

What's popular and what's working in the 4th Industrial Revolution



Companies are making strides to capitalise on the potential of the fourth industrial revolution; the only industrial revolution to be named before it has actually happened.

As well as investments by companies, the government is keen to extend the benefits to more companies and reap the benefits of growth, jobs and productivity gains.

Industrial digital technologies (IDTs) is a rather wide-ranging set of technologies and as a platform, has all the potential to be caught by Hype: change, change, more change. The downside is that companies might be distracted or not know where to start. To give a sense of progress almost any IDT project may be considered even though it's not the best for the company.

And across the world, nations are competing to advance the rewards for their home industries from the UK with Made Smarter to similar programmes in China, Germany, America and South Korea.

But from these programmes, what can we learn about what is being tried but perhaps more importantly, what is making a business impact. What can we learn about the barriers to the adoption of IDTs that can inform our strategies for planning IDT strategies?

The Evidence from early adopters of IDTs

The opportunities in digital transformation are quite vast. The cost and availability of sensors are plummeting, communications infrastructure is rolling out to enable adoption and protocols for data sharing across supply chains and with consumers is coming. Smart products, processes, supply chains even customers combine to drive the opportunities for new ways of working and for doing business.

A report for Innovate UK by the Institute for Manufacturing at Cambridge University reveals what IDTs are popular and which ones are making the greatest business impact. It also examines the common barriers to adoption.

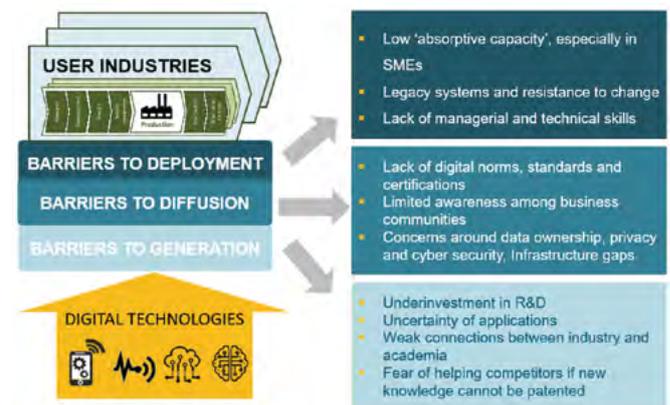
The study looked at how companies are harnessing these new technologies and where they are focusing their effort. Seventy initiatives globally collected over one thousand cases studies or what individual companies are doing with 212 examined in detail.

A key insight is that what is most popular are not always the most valuable to the company. Common drivers for firms are to reduce labour costs, reduce materials costs and improve delivery performance. Process control and optimisation is the No 1 strategy across all categories. However, process design and definition or product and process design make the greatest impact on labour or material cost reduction strategies. Staff and workflow management is the winning strategy in delivery performance.

A further report highlights less about IDTs as a route to business impact and encourages digital transformation to be integrated with business strategy, including reviewing the business model as high-impact strategies.

Barriers to Adoption of IDTs

From a solid understanding of the barriers to new technology, you can plan strategies to manage the change. Using an innovation diffusion model, the graphic highlights top barriers in each phase of adoption. Which impact your company the most?



Conclusions

The main message is that for companies to make the real impact from digitalisation, they need to think strategically and focus efforts on high impact, even if it's difficult to do. Understand where value is, first, and then move from that position.

IDTs are an opportunity to rethink competitiveness strategy and what the business is about, well beyond only automating inside the factory box. Know that the Hype and the Barriers are real, but so are the opportunities. And a practical next step for technology leaders would be to build your strategic roadmap.

Want to know more?

I can take a look at your digitalisation strategy and help you to create your strategic roadmap focussed on the IDTs with highest business impact. See my previous articles of strategic roadmapping process and the front end innovation system.

Please contact IfM's Industrial Associate in the Northwest, Rob Munro to discuss your technology and innovation management objectives, Email rjm240@cam.ac.uk or call +44(0)7896 128 878