

Research Paper No. 72

EXECUTIVE SUMMARY

2018

(full paper link: <http://enterpriseresearch.ac.uk/publications/erc-research-papers/>)

Industry 4.0 is coming: Is digital adoption a new mechanism linking entrepreneurial ambition to business performance?

Evidence from micro-businesses in the UK, Ireland and USA

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The advent of Industry 4.0 emphasises the potential importance of digital adoption for sustained competitiveness. Here, based on new survey data for over 9,000 firms in the UK, Ireland and USA we consider whether digital adoption provides a new mechanism through which firms' growth ambition is realised. Our analysis emphasises the commonality of factors linked to adoption in each of the three countries. Four key conclusions emerge. First, we find strong evidence that growth ambition is associated with digital innovation. The implication is that digital innovation can operate as a mechanism through which ambition is linked to subsequent business performance. Second, network and collaborative linkages are strongly associated with digital adoption as suggested in epidemic models of technology diffusion. Third, there is strong evidence that firm-level strategic influences impact digital adoption. Micro-businesses with stronger internal resources (business plans, training, external finance) are more likely to be digital innovators, potentially reinforcing their competitive advantages over more resource-constrained competitors. Fourth, and unexpectedly, prior adoption of

digital technologies is negatively linked to subsequent adoption, while prior levels of sectoral adoption are positively linked to adoption. This we interpret as an informational or perhaps competitive effect. Our results suggest the variety of factors which influence technology diffusion even in relatively small micro-businesses. In policy terms while this presents a complex challenge, developing networking and information sharing mechanisms seems an obvious policy opportunity.