

Customer-centricity or basic research paradigm? Balancing Technology Push and Market Pull in Innovation Management

The Downfall of User-Centered Innovation?

A Longitudinal Study based on the German Innovation Survey

Method

The OI-related data in this study is extracted from three waves of the German Community Innovation Survey (CIS) in 2005, 2009, and 2013. Data in this study is collected as a part of firm Mannheim Innovation Panel (MIP) in the German manufacturing (including mining, energy, water) and service sector (including transportation, consultancy, telecommunication, etc). The target population covers all legally independent firms with at least five employees where surveys are drawn as stratified random samples. The survey methodology and innovation definition comply with the Oslo Manual (OECD 2005). Every four years the survey represents the German contribution to the European wide harmonized Community Innovation Surveys (CIS). We selected a panel of three waves conducted every four years due to harmonization between surveys being used to fit the European standardized CIS. The samples are constructed as panels of around 5568 firms (after excluding the overlapped firms between waves) voluntarily participate to fill out the survey each year. For the sake of the analysis, only firms that consecutively participated in the survey can be taken into account. Therefore, we created a balanced panel dataset consists of 678 observations corresponding to 226 firms that took part in all the targeted three waves.

Results

Innovation activity	2005	2009	2013
Internal R&D	33.5	28.6	26.1
External R&D	17.3	13.3	11.8
Acquisition of machines, equipment, software	44.3	32.6	30.0
Drawing external Knowledge	12.3	12.7	11.3
Innovation Training	29.1	26.3	22.5
Marketing innovation	15.8	15.2	15.0
Product design activities, service concept, production / sales preparation	32.2	23.9	9.9

Table 1. shows innovation activities (percentage) practised by firms (n= 226 and number in percentage)

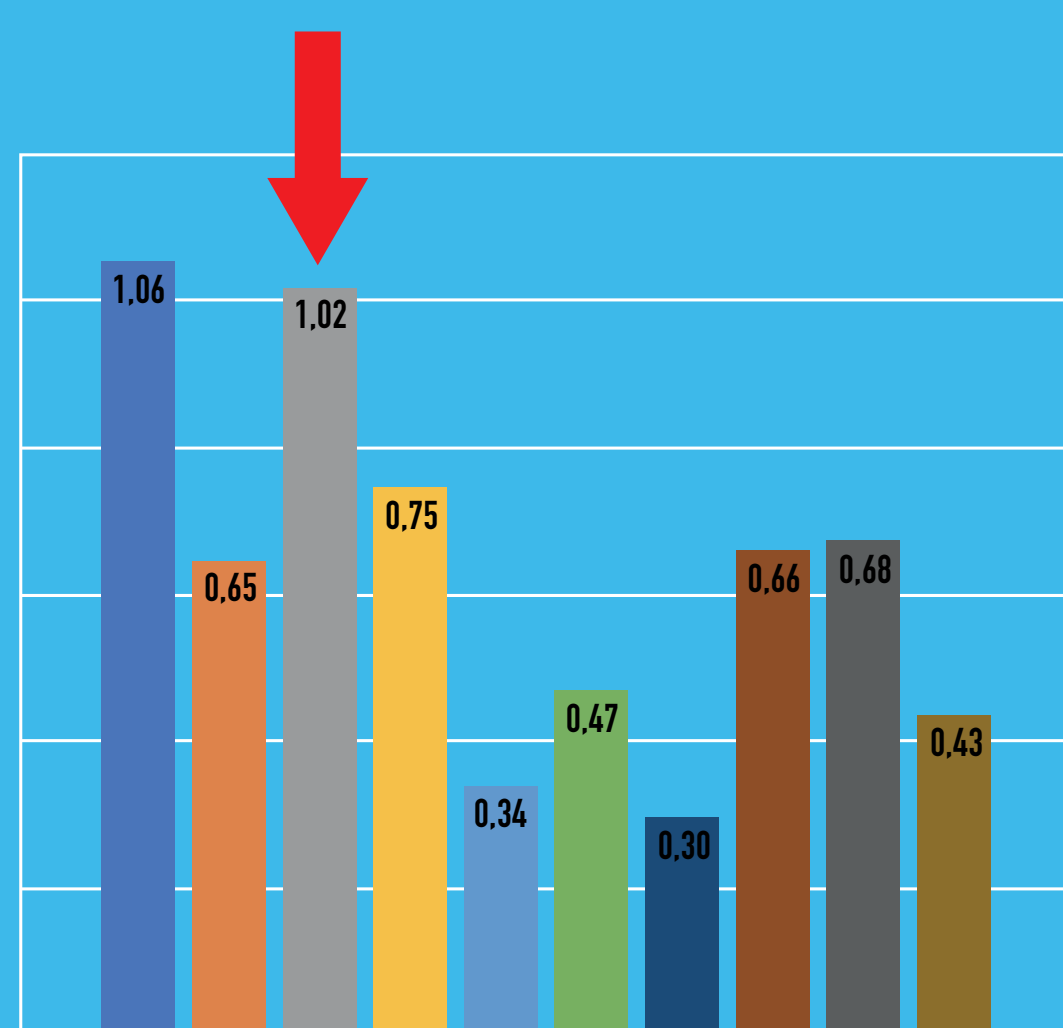


Figure 1: Importance (0 to 3) of external sources of knowledge 2009 (panel sample)

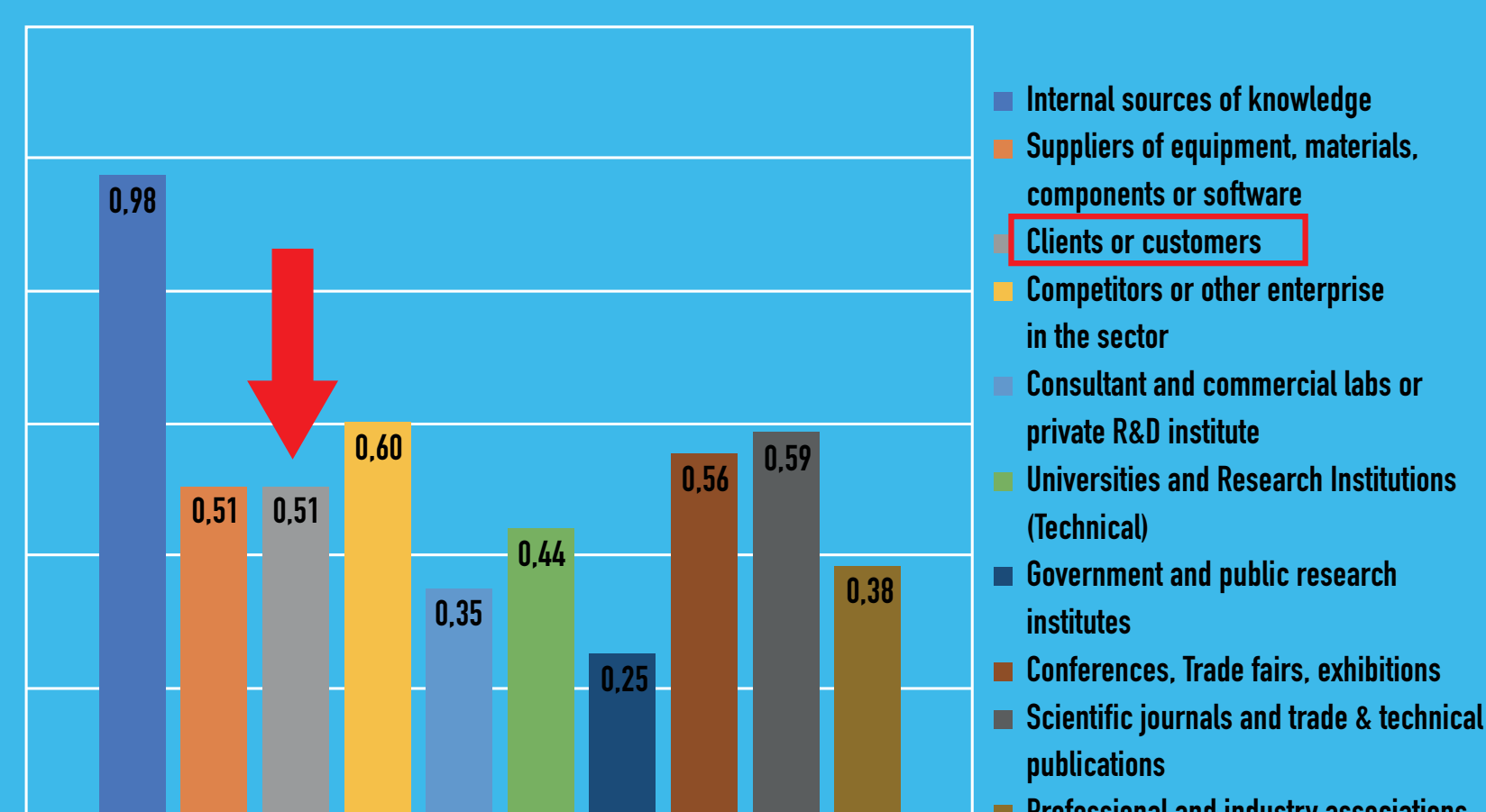
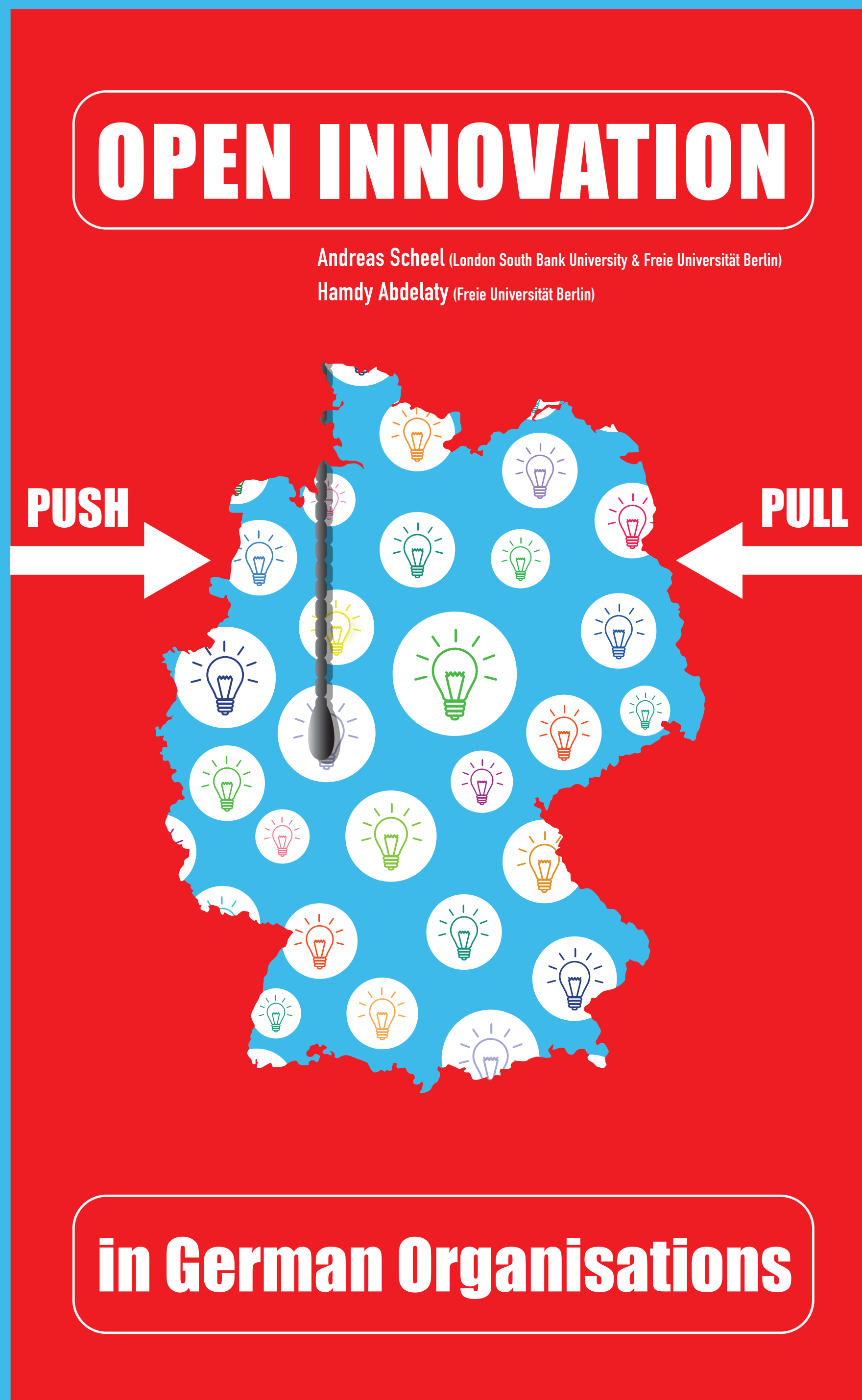


Figure 2: Importance (0 to 3) of external sources of knowledge 2013 (panel sample)

Discussion

The most remarkable result is the decreased importance of customers and clients as a source of knowledge for innovation over time. In this regard, the importance of customers and clients decreased by 27% from 2005 to 2009 and by 59% between 2005 and 2013. This growing decrease in customers' and client's importance for innovation is against the currently settled customer-centric innovation paradigm. This paper claims that this result indicates an initial shifting from market-oriented innovation to a basic research-driven innovation paradigm.

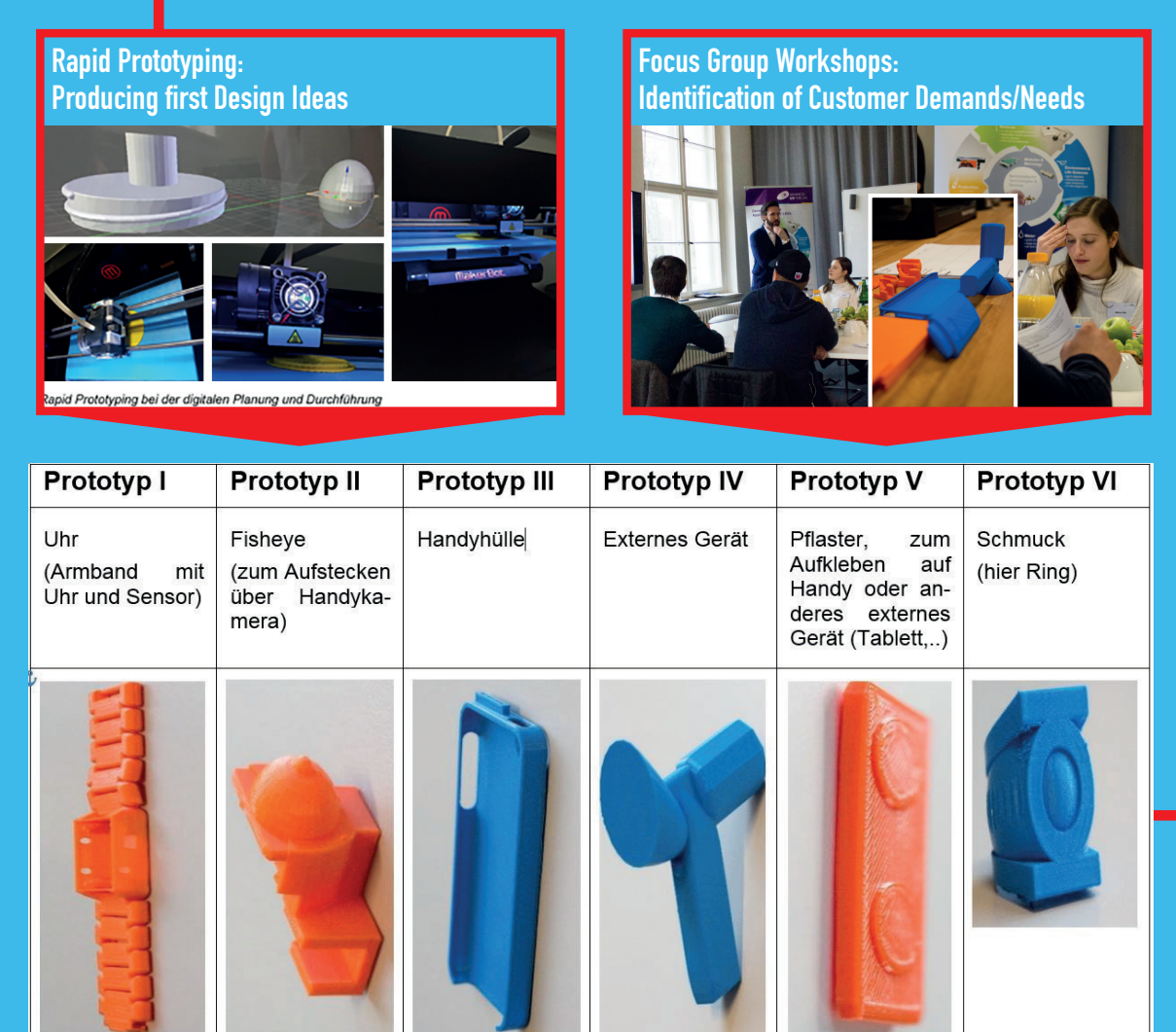


The Usefulness of Customer Centricity

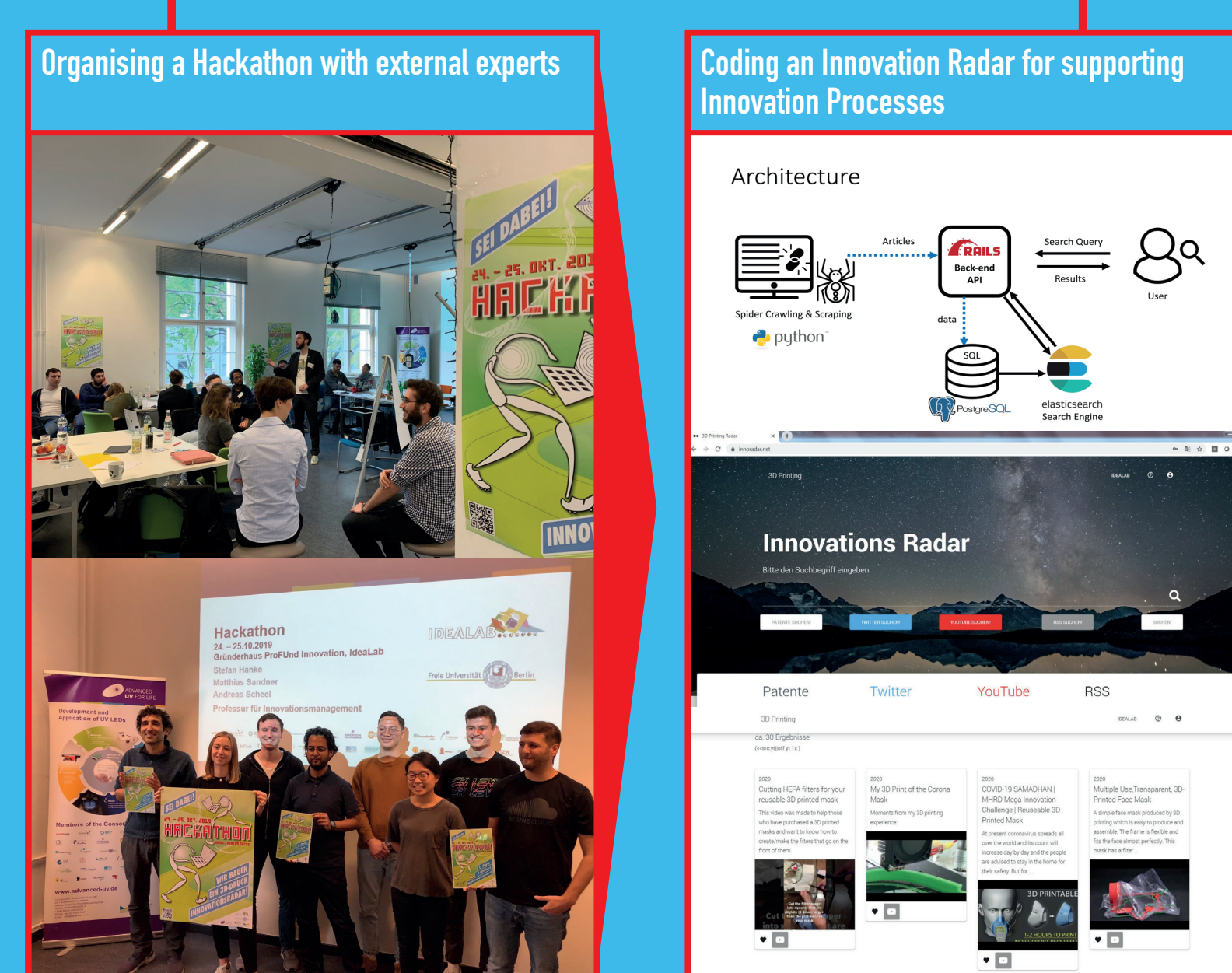
Open Innovation Tools applied in a Technology-Driven Horizon 2020 Research Consortium



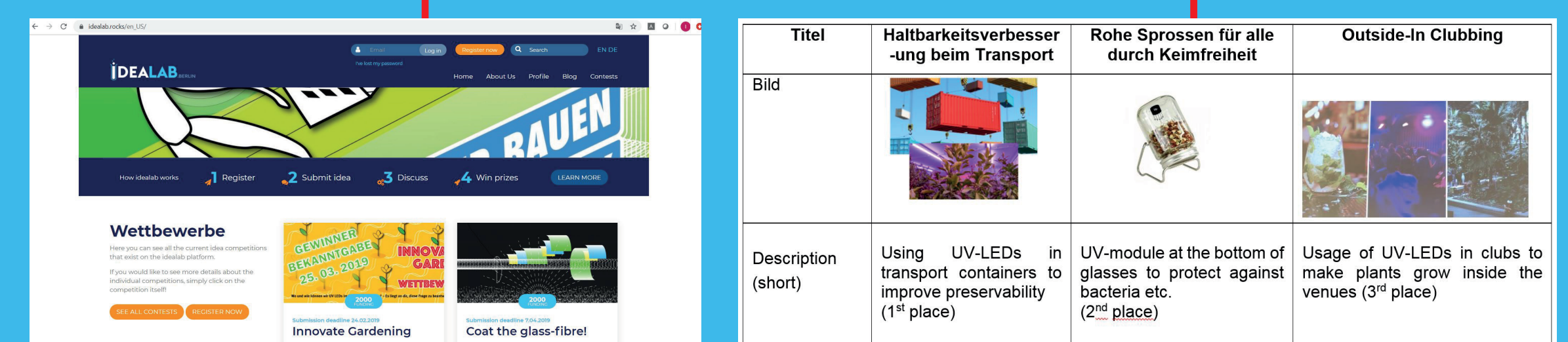
A.) Product Innovation: The Creation of a Sun Protection Factor-Sensor



B.) Service Innovation: Creating an Innovation Radar



C.) Running Idea Contests



Innovation Managers' crucial task: Balancing Technology Push and Market Pull

- Opening the Innovation Process to both (technology/research) experts and (potential) end consumers/users
- Facilitate ambidexterity: a.) exploitation of existing knowledge/technology + b.) exploration of new products/services as well as fields of application
- Boost the efficiency of open innovation processes: a.) identify lead user/innovation drivers for specific challenges/problems + b.) improve the idea selection process (i.e. automation or machine learning/artificial intelligence)
- Develop and strengthen dynamic capabilities (meta routines) in order to adapt to changing environments (on organisational AND individual level)