**18 - Exploring Dynamic capabilities of Design thinking for Digital transformation of UK SMEs Towards Paradigmatic Innovation**

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**Introduction**

The rapid advancement of technologies like Internet of Things (IOT), Big data and Artificial Intelligence (AI), has brought about transformative changes to industries globally. In the context of the United Kingdom (UK), Small and Medium-sized Enterprises (SMEs) are integral to economic growth. The economic landscape of the UK is significantly influenced by SMEs, making their adoption of innovative strategies crucial. Design thinking, a human-centric approach to problem-solving, stands out as a potent methodology. Its potential impact on digital transformation and paradigmatic innovation within SMEs needs a comprehensive exploration.

However, there is a critical gap in understanding how SMEs strategically leverage design thinking as dynamic capabilities for digital transformation, particularly in achieving paradigmatic innovation. This research aims to bridge this gap by investigating the dynamic capabilities of design thinking in driving digital transformation for UK SMEs, leading to innovative shifts in their operational paradigms. Recognizing this, the research focuses on elucidating the role of design thinking as a dynamic capability for reshaping how UK SMEs approach digital transformation and achieve ground-breaking innovation.

**Research question**

*How do dynamic capabilities of design thinking help UK SMEs in understanding user needs through interactive prototyping and by providing empathy-driven solutions?*

*How do UK SMEs sense changes and seize opportunities through design-led strategies in the digital environment?*

**Aim of research**

The aim of this research is to comprehensively investigate how SMEs in the United Kingdom utilise design thinking as a dynamic capability for digital transformation.

The primary objectives of this research are as follows:

i. To Investigate the specific dynamic capabilities within design thinking that UK SMEs prioritizes for digital transformation.  
ii. Uncover challenges and barriers encountered by UK SMEs in developing design thinking capabilities crucial for digital transformation.  
iii. Assess the impact of design thinking capabilities on the outcomes of digital transformation initiatives within UK SMEs.  
iv. Propose actionable strategies to enhance the effective utilization of design thinking capabilities by UK SMEs, overcoming barriers and maximizing the outcomes of their digital transformation initiatives.

**Literature Review**:

The literature review delves into the transformative potential of design thinking and its relevance to digital transformation in SMEs. It establishes the significance of design thinking as a driver for innovation, especially in the context of the UK business landscape. The review also explores challenges and opportunities associated with integrating design thinking into SME digital transformation strategies. The impact of Digital Transformation spans healthcare, finance, manufacturing and consulting, with vital integration for SMES economic development in the UK (OECD, 2021, OECD, 2023). The UK, a global Ai research hub, ranks among the top five countries due to significant Research and Development investments, exemplified by the initiative like the AI sector deal (Sjödin et al., 2021). Despite these strides SMEs face constraints hindering the full integration of digital transformation particularly due to the inability of SMEs to enact digital transformation towards innovation that is more meaningful to people.

Digital transformation offers automation, data analytics and cost reduction (Selamat and Windasari, 2021), and practical applications in customer service, predictive maintenance and supply chain management. The promising future of Digital Transformation for UK SMEs lies in dynamic capabilities of design thinking (Magistretti et al., 2021).

**Theoretical Framework**:

The research adopts a theoretical framework that integrates the principles of design thinking as dynamic capabilities. By drawing on established theories related to dynamic capabilities, the study aims to provide a structured understanding of how design thinking contributes to the adaptability and innovation potential of SMEs.

Dynamic Capabilities Theory guides this study, emphasizing adaptable resources and capabilities for Digital Transformation of UK SMEs towards paradigmatic innovation. It identifies the barriers, the resource limitations and the dynamic capabilities of design thinking towards innovation.

**Research Design**:

A qualitative research methodology will be employed to gain comprehensive insights into the impact of design thinking on digital transformation and paradigmatic innovation in UK SMEs. The methodology includes semi-structured interviews, case studies, and document analysis of 25 UK SMEs actively engaged in digital transformation initiatives and demonstrating a commitment to design thinking principles. This approach ensures information-rich cases for in-depth exploration.

**Data Collection and Analysis**:

Semi-structured interviews with key decision-makers and detailed case studies will provide a nuanced understanding of how design thinking is operationalized in the digital transformation context. Thematic and document analysis will be employed to identify patterns and trends in the data.

**Expected Contributions**:

The outcomes of this study will extend the existing knowledge on design thinking as dynamic capabilities for SMEs in the UK. It will offer actionable insights for SMEs to enhance their digital transformation strategies, leveraging design thinking principles to achieve paradigmatic innovation. The research aims to contribute to the academic discourse on the strategic role of design thinking in the digital evolution of SMEs.

**Discussion of the relevance and practical importance of the study**

Understanding the dynamic capabilities of Design thinking is important for SMEs as a paradigm shift calls for a new way in which SMEs think about innovation. SMEs will begin to check the reasonability of innovation and thereby develop new skill set when it comes to innovation.

This study will contribute to strategies to enhance the effective utilization of design thinking capabilities by UK SMEs, overcoming barriers and maximizing the outcomes of their digital transformation initiatives.

**References**

MAGISTRETTI, S., PHAM, C. T. A. & DELL'ERA, C. 2021. Enlightening the dynamic capabilities of design thinking in fostering digital transformation. *Industrial Marketing Management,* 97**,** 59-70.

OECD 2021. *The Digital Transformation of SMEs and Entrepreneurship, OECD Publishing, Paris*.

OECD 2023. *OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market, OECD Publishing, Paris*.

SELAMAT, M. A. & WINDASARI, N. A. 2021. Chatbot for SMEs: Integrating customer and business owner perspectives. *Technology in Society,* 66**,** 101685.

SJÖDIN, D., PARIDA, V., PALMIÉ, M. & WINCENT, J. 2021. How AI capabilities enable business model innovation: Scaling AI through co-evolutionary processes and feedback loops. *Journal of Business Research,* 134**,** 574-587.