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Abstract

This research study is motivated by the research question, '*how has the evolution of Operational Technology (OT) supported the implementation of the connected enterprise for an Irish pharmaceutical manufacturing company?*' Literature on the evolution of OT has focussed on the development of the Programmable Logic Controller and the Fieldbus. Notwithstanding this fact, there has been little international research on how this evolution in OT and its subsequent convergence with Information Technology (IT) has supported the implementation of the connected enterprise. This research study advances understanding on how the successful convergence of IT and OT results in the establishment of the connected enterprise. This understanding is becoming of utmost importance as organisations are now spending millions of Euros on such initiatives. For instance the case organisation is spending €3 million on a project to implement a Manufacturing Execution System.

A cross sectional case study of a significant player in the Irish pharmaceutical manufacturing industry was conducted as part of this research. A simple mixed method research approach underpinned by the interpretivist philosophy was undertaken to explore the factors affecting the implementation of the connected enterprise. The research utilised an online questionnaire as the data collection method.

The findings offer insights into the case study participants' perceptions of the connected enterprise as well as the participants' own understanding of the various facets of the connected enterprise. The data from the pilot study demonstrates that the research data can be used as inferential data for similar healthcare manufacturing companies in Ireland.

The findings from the research show that the evolution of OT and the convergence of this technology with IT is a technical antecedent for the successful implementation of the connected enterprise. The findings from the research also show that the human factor is an equally important consideration for this successful implementation.