Design for Procurement:
Examining Implementation and Performance

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ABSTRACT

The development of product design methodologies for stages in a product's life-cycle or specific product characteristics were not prominent in the literature until the early 1980s. The numerous "design for" techniques developed have focused on such topics as manufacturing, supply chain, environment, and more, leading to the umbrella term Design for X (DFX) where X represents a specific activity, feature, or goal which should be considered during the product design phase. The original "design for" approaches were created as a means of making the operations and production aspects of product creation more efficient and reducing time, cost, and errors. DFX techniques were developed to proactively manage these production issues. If designers anticipated potential problems and worked to eliminate them through improved product design, they could more effectively achieve these goals. Over time, DFX techniques expanded beyond production to the entire supply chain and enabled consideration of design's impact on the economic health of the company. This research focuses specifically on design for procurement (DFP). DFP focuses on design decisions that will enable efficient procurement activity, responsive acquisition of components and materials for manufacturing and service, and the integration of sustainability into the design through green purchasing. The primary objectives for this study are to examine this phenomenon on a large scale to determine the scope of DFP initiative application and to evaluate if expected results flow from their application. To date, all DFP research has been prescriptive with the assumption of performance based on DFP application. This study seeks to empirically validate if DFP influenced design enables the desired procurement performance. A survey that targets procurement managers and engineers in manufacturing industries will be implemented to test this application performance link and the ability to generalize DFP in the manufacturing industries. This project is working towards a greater understanding of how DFP application in the design process affects procurement performance.