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The Relationship of Factors on the Implementation of Mass Customized/Personalized Products

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Abstract

In the U.S. textiles and apparel industry, mass customization (MC) is a competitive strategy that allows for the personalization of products utilizing and building upon the efficient methodology of mass production. This research paper presents the implementation of the MC business strategy within the U.S. textiles and apparel industry to better understand some of the variables and/or barriers that may affect the implementation of MC into a manufacturing environment. The MC strategy for personalizing products based upon specific customers' needs has grown exponentially as more sophisticated technology becomes available. This study examines the relationship of factors and the level of MC implementation. The study was based on responses to a survey from 91 subjects from the U.S. textiles and apparel companies that have implemented an MC strategy. Results from the survey were examined utilizing correlation analysis to determine significance and the strength of the relationship between the variables.

The result of the study found out that job design, technology strategy, mass customization capability, and the combined score of the organizational dimensions had a significant correlation on the level of MC implementation. The relationship of the MC approaches within and between the sample groups had no significant difference when implementing the MC strategy. The study recommends that job design, technology strategy, and organizational dimensions must be considered in order to implement MC, providing a customizable product that meets the consumers' needs, which can allow companies to remain competitive and profitable.

Keywords
Mass Customization/Personalization, Job Design, Technology Strategy

Biography
Dr. Julie A. Becker is an Associate Professor in the School of Visual & Built Environments, and an Interim School Director in the College of Engineering and Technology at Eastern Michigan University. She also serves as the Director of the EMU Textiles Research and Training Institute (TRTI) using her 20+ years of industry experience to train/teach industry professionals in CADCAM technology. Dr. Becker's research agenda includes mass customization, product design and development, virtual reality, 3D design in fashion, and manufacturing systems. Dr. Becker's passion is to connect students with industrial partners, developing work-specific projects in the classroom leading to corporate internships and career positions. Her most notable achievements have been focused in the development of educational curriculum assessments and leadership tasks as an EMU Mid-American Conference 2018-2019 fellow, the recipient of the Michigan Works Impact Award for corporate training development, has five U.S. design patents, and currently serves on an International higher educational curriculum assessment committee tasked to review pedagogy of European Fashion Schools for the International Textiles and Apparel Association.