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Abstract

We analyze longitudinal data on innovative start-up projects and apply Lazear's jack-of-all-trades theory to investigate the effect of nascent entrepreneurs' balanced skills on their progress in the venture creation process. Our results suggest that those nascent entrepreneurs who exhibit a sufficiently broad set of skills undertake more gestation activities towards an operational new venture. This supports the notion that a balanced skill set is an important determinant of entrepreneurial market entry.

Keywords: Nascent entrepreneurship; balanced skills; new venture creation

JEL Classification: L26 M13 J24

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1. Introduction

Entrepreneurship is of central importance for economic development. The entry of new ventures facilitates the exploitation of new knowledge and contributes to job creation (Audretsch et al., 2006). However, establishing a new venture is not an easy task but a demanding and complex challenge. According to the Panel Study of Entrepreneurial Dynamics (Reynolds, 2007), a representative large-scale survey of nascent entrepreneurs and their start-up projects in the US, only one out of three start-up projects eventually results in an operational new venture. This implies that two-thirds of all start-up attempts are abandoned at some time during the venture creation process and thus do not unfold beneficial effects on the economy.

Therefore it is important to better understand the determinants of start-up projects' progress in the venture creation process. Entrepreneurship research has often applied human capital theory to explain entrepreneurial phenomena, such as setting up a new venture (Davidson and Gordon, 2011). However, empirical studies report low correlations between traditional human capital indicators (e.g., education, start-up experience) and progress in the venture creation process (e.g. Davidsson and Honig, 2003). These results may be due to the alleged linear-additive (independent) effects of different human capital aspects. In search of a distinctive set of skills and abilities as the "essence" of entrepreneurial human capital, Lazear (2005) proposed a theoretical model highlighting the importance of the combination of different aspects of human capital in *a balanced skill set* for entrepreneurs. Lazear's basic assumption is that entrepreneurs must be competent in many skills because they have to combine different resources such as physical and financial capital, people and ideas in order to successfully run a business. So far, studies emphasizing this "jack-of-all-trades" view have primarily focused on the entrepreneurial career choice (Lazear, 2005; Silva, 2007; Wagner,

2006), indicating that individuals with a sufficiently broad set of skills are more likely to engage in entrepreneurship.

We complement this literature by applying Lazear's jack-of-all-trades theory to the *implementation of an entrepreneurial career choice,* i.e., setting up a new venture. Generally, the process of new venture creation is conceptualized as a sequence of gestation activities (e.g., product development, capital raising, hiring employees) which need to be undertaken in order to transform a start-up project into a fledgling new venture (Samuelsson and Davidsson, 2009). We hypothesize that nascent entrepreneurs' balanced skill set should predict start-up projects' progress in the venture creation process, even when controlling for traditional human capital factors. To test this hypothesis, we expand Lazear's theory to the venture level, considering that most start-up projects are initiated by teams rather than by solo entrepreneurs.

2. Dataset and Measures

The data for our analysis stems from the Thuringian Founder Study (TFS), a research project on determinants of successful entrepreneurship in Germany. One part of the TFS is the examination of innovative (technology-oriented or knowledge-based) start-up projects via a longitudinal survey (see Stuetzer et al., 2012, for details). Following established definitions (Davidsson and Gordon, 2011), in this study, a start-up project refers to an active start-up attempt which has neither achieved positive cash flows nor an official business registration.

The TFS tracked the founding process of start-up projects over time. At the first measurement occasion (T1; July 2008 to May 2009), the research team conducted face-to-face interviews with the entrepreneurs of 98 start-up projects. We employed a key informant approach. In case of a team of nascent entrepreneurs (67% of the start-up projects in our sample are team-started), the lead entrepreneur provided information on skills and prior

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experiences of each team member as well as the characteristics of the start-up project. A structured questionnaire was used for data collection. Twelve months after the T1 interview the research team conducted a follow-up survey by phone to collect information on the progress made in the venture creation process since T1. Of the 98 respondents at T1, 90 could be re-interviewed at T2. In five other cases a different member of the team of nascent entrepreneurs provided information. Accordingly, our final sample contains 95 cases.

All study variables are measured at the venture level. Using a list of 32 gestation activities such as talking to customers, looking for financial capital (Stuetzer et al., 2012), our first dependent variable, *progress between T0 and T1*, is measured as the number of these activities which nascent entrepreneurs had undertaken from the start of the venture creation process (T0) until T1 (*M*=15.01, *SD*=5.56).

We use the number of gestation activities undertaken between T1 and T2 (*M*=14.17, *SD*=6.39) as our second dependent variable, *progress between T1 and T2*. Note that projects differ in their progress between T0 and T1 and this difference is to a certain degree time dependent. We control for this potential bias with the variable *prior progress* which contains the (standardized) residuals from a regression of the number of gestation activities between T0 and T1 on the *working time invested* (in months) between T0 until T1. This ensures that the control *prior progress* is time independent.

Balanced skills are measured as the number of distinct functional areas (no double counting) in which the solo entrepreneur or the members of the team of nascent entrepreneurs had work experience prior to the first gestation activities. The five possible categories underlying this count variable include 1) marketing, sales, promotion; 2) accounting, controlling, financing; 3) engineering, R&D; 4) production; and 5) personnel. Equivalent measures have been used in previous research studying the jack-of-all-trades approach (Lazear, 2005; Wagner, 2006).

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The set of controls used in the regression analysis includes traditional indicators of human capital (*tertiary education*, *work experience*, *start-up experience*, *industry experience*) accumulated prior to the start of the venture creation process. Also, we control for social capital (*knowing any entrepreneurs*) and *working time invested* by the nascent entrepreneurs. Finally, industry peculiarities are accounted for with six industry dummies.

3. Regression Analysis and Results

We employ the following empirical strategy. The first dependent variable, *progress between T0 and T1*, involves count data that is characterized by the absence of zeros. We, thus, use a zero-truncated Poisson model for the empirical analysis. The count data involved in the second dependent variable, *progress between T1 and T2*, exhibit overdispersion, with the variance of this variable being larger than its mean (Likelihood ratio test: $\chi^2=13.05$, $p<0.01$). Accordingly, we employ a negative binomial regression model (Hausman et al., 1984).

Descriptive statistics and regression results are provided in Table 1. Model 1 shows the results for the prediction of start-up project progress between T0 and T1. In Model 2, the analysis is devoted to progress between T1 and T2. Regarding the control variables, in both models, we find that start-up projects progress faster the more *working time* the entrepreneurs invest. Additionally, in Model 2, *prior progress* (progress between T0 and T1) shows a positive effect. More importantly, our main variable of interest, *balanced skills*, positively relates to the dependent variables in both models. Hence, we find support for our expectation that a balanced skill set helps nascent entrepreneurs to make progress in the venture creation process. The effects are sizeable. Obtaining predicted values for the number of gestation activities in both models (while holding the other variables at their mean) reveals that entrepreneurs with the highest level of balanced skills (compared to those with the lowest level) undertake approximately 39% more gestation activities towards an operational new

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business. Interestingly, none of the traditional human capital indicators significantly relates to progress of start-up projects.

4. Discussion and Conclusion

This paper contributes to entrepreneurship research in several ways. First, and consistent with our expectations, we show that nascent entrepreneurs who exhibit a balanced skill set enjoy a head start into the venture creation process (T0–T1) and also progress faster later in the process (T1–T2). Adding to previous studies (e.g., Wagner, 2006; Silva, 2007), our results indicate that balanced skills are an important success factor throughout the entrepreneurial process.

Moreover, we find that our indicator of balanced skills outperforms traditional human capital indicators such as work experience and start-up experience in the prediction of new venture creation success. This supports recent criticisms on the relevance of such traditional human capital for nascent entrepreneurship (Davidsson and Gordon, 2011) and calls for an alternative modeling of the effects of entrepreneurial skills and competences. Arguably, "balanced skills" is an innovative way to capture interactions among different aspects of human capital.

Lastly, applying Lazear's jack-of-all-trades theory to investigate success at implementing an entrepreneurial career choice also expands the theory's practical implications. Whereas Lazear's original perspective yields that one needs to broaden his skills in order to become a (successful) entrepreneur (Stuetzer et al., 2012), our study suggests that entrepreneurs may balance the skill set available to the start-up project by adding team members with complementary skills.

References

Audretsch, D.B., Keilbach, M., Lehmann, E., 2006. Entrepreneurship and economic growth. Oxford University Press, New York.

Davidsson, P., Honig, B., 2003. The role of social and human capital among nascent entrepreneurs. J. of Bus. Ventur. 18, 301-331.

Davidsson, P., Gordon, S.R., 2011. Panel studies of new venture creation: a methods-focused review and suggestions for future research. Small Bus. Econ. doi: 10.1007/s11187-011-9325-8.

Hausman, J.A., Hall, B.H., Griliches, Z., 1984. Econometric models for count data with an application to the patents–R&D relationship. Econometrica, 42, 909-938.

Lazear, E.P., 2005. Entrepreneurship. J. of Labor Econ. 23, 649-680.

Reynolds, P.D., 2007. New firm creation in the United States: a PSED I overview. Found. and Trends in Entrep. 3, 1-150.

Samuelsson, M., Davidsson, P., 2009. Does venture opportunity variation matter? Investigating systematic differences between innovative and imitative new ventures. Small Bus. Econ. 33(2), 229-255.

Silva, O., 2007, The jack-of-all-trades entrepreneur: innate talent or acquired skill. Econ. Lett., 97, 18-123.

Stuetzer, M., Obschonka, M., Schmitt-Rodermund, E., 2012. Balanced skills among nascent entrepreneurs. Small Bus. Econ. Doi:10.1007/s11187-012-9423-2.

Wagner, J., 2006. Are nascent entrepreneurs jack-of-all-trades? A test of Lazear's theory of entrepreneurship using German data. Appl. Econ. 38, 2415-2419.

Table 1: Regression Results

	Descriptive statistics		Model 1 Progress between T0 and T1	Model 2 Progress between T1 and T2
	Mean	SD	β	β
Main variable				
Balanced skills (number of functional areas with prior work experience)	3.41	1.43	0.093** (0.023)	0.073* (0.035)
Human capital				
Tertiary education (number of entrepreneurs)	2.24	1.32	0.007 (0.025)	0.013 (0.037)
Work experience (number of years)	13.70	13.72	-0.002 (0.002)	-0.007 (0.004)
Start-up experience (number of founded companies)	0.59	1.02	0.003 (0.031)	-0.039 (0.046)
Industry experience (number of entrepreneurs)	1.42	1.14	0.033 (0.030)	0.044 (0.044)
Other controls				
Knowing any entrepreneurs (1=yes; 0=no)	0.94	0.24	-0.109 (0.118)	-0.020 (0.176)
Working time invested in the project (number of months between T0 and T1 / between T1 and T2 in which the entrepreneurs worked on the project)	12.63/14.40	16.59/4.94	0.009** (0.002)	0.059** (0.010)
Prior progress	0.00	1.00	----	0.142** (0.044)
Industry dummies			Yes	Yes
Intercept			2.373** (0.138)	1.491** (0.242)
LR χ^2			84.71**	55.56**
Pseudo R^2			0.41	0.41
N			95	95

Notes: β=regression coefficients, standard errors in parentheses; ** (*) denote a significance level of 1% (5%).