Abstract

Firm-specific human capital (FSHC) has been an integral part of the vocabulary in the Strategy field. Many scholars argue that FSHC inhibits employee mobility, drives employee retention at a discount, value appropriation and firms’ competitive advantage. FSHC also plays a central role in the Resource-Based View of the firm. In recent years, however, a significant debate has emerged on the validity and usefulness of the construct. The purpose of the chapter is to revisit this debate and discuss both challenges and opportunities related to FSHC. In a form of conversation, we take aim at the FSHC from different angles and discuss its role as a mobility friction, in value appropriation of established firms, in the context of transitions between paid employment and entrepreneurship, and in the views of practitioners. While we agree that our understanding of the concept of FSHC must evolve, we continue to see its value in our theoretical toolbox.

Forthcoming in Advances in Strategic Management: Employee Mobility

Keywords: firm-specific human capital, mobility frictions, value creation and appropriation, entrepreneurship.

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INTRODUCTION

Human capital is a central element of modern strategy theorizing (Crook et al., 2011). Becker (1964; 1993) popularized the concept of human capital, defining it as “the knowledge, information, ideas, skills, and health of individuals”. This concept has become embedded in scholarly thought, underpinning a broad array of research questions concerning employee mobility, value creation, value capture, knowledge flows, and many other topics. In addition to attempting to understand the human capital construct across diverse settings such as venture capital (Aggarwal, Kryscynski, & Singh, 2015), entrepreneurship (Hsu, 2007), professional services (Hitt et al., 2001), and the broader labor market (Raffiee & Coff, 2016) one primary focus of the human capital literature has been to categorize different dimensions of human capital based on their scope of applicability. Hence, rich streams of research have arisen discussing general (Datta & Iskandar-Datta, 2014), industry-specific (Neal, 1995), task-specific (Delfgaauw & Swank, 2015), and firm-specific human capital (FSHC).

The central driver of FSHC-based advantages advocated in the traditional research literature concerns the limiting of alternative employment options and thus restricting mobility of employees holding FSHC (Hausknecht & Holwerda, 2013; Tan & Rider, 2017). Simply stated, FSHC is perceived to have lower applicability for other firms—which reduces the ability of employees to switch to new employers without taking a reduction in wages—thus enabling the current employer to extract value from employees’ FSHC over the longer term. This has led to discussions of what unique measures should be taken by firms in knowledge-intensive settings to retain individuals who generate this value (Campbell, Ganco, Franco, & Agarwal, 2012b; Wang, He, & Mahoney, 2009).

While the literature on FSHC has provided valuable insights into how firms can achieve and maintain (or lose) human capital-based competitive advantage (Barney and Wright, 1998; Hatch & Dyer, 2004; Wang, He, & Mahoney, 2009), these insights have been coupled with rigorous and ongoing debates about the nature, boundary conditions, and fundamental usefulness and applicability
of the underlying construct, and whether FSHC results in barriers to mobility (Campbell, Coff & Kryscynski, 2012a; Kryscynski & Ulrich, 2015; Lazear, 1999). As a consequence, there is little in the way of a stable theoretical paradigm, or indeed, even a definition, with regards to FSHC.

In this chapter, we set out to reinvigorate the conversation around the FSHC construct and its implications for employee mobility research. We start with a wide view of the literature in order to facilitate a narrower discussion of FSHC as it applies to different topics. It is our hope that by doing so we can stimulate more conversations around FSHC while aiming toward a generally accepted set of definitions and boundary conditions. We briefly discuss the main criticisms of FSHC research and then survey the current state of the FSHC literature, with respect to the Resource-Based View (RBV)—and value appropriation in particular—including some of the controversies and criticisms surrounding it. We then explore the ways we can extend the FSHC. We focus on the role of FSHC as a potential mobility barrier and an isolating mechanism with implications for value appropriation and transitions of individuals between paid employment and entrepreneurship. Further, we discuss how FSHC scholarship may benefit from a fresh, engaged, research approach.

We believe that this chapter contributes to the strategy literature in multiple ways. First, by bringing together the many disparate definitions of FSHC, we help make headway toward a unified, comprehensive definition with clear boundary conditions. Second, we highlight specific ways in which FSHC impacts the closely related human capital-centric domain of entrepreneurship. Specifically, we provide unique insights into the contrast between firm-specificity and other types of specific human capital in entrepreneurship. In addition, by exploring the ways in which FSHC does (and does not) create value in different idiosyncratic settings, we provide clarity as to the boundary conditions of its impact on employee mobility. Finally, by linking the study of FSHC to Van de Ven’s (2007) “engaged scholarship” research framework we offer a roadmap for scholars to undertake FSHC research that has relevance for both academics and practitioners.
Defining firm-specific human capital

The concept of FSHC represents a material divergence from early managerial theorists who treated human capital as a largely fungible resource (e.g., Alchian & Demsetz, 1972). General human capital (GHC) is conceptualized broadly, ranging from education to personality and cognitive traits (Barrick & Mount, 1991; Lepak et al., 2006; Wright, Dunford & Snell, 2001). This is contrasted against FSHC which is associated with the idiosyncrasies of a particular firm’s tasks, challenges, and workflow that become embedded in employees’ knowledge and skills (Grant, 1996; Liebeskind, Zucker, Oliver, & Brewer, 1996).

The concept of idiosyncratic “types” of human capital, heterogeneous across institutions, is a fundamentally abstract one, and, as such, several definitions of FSHC have been deployed in the strategy, and allied, literatures. To some, FSHC simply “refers to those human resources that are deployable only within a given firm or industry” (Galunic & Anderson, 2000). This definition implies a hard barrier between settings; the resource is not primarily or ideally usable in one setting, but only usable in one setting. A key takeaway from a definition such as this is that there is no value that can be gleaned from using FSHC in the context in which it is not relevant. This definition clashes with that of Campbell et al. (2012a), who define FSHC as “knowledge and skills embodied in individuals that cannot be easily applied in other firms”. While the concept of knowledge embodied in individuals remains the same, this definition eases the barrier between settings, thus allowing for a more nuanced understanding of how FSHC might interact with other resources and environmental forces.

An even broader definition is presented by Mahoney & Kor (2015), who define FSHC as “entail[ing] multiple types of specialized knowledge built over time through interactions among a firm’s employees…and physical, technological, and knowledge-based resources.” FSHC in these authors’ view is more than an individual-level construct; it exists as a co-developed resource between employees, firm resources, and other stakeholders, and accrues with time and experience in a focal
firm. This definition encompasses the behaviors, strengths, and limitations of the people affiliated with a firm, from employees, to founders, to allies, to shareholders (Kor, Mahoney, & Michael, 2007; Kor & Mahoney, 2000). Others have proposed further, more detailed dimensions of FSHC, such as insights from customer interactions and relationships (Greer, Lusch, & Hitt, 2017; Hitt et al, 2001).

These differences, while seemingly minor, have important theoretical impacts, and have colored the way that scholars have interpreted empirical findings and the real-life phenomena underlying the study of FSHC. For example, Huckman & Pisano (2006) argued that a surgeon’s performance improved the more they worked in a given hospital, showing that familiarity with the way a particular organization functions can enhance individual performance. Yet how one interprets this finding depends on the underlying theory; how much hospital-specific knowledge, if any, do surgeons bring with them when they enter a new hospital? Is it the knowledge within the individual what is relevant, or is the surgeon’s relationship with other doctors what drives the observed effect? If it is indeed the latter, one may ask whether relational capital is the same construct as human capital (Mawdsley & Somaya, 2016). Similarly, when human capital acquired in academia is shown to be of lesser use in industry, we must wonder whether this is a result of different complementary resources (e.g., relations or skills/knowledge) or an absolute lack of transferability (Czarnitzki & Toole, 2008).

Criticisms of FSHC research

While several streams of research have examined FSHC, the majority of strategy scholarship about FSHC relies on the RBV due to the seemingly ideal fit between FSHC and the focus on idiosyncratic assets in the RBV. The RBV contends that the resources held by firms are the primary source of heterogeneity in outcomes. These resources generate and sustain competitive advantage by creating high value for the focal firm while remaining unavailable to other firms and being difficult to imitate, at least in the short run (Barney, 1986; Barney & Wright, 1998). Given these resource attributes, FSHC
is more likely generate human capital-based competitive advantage for firms, rather than its general (i.e., less rare, more imitable, and more substitutable) counterpart, due to its ability to both generate superior economic rents (which it is assumed the firm can appropriate) as well as acting as an isolating mechanism by preventing the loss of key employees. Outbound employee mobility is a critical mechanism that can erode the firm’s ability to capture superior rents through reducing appropriable FSHC.

Despite the theoretical attractiveness of the FSHC construct, scholars are challenging the relevance of the theoretical assumptions and findings of the FSHC literature by taking aim at the boundary conditions of how and why FSHC rents can be created. For example, Campbell et al. (2012a) explore the role of labor market frictions that, along with firm specificity, may help to explain heterogeneous outcomes with regard to firms’ use of human capital. They differentiate between frictions that are supply side (i.e., forces which may cause an employee to not make themselves available on the labor market) and demand side (i.e., forces which would prevent the firm from seeking individuals on the labor market). Considering these labor market frictions allow for situations in which FSHC could be valued by firms other than the focal firm, and thus result in more rather than less mobility. Similarly, Chadwick & Dabu (2009) agree that inelastic supply on labor markets may drive FSHC related rents but they also propose additional conditions under which value may be created.

Other criticisms are more fundamental in nature. Early critics of the FSHC literature argued that it undervalued GHC, and that GHC was in fact “valuable” in an RBV sense, by, for example, increasing employee commitment (Galunic & Anderson, 2000). Others argued that actual idiosyncratic firm knowledge tends to be simple and unrelated to firm performance (Chadwick, 2017; Lazear, 2009). Lazear (2009) and Kryscynski & Ulrich (2015) question whether a meaningful link even exists between FSHC and firm performance, arguing that in practice managers are uninterested in the specificity of their employees’ knowledge but only its utility in creating competitive advantage. In addition, they
argue that assumptions in the FSHC literature – such as employees’ presumed ability to determine, ex ante, the value of HC investments and assess their transferability – are unrealistic (Kryscynski & Ulrich, 2015). Similarly, Coff & Raffee (2015) question the ability of individuals to accurately assess their own human capital investments. They note that individuals may inaccurately perceive the degree of specificity of their human capital, but, interestingly, find that that perception may be just as important as the actual specificity.

Concerns about general vs. firm-specific human capital are not confined to arguments over which is more important but can also focus on the complementarity of the two. For example, some scholars have criticized the current crop of FSHC studies for their lack of attention to the interrelated nature of general and firm-specific human capital, arguing GHC can enhance the inimitability of its firm-specific counterpart (Ployhart, Iddekinge, & Mackenzie, Jr., 2011; Sirmon et al., 2007). These critics propose that ignoring synergies may cause GHC to be systematically undervalued (Ployhart, 2015; Schmidt & Keil, 2012). This literature goes as far as to propose that incorporating traditional psychological constructs such as trust in the literature may allow theorists to establish a deeper understanding of the locus of competitive advantage (Ployhart & Moliterno, 2011; Ployhart, 2015).

Arguments against the very concept of FSHC as an “individual level” construct have also gained some traction. Chadwick (2017) criticizes the state of the FSHC literature by arguing that firm level rents from human capital do not come from successfully appropriating value generated by individuals’ FSHC, but actually are due to firm level capabilities that allow firms to leverage their human capital endowments (and related resources) more effectively than other firms. Contrary to Barney’s (1986; 1991) assertion that certain types of human capital cannot be acquired on strategic factor markets, thus driving up their value, Chadwick proposes an alternate scenario whereby human capital is available on strategic factor markets and the firm derives value from its ability to either acquire it at a lower cost than other firms or extract higher than “market value” from it.
Even the list of concerns above is not exhaustive. Scholars have argued that an overt focus on theory, as well as measurement issues, have made FSHC research impractical (Kryscynski & Ulrich, 2015). Others call into question the empirical basis of the phenomenon itself, stating that labor market frictions that supposedly prevent the transfer of FSHC do not exist because value is created by industry and task-specific, not firm-specific, human capital (Sevcenko & Ethiraj, 2018). These arguments fundamentally challenge the role of FSHC as a mobility barrier and a source of value for the focal firm.

Broadly speaking, the FSHC literature is in need of clarity with regards to a) fundamental construct definitions and measurement, b) the boundary conditions and nuances of when firms capture the value generated by FSHC as opposed to individuals, and how bargaining power in this struggle impacts employee mobility, c) its role in knowledge transfer between established firms and startups, and d) considerations regarding the practical applicability of theoretical findings. This article is structured as a conversation between the authors in which we attempt to get at the beginnings of solutions to the aforementioned problems. We structure this conversation as follows: 1) Russ explores the importance of FSHC to the resource-based view and highlights the paradoxes in value capture, (2) Martin explores FSHC in entrepreneurship as a context where knowledge transfer and its barriers are critical drivers of entrepreneurial entry and performance, and (3) John discusses how we should move forward by closing the theory-practice gap. We summarize the main takeaways from the discussion in Table 1.

**FIRM-SPECIFIC HUMAN CAPITAL AND VALUE CAPTURE**

Q. Russ, your most recent work on FSHC is leading the pushback against the theoretical assumptions and implications of traditional FSHC research. Why do you think this is important?
A. A significant focus in the extant literature has been the role of FSHC in value capture. That is, the focal firm is assumed to capture a significant portion of the difference between the use value of workers’ FSHC and their lower value if applied in another firm. While I believe FSHC remains extremely important, value capture is typically not a compelling reason for its significance.

Let us begin with a clear understanding of why FSHC is so critical to strategy theory. Many scholars have argued that resources and capabilities may take the form of FSHC (Coff, 1997; Hatch & Dyer, 2004; Kor & Leblebici, 2005) - knowledge, skills, and abilities that have limited value outside of a given firm. However, this likely understates the central role that FSHC actually plays in the strategy literature. There are at least three reasons that FSHC is fundamental to the resource-based view: 1) the role in creating value capabilities, 2) as an isolating mechanism, and 3) a role in value capture by the firm. Perhaps ironically, value capture may be among the least important of these though it often garners significant attention.

**Absent FSHC, firms are essentially homogeneous**

First, a firm’s unique capabilities typically require valuable and rare *idiosyncratic* knowledge (Barney, 1991) – firm heterogeneity demands FSHC. This is so fundamental that we might be tempted to gloss over it. The most basic foundation of the RBV, and the strategy literature more broadly, is that firms are distinct in their resources and capabilities. It is hard, if not impossible, to imagine that this would not translate to idiosyncratic knowledge and skills. So, at the outset, it is important to acknowledge that FSHC is at the very core of the strategy literature.

Of course, firms may have access to other idiosyncratic resources or capabilities. Imagine a firm that has access to a very productive oil well. This could certainly grant the firm a competitive advantage. However, even in this context, it is likely that there will be idiosyncratic knowledge required to efficiently extract the oil from that particular well. For example, there will be site-specific knowledge
about how to efficiently navigate the terrain or identify where tools and machinery are located. Ultimately, at least some knowledge and skills must be co-specialized to the oil well.

**FSHC as an isolating mechanism**

A second source of importance in the strategy literature is that FSHC may function as an isolating mechanism (Lippman & Rumelt, 1982). Human capital can only serve as a source of a *sustained* advantage if rivals are unable to acquire or imitate the resource. Since FSHC is less valuable to other firms, it is thought to be promising as an ex-post limit to resource mobility (Peteraf, 1993). This assumption is drawn from the classic human capital literature (Becker, 1993; Glick & Feuer, 1984; Hashimoto, 1981; Jovanovic, 1979; Parsons, 1972). That is, FSHC will create a gap between the value of workers’ skills in the focal firm and their value to other employers, resulting in a pay cut should workers decide to move. Conversely, because GHC is highly transferable, workers with such skills can switch employers more easily without enduring a wage penalty.¹

Of course, it should not be assumed that, because valuable skills cannot be easily applied in another context that an advantage will be sustained. If all firms are imbued with portfolios of FSHC, as suggested above, the real question will likely be whether one firm’s FSHC is a viable substitute for another firm’s FSHC. In other words, substitution of idiosyncratic skills may be a more important challenge to a sustainable advantage than imitation of a given unique skillset. Nevertheless, firm specificity may limit the diffusion of valuable capabilities and, in this way, can serve as an isolating mechanism.

**Q. Why is our view of FSHC as a driver of value appropriation by firms eroding?**

**A. The short answer is the heroic nature of the assumptions one must make for FSHC to drive value capture.** As mentioned, another reason why FSHC is thought to be critical to

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¹ Here we use the term GHC to refer to human capital that is not specific to a firm. This includes industry-specific human capital since that is valuable to rivals and thus subject to competitive pricing. This logic also assumes that the use-value of general human capital is homogeneous across firms (Campbell, Coff, & Kryscynski, 2012).
resource-based theory revolves around rent appropriation from human capital (Coff, 1999). The gap in the value of FSHC between the focal firm and the next most valuable deployment implies the firm may be able to retain employees with FSHC for less than their value in use. That is, employees’ next best offer would be lower, and the firm could beat external offers and still capture some of the value created. For example, Bidwell (2011) found that, while external hires tended to have relatively stronger signals of GHC (e.g., education) and were paid significantly more, lower paid internal hires (with FSHC) tended to be more productive on average.

**Information efficiency in the valuation of skills.** Campbell et al. (2012) identify three boundary conditions for when FSHC may operate as an isolating mechanism. Two of these three effectively highlight when a firm might be able to appropriate value from a wage gap between firms. The first of these refer to the efficiency with which FSHC is valued in labor markets: “The exchange value of worker skills and the firm specificity of those skills must be tightly coupled” (Campbell et al., 2012: 382).

While there are some contexts where this is likely to bear out, it entails some rather heroic informational assumptions. Theory regarding the proposed gap requires that other firms can assess firm specificity with reasonable accuracy such that their offers are systematically lower when such skills are present. Given that FSHC is often thought to involve significant tacit knowledge, this type of accuracy seems unlikely. Recent research has explored the possibility that employee perceptions of firm-specific human capital may be subject to imperfect information and biases (Raffiee & Coff, 2016).

Not surprisingly, information efficiency has been relaxed in many prominent labor economics theories (e.g., Spence, 1973) and market frictions play a crucial role in the broader strategy literature (Barney, 1991; Leiblein, 2011; Mahoney & Pandian, 1992; Mahoney & Qian, 2013). Thus, the prospect that informational efficiency might be an implicit assumption regarding FSHC is perhaps a rather salient example of asymmetric assumptions within the strategy literature (Foss & Hallberg, 2014).
Interestingly, human resource practitioners tend to view indicators of FSHC as desirable and might even offer a premium for these attributes (stable employment history, previous employer trusted the worker with valuable proprietary knowledge, the worker focused on important strategic challenges, etc.). Indeed, some have suggested that firms might value prior investments in FSHC as signals that workers will successfully invest in the future (Morris, Alvarez, Barney, & Molloy, 2017). This suggests a rational logic for why such a pay gap might not be evident for those who have FSHC.

**The idiosyncratic value of general human capital.** A second boundary condition identified by Campbell et al. (2012:380) involves how general human capital is valued in labor markets: “The exchange value of workers’ general human capital is less than the use value of workers’ full portfolio of human capital in the focal firm.”

In other words, since firms have idiosyncratic capabilities, a worker’s GHC could be worth more to another firm. This may obviate the fact that the FSHC is less valuable to other firms. Normally it is assumed that GHC is equally valuable to all firms, but this requires that all firms have homogeneous capabilities, which is clearly not the case. Once we acknowledge that firms have unique capabilities, rare general skills may not be equally valuable to all firms. This, of course, eats at the very definition of GHC; what is the meaning of GHC if unique complementarities mean that its value varies across firms?

Q. So do you believe there is a future for FSHC research?

A. There is definitely a future for FSHC research but the focus may need to change. The conditions outlined above suggest that FSHC is essential for value creation. However, they cast doubt on the extent to which it routinely plays an important role in value capture. Effectively, this separates the existence of idiosyncratic knowledge and skills from whether quasi rents are produced (Klein, Crawford, & Alchian, 1978).
So, in what contexts might we expect FSHC to facilitate value capture by firms? The boundary conditions above are instructive. There would need to be clear observable evidence that a given worker’s skills are idiosyncratic to one employer and that one’s GHC is not more valuable to a different firm. In academia, one might consider the small number of business schools that seek and reward case writers. These skills are highly visible and often reduce research productivity (observable GHC). Yet, it is not clear that scholars at these institutions are paid less than at similar schools that do not emphasize case writing. If not in this context, then where might we find that firms capture value from FSHC?

Additional research, then, might fruitfully explore when, if ever, FSHC is associated with greater value capture for the firm. Of course, since we acknowledge that such skills are essential for value creation, this must be controlled in order to isolate the proportion of value created that is captured by the firm.

**DO WE NEED FSHC TO UNDERSTAND TRANSITIONS BETWEEN PAID EMPLOYMENT AND ENTREPRENEURSHIP?**

Q. Martin, some of your research examines the patterns and implications of mobility in an entrepreneurship context. What is the relevance of FSHC for employee entrepreneurship research?

A. The role of specificity of human capital in the context of entrepreneurship is salient when individuals transition between paid employment and entrepreneurship. In the context of employee entrepreneurship, founders and early employees transition from established companies to startups and transfer relevant human capital (Agarwal et al., 2004). This often means removing valuable human capital from established firms and bringing it into a new firm. The concept of specificity of human capital is closely tied to restricting mobility (i.e., it is an isolating mechanism as discussed by Russ) as
specific human capital is (more) valuable in a focal context – being a firm, industry, occupation or relationship (Starr et al., 2018). Since the primary focus of the construct in the context of entrepreneurship is on the transfer of human capital, some forms of human capital specificity are more relevant than others. Industry- and market-specific knowledge has been identified as a critical driver of entrepreneurial success. Founders often transfer relevant knowledge about customers, technologies and managerial practices from established firms to startups (Chatterji, 2009; Campbell et al., 2012; Feldman et al., 2019).

While the transfer of technological knowledge and market knowledge has been central to theorizing about the drivers of entrepreneurial performance (Klepper & Sleeper, 2005; Agarwal et al., 2004; Gambardella et al., 2015), recent work has shown that individuals also transfer organizational practices from established firms to startups (Feldman et al., 2019). Combined with the fact that startups are often founded by teams of cofounders who previously worked together in an established organization (Agarwal et al., 2016), this highlights new insights about the role of human capital specificity in the context of entrepreneurship. Importantly, findings such as the one by Feldman et al. (2019) open research opportunities for FSHC which has been traditionally less of a focal point in this literature. For instance, FSHC is frequently theorized to be an isolating mechanism. As discussed by Russ, knowledge of organizational practices and routines may be a good candidate for human capital that is firm-specific. This is also because such practices and routines are distributed across individuals within the organization and, consistent with the knowledge-based view of the firm – a theoretical view closely related to RBV, no single individual employee has a full knowledge of the practice (Nonaka, 1994; Grant, 1996).

There is a significant causal ambiguity about what makes certain practices work, preventing the mobile employee from implementing such practices successfully in another organization. However, the situation may change if an individual can assemble a team of co-workers who possess
different relevant pieces of the organizational knowledge, and who then move together to create a new organization. Feldman et al. (2019) show that the transfer of organizational routines and practices (and particularly those that have lower causal ambiguity and are more applicable in startups) is common. Consequently, it must be the case that individuals find effective ways of overcoming the barriers associated with the transfer of potentially firm-specific practices. The FSHC of the founder may play a positive rather than a negative role in this process. Recent findings imply that FSHC may be a signal of the motivation and willingness of individuals to accumulate such human capital at a hiring firm (Morris et al., 2017). FSHC may thus enhance attractiveness of the employees to other organizations and increase their mobility.

Similar mechanisms may operate when founders assemble teams of coworkers internally to create entrepreneurial teams. Employees with significant experience and knowledge of an established organization and its practices (and thus high FSHC) may signal their ability and motivation to rebuild such practices in the context of a new organization. This will allow them to “rally” their coworkers to assemble a founding team while overcoming the traditional barriers associated with FSHC. Thus, FSHC that hinders mobility across existing organizations may be less restrictive in the context of entrepreneurship due to the ability of the founder to assemble a team of coworkers and then replicate the previously firm-specific organizational processes when setting up a new firm. Entrepreneurship may thus provide a mechanism through which individuals appropriate value from FSHC. This further erodes FSHC as an isolating mechanism and a driver of value appropriation by the original firm.

This example illustrates that the role of FSHC may be nuanced in the context of startup formation. FSHC that serves as an isolating mechanism for mobility to other established organizations, may not have this property once we allow for replication of firm structures and processes that give rise to firm-specificity. These arguments are consistent with recent work maintaining that what we
traditionally conceptualize as FSHC may essentially be task-, occupation- or industry-specific human capital (Sevcenko & Ethiraj, 2018; Starr et al., 2018).

Q. **Entrepreneurship researchers often face empirical challenges, for example, in regards to collecting data that allow the testing of predicted mechanisms through appropriate measures. Do we see the same issues in FSHC research?**

A. Reliable measurement and estimation of the effects of human capital specificity are very important for the usefulness of theorizing. In the context of entrepreneurship, specificity has been traditionally proxied by whether (and for how long), an individual works in a focal industry, occupation or a focal firm. If the underlying construct that we try to proxy is the transferability of human capital, then this proxy is relatively crude. Some scholars measure the specificity with its outcomes such as the observed mobility patterns (Starr et al., 2018). Such measures can then be used to predict individual and firm performance outcomes. While this approach is potentially closer to capturing the manifestations of the human capital specificity, it requires rich data. It is often difficult to carefully separate firm-, industry-, occupation-specific and general human capital. This is because we need to observe enough mobility events across firms, industries and occupations to have reliable estimates.

It is also interesting to think about the practical relevance of human capital specificity concepts and theories. While managers do not use the language and labels used in the academic literature, the questions related to employee retention, transfer of human capital and value appropriation are highly relevant to them. In the field of non-compete agreements, which create within-industry mobility frictions with effects like those emerging from firm-specificity (Starr et al., 2016, 2018; Marx et al., 2009), there is a significant debate among managers and policymakers about their usefulness. Some states abandoned them long ago (i.e., California), while others have either strengthened (Wisconsin, Florida) or weakened them (Massachusetts, Hawaii). Our research on human capital specificity is relevant to these debates. One of the implications of my work with Evan Starr and Ben Campbell
is that one-size-fits all approaches are problematic and it may be useful to start thinking about
non-competes and their effects in the context of occupations and industries.

Q. Is there a future for FSHC research in an entrepreneurship context?

A. While FSHC may continue to play a less prominent role relative to other forms of specific
human capital in explaining entrepreneurial phenomena, there are several questions where utilizing
the notion of firm-specificity may be critical for our understanding of human capital-related
phenomena. If we pay enough attention to the nuances of FSHC and build on the recent work, FSHC
may become even more valuable construct in the context of entrepreneurship than it has been in the
past. Such opportunities exist when studying the mobility, emergence of founding teams and value
appropriation from specific human capital through entrepreneurship. Such efforts may require new
datasets and refinement of our measures. Importantly, it will be interesting to see how the field wrestles
with the boundaries between different forms of human capital specificity.

LINKING THEORY TO PRACTICE: ENGAGED SCHOLARSHIP AND SOME
FUTURE DIRECTIONS

Q. John, some of your work relates to employee mobility but is less focused on the role
of FSHC per se. How would you define FSHC?

A. I perceive FSHC as the Knowledge, Skills, and other Attributes (KSA’s) held by a worker that create
highest value when applied in the firm in which they were developed. From a theoretical perspective, this
straightforward definition is attractive due its alignment with a resource-based approach to
understanding firm competitive advantage that Russ discussed earlier. It is also sufficiently flexible to
allow the (imperfect) transferability of FSHC to other contexts. The issue I take with FSHC research
is from a practically relevant perspective. While some FSHC— however defined—may generate, in
some cases, higher value than GHC (which is logical when firms actually require firm-specific
knowledge), the idea an employee may resist taking on FSHC (or that they even have a choice to resist) in case he or she experiences lower subsequent wages or barriers to future mobility is probably disconnected from reality, in most contexts. So, the definition of FSHC is less important; how the definition is applied, asking research questions that are relevant, and being able to construct appropriate measures are more critical aspects of FSHC research.

While defining FSHC in terms of KSA's is relevant, the intangibility of KSAs present measurement challenges. There is no balance sheet detailing the level of FSHC held by an employee, the value FSHC creates relative to GHC and how value created by FSHC is shared between firm and employee. This is clearly problematic when attempting to draw conclusions from specific attributes of employees’ human capital. More fundamentally, however, the extant FSHC research suffers with addressing practically relevant research questions, resulting in a theory-practice gap (Krycsynski & Ulrich 2015). When seeking to define a way forward, it seems that scholars need to define the different firm-specific KSA’s that have the potential to create superior value, find ways to measure them, understand that the same KSA may not create the same value across all employees in the same firm, and address research questions that are grounded in reality. These issues are noted above, but tackling only one at a time can leave the field open to the same criticism of extant studies; for example, the benefits of finding a way to accurately measure KSA’s are lower if the research question of the study lacks meaning to managers. Similarly, studies with relevant research questions but without adequate data for precise measures are at risk of being criticised on the grounds of construct validity and for lacking rigor.

Q. Do you see a way forward for FSHC research, particularly in light of its apparent lack of relevance and appeal to managers?
A. The theory-practice gap is not unique to FSHC research but that doesn’t mean we can’t do better. We need to get closer to the context; what are managers most concerned about in respect of creating value from, and retaining, their most valuable employees (and what are they not)? And what’s the role of FSHC? In other words, scholars may produce more impactful research when they set the starting as learning about critical issues from managers. It’s about increasing engagement between theory and practice.

To advance FSHC scholarship by generating new insights and closing the theory-practice gap, research may need to adopt a fresh approach. Some of the earlier comments from Russ and Martin actually allude to this. For example, Russ notes the need for observable evidence of firm-specific skills that influence value appropriation. Martin echoes Russ’s comment noting the need for rich data but also the need for caution in applying a one-size fits all approach. I suggest the engaged scholarship approach of Van de Ven (2007) as a means through which scholars can break free from the “status quo” of traditional FSHC theory and deliver practically relevant research. Engaged scholarship involves researchers collaborating with key stakeholders, such as managers, at all stages of the research process to learn about critical issues managers face, implement appropriate research designs to investigate those issues, and produce scientific knowledge that has clear implications for both academia and practice. It is a “problem solving activity…[that focuses on] linking research findings back to the problem observed in the practitioner and scientific communities” (Van de Ven, 2007: 24). Engaged scholarship involves four distinct collaboration stages where researchers collaborate with stakeholders (see Van de Ven, 2007: 30): (1) Problem formulation – ground the research problem and question in the real world; (2) Theory building – develop or select a conceptual model that addresses the problem as it exists in a particular context; (3) Research design and conduct – gather empirical evidence to compare
plausible alternative models that address the research question: (4): Problem solving – communicate and apply the research findings to solve the research question about the problem existing in reality

Q. Conceptually, the engaged scholarship approach seems an interesting approach but does the parsimony of the framework limit its usefulness in practice. Can it really help scholars to close the theory-practice gap?

A. If applied correctly, I believe so. It might not be the silver bullet that addresses all issues related to FSHC research, but understanding what happens in the real world and asking practically relevant research questions would already be a step in the right direction. As Russ underlines in his work with Joe Raffiee, there’s a definite problem (in terms of traditional FSHC theory) when managers and employees do not even understand what FSHC is, never mind how it might affect value appropriation and mobility options.

Applied to FHSC, engaged scholarship would encourage scholars to conduct contextual research with the aim of redefining FSHC theory and extending our understanding of fundamental FSHC research questions in modern society. For example;

1. What does FSHC mean for managers of firms in different firms or different economic sectors? How would firms define and measure FSHC in their own business? How does FSHC create (or destroy) value and is it important for mobility?
2. What is the relevance of FSHC within new organizational forms, such as bossless organizations and the “uberization” of services traditionally provided by employees in a single firm? What does this mean for FSHC, value creation and appropriation, and mobility?
3. What are the complementarities between FSHC and relational capital in terms of value creation, appropriation, and mobility?
   a. Can we consider human and relational capital as separate constructs (Mawdsley & Somaya, 2016)?
b. How do managers think about human capital and relational capital? If FSHC impedes mobility (cf. Campbell et al., 2012), can external or internal relational capital dampen these mobility barriers?

c. Can the availability of relational capital opportunities provide an incentive for employees to (knowingly) take on FSHC if the conduit to accessing relational capital was through some firm-specific channels or business processes? What are some boundary conditions?

4. Are there real cases whereby firm specificity is a result of specific combinations of general skills (Lazear, 1999)? Is this observed in reality? What are the implications?

CONCLUSION

The objective of our chapter was to revisit the recent debate on the relevance of FSHC in the strategy literature, providing a succinct overview of the literature, while focusing on the different definitions of FSHC and discussing key insights and pushbacks associated with the construct. We aimed to stimulate a renewed interest in FSHC and provide a more comprehensive and nuanced view of a construct that is critical in understanding issues such as value capture, employee mobility, and knowledge transfer in entrepreneurship. In the form of a conversation, we tried to shed light on FSHC from several angles. We focused on the boundary conditions related to value capture (Russ). FSHC is a critical ingredient explaining firm heterogeneity, but it is unlikely to operate independently of other drivers of firm heterogeneity. We maintain that our theories need to view FSHC enmeshed with other firms’ resources and capabilities such as general human capital. Theorizing about FSHC on its own may not be enough to explain value capture, employee mobility and observed patterns in the factor markets. Importantly, FSHC, in orchestration with other resources, is underappreciated as a source of value creation rather than value capture.
Further, we look at FSHC from the angle of employee mobility via entrepreneurship (Martin). In the context of the employee entrepreneurship literature, industry-specific human capital plays a more significant role than FSHC because the transfer of human capital across firms is salient when explaining the entrepreneurial performance. However, we discuss how recent studies that view FSHC not in isolation but rather as embedded in the assembly of resources that give rise to firm’s value creation/capture provide potential opportunities for entrepreneurship research.

Finally, we think about the connections between FSHC and practitioner views (John). We maintain that, while FSHC is a construct grounded in academic theorizing, it provides insights valuable to strategy practitioners. Importantly, we delineate a potential path for making such connections more evident while calling for more engagement of strategy scholars in problems related to FSHC that are also relevant to practitioners.

In summary, we continue to see FSHC as a valuable construct in our theoretical toolbox. We are excited to see that the literature on FSHC is starting to go beyond treating the construct in isolation. This opens promising avenues for future research. Our conversation chapter hopes to stimulate new research that embraces such different facets of human capital and their role in improving the performance of individuals, firms and markets, as well as understanding how and why individuals move (or do not move) between firms.
REFERENCES


doi:10.1002/smj.2267


doi:10.1287/orsc.2014.0937


Table 1 Summary of extant approaches and research opportunities related to FSHC in the context of mobility and entrepreneurship.

<table>
<thead>
<tr>
<th>Research Question</th>
<th>FSHC and value capture due to mobility frictions</th>
<th>Transition between paid employment (context in which FSHC was created) and entrepreneurship.</th>
<th>Applicability of FSHC in managerial practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevant “view” of FSHC</td>
<td>Human capital that is less useful outside of the firm in which it was created.</td>
<td>The usefulness of human capital outside of the firm in which it was created may depend on the destination (i.e., startup vs. established firm).</td>
<td>FSHC may manifest itself when pay differentials are present, or when employees stay due to lack of comparable outside options.</td>
</tr>
<tr>
<td>Traditional concepts and mechanisms</td>
<td>FSHC as an isolating mechanism (by restricting mobility), source of competitive advantage</td>
<td>Other forms of human capital specificity are more important in explaining entrepreneurial phenomena.</td>
<td>Employee retention at a discount, use of positive and negative incentives to retain valuable human capital and prevent mobility.</td>
</tr>
<tr>
<td>Recent advances</td>
<td>FSHC as a signal of quality, perceptions and the underlying FSHC may differ.</td>
<td>What previously was thought of as FSHC may be industry- or task-specific human capital.</td>
<td>Thinking about FSHC is not “natural” for practitioners. Perceptions of FSHC may differ from theoretical understanding.</td>
</tr>
<tr>
<td>Measurement</td>
<td>Knowledge of idiosyncratic processes in a focal firm.</td>
<td>Mobility patterns across different contexts.</td>
<td>Observed employee behavior.</td>
</tr>
<tr>
<td>Future research opportunities</td>
<td>Complementarity between FSHC and general human capital, role of FSHC in value creation.</td>
<td>The role of FSHC in entrepreneurial team assembly, value appropriation from FSHC through entrepreneurship.</td>
<td>Interactions with stakeholders and engaged scholarship, role of relationships.</td>
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