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Empirical models of the effect of integrated manufacturing on manufacturing performance and return on investment

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Abstract

The effect of integrated manufacturing on non-financial manufacturing performance and return on investment is studied. Technology-use data from over 1000 manufacturing plants in the USA were used to test empirically the relationships between variables integrated manufacturing, non-financial manufacturing performance and return on investment. Notable findings were (1) integrated manufacturing shows a strong effect on non-financial manufacturing performance and (2) non-financial manufacturing performance has a statistically significant direct effect on return on investment. It is recommended that the justification of investments in manufacturing technologies that contribute to integrated manufacturing must be based on non-financial manufacturing criteria as well as on return on investment. Using two different models, it is shown that the causal model developed in the study is robust.

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