

MIDLANDS ENGINE OBSERVATORY ACADEMIC INSIGHTS

The role of University STEM assets in improving local firm performance and local economic growth



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Theme:

Innovation

Area of Focus:

Our research aims to understand the degree to which local firms benefit from interaction / joint-projects with two University STEM assets.

STEM assets are a physical facility dedicated largely to the translation, development and transfer of scientific, technological or engineering innovation e.g. research labs, business parks, and business incubators. We focus on 'university STEM assets' based on a university campus, funded or run by or with a university, or collaborate closely with a university. We examine two STEM assets in the region: Warwick Manufacturing Group (WMG) and the Manufacturing Technology Centre (MTC).

Key Findings:

- Both STEM assets focus on the manufacturing sector and are deeply embedded in the region's industrial heritage. However, there are some key differences between the STEM assets e.g. WMG is more reliant on government funding, whereas MTC relies more on industry contributions.
- Through their dissemination of new knowledge and support of technology adoption, WMG and MTC improve local firm performance and local economic growth.
- As part of their SME support, they both offer a diagnostic and consultancy service, that identifies areas of improvement or upgrading for both products and processes. They help businesses with their 'Technology Readiness Levels' (TRL) as well as their 'Supply chain Readiness Levels' (SCRL), as it is not possible to bring a product to market without these.
- They focus on three key areas of skills development: (i) disseminating knowledge of new technologies to industry partners; (ii) upskilling of existing workforces - short courses and bespoke training, supporting product and process innovation; (iii) investing in the future skills base: apprenticeship and degree-apprentice programmes.



Midlands Engine Impact:

- The eight Midlands Innovation (MI) alliance universities (Aston, Birmingham, Cranfield, Keele, Leicester, Loughborough, Nottingham and Warwick) currently generate more patents per unit of research income than any other major UK university grouping (MICRA, 2020). STEM assets have a crucial role to play in translating these patents into new and improved products and processes for local businesses.
- The economic aftereffects of COVID-19 and the war in Ukraine has led to a low-growth, low-investment era for firms in the region ([City-REDI, 2023](#)). Business activity has currently contracted (below the 50-growth mark) due to reduced client purchasing, consumers reducing expenditure, weak client demand, economic uncertainty and product availability issues. ([Midlands Engine, 2023](#)). The dissemination of new knowledge, upskilling of the workforce, investment in the future skills base, and support of technology adoption is all crucial in helping to maximise the limited resource available to local firms at this time. Given how embedded WMG and MTC are in the region, firms in the Midlands have considerable opportunities to benefit from the support that they both offer.
- Continued research is needed to better understand the interaction between businesses and STEM assets at the regional level, to inform policymakers on what is the right course of action to sustain growth and support the region's needs.



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