following regeneration of Google Photos are striking examples of how established technology firms can create value via acqui-hiring by executing it in different ways.

Acqui-hiring refers to the acquisition of a technology start-up by an established technology firm primarily to utilize the talented human capital of the start-up for the development of new solutions without any interest in its products and services. Acqui-hiring arised as a solution to catch up with or preempt competitors in high-tech industries where innovations are

happening at a brisk pace and has become a tool that is increasingly employed by the most successful technology companies in the world to attract the best technical talent for which there is intense competition. The biggest technology companies such as Google, Apple and Facebook have been steadily investing in acqui-hiring in recent years to capture the talent that will enable them to continue their leadership in the markets they dominate, to catch-up with their competitors in the markets where they are followers or to create new markets. Recently scholars have also begun to pay special attention to this emerging phenomenon, however, there is disagreement about whether it is a strategic move that creates value for the acquirer or a cultural idiosyncrasy of Silicon Valley (Chatterji & Patro, 2014; Coyle & Polsky, 2013). On the one hand, Coyle and Polsky (2013) propose that an acqui-hire can hardly create value for the acquirer because it is usually a way of exiting a low-potential start-up for its investors and founders. They explain the practice of acqui-hiring as an emerging solution in a culture (Silicon Valley) where established technology firms cannot easily hire a talented start-up team because of the unique social structure and community norms that make the bypassing of venture capitalists costly in the long-term. On the other hand, Chatterji and Patro (2014) argue that acqui-hiring has the potential to create value for the acquirer because it allows for asset orchestration, the act of continuously identifying and obtaining missing resources and aligning them with the existing resources to respond to opportunities in a firm's environment (Teece, 2012).

In this paper, we contribute to this debate by introducing a real options-based model that suggests acqui-hiring can in fact be a strategic move that creates value for the acquirer depending on how the acqui-hire is structurally designed. Real options theory provides a framework for analyzing investment decisions under uncertainty (Amram & Kulatilaka, 1999; Dixit & Pindyck, 1994) and explains how future growth opportunities enhance the market value of firms (Kester, 1984; Myers, 1977). Because acqui-hires are investments made by established firms under

considerable uncertainty, real options theory has the potential to offer key insights into value creation from acqui-hires. We argue that acqui-hires serve as real options for acquirers because they enable, but not obligate, them to utilize the talent of the acquired start-up to create new solutions and markets. Moreover, an acquirer may either commit to its acqui-hire early on or it may choose to wait for uncertainties to resolve before making a commitment. To capture this decision regarding the acquirers' pacing of their investments in the acquired start-up, we distinguish between two types of acqui-hires, growth acqui-hires and deferral acqui-hires. While a growth acqui-hire is characterized by high-status hiring and an immediate structural integration of the acquired team, a deferral acqui-hire is characterized by low-status hiring and an initial autonomy for the acquired team within the acquirer's organization. We posit that growth acqui-hires generate value by providing privileged accesses to growth opportunities, while deferral acqui-hires generate value by minimizing the opportunity costs of early commitments. We propose that the value of talent, the level of market uncertainty, and the costs of generating revenue streams from the know-how of the talent affect the relative values generated by growth and deferral acqui-hires.

We seek to contribute to the literature on acqui-hiring in several ways. First, we extend the work of Chatterji and Patro (2014) by identifying two different types of acqui-hires and providing insights into the mechanisms through which these acqui-hire types create value for the acquirer. Specifically, we argue that depending on how the acqui-hire is structurally designed, the value generated via the acqui-hire can either be growth or deferral based. Moreover, we identify the conditions under which the value generated by one type of acqui-hire dominates the value generated via the other. We also extend some pioneering research that focused on acquisitions involving technology and talent transfer (Graebner, 2004; Ranft and Lord, 2000). This stream has argued that hiring the executives of acquired firms for senior-level positions is crucial for

creating value from technology acquisitions. On the contrary, we argue that depending on the value of the talent, market uncertainty and exercise price, low status appointments can be preferred over high status appointments. Finally, this study also contributes to real options theory. Real options theory has been used to analyze human capital related issues such as workforce investment decisions (Foote & Folta, 2002), how firms manage the uncertainties associated with human assets (Bhattacharya & Wright, 2005) and the role of employee incentives in strategic investments (Wang & Lim, 2008). By viewing acqui-hires as a form of human capital investment, we extend the application domain of real options theory to the context of acqui-hires.

### **ACQUI-HIRING IN THE EXTANT LITERATURE**

Acqui-hiring is a relatively novel acquisition type. Unlike traditional technology acquisitions that target the tangible and intangible assets of the acquired firms, acqui-hires target the talented human capital of start-ups. An acqui-hire involves both hiring the founder and key employees of a start-up and purchasing its assets. By employing the start-up's founder and his/her team as a group, the acquirer gains the advantage of hiring a proven team with a coherent way of thinking and specialized knowledge in a certain domain over hiring talented individuals one by one and trying to form a team out of them. As the intention of the acquirer is not to generate revenues through the start-up's product, the product is shut down after the acquisition. The underlying know-how, on the other hand, may be utilized in existing or novel projects of the acquirer.

Acqui-hiring has not received much attention in the literature so far. Only recently, a law paper (Coyle & Polsky, 2013) and an exploratory paper in a symposium on dynamic capabilities (Chatterji & Patro, 2014) have tried to explain this emerging phenomenon. In order to better understand acqui-hiring within the acquisitions literature and to clarify the difference between

acqui-hires and traditional acquisition practices, we reviewed the acquisitions literature and classified prior research on acquisitions into four different categories depending on the setting and whether the analysis involves human capital or non-human capital related aspects of the acquisition. Figure 1 shows the key studies in each category.

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While studies in Quadrants I and II focus on the role of human capital in technology acquisitions, studies in Quadrants III and IV examine the role of factors other than human capital in technology acquisitions. Technology acquisitions are also divided into two groups: those taking place in low-tech industries, and those being executed in high-tech industries. In this classification, acqui-hiring, which is a practice unique to high technology firms (Chatterji & Patro, 2014; Coyle & Polsky, 2013), falls into Quadrant II that consists of studies pertaining to the role of human capital in high technology acquisitions. Studies in this quadrant mainly examine how the acquired human capital influence the value created via high technology acquisitions. As discussed before, studies on acqui-hiring present opposing views regarding whether the acquired human capital contributes to the value of the acquirer. While Coyle and Polsky (2013) argue that acqui-hires are mostly conducted to preserve the existing investment structure of Silicon Valley and are not necessarily value creating mechanisms, Chatterji and Patro (2014) view acqui-hiring as a tool for asset orchestration, which is an important dynamic capability implemented in the management of human capital, that provides key resources facilitating acquirers' growth.

Some of the earlier studies in Quadrant II examine acquisitions involving both talent and technology transfer and highlight the role of key employees and acquired leaders in creating value from those acquisitions (Graebner, 2004; Ranft & Lord, 2000, 2002). They reveal that retention of valuable human assets after the acquisition is of central importance in high technology acquisitions and autonomy, status and commitment are the most important determinants of retention of key employees (Ranft & Lord, 2000, 2002). Moreover, the roles given to the acquired leaders after the acquisition also have a substantial effect in creating value from technology acquisitions. This is because if they are given cross-organizational responsibilities following the acquisition, acquired leaders are able to perform certain mobilizing and mitigating actions such as accelerating coordination across the two companies, managing internal pacing and addressing employee concerns (Graebner, 2004).

The vast majority of studies on high technology acquisitions fall into Quadrant III, which focuses on the impact of acquisitions on innovation performance of acquirers (Ahuja & Katila, 2001; Cassiman, Colombo, Garrone, & Veugelers, 2005; Cloudt, Hagedoorn, & Van Kranenburg, 2006; Makri, Hitt, & Lane, 2010). Measuring the effect of acquisitions on innovation performance through patents (Ahuja & Katila, 2001; Cloudt et al., 2006), some of these studies report a direct negative impact of acquisitions on the acquiring firm's innovation performance (Hitt, Hoskisson, Ireland, & Harrison, 1991), while others argue that acquisitions' impact on innovation performance depends on technological relatedness and size of the acquired knowledge base (Ahuja & Katila, 2001; Colombo & Rabbiosi, 2014; Desyllas & Hughes, 2010; Makri et al., 2010). Another stream of research in Quadrant III focuses on post-acquisition integration processes and examines the link between structural integration of acquired firms and post-acquisition innovation outcomes (Paruchuri, Nerkar, & Hambrick, 2006; Puranam, Singh, & Chaudhuri, 2009; Puranam, Singh, & Zollo, 2006; Puranam & Srikanth, 2007). Defining

structural integration as the complete absorption of the operations and personnel of the acquired firm, these studies highlight that structural integration is preferred over autonomy when the objective of the acquiring firm is to obtain the know-how possessed by the acquired firm rather than a standalone product (Puranam et al., 2009; Puranam & Srikanth, 2007).

In contrast to these studies, studies in Quadrants I and IV look at acquisitions in low-tech industries such as manufacturing or banking. Studies focused on human capital issues in low-tech acquisitions in Quadrant I highlight executive continuity as a key determinant of post-acquisition performance (Bergh, 2001; Cannella & Hambrick, 1993). Similar to the studies in Quadrant II, they view acquired executives as a critical resource and propose that they should be given high status roles following the acquisition, but mainly to facilitate effective implementation of the acquisition and to exploit existing solutions of the acquired firm rather than to create new solutions. Finally, studies in Quadrant IV investigate non-human capital aspects of low-tech acquisitions such as the effect of prior acquisition experience or relatedness on post-acquisition performance (Barkema & Schijven, 2008; Finkelstein & Halebian, 2002). These studies are not highly relevant for the topic of acqui-hires.

Overall, extant research on acquisitions reveals the factors affecting value creation in technology acquisitions. However, they identify different sources of value. While some studies view technology related intangible assets of the acquired firm as the primary source of value created via technology acquisitions, others focus on the acquired human capital as the key resource in creating value from technology acquisitions. Research on acqui-hiring is featured in this second stream. Recently several studies have defined what acqui-hiring is and discussed the underlying reasons of acqui-hires (Chatterji & Patro, 2014; Coyle & Polsky, 2013). However, more research is needed to understand the different types of acqui-hires and explain how and when they can contribute to the value of acquirers.

## ACQUI-HIRING AS A REAL OPTION

Real options are investments in real assets made not primarily for immediate cash flows but for the economic value that will be generated via future growth opportunities (Kester, 1984). Real investments can create value by conferring two different types of options which are mutually exclusive: strategic growth options and options to wait-to-invest, i.e. deferral options. These two types of real options, however, have different sources of value. While strategic growth options create value through the strategic advantages arising from early investment (Kulatilaka & Perotti, 1998), deferral options generate value through the managerial flexibility resulting from delaying the investment (McDonald & Siegel, 1986).

Acqui-hiring can be thought of as a real option because it involves investing in talent without any expectation of immediate cash flow as made evident by the shut down of the start-up's product. We argue that acqui-hiring provides the acquirer with either strategic growth options or deferral options depending on the pacing of the acquirer's investment into the acquired start-up. The acquirer may either invest immediately by assigning the founder to a high status role and structurally integrating the team of the start-up or it may wait for uncertainties to resolve before making such a commitment. On the one hand, making an early commitment in the presence of uncertainty leads to an opportunity cost causing the acquirer to lose the potential to make a different decision once the uncertainties are resolved (Dixit & Pindyck, 1994; Folta, 1998). On the other hand, deferring the commitment in the presence of growth opportunities may lead to preemption by competitors thus eroding the worth of future growth options (Folta & O'Brien, 2004; Kulatilaka & Perotti, 1998). These different investment decisions of the acquirers correspond to two distinct types of acqui-hires both of which are frequently observed: growth

acqui-hires and deferral acqui-hires. Below we describe the characteristics of growth and deferral acqui-hires and explain how these two acqui-hire types can create value through different means.

### **Growth Acqui-hires**

We define acqui-hires that involve the appointment of the acqui-hired founder to a high status position (e.g. senior director or vice president) and the immediate structural integration of the start-up's team as growth acqui-hires. Prior literature defines structural integration as the complete integration of the acquired firm into the acquirer as opposed to structural separation, which refers to preserving the acquired firm as a distinct organizational entity (Puranam et al., 2009; Puranam and Srikanth, 2007). In the case of acqui-hiring, the acquired team is almost always integrated into the acquirer. However, the pacing of the integration process differs. We refer to the case in which the acquirer fully integrates the team immediately after the acquisition as structural integration and the case in which the integration is carried out incrementally as staged integration.

Following Graebner (2004), we argue that assigning the founder to a high status role after the acquisition enables the acquirer to take better advantage of future growth opportunities. Prior literature highlights that the knowledge and skills of founders are key factors that lead to differentiation and growth for technology firms (Colombo and Grilli, 2005; Feeser and Willard, 1990). However, the ability of acqui-hired founders to generate future growth opportunities for the acquirer depends to a large extent on whether they have the necessary power to be influential in decision-making. Finkelstein argues that "top managers' power plays a key role in strategic decision making" (1992: 505) and prior literature suggests that a higher-ranking managerial position is an indication of authority and power (Boeker & Karichalil, 2002). When given a high status role that grants them the necessary authority and power, the acquired entrepreneurs can

champion new ideas from development to reality, thereby developing new businesses within the acquiring firm.

Moreover, we argue that structural integration of the acquired start-up also enables the acquirer to promptly seize future growth opportunities. Grant argues that in technology-intensive industries, “the critical source of competitive advantage is knowledge integration rather than knowledge itself” (1996a: 380). Prior literature also suggests that structural integration enhances knowledge transfer and coordination between the acquirer and the acquired firm (Haspeslagh & Jemison, 1991; Puranam & Srikanth, 2007). By immediately integrating the acquired start-up’s team, the acquirer gains an opportunity to quickly enter into a new market in which the acquired start-up has experience or to improve existing products and offer new generations of those products via the complementary knowledge of the start-up.

Real options theory suggests that early investment results in the acquisition of growth opportunities relative to competitors and a greater ability to expand in the future (Kulatilaka & Perotti, 1998). Such growth opportunities offering future comparative advantages are called strategic growth options. Growth acqui-hires provide the acquirers with strategic growth options since early commitment to the acqui-hire may produce significant preemptive effects. Employment of the founder and his/her team by the acquirer hinders the rivals’ access to their know-how, thus providing the acquirer with a strategic advantage relative to competitors. By further assigning the founder to a high status role the acquirer enhances the motivation and commitment of the founder, thereby preventing him/her from launching another start-up or joining a competitor. Similarly, structural integration enhances the coordination and cooperation among the acquirer and the acquired start-up by providing common procedures, common authority and common goals and aligning the interests of both organizations toward these common goals (Puranam et al., 2009). Aligned incentives and interests resulting from structural

integration will prevent the acquired start-up's employees from exploiting a new idea themselves or sharing it with competitors. Thus, by hiring and immediately integrating a team who are accustomed to working together and experienced in a certain domain, the acquirer gains the opportunity to become an early mover, preempt competitors and capture higher market shares.

### **Deferral Acqui-hires**

Alternatively, the acquirer may assign the acqui-hired founder to a low status position such as a software engineer or a product manager and leave the start-up's team autonomous for a while following the acquisition. We present such acqui-hires as deferral acqui-hires. We argue that acqui-hires offer acquirers the privileged rights, but not obligations, to exploit the talented human capital of acquired start-ups to enter new markets and create new solutions. The efforts of the acquired start-up's founder and his/her team provide the acquirer with some technical and commercial opportunities. However, while the acquirer has the opportunity to utilize the know-how of the acquired start-up's founder and team for its existing and novel projects, as the employer it retains the final decision-making authority on whether to invest further in the new solutions created by the founder and his/her team. By opting for a deferral acqui-hire, the acquirer keeps its options open and preserves the right not to pursue the growth opportunities offered by the acqui-hired team if uncertainty resolves unfavorably.

In the case of a deferral acqui-hire, the acquirer adopts a wait-and-see approach and defers the decision of assigning the founder to a high status position and structurally integrating the start-up's team. There are no immediate expectations from the acqui-hired founder and team, thus the acquirer leaves the team independent initially. However, this form of independence is different from structural separation, which is the preferred strategy when the primary motivation of an acquisition is to obtain a successful product that has a large user base as in the case of

Google's acquisition of Youtube. In deferral acqui-hires, the acquirer waits observing both the acqui-hired team's performance and the market conditions and then decides whether or not to promote the founder to a high status position and to structurally integrate the team. Moreover, deferring the integration process for a while provides the acquirer with the opportunity to figure out how and where it can best utilize the acquired team's know-how and skills avoiding the opportunity costs of immediate integration. During this initial period when the acqui-hired founder and his/her team operate rather autonomously, they learn about the acquiring company's products, projects and culture while the acquirer at the same time observes their performance and decides how to best utilize their skills. Rather than immediately incurring the costs of a high level appointment and structural integration, the acquirer waits for arrival of new information before investing further in the acquired start-up. Thus, we argue that a deferral acqui-hire can create value by providing the acquirer with the managerial flexibility to defer the investment until uncertainties are resolved (McDonald & Siegel, 1986).

In sum, while growth acqui-hires have the potential to generate value through the strategic advantages resulting from early commitment that produce a significant preemptive effect, deferral acqui-hires may generate value by minimizing the opportunity costs of early commitment. Thus, there is a trade-off between potential early-mover competitive advantages and the emergence of potential alternative opportunities. Next, we provide insights into the management of this trade-off by explaining under which conditions the value generated by one of these two acqui-hire types is more likely to dominate the value generated by the other.

### **Growth versus Deferral: When Does It Pay Off to Wait and When Not?**

Real options theory suggests that there are three main factors that affect the value of a real option: the value of the underlying asset, uncertainty regarding the future conditions in an industry and the cost of exercising the option (Folta, 1998; Miller & Folta, 2002). Below we

explore the factors affecting these key determinants, and identify the conditions under which the value generated by one type of acqui-hire is likely to dominate the value generated by the other. Summarizing our arguments, Figure 2 depicts the relationships proposed below.

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**Value of the acquired talent.** One of the main factors that affects the relative values of growth and deferral options is the value of the underlying asset. The underlying asset in the case of acqui-hiring is the talented human capital of the acquired start-up, namely the founder and the team. The value that can be generated by a growth acqui-hire increases with increasing value of the acquired talent since “superior human resources enhance a firm’s ability to attain, sustain and even enhance its competitive advantage” (Florin, Lubatkin, & Schulze, 2003: 375). Prior literature highlights that individuals with greater human capital enable technology firms to enjoy superior growth (Colombo & Grilli, 2005). There are three drivers of the value of a technology firm’s human resources pointed out in the literature: proprietary know-how, entrepreneurial experience and social capital (Colombo & Grilli, 2005; Florin et al., 2003; Hsu, 2007).

**Proprietary Know-how.** One of the key drivers of value of the acquired talent is the degree to which the knowledge they possess is proprietary. If the founder and the team of the acquired start-up have proprietary knowledge of a market or a technology that competitors cannot duplicate, they would offer the acquirer privileged growth opportunities. On the other hand, if a competitor has already exploited a first-mover advantage in the market where the acquired start-up’s founder and team are specialized, then their knowledge may no longer be valuable to the acquirer. In other words, if the acquired talent possesses shared know-how, they will not be able to provide distinctive capabilities that will enable the acquirer to gain advantage over its

competitors. Tong and Reuer (2006) argue that while shared options present collective opportunities to competitors, proprietary options present opportunities uniquely available to a firm but not to others and the heterogeneity in a firm's proprietary options explains most of the variance in the value that is created from these options. When the acquirer can obtain proprietary growth options via the acqui-hire, early commitment may lead to significant preemptive effects. On the other hand, deferring the commitment may result in losing the acquired talent and their proprietary know-how to competitors. Real options theory suggests that when strategic preemption is possible early investment can result in larger market shares and higher profits relative to deferring the investment (Kulatilaka & Perotti, 1998). Prior literature also reveals that when there are significant preemptive effects associated with early investment, growth option value is magnified relative to deferral option value (Leiblein & Ziedonis, 2007; Lin & Kulatilaka, 2007). Accordingly, we predict:

Proposition 1: The more proprietary the knowledge possessed by the acquired talent, the more likely the value generated by a growth acqui-hire will dominate the value generated by a deferral acqui-hire.

Entrepreneurial Experience. Entrepreneurial experience of the start-up's founder/founding team also affects the value of the underlying asset. Serial entrepreneurs are likely to have learned not only from their successes but also from their failures and thus they are less likely to repeat their past mistakes (McGrath, 1999; Sitkin, 1992). As a result, they are able to better exploit the new opportunities relative to novice entrepreneurs. Moreover, experienced entrepreneurs are capable of continuously identifying new business opportunities and creating new solutions, thus having a high potential for generating future growth opportunities for the acquirer (Hsu, 2007). However, founders with "prior entrepreneurial experience may be psychologically attracted by the thrill of

start-up” (Gimeno, Folta, Cooper, & Woo, 1997: 759) and hence may decide to leave and launch another start-up unless they are offered high status positions that enable them to pursue entrepreneurial activities within the acquiring firm. We argue that acqui-hiring an experienced entrepreneur and his/her team can result in fast development of new solutions that may produce significant preemptive effects once the founder is assigned to a high status role granting him the necessary authority and power to materialize these solutions. Moreover, by assigning the experienced founder to a high status role and immediately integrating the team, the acquirer reduces the risk of their departure, thereby making the option generated via the acqui-hire more proprietary. Real options theory suggests that the value of a growth option depends on how exclusive the owner’s right is to exercise the option, in other words, how proprietary the option is (Kester, 1984). Thus, we argue that the value of a strategic growth option is likely to dominate the value of a deferral option when the acquired founder is an experienced entrepreneur. Novice entrepreneurs and their teams, on the other hand, lack both the experience and the knowledge necessary to promptly identify the needs in the market and develop new solutions, thus having a lower potential to create growth opportunities. Therefore, it is likely that a wait-and-see approach will benefit the acquirer more in this case. Accordingly, we predict:

Proposition 2: The greater entrepreneurial experience the acquired talent has, the more likely the value generated by a growth acqui-hire will dominate the value generated by a deferral acqui-hire.

Social Capital of the Acquired Talent. Another key driver of the value of acquired talent is social capital. According to Portes, social capital refers to the “ability to secure benefits through membership in networks and other social structures” (1998: 6). Access to social networks is especially important in technology-driven industries because production of technical

knowledge utilizing human capital is a highly social process (Bozeman & Mangematin, 2004). A wide social network reduces the amount of time and investment required to collect information (Florin et al., 2003) as the links in these networks act as conduits for knowledge transfer (Coleman, 1988). In other words, established social ties provide entrepreneurs with enriched information channels (Hsu, 2007). Thus, the greater social capital the acquired talent has, the more access they will have to market related knowledge, which will help them to continuously define, evaluate and implement new business opportunities. Moreover, if the acquired talent has a wide social network, they can easily get access to resources and capabilities required to develop new solutions. For instance, if the acquirer wants to enter a market but has missing capabilities, the acquired talent can provide the resources necessary to develop those capabilities through their networks. They will enable the acquirer to build new partnerships that will lead to faster development of new solutions through which the acquirer may gain strategic advantages relative to its competitors. However, the acqui-hired founder may not have enough motivation to utilize his/her social network for creating growth opportunities for the acquirer unless he/she is offered a high status position. Moreover, the appointment of the founder to a low status position also increases the risk of his/her departure thereby hindering access to his/her social network. Similarly, structurally integrating the team of the start-up is also necessary to better utilize the social networks of the start-up's team since structural integration will enhance the ability to transfer, assimilate and exploit knowledge from the enriched social network. Thus, if the acquired talent has wide social networks, then a growth acqui-hire may lead to substantial growth opportunities by enabling the acquirer to utilize these networks to enter new markets and preempt competitors. Therefore, we argue that when the acquired talent has greater social capital, strategic growth option logic is likely to dominate the waiting-to-invest option logic. On the other hand, acquired talent with less social capital may not be fully aware of the trends and needs in the

market. They are also less likely to have the necessary connections to attract new partners who will enhance the acquirer's capabilities of exploiting new opportunities, thus enhancing the value of a deferral option relative to the value of a strategic growth option. Accordingly, we predict:

Proposition 3: The greater the social capital of the acquired talent, the more likely the value generated by a growth acqui-hire will dominate the value generated by a deferral acqui-hire.

**Market uncertainty.** Market uncertainty is another factor that affects the relative values of growth and deferral options. Market uncertainty refers to the level of unpredictability regarding the future conditions in an industry (Folta & O'Brien, 2004; Kulatilaka & Perotti, 1998). In fact, both growth options and deferral options increase in value with increasing market uncertainty (Folta & O'Brien, 2004). However, the value of a growth option may be more sensitive to uncertainty than the value of a deferral option because of two reasons. First, the upside of a deferral option is bounded by the opportunity costs of the investment whereas a growth option has no such upper bound on its value (Folta & O'Brien, 2004; Trigeorgis, 1993). In other words, the value of a deferral option cannot exceed the amount of total irreversible commitment, however, the value of a growth option escalates with uncertainty due to the asymmetry in its payoff distribution (Folta & O'Brien, 2004; Vassolo, Anand & Folta, 2004). Second, an increase in the uncertainty about future industry conditions leads to an increase in the potential economic value of gaining a competitive advantage in that industry (Folta & O'Brien, 2004; Kulatilaka & Perotti, 1998). Unexpected variations in demand can affect market size and the expected cash flows from the commercialization of the solutions developed by the acquired talent. When the uncertainty about future market demand is high, early commitment to the acqui-hire may have strategic benefits. It will enable the acquirer to preempt competitors and gain early mover advantages thus leading to greater ex-post profits relative to the case of deferring the commitment

(Folta & O'Brien, 2004; Kulatilaka & Perotti, 1998). As an early mover in a highly uncertain environment, the acquirer will have the chance to determine industry standards and capture a greater share of the market (Kulatilaka & Perotti, 1998; Miller & Folta, 2002). On the other hand, if the acquirer defers commitment, it avoids the opportunity cost of early commitment, but also loses the opportunity of earning higher profits if the uncertainty resolves favorably. Thus, although higher uncertainty leads to higher risk exposure, the greater upside opportunities may outweigh the downside risk (Kulatilaka & Perotti, 1998). Lin and Kulatilaka (2007) examine firms' investment decisions in network industries where strategic advantages arising from early commitment lead to strategic growth options and find that under high uncertainty strategic growth option often dominates the deferral option, thus reducing the investment threshold.

At the other extreme, a very low market uncertainty indicating a negligible risk exposure, also enhances the growth option value through the possibility of preempting rivals. Low uncertainty in high-valued technologies motivates the acquirers to accelerate their investments. Thus, the value of a strategic growth option may be substantially greater than the value of a deferral option at extreme levels of uncertainty. However, at moderate levels of uncertainty, the potential gain is less significant relative to the cost of the investment, thereby increasing the value of not investing and raising the threshold for investment in the growth option. Thus, we argue that the acquirer is likely to benefit more from a deferral acqui-hire at moderate levels of uncertainty. Folta and O'Brien (2004) investigate the effect of market uncertainty on the established firms' decision to enter a new industry. Examining the net value of the dueling options, i.e. growth and deferral options, present in entry decisions, the authors find that while uncertainty negatively affects the probability of entry throughout most of the range of measured

uncertainty, the value of growth options overshadows the value of deferral options under very high and very low levels of uncertainty. Accordingly, we predict:

Proposition 4: At either high or low levels of market uncertainty, the value generated by a growth acqui-hire is likely to dominate the value generated by a deferral acqui-hire.

Whereas at moderate levels of market uncertainty, the value generated by a deferral acqui-hire is likely to dominate the value generated by a growth acqui-hire, thereby resulting in a U-shaped effect.

**Exercise price of the option.** The last factor that affects the relative values of growth and deferral options is the exercise price of the option, which refers to the development and commercialization costs (McGrath, 1997) of the technical know-how offered by the acquired talent, in the case of acqui-hiring. We argue that a high exercise price leads to an increase in the value of waiting to invest relative to the value of immediate investment. Real options theory suggests that a deferral option's value is equal to the opportunity cost of making an irreversible investment (Folta & O'Brien, 2004; Leiblein & Ziedonis, 2007). Accordingly, the value that can be generated by a deferral acqui-hire is determined by the opportunity cost of immediately investing in the acquired talent. An increase in the exercise price increases the opportunity cost of committing thereby enhancing the deferral option value. Below we discuss the drivers of the exercise price in the case of acqui-hiring.

**Development Stage of the Technology.** Development costs involve both the direct costs of the acquired talent, i.e. salaries and benefits offered to the founder and the team during their employment period, and the opportunity cost of organizational restructuring resulting from structural integration. Commercialization costs, on the other hand, involve investments in complementary assets, i.e. costs of creating sale, distribution, service and communication

channels (McGrath, 1997). Both of these costs depend crucially on the development stage of the technology offered by the acquired talent. In the earlier stages of technology development, both development and commercialization costs are greater since design variations require extensive experimentation and rework, and the costs of creating complementary assets for a new technology are high. Moreover, to introduce a new technology, the acquirer first needs to communicate the benefits of the technology, form a customer base and train the customers in the new field (McGrath, 1997). Thus, when the technology offered by the acquired talent is at its earlier stages of development, uncertainty regarding the development and commercialization costs will be high leading to an increased exercise price. Therefore, it is likely that the acquirer will benefit from making staged investments assessing the potential demand for the technology and waiting for uncertainties to resolve. Hence, we argue that the deferral option dominates the growth option if the acquired talent is working on a nascent technology. However, if the technology offered by the acquired talent is at its later stages of development, both development and commercialization costs are reduced due to the existence of a dominant design reducing the experimentation and rework necessary and indicating established merits in the marketplace and educated customers (Tushman & Anderson, 1990; McGrath, 1997). In this case, investing immediately may enable the acquirer to quickly offer a new solution and preempt competitors. Therefore, it is likely that the acquirer will benefit more from a growth acqui-hire. Accordingly, we predict:

Proposition 5: The earlier the development stage of the technology offered by the acquired talent, the more likely the value generated by a deferral acqui-hire will dominate the value generated by a growth acqui-hire.

Relatedness of the Knowledge Bases. Another key driver of the exercise price is the cost of structural integration. Knowledge must often be transferred and integrated to realize its full

potential (Grant, 1996b; Kogut and Zander, 1992). Accordingly, to be able to fully transfer the know-how of the acquired start-up and utilize it in developing new solutions, the acquirer needs to structurally integrate the acquired start-up. However, structural integration imposes organizational costs on the acquirer due to its disruptive consequences (Puranam et al., 2009). One of the factors affecting the costs of structural integration is the relatedness of the knowledge bases of the acquirer and the acquired start-up. If the knowledge base of the acquired start-up is unrelated to that of the acquirer, then the organizational costs of integration will inflate the exercise price (Coff & Laverty, 2007). The absorptive capacity argument suggests that the ability to assimilate and use new knowledge is enhanced when the new knowledge is related to what is already known (Cohen & Levinthal, 1990). Sharing a common stock of knowledge facilitates the integration of the acquired and acquiring knowledge bases through common skills, shared languages and similar cognitive structures (Kogut & Zander, 1992; Lane & Lubatkin, 1998). Sakhartov and Folta (2014) argue that resource relatedness not only creates benefits from the synergy generated by combining the two knowledge bases but also from the ability to redeploy resources. While synergy provides sharing benefits due to complementarity in uses of firm-specific resources, redeployability of resources to alternative product markets enables the management to operate flexibly in response to uncertain conditions.

On the other hand, when the knowledge bases of the acquired firm and the acquirer are unrelated, the integration of the knowledge bases can be resource consuming or even counter-productive (Haspeslagh & Jemison, 1991), thus leading to an increased exercise price. The increased exercise price in turn increases the value of waiting to invest until uncertainties are resolved. Folta, Johnson, and O'Brien (2006) assess the effect of target industry relatedness on market entry decisions. They provide evidence suggesting that the value of the option to defer increases when entry into unrelated industries is considered, since the irreversibility of the

investment and the sunk costs associated with the investment, i.e. exercise price of the option, increases. Consistent with their view, we argue that the waiting-to-invest option dominates the growth option when the acquired start-up's knowledge base is unrelated indicating an unrelated diversification. By leaving the team of the start-up autonomous initially and assigning the founder to a low status position in this case, the acquirer will avoid the costs stemming from structural integration of the team and the high status role given to the founder of the start-up, assessing the potential alternative opportunities in the meantime. Accordingly, we predict:

Proposition 6: The more unrelated the knowledge bases of the acquiring and acquired firm, the more likely the value generated by a deferral acqui-hire will dominate the value generated by a growth acqui-hire.

The Not-Invented-Here Syndrome. The presence of the not-invented-here (NIH) syndrome in the acquiring firm also affects the cost of structural integration, and thus the exercise price of the option. The NIH syndrome is a profound negative attitude toward knowledge derived from a source that is perceived as external (Katz & Allen, 1982). The specialized knowledge and expertise together with the ingrained practices and the internal language shared by the employees of an acquiring firm may lead to the NIH syndrome (Cohen & Levinthal, 1990), thereby impeding the incorporation of the acquired firm's knowledge. In the case of acqui-hiring, there are two possible causes for the NIH syndrome. The first one is the presence of a rival in-house project. There may be a group of people within the acquirer working on a project, which belongs to the acquired start-up's area of specialization. These individuals may fear that the incoming team may draw the attention of top management away and even cause the withdrawal of funds from the existing project. The second possible cause is that the acquirer's decision of appointing an acqui-hired founder to a high status role rather than promoting someone from within, can create frustration among existing employees and lead to resistance toward the ideas or solutions

offered by the acqui-hired founder. Thus, the presence of the NIH syndrome within the acquiring firm can render structural integration costly and complicated, thereby leading to an increase in the exercise price. We argue that in this case, the acquirer is likely to benefit more from a deferral acqui-hire by assigning the acqui-hired founder to a low status position and leaving the team autonomous initially to let them learn about the company's culture, processes and projects and see if they can fit in.

On the other hand, NIH syndrome may not be present or its level may be relatively low in some firms. This may either be due to the organizational culture of the firm or specific to an acqui-hire case. For instance, in some cases, the product teams that work on projects related with the acquired start-up's knowledge and expertise are involved in the acquisition decision. In other words, the acqui-hire takes place with their consent. Thus, they are willing to work together with the acqui-hired talent and present no negative attitude toward them. In such cases, structural integration will be easier and less costly and the acqui-hired founder is less likely to face resistance from the existing employees if he/she is given a high status role. Therefore, it is more likely that the acquirer will benefit more from a growth acqui-hire. Accordingly, we predict:

Proposition 7: The higher the level of the not-invented-here (NIH) syndrome in the acquiring firm, the more likely the value generated by a deferral acqui-hire will dominate the value generated by a growth acqui-hire.

## **DISCUSSION & FUTURE RESEARCH AVENUES**

In accordance with its increasing popularity among practitioners, acqui-hiring has started to attract attention in the academic literature. By drawing upon real options theory, this paper aims to identify the different types of acqui-hires and shed light on the mechanisms through which these different acqui-hire types create value for the acquirer. We propose that acqui-hires can be of different types depending on the pacing of the acquirer's investment into the acquired

start-up. In line with real options theory, we present two different types of acqui-hires, namely ‘growth acqui-hires’ and ‘deferral acqui-hires’. We argue that while a growth acqui-hire can create value by providing the acquirer with strategic growth options, a deferral acqui-hire can create value by providing the acquirer with the option to wait to invest until uncertainties are resolved. Discussing the factors affecting the relative values generated by growth and deferral acqui-hires, we identify the situations under which the value generated by one type of acqui-hire dominates the value generated via the other.

Coyle and Polsky (2013) attribute the existence of acqui-hires to the unique social structure and norms of Silicon Valley and argue that acqui-hiring is not a value creating mechanism, but merely a rescue for struggling companies that will not be able to survive another round of financing. Chatterji and Patro (2014), on the other hand, view acqui-hiring as a potentially value creating mechanism that serves as a tool for asset orchestration, but overlook that acqui-hires can be conducted in different ways and how this may affect the value created. In this paper, we challenge Coyle and Polsky’s (2013) argument and extend Chatterji and Patro’s (2014) work through a real options approach. By presenting two different types of acqui-hires in terms of autonomy and status and arguing that each type can create value under different conditions, we also extend the works of Ranft and Lord (2000) and Graebner (2004), who argue that autonomy and status are essential for creating value from technology acquisitions.

We also contribute to the real options literature by applying real options logic to acqui-hiring, which is a human asset investment decision. Moreover, we integrate organizational issues into real options theory by differentiating acqui-hires depending on how they are structurally designed and explaining how these different structural designs can lead to value creation under different conditions using real options reasoning. Although we argue that real options theory can be used to explain how acqui-hires create value for acquirers, there are some organizational

elements such as culture, routines and decision-making processes that affect the investment decisions of acquirers and thus the value generated via the acqui-hires. The effects of these organizational issues can be further investigated in future studies integrating real options theory further with organizational theory.

While we have taken a step to contribute to the understanding of the emerging phenomenon of acqui-hiring with this study, there are still open issues that present promising research opportunities. For instance, venture capitalists are often closely involved in acqui-hire deals. Therefore, venture capital characteristics, such as the network or portfolio diversification of the venture capitalist and the structure of the deal between the start-up and the venture capitalist, may have significant effects on the terms and structure of an acqui-hire deal, which might in turn affect the value created via the acqui-hire.

Another important domain for future research is the examination of the acqui-hiring phenomenon from the start-up's perspective. Extant research dealt with the acqui-hiring phenomenon mainly through the acquirer's perspective, investigating the reasons why they conduct acqui-hires rather than simply hiring the targeted employees of the start-up (Chatterji & Patro, 2014; Coyle & Polsky, 2013). We argue that following Graebner's work (e.g. Graebner and Eisenhardt, 2004) on understanding the seller's point of view, acqui-hires should also be examined from the start-up's point of view to better understand the phenomenon. Real options logic can again be applied in this exercise of examining acqui-hiring from the start-up's perspective. McGrath (1999) argues that entrepreneurial initiatives can be viewed as real options and suggests that they be managed using real options reasoning. In line with this view, we propose that the founder and the shareholders of the start-up make a decision to exercise the option by selling their company to an established firm. Future research could provide insights

into the motivations underlying this decision and the financial gains that accrue to the founder and shareholders of the start-up.

Another question which remains open is to what extent acqui-hiring is a Silicon Valley specific phenomenon. Although Coyle and Polsky (2013) argue that it is almost unheard of outside of Silicon Valley, to the best of our knowledge there is no research looking into whether established high technology firms in Europe, Japan or developing countries acquire small companies with the intention of utilizing their talented human capital. If future studies identify acqui-hiring in other parts of the world, studies comparing acqui-hires across different geographies can help generalize the findings and put forward the differences in practice stemming from cultural, legal or other effects.

In sum, we propose that acqui-hiring presents fruitful research opportunities for scholars of strategic management and hope that this study will prompt future attempts to further contribute to the understanding of the acqui-hiring phenomenon.

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FIGURE 1  
Classification of Studies on Technology Acquisitions

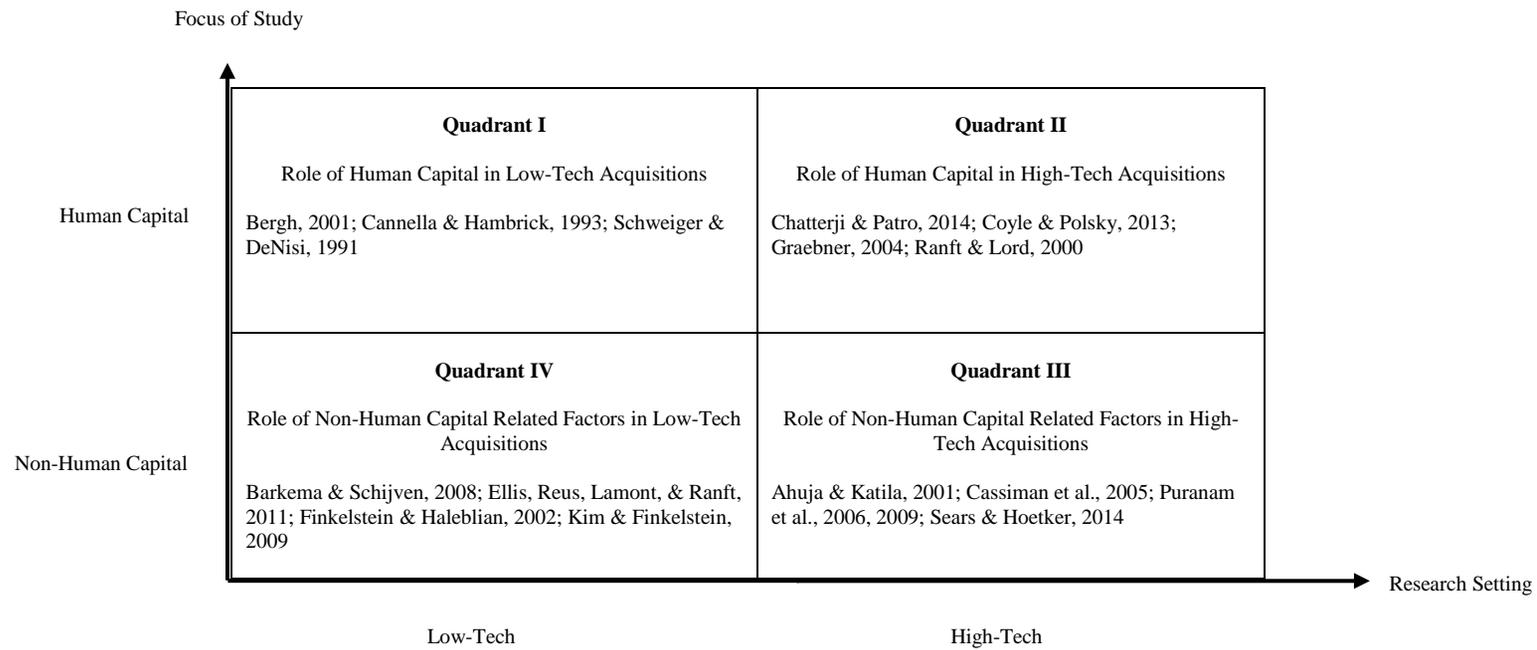


FIGURE 2

Factors Affecting the Relative Values Generated by Growth and Deferral Acqui-hires

