

Digital Supply Chain Transformation of SMEs: A Focus on Order Fulfilment Processes

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This thesis investigates the digital supply chain transformation in small and medium enterprises (SMEs) as they strive to stay competitive through digital transformation. It explores the interplay between technology, innovation, and business management. The study specifically focuses on optimizing order fulfilment processes in SMEs to develop a customized solution that addresses the challenges encountered in this aspect of the digital transformation journey.

Background

Digital supply chain transformation is increasingly crucial for businesses, particularly for SMEs. Compared to larger businesses, SMEs often face resource or knowledge limitations when it comes to implementing and managing a digital transformation, resulting in more substantial challenges. However, the research available on digital transformation is limited concerning SMEs and in-depth process-focused transformation. Hence, digital transformation is important but challenging for SMEs.

Objective

The research aimed to investigate the digital supply chain transformation process among SMEs by focusing on order fulfilment processes. Such a focus enabled a thorough investigation of the order fulfilment processes: processing, picking, packing, shipping, and tracking. Based on this investigation, a conceptual framework was developed that specifies the successful criteria for utilisation of digital transformation on order fulfilment from an SME perspective.

Methodology

The methodology utilised an inductive qualitative approach to construct a conceptual framework. This was achieved through an integrative literature review and a thematic analytical technique applied to data collected from 10 semi-structured interviews. The interview sample consists of managers selected based on their expertise and knowledge of digital transformation efforts within their respective companies. The managers selected for the study encompass a diverse range of roles within the supply chain or general business streams. These roles include positions such as head of logistics and chief operating officer, allowing the results to offer valuable insights into the digital supply chain transformation across SMEs of different sizes and industries in Europe.

Results

This study highlights the initial steps of digital transformation for SMEs, emphasizing the importance of conducting a thorough assessment of the organization and its order fulfilment processes. A conceptual framework is developed, incorporating previous strategies, and identifying critical success factors for digital supply chain transformation as identified by European SME managers. The framework addresses the selection and implementation of digital tools, leadership, and strategies while considering enablers and barriers. The research reveals the positive outcomes of transitioning from traditional to digital order fulfilment processes, accommodating limited resources and knowledge. The implications of the framework provide a structured approach for informed decision-making and highlight the role of active managerial involvement. Recommendations include comprehensive assessment, strategic planning, and continuous evaluation. By leveraging the framework, SMEs can effectively navigate their digital transformation journey, optimizing operations, gaining a competitive advantage, and ensuring sustainable growth.



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