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# The Knowledge Factory: Innovation and IT Investment in Manufacturing

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# THE KNOWLEDGE FACTORY: INNOVATION AND IT INVESTMENT IN MANUFACTURING

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## **Abstract**

*IT business value research has identified a dual role of IT investment: to increase the firm's productivity by improving or replacing other inputs, and to reshape intermediate value-creation processes. Innovation is one such process that has been recognised as critically important. This paper incorporates the innovation process in a model of overall production to estimate the effect of IT in these two roles. We analyze a database of large US manufacturing firms using structural equation techniques in order to assess the fit of our model. Our findings show an indirect contribution of IT, through the innovation process, that varies markedly across industries. Additional analyses are required to capture longitudinal aspects of the data, but the initial findings confirm the longstanding proposition that IT creates value at intermediate stages of production.*

**Keywords:** Innovation, productivity, IT business value