

Executive Summary

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Individual and Structural Influences on the Entrepreneurial Activities of Scientists in German Universities

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Extended Abstract

Knowledge-intensive start-ups are considered a key source for structural change, growth and employment in modern economies. In order to outline the opportunities and challenges of knowledge-intensive university start-ups, the IfM Bonn interviewed a total of 5,992 scientists in 73 German universities focusing on the following fields of study: mathematics, computer science and technology, natural sciences, engineering, creative industries, health and social services, economics and social sciences. The survey focused on scientists' entrepreneurial inclinations as well as their vocational history and research activities.

Inventors among scientists show the highest entrepreneurial propensity

The results of the empirical study show that female and native academicians show significantly less entrepreneurial intentions than men or foreign scientists. In addition, scientists at universities of applied sciences show higher entrepreneurial intentions than their colleagues from universities. This finding corresponds with the result that academicians involved in applied or multidisciplinary research also show stronger entrepreneurial intentions than academicians involved in basic research. Scientists in a tenured professor position are less willing to start a new venture than the academic staff on lower hierarchical levels. However, scientists who already generated inventions show the strongest entrepreneurial intentions.

Monetary incentives and role models effect entrepreneurial intentions

We found several (positive) pull and (negative) push factors that influence the probability of switching into entrepreneurship. We show that monetary incentives based on research performance foster and intensify entrepreneurial intention. Moreover, positive professional role models and peers also play an important role in fostering and reinforcing entrepreneurial intentions: Start-ups of close colleagues and conversations about colleagues' start-up activities have a highly positive impact on the entrepreneurial intention of academic staff. Besides these pull-factors we found that the dissatisfaction with the current compensation fosters start-up intentions among the scientists.

Networks relationships with other institutions should be cultivated

During the start-up process the scientists mostly rely on non-academic networks outside their university in order to acquire market oriented knowledge. In addition, they often turn to their private networks to further substantiate the start-up idea. Network relationships within their own university do not seem to play such an important role in the start-up process.

Support services within universities are often unknown to the scientists

Almost every institution of higher education provides some kind of support service for start-up activities. Most scientists that used these services were also satisfied with the quality of the offers. However, our study provides evidence that many scientists do not know that these services were at disposal within their institutions. Additionally, some of the services (e.g. entrepreneurship lectures) seem to have no impact on the entrepreneurial intentions of the scientists.

Universities should stimulate an “entrepreneurial spirit”

Overall, we find that the scientists' entrepreneurial propensity is often influenced by factors which are already identified in the entrepreneurship literature (e.g. gender or nationality). However, the study at hand has identified some new factors within the context of knowledge-intensive universities which influence entrepreneurial intentions of scientists. Among others, we identified specific factors which reflect the generation of knowledge directly (e.g. applied or multi-disciplinary research) or indirectly (e.g. networks with partners outside the own institution). These factors can trigger the opportunity recognition process as well as opportunity exploitation. In sum, we therefore highly recommend all measures and activities that contribute to the entrepreneurial spirit within these institutions and especially within the individual departments of universities.

Bijedić, T.; Maaß, F.; Schröder, C.; Werner, A. (2014): **Der Einfluss institutioneller Rahmenbedingungen auf die Gründungsneigung von Wissenschaftlern an deutschen Hochschulen**, in: IfM Bonn, IfM-Materialien Nr. 233, Bonn.