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# Trends in Industrial Engineering Applications to Manufacturing Process


 Springer


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# Chapter 6

## Effect of Advanced Manufacturing Technology on Responsive Supply Chain Strategy, Pull System and Responsiveness to Market



José Roberto Díaz-Reza, Adrián Salvador Morales-García,  
and Jorge Luis García-Alcaraz 

**Abstract** Nowadays, companies are requiring a fast response to market, and supply chain must be adapted. This paper presents a structural equation model (SEM) integrating advanced manufacturing technology, pull system, responsiveness to market as independent latent variables, and responsive supply chain strategy as dependent latent variable. Those variables are related using six hypotheses. The SEM is aimed to measure the effect among latent variables and identify the most important activities that have the greatest effect. The SEM is statistically validated using information from 254 responses to a questionnaire applied in the manufacturing industry, and the partial least squares (PLS) technique is used. Findings indicate that advanced manufacturing technologies indirectly support companies to be able to respond to changes in demand and allow them to offer a rapid response in the changing market through the pull system implementation.

**Keywords** AMT · Pull system · Supply chain · Responsiveness supply chain

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