
A 15 years case study at Priorclave

Presenters

- Priorclave Ltd
  - Martin Prior, Director
  - Sreejit Pillai, Project Manager
- University of Greenwich
  - Dr Linda Hyder, KTP Manager
Introduction to Priorclave Limited

- Laboratory Autoclaves manufacturer
- Established in 1988, Thamesmead
- Position: UK market leader
- Overall staff of 40
- Emphasis on in-house manufacturing
- Markets: UK and Export
- Product Range 40-6000 Litres

Rectangular 450 litre Priorclave
Source: Priorclave Ltd
Enterprise Resource Planning (ERP)

Change & People
- Failure Rate Over 40%

Involve Staff
- KTP : Knowledge Transfer Partnership
- ERP Project 2010-2013 = Linked Departments
- Cost £200,000 (approx)
15 Years of Knowledge Association

3 KTP Schemes
From 1999 to present

Product Development
1999-2001

Introduction to the (then) TCS Scheme at Woolwich in 1988

Supply Chain Optimisation-ERP Project
2010-2013

Manufacturing Optimisation
2003-2005
So why have a KTP?

- High quality trained staff at relatively low cost
- Focussed Project work not diluted by day-to-day tasks
- A fresh pair of eyes
- Support in depth from the University

An innovative solution to our problems
SME’s & ERP

Key CSFs

Benefits to Company

Personal Development

SME: Small and Medium Enterprises
CSFs: Critical Success Factors
Why are SMEs Important?

SMEs:

- Contribute 48.1% to UK private sector turnover
- Provide 58.8% of UK private sector employment
- Have 57.1% share in UK manufacturing

Source: UK Enterprise Percentages, Department of Business Innovation and Skills, 2013
What is an ERP system?

- Links all operations within a business
- Real time information platform for decision-making
- Not just an ‘Information Technology’ system but
  - Involves people
  - Involves change
  - Involves re-engineering business process to establish best practices
  - Analogy: ISO 9001 Quality Management System
What is an ERP system?
Market in Large Enterprises (LE) have saturated since mid-2000’s ERP vendors have focussed on SMEs. Low cost ERP packages for SMEs have Generalisation issues where CSFs are not well defined.

(Source: Ahmad & Cuenca, 2012; Ali & Xie, 2012; Aslan et al., 2011; Grabski et al., 2011; Nazemi et al., 2011; Zach & Olsen, 2011)
Recent global survey on 1600 ERP implementation projects showed (Zach & Olsen, 2011)

- 57% of projects went overtime
- 54% went over budget
- 41% failed to realise the benefits
Key CSFs for the ERP project

- Good working relationship built over the years
- Clear aims and goals
- Management support
- Front-end approach
- ERP system to suit best practices not other way around
Key CSFs for the ERP project

- KTP framework allows
  - No distractions focus on ‘PLAN’
  - Expectations and support
  - KTP Advisor - Somebody keeps an eye
  - Association with government gives credibility
  - Knowledge sharing by knowledge base
Benefits to Company

- Integrated supply chain
- Provides a baseline
- Real time data
  - Management reports lag time reduced from six months to one month
  - Double entry of sales, purchasing, job costing data and payments eliminated
  - Service invoicing time frame reduced to two weeks from average of 4 weeks
  - Key performance indices (KPI) and rewards
Benefits to Company

- Manufacturing accounts for 70% of the turnover and has been fully computerised
  - Inventory and Stock Control improved with each year
  - Stock count activities save about 1 ½ days compared to pre-ERP days
  - Work-in-progress tracking
  - Job costing done in real-time
- Sets up a baseline for all future system migration
Benefits to Associate

• PhD thesis submitted
• MPhil degree obtained
• CMI Level 5 Diploma in management and leadership
• Project Management certification PMP
• Journal and conference papers published
• Conference and public speaking skills
• Rounded professional development
Enabled academics:

• to work with a major supplier in a niche market of scientific equipment, and has helped them understand not just the company but also the whole supply chain.

• to understand a great deal of the problems in implementing an ERP system in a manufacturing SME specialising in High Variety Low Volume manufacturing.

• to study data from an ERP system working in a live manufacturing SME, enhancing staff knowledge and expertise.
University Benefits - Teaching

• Opportunity for the Associate to deliver a lecture on his experience moving from academia to industry to the final year students as part of their employability skills.

• Provided data for case studies for final year projects.

• Tutorials based on real life data were used to teach students. More than 140 students benefited from this each year of the project.
• One Associate is completing his PhD.
• 1 conference paper.
• 2 journal papers.
• 6 MSc projects
• 2 undergraduate projects
• Contributed to the REF and income generation of the University, but specifically the Manufacturing Research Group.
University Benefits - Other benefits

• Long term relationship with the company.

• Access for further student projects in the future – 1 to 3 per year in addition to the 8 that have been completed during all 3 KTPs.

• All Associates were employed on completion of the KTP projects.

• The company are happy to be involved in other overseas student placement projects, thereby increasing our links with overseas institutes. At the moment there are 6 MEng Mechanical Engineering students from Brazil working on two projects at Prior Clave.
Summary

SMEs can adopt advance technologies

Win-Win-Win

Framework is crucial

Knowledge contacts provide this framework
Thank You!