

Abstract 49

“IS ENGAGEMENT KEY?” - HOW DOES THE ENGAGEMENT WITH UNIVERSITY SUPPORT MECHANISMS INFLUENCE ENTREPRENEURIAL SELF-EFFICACY AND NEW VENTURE PERFORMANCE?

Academic paper

Ottmann L.

Innovation and Entrepreneurship Group (WIN), TIME Research Area, School of Business and Economics, RWTH Aachen University ~ Aachen ~ Germany

Abstract text:

Purpose

This study empirically examines the interplay of the engagement with entrepreneurial university support mechanisms, the academic entrepreneur's self-efficacy and the new ventures. It answers several research calls for exploration of institutional mechanisms that encourage academics engaging in entrepreneurial activities and help understand how these mechanisms effect individual capabilities as well as new venture success (e.g., Fini et al., 2011; Grimaldi et al., 2011; Hsu et al., 2019; McGee and Peterson, 2019; Newman et al., 2019).

Originality and value

The recognition of higher education institutions as source of technology transfer to economy has attracted major attention within academic research, practice and policy (Azagra-Caro et al., 2017; Tseng, Huang and Chen, 2020).

The relevance of university-industry relations as well as collaborative research is recognized by so called Entrepreneurial Universities that aim to play a broader role as 'regional innovation organizer' (Etzkowitz, 2003). Many universities have adopted an additional goal, that emphasizes on universities' contribution to public value by economic and social development (Fini et al., 2018). This objective is pursued by empowering individuals engaging in university-industry relations (D'Este and Perkmann, 2011; Perkmann et al., 2013) and by transferring intellectual property into spin-offs (Fini et al., 2011).

Several university-level measures to foster such academic engagement and academic entrepreneurship have been explored in recent literature, with a particular focus on technology transfer offices (e.g., O'Kane et al., 2015) and incubators (Kolympiris and Klein, 2018).

However, there is comparably little research on other university support mechanisms and especially on their assessment on value for new ventures. So far, no conclusions were drawn about the efficiency of academic entrepreneurship support mechanisms (Hayter et al., 2018). This missing connection is from theoretical as well as practical view highly relevant. Academics and policy makers want to establish ideal institutional entrepreneurship support and therefore spent large amount on support by universities as well as governmental programs.

Entrepreneurial self-efficacy impact people's ability to achieve their goals, in that they impact entrepreneurial intentions and facilitate their conversion into effective behaviors (Mcgee, Mueller and Sequeira, 2009). As such, entrepreneurial self-efficacy has emerged as a key psychological construct in entrepreneurship research (Miao, Qian and Ma, 2017). There is growing evidence that participation in entrepreneurial education and training programs enhances entrepreneurial self-efficacy (e.g., Zhao, Seibert and Lumpkin, 2010; Kubberød and Pettersen, 2017).

However, there is still a lack of understanding the factors that foster ESE. Our research will address this issue by examining university support mechanisms and their effects on founder's entrepreneurial self-efficacy and new venture performance.

Design and methodology

To date, – to the best of our knowledge – there is no comprehensive overview of academic start-ups and spin-offs in the DACH region. Therefore, we have created a unique dataset through gathering government-collected data from 6.9 million company entries in business registers. The founding shareholders have then been mapped with social network data to filter entrepreneurs who have been enrolled and/or employed at any university while founding their businesses. Additionally, university-level data has been collected to enable controlling for macro-level factors like university size, functional orientation and interdisciplinarity.

Our study is conducted through an online survey with academic entrepreneurs that founded their ventures between 1998 and 2019. The data collection will be completed by end of October 2020 with more than 270 respondents.

The independent variable is operationalized by the engagement with university support mechanisms, whether the academic founder made use of a measure which was provided at the respective university. Therefore, a list of 15 established support mechanisms previously used in academic entrepreneurship research (e.g., Fini et al., 2011; Van Looy et al., 2011; Bergmann et al., 2018; Hayter et al., 2018) is provided, that vary from informal (e.g., provision of facilities such as tools, machines, laboratories) to formal (e.g., financial support or accelerator programs).

As mediating variable, the well-established measure of entrepreneurial self-efficacy is applied using the scale developed and validated by McGee, Mueller and Sequeira (2009). The dependent variable is new venture performance measured by a combination of strategic and financial performance operationalized by the scales of Schilke (2014) and Sheng, Zhou, & Li (2011).

Expected results and findings

We expect to show correlations between the actual usage of university support mechanisms and the academic entrepreneur's entrepreneurial self-efficacy as well as a positive effect on new venture performance. Since scholars found that participation in entrepreneurship education led to develop higher entrepreneurial self-efficacy beliefs (Shinnar, Hsu and Powell, 2014) we expect to find additional correlations between other support mechanisms and specific dimensions of entrepreneurial self-efficacy.

In addition, we suspect that the positive effect of usage of specific university support mechanisms on new venture success take place through a mediation with entrepreneurial self-efficacy.

To increase the robustness of our study we use several control variables on the individual level (e.g., gender, age, background of studies and prior entrepreneurial experience) as well as on university level (such as size and interdisciplinary) and on firm level (e.g., industry, firm size and degree of technology).

Implications

Our research represents one of the first empirical study that analyses the impact of various university support mechanisms on founder's intrinsic and new venture performance.

It directly addresses the question how academic entrepreneurs' engagement with different university support mechanisms is related to their belief in different dimensions of their ESE and what implications it has on the new venture performance.

The contribution to entrepreneurship research is threefold: (1) We expect our findings to help higher education institutions direct limited resources towards the measure sets that are most effective in supporting academics to successfully engage in entrepreneurial. (2) Our study advances the research on academic entrepreneurship by providing new insights into the antecedents of entrepreneurial self-efficacy in the academic context. We will create a new link between institutional theory and social cognitive theory. This will significantly enhance the academic understanding of how institutions shape individual beliefs and their firms. (3) Our results will provide indications as to whether the application of support mechanisms creates public value and therefore to whether and to what extent higher education institutions are fulfilling parts of their third mission objectives.

References (Harvard style):

Azagra-Caro, J. M. et al. (2017) 'Dynamic interactions between university-industry knowledge transfer channels: A case study of the most highly cited academic patent', *Research Policy*. Elsevier B.V., 46(2), pp. 463–474. doi: 10.1016/j.respol.2016.11.011.

Bergmann, H. et al. (2018) 'The climate for entrepreneurship at higher education institutions', *Research Policy*. Elsevier B.V., 47(4), pp. 700–716. doi: 10.1016/j.respol.2018.01.018.

D'Este, P. and Perkmann, M. (2011) 'Why do academics engage with industry? The entrepreneurial university and individual motivations', *Journal of Technology Transfer*, 36(3), pp. 316–339. doi: 10.1007/s10961-010-9153-z.

Etzkowitz, H. (2003) 'Research Groups As Quasi Firms', 32, pp. 109–121.

Fini, R. et al. (2011) 'Complements or substitutes? The role of universities and local context in supporting the creation of academic spin-offs', *Research Policy*. Elsevier B.V., 40(8), pp. 1113–1127. doi: 10.1016/j.respol.2011.05.013.

Fini, R. et al. (2018) 'Rethinking the Commercialization of Public Science: From Entrepreneurial Outcomes to Societal Impacts', *The Academy of Management Perspectives*, 32(1), pp. 4–20. doi: 10.5465/amp.2017.0206.

Grimaldi, R. et al. (2011) '30 years after Bayh-Dole: Reassessing academic entrepreneurship', *Research Policy*. Elsevier B.V., 40(8), pp. 1045–1057. doi: 10.1016/j.respol.2011.04.005.

Hayter, C. S. et al. (2018) 'Conceptualizing academic entrepreneurship ecosystems: a review, analysis and extension of the literature', *Journal of Technology Transfer*. Springer US, 43(4), pp. 1039–1082. doi: 10.1007/s10961-018-9657-5.

Hsu, D. K. et al. (2019) "'I know I can, but I don't fit": Perceived fit, self-efficacy, and entrepreneurial intention', *Journal of Business Venturing*. Elsevier Inc., 34(2), pp. 311–326. doi: 10.1016/j.jbusvent.2018.08.004.

Kolympiris, C. and Klein, P. G. (2018) 'The Effects of Academic Incubators on University Innovation', *SSRN Electronic Journal*, (October 2016). doi: 10.2139/ssrn.2881108.

Kubberød, E. and Pettersen, I. B. (2017) 'Exploring situated ambiguity in students' entrepreneurial learning', *Education and Training*, 59(3), pp. 265–279. doi: 10.1108/ET-04-2016-0076.

Van Looy, B. et al. (2011) 'Entrepreneurial effectiveness of European universities: An empirical assessment of antecedents and trade-offs', *Research Policy*. Elsevier B.V., 40(4), pp. 553–564. doi: 10.1016/j.respol.2011.02.001.

Mcgee, J. E., Mueller, S. L. and Sequeira, J. M. (2009) 'E T & P Self-Efficacy : Refining the Measure', *Entrepreneurship: Theory and Practice*, (817), pp. 965–988. doi: 10.1111/j.1540-6520.2009.00304.x.

McGee, J. E. and Peterson, M. (2019) 'The Long-Term Impact of Entrepreneurial Self-Efficacy and Entrepreneurial Orientation on Venture Performance', *Journal of Small Business Management*, 57(3), pp. 720–737. doi: 10.1111/jsbm.12324.

Miao, C., Qian, S. and Ma, D. (2017) 'The Relationship between Entrepreneurial Self-Efficacy and Firm Performance: A Meta-Analysis of Main and Moderator Effects', *Journal of Small Business Management*, 55(1), pp. 87–107. doi: 10.1111/jsbm.12240.

Newman, A. et al. (2019) 'Entrepreneurial self-efficacy: A systematic review of the literature on its theoretical foundations, measurement, antecedents, and outcomes, and an agenda for future research', *Journal of Vocational Behavior*. Elsevier, 110(October 2017), pp. 403–419. doi: 10.1016/j.jvb.2018.05.012.

O'Kane, C. et al. (2015) 'University technology transfer offices: The search for identity to build legitimacy', *Research Policy*, 44(2), pp. 421–437. doi: 10.1016/j.respol.2014.08.003.

Perkmann, M. et al. (2013) 'Academic engagement and commercialisation: A review of the literature on university-industry relations', *Research Policy*. Elsevier B.V., 42(2), pp. 423–442. doi: 10.1016/j.respol.2012.09.007.

Schilke, O. (2014) 'On the contingent value of dynamic capabilities for competitive advantage: The nonlinear moderating effect of environmental dynamism', *Strategic Management Journal*, pp. 179–203. doi: 10.1002/smj.

Sheng, S., Zhou, K. Z. and Li, J. J. (2011) 'The Effects of Business and Political Ties on Firm Performance: Evidence from China', *Journal of Marketing*, 75(January 2011), pp. 1–15. doi: 10.1509/jm.75.1.1.

Shinnar, R. S., Hsu, D. K. and Powell, B. C. (2014) 'Self-efficacy, entrepreneurial intentions, and gender: Assessing the impact of entrepreneurship education longitudinally', *The International Journal of Management Education*, 12(3), pp. 561–570. doi: <https://doi.org/10.1016/j.ijme.2014.09.005>.

Tseng, F. C., Huang, M. H. and Chen, D. Z. (2020) 'Factors of university–industry collaboration affecting university innovation performance', *Journal of Technology Transfer*. Springer US, 45(2), pp. 560–577. doi: 10.1007/s10961-018-9656-6.

Zhao, H., Seibert, S. E. and Lumpkin, G. T. (2010) 'The relationship of personality to entrepreneurial intentions and performance: A meta-analytic review', *Journal of Management*, 36(2), pp. 381–404. doi: 10.1177/0149206309335187.