

University Engagement and Productivity in Innovative SMEs: An Empirical Assessment

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Current debates around the nature of the innovation process increasingly stress its open character, whereby firms utilise knowledge and expertise from outside organisations. From the perspective of Small and Medium Enterprises (SMEs), open innovation allows the leveraging of additional resources which they would not necessarily be able to develop alone. In the context of open innovation universities are often cited as important sources of external knowledge and key nodes within innovation systems due to their ability to generate and transfer new, cutting edge, knowledge.

The close relationship between firms' innovation and productivity is often cited as evidence that performance and innovativeness are interdependent. Motivated by these observations, this paper this paper investigates whether the productivity of innovative SMEs, in terms of revenue per employee, influences either their propensity to collaborate with universities or their subsequent productivity levels following the collaboration.

Key findings

Using data from the Longitudinal Small Business Survey on 4289 innovative SMEs in the UK, our paper presents several important results:

- The productivity of innovative SMEs does not influence their propensity to collaborate with universities. Therefore, collaborating with a university is not driven by the firms' performance, but is instead a process that embraces all innovative SMEs.
- The propensity for SMEs to collaborate with a university is positively influenced by the size of the firms' workforce, exporting, engagement in social networks, and openness. Conversely, family firms and those located in regions with higher levels of R&D expenditure were less likely to collaborate with a university. Furthermore, the propensity to collaborate with universities varies according to the SMEs' sector, with SMEs in the transport, retail, and food sector less likely to collaborate with universities than those in the business services and construction and production sectors.
- The relationship between initial productivity and the subsequent productivity of innovative SMEs in the years after engaging with a university is curvilinear, or U-shaped. Therefore, higher levels of subsequent productivity are observed for those SMEs that started out with either very high or very low productivity. Thus, while collaboration with universities has a positive effect on the subsequent productivity of the firms involved, it has the greatest impact on productivity is observed for those firms with either very high or very low starting productivity.

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Policy implications

As the results suggest that university collaboration can provide a significant boost to SMEs with relatively lower levels of productivity, the findings provide a clear message as to the potential transformational nature of this type of engagement. Further policy implications of these findings suggest that given all innovative SMEs can be regarded as potential collaborators regardless of their productivity levels, policymakers, academics, businesses, and technology transfer personnel should take a broad approach to the facilitation of these collaborative links between SMEs and universities.

Furthermore, given that relative productivity is not a determining factor, it may also be appropriate for policymakers to focus their efforts on developing links amongst those innovative SMEs that are less likely to collaborate with universities such as family firms, those with fewer employees, and those that are less open. It may also be pertinent for universities to work more closely with export promotion personnel in order to seek potential partners as it is these SMEs that are more likely to engage in university collaboration. Policymakers in regions with higher levels of expenditure on R&D may need to further encourage SMEs to collaborate with universities as a complementary activity to other linkages they may have.

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