

Daryl Powell, PhD candidate

Daryl Powell holds a Master of Science (MSc) in Lean and Agile Manufacturing from Swansea Metropolitan University, the University of Wales, UK.

Since 2006, Daryl was employed as Continuous Improvement Champion at Schaeffler (UK) Ltd, in Llanelli, South Wales, where he led a number of process and productivity improvement projects.

Daryl moved to Trondheim in January 2009 to begin his PhD under the SFI Norman Programme. His research interests include lean production, ERP systems, and manufacturing planning and control.

As well as being a PhD candidate at the Department of Production and Quality Engineering at NTNU, Daryl is also a research scientist at SINTEF Technology and Society, where he has worked on a number of national and international research projects in close collaboration with industry.



"No longer can IT be excluded from the lean approach"

Though the theory of lean production is nowadays well understood, the relationship between information technology (IT) and lean production remains a controversial and far less explored topic. It is generally accepted that lean production improves manufacturing processes with the application of recognized tools and techniques, and equally assumed that contemporary enterprise resource planning (ERP) systems are essential for companies seeking efficiencies through organizational integration. In exploring what they call the *"Lean-ERP Paradox"*, Powell and Strandhagen (2011) suggest that there is a synergistic impact to be realised in integrating ERP systems within the lean paradigm. Riezebos et al. (2009) also argue that modern IT can indeed be tailored to support lean, but research is required to evaluate the application of contemporary ERP systems to support lean production principles.

Research Questions:

RQ1: Are lean and ERP genuinely contradictory in nature?

RQ2: How can contemporary ERP systems be used to support lean production?

RQ3: How can contemporary ERP systems be used to support pull production practices in SMEs?

RQ4: How can existing methodologies for the implementation of lean production and ERP systems be combined to develop a single "best practice" process for ERP-based lean implementations?

Facts

- PhD started February 2009
- Supervisor:
Prof. Jan Ola Strandhagen
- Co-supervisor:
Prof. Heidi C. Dreyer
- Thesis title:
Investigating ERP Support for Lean Production



Contributions:

1. A Research Framework for ERP in Lean Production (Powell, 2012)
2. A framework for ERP support for Lean Production (Powell et al., 2011)
3. A capability maturity model for ERP support for pull production (Powell et al., 2012)
4. A process for ERP-based Lean Implementations (Powell et al., 20xx)

