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No particular action needed? A necessary condition analysis of gestation activities and firm emergence

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A B S T R A C T

Nascent entrepreneurs' gestation activities are crucial for firm emergence. Compelled by a partial understanding of these activities as *sufficient* conditions, however, scholars drifted into a wild-goose chase to track down increasingly complex activity configurations. No study has ever examined gestation activities as *necessary* conditions for firm emergence – i.e., whether the absence of any particular gestation activity precludes firm emergence? We use the harmonized PSED dataset across four countries (N = 3537) to present a Necessary Condition Analysis (NCA) of gestation activities. Challenging deep-rooted assumptions on the role of entrepreneurial action, our findings extend the literature on the emergence of new firms.

1. Introduction

"What do entrepreneurs do when starting up businesses?" is a research question that has occupied entrepreneurship scholars for years (e.g. Gartner, 1988; Carter et al., 1996). The assumption that entrepreneurial action is a crucial building block in the emergence of new firms has become central for our understanding entrepreneurship (e.g. McMullen and Shepherd, 2006; Autio et al., 2013; Dimov, 2011; Klein, 2008; Venkataraman et al., 2012). Yet, next to bold declarations that *"entrepreneurship requires action"* (McMullen and Shepherd, 2006: 132), even scholars that recognize entrepreneurs as the active element in new venture creation often wonder about *"just what is it that they do?"* (Baron, 2007: 168). Consequently, a number of large international research projects – generally known as panel study of entrepreneurial dynamics (PSED) – have attempted to understand entrepreneurial action through investigations of gestation activities – different behaviors commonly taken by nascent entrepreneurs during their startup processes (e.g., doing initial market research, setting up a cofounding team, asking for funding) (Gartner et al., 2004; Reynolds et al., 2005; Gartner and Shaver, 2012; Davidsson and Gordon, 2012; Reynolds, 2016a).

Despite conventional wisdom and broad scholarly agreement that gestation activities do matter, empirically speaking, the jury is still out on the relative importance of each individual activity, as well as how complex configurations of gestation activities shape entrepreneurial outcomes. Scholars have even started to explore certain patterns and timing issues around constellations of activities, but again, without clear results accumulating across studies (e.g. Liao and Welsch, 2008: Gordon, 2012; Reynolds, 2016a). In sum, prior research seem to have reached an empirical dead-end in trying to identify gestation activities as sufficient conditions for firm emergence, that is – we still don't know what complex combinations of single conditions are more likely to explain firm emergence (e.g. Lichtenstein et al., 2007; Gartner and Shaver, 2012).

In the current paper, we suggest to a shift in the logic of examination from one of sufficiency to that of necessity (Dul, 2016a).

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Such a shift entails moving away from convoluted interaction models and towards the identification of simple bottlenecks and constraints that may prevent firm emergence from occurring. This is crucial because "although single sufficient conditions to produce the outcome normally do not exist, single necessary conditions that allow the outcome to occur are widespread" (Dul, 2016b: 1516). Indeed, if entrepreneurial action does matter so much (e.g. McMullen and Shepherd, 2006) and given the relative universal nature of gestation activities across organizations and industries (Liao and Welsch, 2008), then at least some activities and/or some level of activity should be necessary for firm emergence to occur. We therefore aim to offer a number of important contributions to the literature by exploring whether (1) certain gestation activities; (2) a certain number of gestation activities; and (3) certain categories of gestation activities, are necessary for firm emergence to occur. For our empirical tests, we apply a new methodological technique termed 'Necessary Condition Analysis' (NCA) (Dul, 2016a) on a recently harmonized datasets of nascent entrepreneurs across four countries (Reynolds et al., 2016b). NCA is particularly useful in situations where several predictors (e.g., gestation activities) contribute to the desired outcome (e.g., firm emergence) but none of the predictors is sufficient. In such instances, NCA can identify both critical predictors and critical levels of these predictors that *must* be present to achieve the desired outcome (Dul, 2016a).

2. Gestation activities and firm emergence – a brief review

More than 150 journal articles have been published by 2016 on the basis of longitudinal studies of the firm startup process, such as the US Panel Study of Entrepreneurial Dynamics (US PSED I collected in 1998–2004: US PSED II 2005–2008),[1] the Comprehensive Australian Study of Entrepreneurial Emergence (CAUSEE 2007–2013), the Swedish Panel Study of Entrepreneurial Dynamics and the Norwegian PSED study. Adopting a similar design protocol (so-called PSED protocol), each of these studies has followed several hundred startup efforts over 12–72 months. Many of these studies deal, in one way or another, with nascent entrepreneurs' gestation activities and more than a few have specifically focused on one, some, or all gestation activities, as well as their occurrence, sequence, or paths as predictors of entrepreneurial outcomes.

Several observations can be made from the previous attempts to explore and make sense of the role of gestation activities in firm emergence. First, gestation activities do matter and in fact, it seems that "what nascent entrepreneurs do may be more important than whom they are and what product-markets they intend to serve" (Tornikoski and Newbert, 2007: 313). In addition, there is empirical evidence that creating a business entails activities that are common across organizational and industry settings (Liao and Welsch, 2008). Second, conceptualizing gestation activities as sufficient causes, studies found that the more gestation activities completed the more likely is firm emergence (e.g., Carter et al., 1996; Shane and Delmar, 2004; Lichtenstein et al., 2007; Brush et al., 2008; Edelman and Yli-Renko 2010). Third, results regarding specific activities are inconsistent (e.g., Reynolds, 2016a), and even scholars that claim to identify single activities as critical have not adopted appropriate analytical tools to test for necessity. Thus, some activities, like business planning for example, have been considered more important than others for firm emergence, but empirical evidence remains inconclusive (Delmar and Shane, 2003, 2004; Honig and Samuelsson, 2012, 2014; Delmar, 2015; Davidsson, 2015). Fourth, the theoretical concept of firm emergence can be operationalized in various ways (Van de Ven, 2007), including perceptions of being operational, first sales, profit, etc. And finally, both the occurrence as well as the sequence of gestation activities are still not well understood (e.g., Gordon, 2012; Hak, Jaspers and Dul, 2013).

Despite this progress, so far, studies of gestation activities have been concerned with sufficient conditions for firm emergence and assumed an additive causality, meaning that if one gestation activity is absent, the likelihood of firm emergence will be reduced, an effect that might be compensated by doing more of the other activities. As Carter et al., (1996: 161) put it more than 20 years ago: "Nascent entrepreneurs who were able to start a business were more aggressive in making their businesses real […] they undertook more activities than those individuals who did not start their businesses". More recently, Gordon (2012: 25) repeats this message: "In all model specifications […] more active ventures were more likely to persist in the process, as well as become operational". In contrast, our study is investigating necessary conditions for firm emergence to occur.[2] This distinction is important because while a sufficient cause may ensure that the desired outcome exists, "without the necessary cause, the outcome will not exist" (Dul, 2016a: 11).

3. Methodology

3.1. Data and measurement

In this paper, we use data from five longitudinal studies of the firm startup process conducted in four different countries: the US Panel Study of Entrepreneurial Dynamics (two separate studies: US PSED I conducted between 1998–2004, N = 779; US PSED II conducted in 2005–2008, N = 1071), the Comprehensive Australian Study of Entrepreneurial Emergence (CAUSEE study conducted in 2007–2013, N = 605), the Swedish Panel Study of Entrepreneurial Dynamics (1998–2000, N = 577) and the Chinese Panel Study of Entrepreneurial Dynamics (N = 505). Each of these studies includes a cohort of nascent entrepreneurs that are representative samples of startups in their respective countries. The data from these studies has been harmonized into a dataset of 3537 active nascent entrepreneurs described in Reynolds (2016a). The details of the harmonization process are available in Reynolds et al.

[1] For more information on the US PSED studies and the PSED protocol, please visit: http://www.psed.isr.umich.edu/psed/documentation.

[2] See also Hak et al. (2013) who in reviewing different methodologies, including NCA, used gestation activities data as illustration for their methodological discussion.