

# **The Challenges of Digitalisation – the Role of Leadership, Culture and Technology Based on a Systematic Review**

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## **Abstract**

Many companies facing digitalisation lack a digital target model or transformation/implementation roadmap. Multinational companies as well as SMEs have to deal with different global market trends. Besides volatility, uncertainty, complexity and ambiguity [VUCA], companies' business models are constantly being influenced by disruptive technologies and solutions. And all this comes along with Industry 4.0 and digitalisation itself. Yet I4.0 and digitalisation are in many companies still buzzwords and lack substance. Assuming that the level of digitalisation of an enterprise has been defined, the main question is: "What does the digitalisation journey look like, and what are the transformation roadmap and the interdependencies?" This paper investigates whether, when and which of the independencies of company's functions are being neglected in the implementation of digitalisation. In a systematic literature review, gaps were identified especially in three previously defined categories that are directly related to the implementation of digitalisation, namely corporate culture, leadership and technology. After identification of these gaps, the missing link between these categories was discussed. In this way, the gaps revealed in the literature could be filled. The further scientific elaboration will primarily serve as a guide for SMEs to ensure a smooth implementation of digitalisation in the company.

## **Keywords**

SMEs, Digitalisation, Transformation Roadmap, Industry 4.0.

## **Biography / Biographies**

**Thorsten Schölver** is CEO of concimus, a boutique consulting company based in Munich and focused on supply chain optimisation/digitalisation for multinational companies as well as SMEs. Before he started his business more than 20 years ago, he was part of the European management of Amazon.com responsible for IT procurement and involved in projects such as the expansion of the Logistic Center in Bad Hersfeld, part of the launch team of the office in France, Japan etc. As CEO of concimus, he was involved in/in charge of various multinational/cross-functional consulting projects, such as launching a plant in Goa/India for medium-voltage switchgear, setting up a shared service for procurement/logistics in Sao Paulo, Brazil for South America, and other projects in Mexico, the USA, China, Africa and Europe. He is also supporting start-ups as business angel/board member.

**Leonor Teixeira** graduated in Industrial Engineering and Management, received a MSc. degree in Information Management, and a PhD in Industrial Management (Information Systems area), in 2008, from the University of Aveiro, Portugal. She is currently an Associate Professor of the Department of Economics, Management, Industrial Engineering and Tourism (DEGEIT) at the University of Aveiro. She is also a researcher (Integrated Member) at the Institute of Electronics and Informatics Engineering (IEETA-LASI) and collaborator at research unit on Competitiveness, Governance and Public Policies (GOVCOPP) of University of Aveiro. Her current research interests include industrial management in general, and in information systems applied to industry in particular. She has over 200 publications in peer-reviewed journals, book chapters and proceedings, and has several communications at international scientific conferences, some of which as invited speaker. She serves as a member of program board and organizing committees for several scientific committees of international conferences and has collaborated as reviewer with several journals. She is associated with IIIS, IEEE Society and APSI/PTAIS.

**Marco Pimpão** obtained an LLB from the University of Coimbra (Portugal) and completed the LLM in the field of International Trade and Transportation Law (Legal Aspects of Marine Affairs) at Cardiff University (Wales, UK). He obtained a specialization diploma in Logistics (MLog) and an MSc in Logistics, both at Porto Business School, University of Porto (Portugal). Having received a PhD in Engineering and Industrial Management from the University of Aveiro (Portugal), with his thesis on Supply Chain Risk Management, he is Adjunct Professor at Águeda School of Technology and Management (ESTGA) - University of Aveiro since 2000, where he teaches mostly in the fields of international trade and transport, logistics and supply chain management. He is an associated member of the research unit on Competitiveness, Governance and Public Policy (GOVCOPP) and his research interests focus mainly on supply chain risk management, collaboration in the supply chain, retail supply chains, international trade risk management, amongst other topics in the fields of supply chain and international trade.