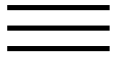


Predicting e-readiness at firm-level: An analysis of technological, organizational and environmental (TOE) effects on e-maintenance readiness in manufacturing firms.

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Predicting e-readiness at firm-level: An analysis of technological, organizational and environmental (TOE) effects on e-maintenance readiness in manufacturing firms

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### Highlights

• Technology infrastructure & competence positively affect four dimensions of e-maintenance readiness.

• Expected e-maintenance benefits and challenges influence e-maintenance readiness.

• Maintenance priority level influences optimism & innovativeness of firms

- â€¢ Maintenance priority level influences optimism & innovativeness of e-maintenance readiness.
- â€¢ Firm size positively affects optimism, insecurity and discomfort dimensions of e-maintenance readiness.
- â€¢ Competitive pressure does not significantly affect dimensions of e-maintenance readiness.

## Abstract

This study predicts the impact of technological, organizational and environmental (TOE) determinants on e-maintenance technology readiness in manufacturing firms. Survey responses of 308 managers from a wide spectrum of manufacturing firms have been validated and analyzed by means of structural equation modelling. The findings indicate that dimensions of e-maintenance technology readiness in manufacturing firms are mainly influenced by technological and organizational determinants involving technological infrastructure and competence, expected benefits and challenges of e-maintenance, and firm size and ownership. Surprisingly, there is no significant effect of competitive pressures on e-maintenance readiness. This study offers managers and vendors a frame of reference to analyze firm's situation before initiating new innovations. In case of e-maintenance technology, adoption strategies should be built around fostering level of employees' technological knowledge and skills, technology infrastructure as well as sustaining potential benefits and encountering potential challenges associated with e-maintenance technology. This paper is one of the early studies that predict dimensions of technology readiness index (TRI) through the determinants of technology "organization" environment (TOE) framework. Also, it is among the first attempts to link prominent technology adoption models to e-maintenance technology as a novel form of enterprise innovations.



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## Keywords

Technology adoption; e-Readiness; Technology "organization" environment (TOE) model; Technology readiness index (TRI); e-Maintenance

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