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Interactive adaption in 'mid-chain' firms: How are supply chains enabling digital and net zero transitions?

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The business landscape is changing as manufacturing processes undergo the digital transition and the shift towards net zero practices. Conceptual perspectives suggest that supply chains might play an important role in these transitions where they are characterised by: (a) firms which are aware of the advantages of new technologies and able to evaluate their benefits; (b) goodwill trust which facilitates open and intensive knowledge sharing; and, (c) power imbalances which might facilitate knowledge flows where innovative firms hold more power. Our empirical evidence suggests that for mid-chain companies their lived experience of the supply chains in which they operate is rather different. While goodwill trust with suppliers is not uncommon, trust-based relationships with customers are less evident, often complicated by commercial pressures, short-term or intermittent contracts and power imbalances. Often, too, mid-chain firms' supply chain partners seem unable or unwilling to appreciate the potential value of new technologies. Each factor limits knowledge sharing between supply chain partners, reducing the potential for collaborative innovation. Indeed, our empirical analysis suggests relatively limited collaboration for product innovation and little or no significant collaboration on digital diffusion or the dissemination of net zero practices. This suggests a significant gap exists between levels of knowledge sharing and technology diffusion in an idealised supply chain and the current reality. This is not to suggest that mid-chain firms are themselves not innovative. Indeed, almost all were engaged in product or service innovation, digital innovation and the implementation of net zero practices. However, mid-chain firms' innovations owed little to their supply chains. Instead, a lack of collaboration means that midchain firms' innovation tended to be initiated, resourced and delivered from within the midchain business. Current policy supports for supporting digital supply chains and adoption are positive but may require reinforcement and scaling.