

# Effects of Industry 4.0 on Business Models: Case of The Finnish Industry

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## Abstract

This research investigates the effects of Industry 4.0 (I4.0) on business models arising from the deployment of I4.0 technologies in the Finnish industry landscape. The study attempts to answer a key question that how the implementation of I4.0 technologies influence the business models of companies. The research avails qualitative and explorative research method using semi-structures interviews as empirical evidence from the Finnish industries. The results suggest that the value propositions for industrial solution providers focus on increasing operational performance with closed-loop manufacturing, enabling autonomous operations for different industries, and offering customized value propositions. The Finnish industries have been developing preventive maintenance, health checks of machines, and consultation services by collecting and analyzing data from machines. I4.0 deployment plays a key role in improving customer relationships by providing opportunities for co-creation and individualized mass production based on customer needs as well as reducing barriers for new entrants. Industries offer new revenue models such as innovative pricing models of pay-per-results and profit sharing to address the need for initial investments for the I4.0 technologies and increase the share of recurring revenues with value-added services, which are effective for meeting customer requirements and are suitable for implementing I4.0 for all customers. Partnerships grow with other stakeholders to enable network value creation. Industries focus on core operations and look for partnerships with technology providers, connectivity providers, computational resources providers, and third parties to enable new value-added services. Finally, implementation of I4.0 requires key resources including I4.0-enabled manufacturing facilities and integrated value network.

**Keywords:** business transformation, customer satisfaction, innovation, networks, value