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## INVENTIONS AND THEIR COMMERCIAL EXPLOITATION: ANALYSING DETERMINANTS AMONG ACADEMICS (INTERACTIVE PAPER)

Teita Bijedic  
*IfM Bonn, Germany, bijedic@ifm-bonn.org*

Simone Chlosta  
*IfM Bonn, Germany*

Siegrun Brink  
*IfM Bonn, Germany*

Arndt Werner  
*University of Siegen, Germany*

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## ≈ INTERACTIVE PAPER ≈

**INVENTIONS AND THEIR COMMERCIAL EXPLOITATION:  
ANALYSING DETERMINANTS AMONG ACADEMICS**

*Teita Bijedic, IfM Bonn, Germany*  
*Simone Chlosta, IfM Bonn, Germany*  
*Siegrun Brink, IfM Bonn, Germany*  
*Arndt Werner, University of Siegen, Germany*

**Principal Topic**

Innovations are considered a job generator, especially in knowledge-driven societies. Since much of the commercially utilizable and therefore highly valuable knowledge is created in institutions of higher education, these institutions make great efforts to establish and incorporate services and infrastructure to facilitate the knowledge transfer to the private sector and thus the commercial exploitation of inventions. Despite these efforts and the statutory reform for facilitating knowledge transfer similar to the Bayh Dole Act in the USA (cf. von Ledebur 2006), it seems that even inventions of great commercial potential still remain unexploited (Cuntz et al. 2012). Previous research shows, that inventions and their commercial exploitation are determined by certain personal as well as environmental influences (cf. Polkowska 2013). In particular the variable gender seems to have an impact on the innovation activity as well as on previous decisions, like occupational preferences, which lead to female underrepresentation in “highly innovative” disciplines (cf. Becker et al. 2011). Our study incorporates personal, occupational, and institutional determinants simultaneously to test innovation activity of academics in a holistic manner.

**Method**

Our survey consists of over 7.300 academics in 73 randomly selected German institutions of higher education from a variety of disciplines (e.g. STEM, social and creative fields, life sciences and humanities) and hierarchical levels. We collected representative data regarding personal characteristics, occupational history, and current working conditions as well as the institutional context and support systems for knowledge transfer. Innovation activity was measured as a graded variable ranging from having 1) generated, 2) protected to 3) commercially exploited an invention.

**Results and Implications**

Our analyses show that especially gender and field of study strongly influence innovation activities, where STEM-fields show the highest innovation rate, followed by life sciences. Women generated significantly less inventions than men, in general as well as within each field of study. However there were only slight gender differences regarding the commercial exploitation, once the invention was made. Also several occupational characteristics had a significant impact on the innovation activities, e.g. previous degrees, a leadership position and a side line employment.

**CONTACT:** Teita Bijedic; [bijedic@ifm-bonn.org](mailto:bijedic@ifm-bonn.org); T: 0049 228 7299742; F: 0049 228 7299734; Institut für Mittelstandsforschung, Maximilianstrasse 20, 53111 Bonn, Germany.