

Dissertation press release

05.08.2020

Digital Transformation in Asset-Intensive Industries

Title of the dissertation	Digital Transformation in Asset-Intensive Industries: Systemic Constraints and Synchronized Change
Contents of the dissertation	<p>Digital transformation induces fundamental changes to a wide range of business operations. Prior research is abundant in cases from industries where digital transformation has emerged rapidly. However, the slow progress of digital transformation in asset-intensive industries indicates that there are context-specific development patterns that require a comprehensive study.</p> <p>To fill this knowledge gap, this doctoral research adopted qualitative case study approach with a focus on understanding the new requirements, challenges, and development patterns of the organizational capabilities during digital transformation in the context of the metals and mining industry. The findings show that firms operating in a stable business environment setting demonstrate limitations on their dynamic capabilities, and they consequently encounter market-specific digital transformation constraints. The outcome suggests that the industrial firms shall develop and acquire new capabilities that organically connect the technological and social changes. For an individual firm, inter-organizational ambidexterity, which can be achieved by combining internal and network capabilities, is critical for unlocking the full potential of digital transformation. On the industry ecosystem level, this requires the connected firms to address the systemic constraints and to drive changes in a synchronized manner.</p> <p>The study highlights the critical need for a synchronized transformation among the connected organizations. By introducing a novel terminology “boundary spanning dynamic capabilities”, and by explicating organizational ambidexterity with network capabilities, this study attempts to shift the existing dynamic capabilities discussion towards a network perspective.</p>
Field of the dissertation	Industrial Engineering and Management
Doctoral candidate	Shan Gao, M.Sc. (Tech.)
Time of the defence	21.08.2020 at 12:00 noon
Place of the defence	Public defence will be organized via Zoom: https://aalto.zoom.us/j/67027932248
Opponent	Professor Marko Kohtamäki, University of Vaasa, Finland
Custos	Professor Jan Holmström, Aalto University School of Science, Department of Industrial Engineering and Management
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