Non-founder human capital and the long-run growth and survival of high-tech ventures

Josh Siepel\textsuperscript{a,b,∗}, Marc Cowling\textsuperscript{b}, Alex Coad\textsuperscript{a,c}

\textsuperscript{a} SPRU, University of Sussex, UK
\textsuperscript{b} University of Brighton, UK
\textsuperscript{c} JRC-IFIS, European Commission, Seville, Spain

\section*{ARTICLE INFO}

Keywords:
- Long-run performance
- Growth
- Survival
- Non-founder human capital
- NTBF
- Threshold theory
- Entrepreneurial exit
- Firm aging

\section*{ABSTRACT}

This paper considers the impact of non-founder human capital on high-tech firms’ long-run growth and survival. Drawing upon threshold theory, we explore how lack of access to complementary skills at different points in the life course impacts founders’ thresholds for exit. We examine these factors using a unique longitudinal dataset tracking the performance and survival of a sample of UK high-tech firms over thirteen years as the firms move from youth into maturity. We find that firms that survive but do not grow are characterized by difficulty in accessing complementary managerial skills in youth, while firms that grow but subsequently exit are characterized by shortfalls of specialized complementary skills during adolescence. Firms that grow and survive do not report skills shortfalls. We discuss the implications of these resource constraints for entrepreneurs’ decisions to persist or exit through the life course.

\section*{1. Introduction and key literature}

There is a sizeable body of literature on human capital in high-tech firms (Westhead and Cowling, 1995; Aspelund et al., 2005; Colombo and Grilli 2005, 2010; Ganotakis 2012; Delgado-Verde et al., 2016) but, in line with the widely prevalent ‘upper echelon’ theory (Hambrick and Mason, 1984), nearly all of this literature has focused on the role of founders, CEOs or top management teams. This paper draws from a diffuse but growing body of research on the role of non-founder human capital (Smith et al., 2005; Klaas et al., 2010; De Winne and Sels, 2010; Andries and Czarnitzki, 2014). While founders are clearly important, this paper aims to provide a counterpoint to ‘upper echelon’ approaches by arguing that the ability to access these workforce skills plays a crucial role in shaping the growth and survival prospects of a firm as it progresses through its life course.

This study’s examination of the relationship between non-founder human capital and performance is also informed by recent criticism of the use of single measures such as survival, employment growth, or sales growth (Miller et al., 2013; Coad et al., 2016a). Indeed, research on ‘growth’ and ‘survival’ shows that these terms should not be considered in isolation. For instance, many companies may survive for years without generating meaningful economic growth (Nightingale and Coad, 2014; Brown and Mason, 2014). Meanwhile, the growing body of literature discussing entrepreneurial exit explores the multitude of reasons why firms may shut down for reasons that are not immediately associated with ‘failure’, such as retirement or the availability of attractive opportunities for the entrepreneur elsewhere (Wennberg et al., 2010, 2016; Coad, 2014; DeTienne et al., 2015; Luzzi and Sasson, 2016). This has been conceptualised in Gimeno et al. (1997) and DeTienne et al. (2008), who consider entrepreneurs’ thresholds for exit and argue that a range of personal and environmental factors may increase or lower an entrepreneur’s willingness to persist with their business despite poor performance. This paper builds on this work to consider the role of access to different sources of human capital on firms’ tendency to persist despite low growth, exit despite high growth, or thrive by continuing through high growth.

A firm’s likelihood to persist, exit or grow is significantly informed by the stage of the life course in which the firm is observed. The firm aging literature (Henderson, 1999; Sorensen and Stuart 2000; Thornhill and Amit 2003) demonstrates the range of challenges that firms face as they progress from new firms, into ‘adolescence’ (see Aspelund et al. (2005), Courderoy et al. (2012) on new technology based firms, or NTBFs), and on into maturity. As firms age they face different requirements for human capital, investment (financial capital) and market challenges. These changing demands of the life course have significant implications on entrepreneurs’ threshold for exit, as does entrepreneurs’ ability to access resources such as workforce skills. This paper sets forth a model linking skills, threshold theory and firm aging,

\textsuperscript{∗} Correspondence to: SPRU, Jubilee Building, University of Sussex, Brighton, East Sussex BN1 9SL, UK.
E-mail address: j.siepel@sussex.ac.uk (J. Siepel).

http://dx.doi.org/10.1016/j.technovation.2016.09.001
Received 27 July 2015; Received in revised form 16 September 2016; Accepted 25 September 2016
Available online xxxx
0166-4972/ © 2016 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/).
in which it argues that inability to access certain types of human capital at a particular time in a firm’s life course may have significant long-term consequences on its performance and/or survival. In particular, it argues that while founders themselves may have sufficient human capital to keep firms from failing, lack of non-founder managerial capital in initial phases of the life course lowers these founders’ threshold for acceptable returns required not to exit. Consequently founders accept suboptimal returns instead of exiting the market. Conversely, the paper argues that among firms that have shown higher growth, lack of specific managerial capital later in the life course means that founders may choose to exit rather than continue their successful businesses.

The paper tests this framework on a unique longitudinal study of UK high-technology ventures (also sometimes referred to as New Technology Based Firms or NTBFs), which allows the tracking of firms from their early stages through to adolescence and into maturity over a period of over thirteen years. It uses a performance measure combining growth and survival that allows for the identification of factors associated with a firm’s persistence, exit or ongoing thriving. The results suggest that perceived shortfalls in key complementary human capital have different consequences though the life course of the firms, with shortfalls in early stages having a long-term effect on firms’ performance.

Consequently this paper makes three main contributions: firstly it demonstrates the importance of workforce human capital to firm performance. It shows that access to these forms of human capital is a prerequisite to growth, and lack of this human capital at key intervals can have a permanent limiting effect on firm performance. Second, it links access to these types of human capital to the entrepreneur’s decision to persist with a low performing firm or exit. In doing so this paper argues that inability to access key complementary resources shifts the entrepreneur’s ambitions over time, leading them to accept poor performance or exit despite good performance. Finally it shows how the aging process changes the demand for human capital and shapes the entrepreneur’s decision to persist or exit. This study tests one implication of Dahl and Klepper’s (2015) on hiring practices of new Danish firms suggests that employees are effectively sorted by ability, with higher quality employees being paid higher salaries by more resource-endowed firms that have shown higher growth levels and prospects of survival. This finding has been supported by Sommer et al. (2016), who find that perceived innovativeness of a firm makes the firm more attractive to potential employees. This study tests one implication of Dahl and Klepper’s (2015) work, which is that firms that are unable to access key skills in early stages will be likely to show lower levels of performance and survival over the long-run.

2.2. Growth ambitions, access to resources and survival

A firm’s survival is predicated on the founder or manager’s desire to continue the business, and consequently this fundamental decision has been highlighted throughout the literature in a number of ways. This paper’s particular focus relates to how this decision evolves over time. The selection model of Jovanovic (1982) highlights that low expectations for firm performance and higher paying options outside the firm will lead firms to exit. This broad expectation is not necessarily empirically demonstrated, as there are many firms that perform poorly yet remain in operation (Ruhanka et al., 1992; van Witteloostuijn, 1998; Nightingale and Coad, 2014). Gimeno et al. (1997) explored the question of why some businesses survive while others with similar (or superior) resource endowments do not, and ultimately argued that firms (and more specifically entrepreneurs and managers) have a performance threshold that must be met for the firm to remain in business. In particular, entrepreneurs with higher levels of human capital and opportunities for work in alternate jobs are less likely to tolerate lower levels of economic performance, whereas entrepreneurs with lower levels of social capital but higher levels of psychic income (that is, intangible returns to the job) are likely to tolerate poor performance and thus survive. More recent work by DeTienne et al. (2008) builds on those findings by identifying a number of factors that lead entrepreneurs to increase their commitment to a venture despite poor performance, including market opportunities, personal investment, personal options, previous organizational success and perceived collective efficacy of the organization.

Key to entrepreneurs’ decisions to persist is the growth ambition or reference point that entrepreneurs have for their business (Kahneman and Tversky, 1979; Stewart et al., 1999; Westhead and Grilli, 2005). Entrepreneurs’ growth ambitions are shaped by a range of demo-
دریافت فوری متن کامل مقاله

امکان دانلود نسخه تمام متن مقالات انگلیسی
امکان دانلود نسخه ترجمه شده مقالات
پذیرش سفارش ترجمه تخصصی
امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
امکان دانلود رایگان ۲ صفحه اول هر مقاله
امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
دانلود فوری مقاله پس از پرداخت آنلاین
پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات