Journal of Business Research 67 (2014) 2473–2479

Contents lists available at ScienceDirect

Journal of Business Research

Core employee based human capital and revenue productivity in small firms: An empirical investigation

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ARTICLE INFO

Article history:
Accepted 1 February 2014
Available online 10 May 2014

Keywords:
Human capital
Task-specific
Firm productivity
Small business

ABSTRACT

The human capital of a firm, as manifested by the experience and education of its workforce, represents a key resource that improves firm productivity. The current study proposes that task-specific experience is a significant organizational resource for small firms seeking productivity. Utilizing objective data from 1572 core-employees representing 100 small firms in two different industries, this study examines how two types of experience (task-specific and firm-specific) interact with education to influence firm productivity. Results show that the relationship between task-specific experience and productivity is stronger in firms with higher levels of core employee education than in firms with lower levels of core employee education.

1. Introduction

According to the resource based view of the firm, resources that are valuable and rare can provide a firm with a competitive advantage (Barney, 1991; Peteraf, 1993; Wernerfelt, 1984). Human capital is considered a valuable resource that is specific and inimitable and that helps firms sustain their competitive advantage. A firm's human capital comprised of the knowledge and skills accumulated by employees through education and experience can be considered a key contributor to a firm's capabilities (Chena & Huang, 2009; Coff, 2002; Leonard-Barton, 1992).

Since human capital indicates a firm's skill based capabilities (Levy & Sharma, 2010), it may also explain why some firms perform better than others (Kor & Leblebici, 2005). Accordingly, numerous empirical studies have examined the link between firm level human capital and performance (Crook, Todd, Combs, Woehr, & Ketchen, 2011). This stream of research is mostly restricted to large firms (Sels et al., 2006). While the human resource management literature generally focused on employee level human capital and its link with individual outcomes such as compensation and individual productivity (Ployhart & Moliterno, 2011; Schmidt & Hunter, 1998) and on the practices that can acquire and develop the human capital, it largely ignored the human capital as the firm-level resource itself (Wright & McMahan, 2011). Entrepreneurship and small business literature, on the other hand, examined hypotheses grounded on human capital theory (Haber & Reicheil, 2007; Shrader & Siegel, 2007) by focusing entirely on the human capital of the owners and/or top managers (Rauch, Frese, & Letsch, 2005). Hence, a potential weakness of this stream of research may arise from its focus on the owners'/founders' human capital (for a review, see Unger, Rauch, Frese, & Rosenbusch, 2011) and not on employee based human capital. Unger and associates suggest that “if the dependent variable reflects firm-level performance, human capital may be better assessed at the level of the firm and should, thus, examine the human capital level of the employees” (Unger et al., 2011, p. 354).

In response to the above discussed gaps in human capital research, we focus on core employee based human capital in small firms and examine how different forms of human capital interact to influence firm productivity. As a result of this focus, our research makes several unique contributions. First, we capture small firms' human capital derived from firm employees. This is distinct in relation to both small firm literature and traditional human resource literature. Whereas, small firm entrepreneurship literature captures human capital of owners/top management and traditional HR literature focuses primarily on employee human capital in large firms. Second, we use existing small businesses as our sample. Finally, while most research on employee based human capital focuses primarily on individual outcomes, we differentiate in this paper by operationalizing our theory at the firm level.

To do this, we develop specific hypotheses predicting small firm productivity. To test our hypotheses, we draw upon a rich set of proprietary data from small firms in the technology and financial services sectors. Finally, we conclude with a discussion of implications, limitations and recommendations for future research.

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http://dx.doi.org/10.1016/j.jbusres.2014.03.007
0148-2963/

2. Theory and hypotheses

An organization's human capital is often conceptualized as general and specific knowledge and skills of people within the organization. Typically, human capital is accumulated through education and work experience (Lucas, 1988). Human capital theory posits that employees with superior human capital such as higher levels of education and experience will achieve more desirable outcomes by being more productive (Becker, 1964).

The resource-based view of the firm posits that superior firm performance can be achieved by possessing resources that are valuable, rare, and inimitable (Barney, 1991, Wernerfelt, 1984). Researchers with this view have argued that an organization's human capital is a valuable and inimitable resource which is important for a firm's competitive advantage and performance (Huselid, 1995). This is because human capital is socially complex and often the most unique intangible resource of an organization (Black & Boal, 1994; Hitt, Bierman, Shimizu, & Kochhar, 2001). Accordingly, the resource-based view has often been used as the basis for describing the relationship between an organization's human capital and performance (Carpenter, Sanders, & Gregersen, 2001). Superior human capital attributes such as formal education and experience are found to produce higher firm-level outcomes (Finkelstein & Hambrick, 1996; Pennings, Lee, & van Witteloostuijn, 1998; Sherer, 1995).

While human capital is generated at the individual-level (Becker, 1964), its importance as an organization-wide critical resource comes from the collective accumulation of individual human capital (Faraj & Sproull, 2000). Consistently, organizational level human capital is defined as the aggregate knowledge, skills, and other abilities of an organization's workforce (Ployhart, Weekley, & Baughman, 2006). Prior research has defined a firm's human capital as an average of its individual human capital (Bingley & Westergaard-Nielsen, 2004; de Grip & Sieben, 2005; Hitt et al., 2001; Hoffman, Williams, Lamont, & Geiger, 2000). Thus, studies that examine the influence of human capital on firm performance on the basis of the resource-based view of the firm should benefit by focusing on the firm's employee based human capital.

2.1. Core employee based human capital in small business productivity

Since a firm's human capital can be conceived as the productive capacity of its people (Buchholtz, Ribbens, & Houle, 2003), developing and maintaining employee based human capital are critical for improving productivity. Past studies have demonstrated that organizational human capital can be captured by aggregating (often by averaging) employee human capital (Bingley & Westergaard-Nielsen, 2004; Hitt et al., 2001). Yet, a significant issue is whether all employees in an organization should be included as part of an inimitable and rare resource that creates competitive advantage for the firm.

Research suggests that firms invest in employees that work on core activities that are likely to be needed over time, are required for developing firm-specific skills and are difficult to monitor (Masters & Miles, 2002). Similarly, core employees can be defined as those that perform a company's core operations (Atchison, 1991). Prahalad and Hamel (1990) considered core employees to be more tightly tied to organizational competencies than other employees. Accordingly, the role of core employees (employees working on core activities) in a firm's competitiveness becomes an important subject (Lopez-Cabrales, Valle, & Herrero, 2006). Hence, human capital based on core employees can be significantly linked to a firm's competitive advantage and productivity.

Core employee based human capital is particularly important for small businesses in their quest to survive and compete with their larger counterparts. Small businesses usually have limited resources which necessitate efficient management of these resources to sustain competitiveness (Schneider & Lenzelbauer, 1993). Given that larger firms usually have better access to capital and technology, small firms must focus on their human capital in order to remain productive and competitive. However, both the popular press and scholarly research on small business suggest that the task of attracting and retaining talented employees is more difficult for small businesses compared to their larger counterparts (Gilbert & Jones, 2000; Hornsby & Kuratko, 1990; Kotey & Sheridan, 2001; McKee, 1991). Published research estimates that small firms lose about a tenth of their workforce each year (Tarasco & Damato, 2006). Accordingly, the availability of experienced employees can be considered as a rare resource particularly for small firms. Hence, the level of a small firm's employee based human capital is a significant resource that is rare and valuable for performance. Therefore, human capital is particularly critical for small business performance.

2.2. Forms of human capital

Human capital is often categorized in the literature as either general or firm-specific and measured as the extent of education and experience. For instance, formal education is considered general human capital, whereas, work experience in terms of tenure at the current firm is considered firm-specific human capital. Higher levels of general human capital attained through advanced education permit employees to be productive in performing jobs requiring knowledge of difficult and abstract concepts (Feeny & Wilcocks, 1998). Past research found support for a positive relationship between general human capital, such as level of education and productivity (Becker & Lindsay, 1994; Feeny & Wilcocks, 1998).

While general human capital is transferable with the movement of employees between firms, firm-specific human capital is not entirely transferable. The extent of an employee's firm specific experience (experience that contributes to firm-specific human capital), will make the employee less productive in another firm (Hatch & Dyer, 2004). Similar logic can be applied to employees' movements between different jobs within a firm for their task productivity. Past research suggests that work experience within a firm can be considered as task-specific based on the current job or based on all prior jobs (Balmaceda, 2006; Clement, Koonce, & Lopez, 2007). Accordingly, we conceptualized human capital based on experience within a firm as task-specific (based on the current job) and firm-specific (experience based on all prior jobs).

Employees gain task-specific human capital through performance of specific tasks germane to their current job settings within the firm (Zarutskie, 2010). Research suggests that the task-specific value of the human capital will be at least partially lost when employees move between jobs (Gibbons & Waldman, 2004). For instance, a loss of task-specific human capital would occur if an employee serving as an End User Computing Specialist, whose main tasks involved providing solutions to computer problems of customers within a firm, was promoted to the job of Help Desk Manager where he or she is now primarily responsible for the prioritization and coordination of reported problems as well as providing overall direction of the help desk staff. Thus, task-specific human capital developed with tenure in the current job enhances job-specific skills and expertise, but firm-specific human capital based on experience in prior jobs is less applicable to current tasks (Clement et al., 2007; Harris, Kacmar, & Carlson, 2006). Arguably, long tenure in a firm can come from employees occupying multiple jobs that may not be directly relevant for the current job.

Therefore, task-specific experience and firm-specific experience can be conceptualized as two different forms of experience. With an increase in employee tenure in the current job, task specific experience can augment job-specific skills and expertise (Gathmann & Schoenberg, 2010; Zarutskie, 2010). As Adam Smith (1776) suggested, repeated exposure to each task of the current position makes an employee more productive in that position through learning by doing (Mouw & Kalleberg, 2006). Therefore, a small firm's task-specific human capital increases its productivity as workers become more expert and proficient at performing their current tasks through repetition (Gibbons & Waldman, 2004; Levitt, 1972).