

Institution: University of Bolton
Unit of Assessment: 36
Title of case study: Strategic Regional Development through Knowledge Transfer
<p>1. Summary of the impact (indicative maximum 100 words)</p> <p>This interdisciplinary research work in the areas of Knowledge Management (KM), e-Business, enterprise systems, Customer Relationship Management (CRM), and Supply Chain Management resulted in socio economic impact through improved organisational performance in 90 companies in the North West, resulting in process improvements, enhanced productivity, marketability, increased revenues, employment, reduced costs, enhanced knowledge capital, profitability, and sustainability. This positive regional impact included an ERDF funded project (£1.4m), 5 KTPs (£500,000), an ESRC project, and other bespoke collaborative company projects. This research work in collaboration with industry encompassed a knowledge sharing regional network that included BAE Systems, Daimler, Northwest Aerospace Alliance, APPH Group – BBA Aviation, Hyquip Limited, Alliance Learning Limited, Darts Corner Limited etc.</p>
<p>2. Underpinning research (indicative maximum 500 words)</p> <p>The research is associated with the development of software tools for implementation in information systems, knowledge management, and process improvement within companies associated with manufacturing and the provision of services. The foundation of this research was concerned with addressing the factors affecting the knowledge culture in small to medium enterprises (SMEs) and large organisations. This was based on work done and published between 2003 and 2007, and was the outcome of a larger European funded regional programme working with large and small companies in the North West of England.(ERDF Funded Project £1.4m)</p> <p>Development of a large network of companies (e.g. SMEs, Aerospace primes etc.) where an e-Business and IT framework was developed base on the interdisciplinary research work undertaken through the above European funded project. Many of these companies in the network were able to improve their position in the global e-Business landscape enhancing their organisational performance and sustainability.</p> <p>The outcome of this work led to targeted Knowledge Transfer Partnerships (KTP's) and industrially funded PhD programmes. Specific projects are as follows:</p> <p>Knowledge Transfer Partnerships:</p> <ul style="list-style-type: none"> ○ e-Business architecture development and implementation while applying web services which led to opening new markets and significant improvements in the revenues and profitability of the company. (<i>Hyquip Ltd.</i>) ○ Framework development and technological implementation of a customised open ERP, CRM and Knowledge management system, leading to significant improvement in organisational performance at Alliance Learning (increased revenues and cost reductions). (<i>Alliance Learning Ltd.</i>) ○ Business process improvements and implementation of e-marketing approach led to increased productivity, cost savings and enhanced business sustainability at the company partner. (<i>Hyquip Ltd.</i>) ○ Development of software tools to facilitate improvements in engineering processes which resulted in order to increase revenue and profitability within a small

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manufacturing SME. (*VIP Ltd.*)

Work with larger companies:

- The development of Reliability Centred Maintenance (RCM) systems specifically concentrating on research and development of an end-to-end business support solution framework. This project utilised the latest developments in the fields of Knowledge Management, Quality Control, Supply Chain Management and Information Technologies to support BAE in gaining operational efficiency and achieving strategic advantage in RCM. (*British Aerospace*)
- Analysis the state-of-the-art in the supply chain management domain to develop a world class supply chain best practice framework for the sector. This work has resulted in the development of a capability matrix for the Northwest Aerospace Industry (involving both large companies and SMEs). The framework created from this research work has helped in guiding the regional strategy to develop the overall aerospace supply chain in the region spanning more than 50 companies. (*North West Aerospace Alliance*)

4. Details of the impact (indicative maximum 750 words)

Knowledge Transfer Partnership (KTP) with Alliance Learning Limited - 2009 to 2011

- Funding body : Technology Strategy Board (TSB) and company partner
- Fund amount : £117,000
- Subject area : Customer Relationship Management (CRM) systems and Knowledge Mgmt.

Quote from Company in KTP Final Report : The Knowledge Transfer Partnership has allowed us manage our customer information and sales processes effectively thereby helping us to work in a more structured and efficient manner. Despite the recession and funding cuts, target sections of the business saw 9.5% growth. With the IT solutions, our company now has a deeper understanding of our customers, and are very well positioned to take advantage of the opportunities in the future.

Knowledge Transfer Partnership (KTP) with Hyquip Limited - 2009 to 2011

- Funding body : Technology Strategy Board (TSB) and company partner
- Fund amount : £110,000
- Role : Lead Academic and Knowledgebase Supervisor
- Subject area : e-Business and enterprise systems

Quote from Company in KTP Final Report : Without the knowledge transfer partnership, it is Hyquip's belief that it would have been affected more seriously by the current recession and that its recent recovery would not have happened, which would have lead to redundancies and downsizing. With the KTP, Hyquip remained focussed with the task at hand, consolidated its position and is now looking forward to the next 5-7 years from a position of strength. It also believe that the KTP programme has given it the knowledge to take advantage of modern IT/internet solutions.

Knowledge Transfer Partnership (KTP) with VIP Limited - 2009 to 2011

- Funding body : Technology Strategy Board (TSB) and company partner

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- Fund amount : £118,000
- Role : Lead Academic and Knowledgebase Supervisor
- Subject area : Strategic management and marketing

Quote from Company in KTP Final Report: VIP's sales will gradually return once funds within the construction and chemical economic sectors once again start to flow. However VIP is in a better position to market it's products and services to the slowly growing economy once the financial situation begins to improve. VIP now has an increased arsenal of tools with which to stake it's claim once the UK economy begins to get back on its feet.

Knowledge Transfer Partnership (KTP) with Hyquip Limited - 2009 to 2012

- Funding body : Technology Strategy Board (TSB) and company partner
- Fund amount : £117,000
- Role : Lead Academic and Knowledgebase Supervisor
- Subject area : Business Process Optimisation in Engineering Services

Quote from Company in KTP Final Report: Working with the University of Bolton and Kondal Kandadi has helped Hyquip stay focused throughout the programme, achieving all the goals it set out to achieve in a timely manner. We would have no hesitation engaging in a similar programme in the future.

Manufacturing Global Networks (MAGNET) with ERDF and NWDA – 2006 to 2008

- Funding body : European Regional Development Fund (ERDF)
- Fund amount : £1.5m
- Role : Project Lead and Manager (Full project life cycle)
- Subject area : e-Business, Knowledge Management, Global Supply chain management, and Enterprise systems
- Industry/Research impact: Development of a large network of companies (e.g. SMEs, Aerospace primes etc.) where an e-Business and IT framework, developed base on the interdisciplinary research work at the University of Bolton, was applied. Many of these companies in the network were able to improve their position in the global e-Business landscape enhancing their organisational performance and sustainability.

Reliability Centred Maintenance (RCM) through effective Knowledge Management at BAE Systems Plc – 2008 to 2011

- Funding body : BAE Systems Plc
- Fund amount : £12,000
- Role : Lead Academic and Project Manager
- Subject area : Reliability Centred Maintenance and Knowledge Management
- Industry/Research impact: This project helped BAE Systems to improve its operational performance within the Reliability Centred Maintenance (RCM) function by specifically concentrating on research and development of an end-to-end business support solution framework. This project utilised the latest developments in the fields of Knowledge Management, Quality Control, Supply Chain Management and Information Technologies to support BAE in gaining operational efficiency and achieving strategic advantage in RCM.

Development of a World Class Supply Chain Best Practice Framework through Capacity, Capability and Knowledge Mapping of Northwest W Aerospace Industry in England - 2008 to 2011

- Funding body : NWAA Limited Northwest Aerospace Alliance (NWAA Limited)
- Fund amount : £51,000
- Role : Lead Academic and Project Manager
- Subject area : Supply Chain Management and Knowledge Management
- Industry/Research impact: This study focussed on studying the capacity and capability

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of North West Aerospace sector and analysing the state-of-the-art in the supply chain management domain to develop a world class supply chain best practice framework for the sector. This work has resulted in the development of a capability matrix for the Northwest Aerospace Industry (involving both large companies and SMEs). The framework created from this research work has helped in guiding the regional strategy to develop the overall aerospace supply chain in the region spanning more than 50 companies.

PhD outputs

1. **PhD Title:** Enhancing the role of customer knowledge management in global supply chains: Developing a framework
 - PhD student: Dr. Zahra Salimi
 - Director of Studies: Dr. Kondal Reddy Kandadi
 - PhD Completion Date: January 2010
2. **PhD Title:** A study of supply chain stress factors within the aerospace industry in the North West of England.
 - Industry Partner: Northwest Aerospace Alliance (NWAA Limited)
 - PhD student: Dr. Vipul Parkinson
 - Director of Studies: Dr. Kondal Reddy Kandadi
 - PhD Completion Date: December 2010
3. **PhD Title:** Proactive aircraft support and continued airworthiness: Development of a Reliability Centred Maintenance (RCM) capability across multiple aircraft projects within a large organisation
 - Industry Partner: BAE Systems Plc
 - PhD student: Dr. Mathew Bell
 - Director of Studies: Dr. Kondal Reddy Kandadi
 - PhD Completion Date: April 2011
4. **PhD Title:** A supply chain collaboration framework for Western automobile manufacturers – Providing an improved procurement performance
 - Industry Partner: Daimler AG
 - PhD student: Dr. Julian Hensolt
 - Director of Studies: Dr. Kondal Reddy Kandadi
 - PhD Completion Date: March 2013
5. **PhD Title:** A framework for user based participatory implementation of Open Enterprise Systems in service sector SMEs
 - Industry Partner: Alliance Learning Limited
 - PhD student: Rufus Oluwatosin Lebile
 - Director of Studies: Dr. Kondal Reddy Kandadi
 - PhD Completion Date (Expected): July 2013

6. Sources to corroborate the impact (indicative maximum of 10 references)

- I. KTP Final report – Alliance Learning
- II. KTP Final report – HYQUIP 1
- III. KTP Final Report - HYQUIP 2
- IV. KTP Final Report – VIP Ltd
- V. MAGNET Project Final Claim
- VI. MAGNET Project Final Figures