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## EXPLORING THE VALUE OF COMMUNITY-BASED SEARCH IN THE PROCESS OF TECHNOLOGICAL COMPETENCE LEVERAGING: EMPIRICAL EVIDENCE FROM A CASE STUDY OF A TECHNOLOGY START-UP FROM M.I.T. (SUMMARY)

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## SUMMARY

### EXPLORING THE VALUE OF COMMUNITY-BASED SEARCH IN THE PROCESS OF TECHNOLOGICAL COMPETENCE LEVERAGING: EMPIRICAL EVIDENCE FROM A CASE STUDY OF A TECHNOLOGY START-UP FROM M.I.T.

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#### Principal Topic

Many studies highlight the impact of (successful) technology commercialization on innovation and wealth creation. Nevertheless, this impact could be much higher. Still, (costly and effortfully developed) technologies are heavily underutilized. An important cause can be found in the “front-end” of the ‘technological competence leveraging process’ (Danneels 2007): searching for market opportunities for a technology is a challenge as it is often strongly bound by ‘local search behaviour’ (Stuart and Podolny 1996). For example, Shane (2000) showed empirically that entrepreneurs tend to identify a market opportunity either known to them in the past, or closely related to their existing stock of knowledge. In order to identify a larger set of market opportunities the scope of the search needs to be broadened to explore more distant regions of the search landscape (March 1991). At the same time we observe the phenomenon that users are able to come up with uses not intended by and thus unknown to the inventor (e.g. DeMonaco, Ayfer, von Hippel 2005). Thus, users are potentially able to ‘see’ that a technology is a solution to their specific problems. Recent knowledge in the area of community-based search methods led us to the following research questions: (1) (How) can user-communities support the process of technological competence leveraging? (2) To which extent is a community-based search approach able to overcome ‘local search bias’ of the technology owner?

#### Method

These research questions were empirically explored in an in-depth case study with a technology-based start-up company from MIT. A case study was the appropriate research tool, as available theory was insufficient for making predictions about effort required and the effect of user-community based search for the identification of viable market opportunities.

#### Results and Implications

The findings from our case study provide significant insights to the questions raised above: (1) Compared to the pre-existing application areas identified by the start-up team, the user community-based search approach led to a five times higher number of valid market opportunities for the given technological solution. (2) About two thirds of all identified applications can be regarded as far-analogous in the sense that these areas share structurally similar features with the target market application (instead of surface similarity). Thus, the user community-based approach seems to be supportive in overcoming ‘local search biases’.

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