This is the post-print version of the following article:
Wynn, Martin G, Lau, Erin and Maryszczak, Peter (2011) ***Knowledge Exchange and Learning and Development in a Newly Formed SME: An Example from the Knowledge Transfer Partnership Scheme.*** **In: Innovation through Knowledge Transfer 2010. Smart Innovation, Systems and Technologies (9). Springer-Verlag, Berlin, pp. 203-212. ISBN 978-3-642-20508-8. The original publication is available at www.Springerlink.com**

Knowledge Exchange and Learning and Development in a Newly Formed SME: an example from the Knowledge Transfer Partnership Scheme

Martin Wynn[1], Erin Lau[2] and Peter Maryszczak[2]

[1]Department of Computing, University of Gloucestershire, Cheltenham, GL50 2RH, UK
mwynn@glos.ac.uk
[2]Optimum Consultancy Ltd, 5 Court Mews, London Road, Cheltenham, GL52 6JQ, UK
{erin.lau, peter.maryszczak}@optimum.uk.com

Abstract. This paper focuses on the how the Knowledge Transfer Partnership (KTP) scheme has been used to introduce new information systems and advance learning and development at Optimum Consultancy Ltd, which was formed on 1st July 2008 via the amalgamation of Hama Ltd and J Orchard Consulting Limited. This new company now has 35 staff and turnover grew from £2.4m in 2008-9 to £3.1m in 2009-10. The knowledge base partner is the University of Gloucestershire, based in Cheltenham, UK. The KTP product is arguably the most used channel for effecting knowledge transfer between universities and local industries in the UK. The impact of the project is reviewed in terms of improved efficiencies, professional development, skills enhancement and organisational change. Learning and development were embodied in this major project to implement an integrated IT solution for the new company and rationalise and standardise the core business processes in the three offices situated at different locations in UK.

Keywords: Knowledge transfer, learning and development, IS strategy, systems integration, process change

1 Introduction: The Key Business Requirements

1.1 Formulation of Project Objectives

The project was initially formulated in Spring 2008 when the Business Development manager from the University of Gloucestershire (UoG) met the Managing Director of Hama Ltd at a University event. The company's core business was project and cost management in the property, engineering and construction fields; and its customer base included major retailers (Harrods, Selfridges), rail operators (Docklands Light Railway, London Underground), Financial Sector (London Stock Exchange, Sumitomo Mitsui Bank Corporation), Business Relocations (Metronet, Tepnel) and Sustainable Development (Carbon Trust, Crown Estate). Hama Ltd was

about to merge with one of their competitors, Orchard Consulting, and required learning and development (L&D) support in two main areas:

- The merging of their business systems and associated support processes. This was seen as absolutely critical to the success of the merger as neither company had reliable systems and without a rapid implementation of a new technical and informational infrastructure, the new business would not be capable of functioning as a unified entity.
- The establishment of common business procedures to underpin the expansion of the new company's market share. In particular, it was essential to unify and standardise business activities that impact on the merged customer base.

A number of options for supporting Hama's merger with Orchard Consulting were explored. It was decided to harness the government supported KTP scheme as the umbrella arrangement under which project based L & D training and embedding could be provided. The KTP scheme can be used for any project that provides bottom-line benefit to the company partner, but is often geared to projects that inject innovation and/or new technology into the operations and culture of the company (Wynn, 2009, Wynn et al, 2009). The UK government will fund over 50% of the employment, training and direct support costs of an experienced graduate - the 'Associate' – to lead a key change project, and also funds consultancy from the University for half a day a week, to bring transfer of knowledge from the University to the company.

A two year KTP project was deployed to review and establish the new business processes in Optimum (the new company) and then to evaluate, procure and implement new corporate information systems. At the same time, a shorter 40 week KTP was used within that 2 year period to address the specific problems of amalgamating three separate offices and standardising sales processes and support materials, including the website. Both projects were central to Optimum's new corporate strategy of growing market share in the project management services field through state-of-the-art information support services and slick efficient customer management. A strong theme running through both KTP projects was to maximise learning and development opportunities for Optimum staff, so that new systems and processes were fully embedded and could be exploited to maximum benefit for the company.

1.2 Ownership of the Business Objectives and Main Stakeholders

Managing the expectation of key stakeholders is critical to the success of any project or collaborative consultancy. The main stakeholders were the Project Board and project sponsor, Optimum company members, Project Team members, IT suppliers and Optimum clients. The Government KTP Advisor and the UoG were stakeholders via their roles on the Project Board and the Project team.

A power/interest grid can usefully be used to classify stakeholders and enable appropriate communication. Based on involvement and expectation, stakeholders are prioritised, focusing on their power and interest in the project outputs (Fig. 1). As the Project Board and team members were the most significant stakeholders,

communication with them was done by weekly, monthly and quarterly meetings, reviewing progress against plan and checking main goals and associated plan milestones.

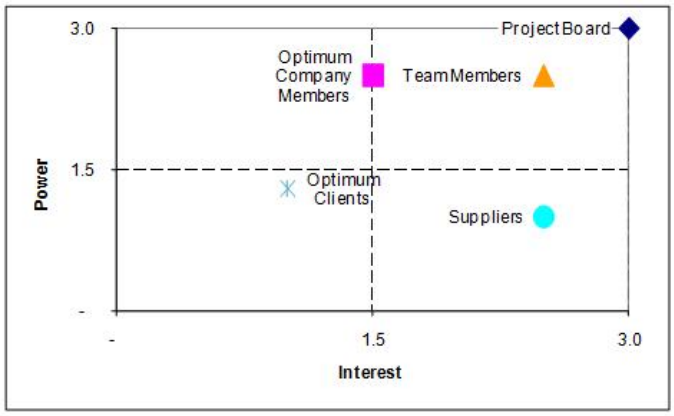

Fig.1. Main stakeholders in KTP programme based on Power/Interest (based on scale of 0 = low; 3 = high)

1.3 Desired Outcomes and Link to Corporate Strategy

An internal review of systems and processes highlighted the fact that the company information systems were inadequate to support the company's current and future operations. Historically, the IT systems in Hama and Orchard Consulting were set up in an ad-hoc manner whenever a need arose. Separate software and hardware systems were purchased without detailed analysis of their impact on the overall IT and corporate strategies. The merger of the two companies in July 2008 posed greater challenges to combine and upgrade two different IT/IS architectures and in particular to align and standardise the business processes across three offices.

New integrated systems and standardised business processes would provide infrastructure support for steady growth and improved margins, without the stop-start addition of administrative overheads. In addition, as the new systems were implemented, there was an urgent requirement to implement a refreshed and refocused business development strategy that crystallised the different roles of the three Optimum offices (Cheltenham, London and Haywards Heath) and provided direction to the roll-out of the new Enterprise collaboration system. A major output was a new process and associated procedures for responding in a consistent and streamlined manner to customer enquiries across the organisation. This encompassed a review and evaluation of how Optimum's services and products could best be combined to meet varying customer needs and improve customer service. Overall, the desired impacts were:

- To reduce general administration time of fee earning project managers by at least 5% (i.e. 2 hours per week in searching for documents, collating reports from various spreadsheet and manual data re-keying)
- To improve the ratio of support staff to fee earners from 1:3 at the start of the project to 1:5 at project close
- To improve efficiency in reporting, forecasting, monitoring and controlling tools in all business activities and thereby achieve a growth in revenue from £2.4m in 2008/9 to £5m in 2012-13 (£3.1m turnover achieved in year ending June 2010), with a profit margin of circa 12%

2 Project Deliverables

2.1 Analysis of Problem Situation and Desired Impacts and Outcomes

The contracting stage took place in the summer of 2008. The Director of Hama Ltd (Peter Maryszczak) worked with staff from the UoG to design a project brief to satisfy L&D objectives that would gain financial support from central government under the auspices of the KTP scheme. The definition and scoping phase defined the purpose as well as the scope of the project. To do this, a multiple cause analysis (MCA) was adopted (Fig. 2). This process was subsequently repeated with the managing director of Orchard Consulting to develop the shorter 40 week project to address and support the change agenda in the selling practices and processes across the three offices of the new combined company.

The combined impact of the KTP initiatives was to provide Optimum staff with new skills and behaviours in three main interrelated areas:

- Establishment of an IS/IT function with the capabilities to support and develop a new systems platform to support sustained growth.
- New skill sets in the use of leading edge software as part of daily company operations
- Process understanding and ownership to facilitate on-going process improvement, particularly in the sales and operation areas.

In recent years, when new business was won, the lack of sound systems meant administrative and management staff was sucked in to support the delivery of key projects. This produced fluctuations in turnover, profit and staffing levels. New integrated systems and standardised selling processes would provide infrastructure support for steady growth and improved margins for the new combined company.

2.2 Financial Parameters, Timescales and Milestones

The finalised agreements for the two projects were embodied in contracts signed by Optimum and the UoG. For the major two year KTP project to implement a new systems platform, the budget for all UoG staff, travel and subsistence was set at

£115K, with Optimum contributing 33% (£38K) and the Technology Strategy Board (a central government agency) providing 67% (£77K). In addition, Optimum agreed to invest a further £100K in hardware, software, staff time and training costs.

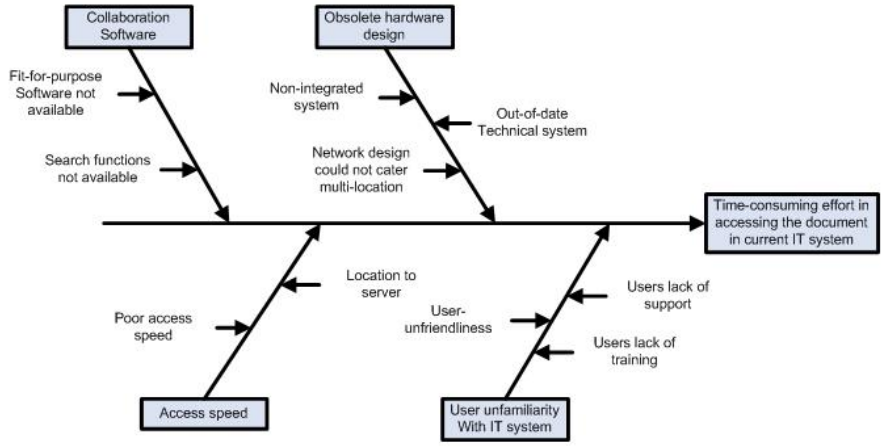

Fig.2. Using Multiple Cause Analysis to help scoping and definition

For the shorter 40 week process alignment project, the staff consultancy budget from the UoG was set at £38K, with Optimum providing £15K and the Technology Strategy Board contributing £23K. Again, Optimum also committed to spend a further £8K on staff time and sales support materials. For the two projects combined, total investment over the two years will be £261K, with £100K being provided by the central government. The overarching two year project started in September 2008 and completed in September 2010, and the 40 week process alignment project started in October 2009 and completed in June 2010. Both projects have a series of milestones embodied in project plans. The key milestones – implementation of new systems, improved efficiencies and standardisation of customer centric processes have now been delivered.

2.3 Learning and Development Objectives

The design of the L&D initiatives was initially a three way process involving Optimum senior management, UoG staff and the government KTP adviser. The KTP funding and authorisation process requires a detailed project plan to be put together with clear benefits and deliverables. This was done for both the two year full KTP and the 40 week short KTP that ran in parallel. The generalised training goals concerned the improvements in capabilities noted in section 2.1 above, but these were weighted slightly differently according to job role. The three main training goals were:

- Learning to use and exploit the new collaboration software (Workspace)

- Learning to support the IS/IT function
- Learning to optimise business processes

Their relative importance for fee-earning and administrative/support staff is shown in Fig. 3.

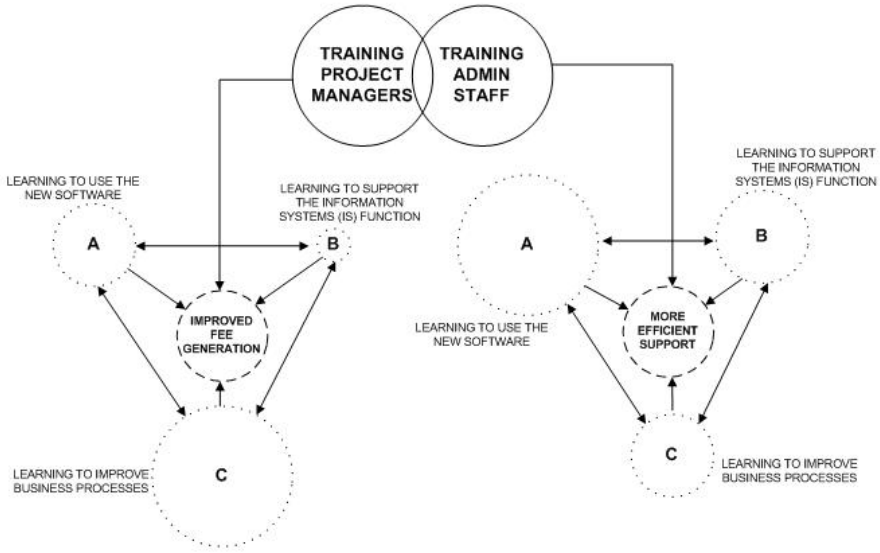

Fig. 3. Generalised training goals for Project Managers and support staff in the project

3 Project Benefits: improved efficiencies, professional development, skills embedding and organisational change

3.1 Delivery of L&D Initiatives

Within the three generalised training goals noted above (Fig. 3) were a range of L&D objectives concerning skills and competencies related to project management, systems selection and implementation, systems support, process change and organisational development. These included:

- The application of selected PRINCE2™[1] processes and components for managing the projects
- The use of PRISM Buy-Build methodology for selecting and implementing new software
- The application of process mapping tools and techniques for process reengineering

[1] PRINCE2™ is a Trade Mark of The Office of Government Commerce

- The training of user champions who would become the standard bearers in the deployment of the new integrated Workspace systems and customer centric processes and procedures (Workspace was the new software acquired as part of the project)
- The application of ITIL Continual Service Improvement (CSI) concept for reviewing the project and sustaining improvement

To achieve these, a variety of training methods and learning formats was applied, following experience gained in a range of international training contexts (Wynn and d'Ayala, 1982, 1986). These were interspersed across the duration of the KTP projects and introduced by University staff as appropriate at different stages in the learning cycle. Methods used included:

- *formal training courses* to train users on the use of the new Workspace software were held on company premises and at the software house in Nottingham. Other courses to develop skills in PRINCE2 project management and service management principles were run at the University of Gloucestershire by qualified trainers.
- *structured workshops* to develop understanding of current systems issues, the PRISM Buy-Build methodology, process mapping analysis outcomes, and systems supplier selection options
- *brainstorming* to identify all possible requirements for new systems and risk identification and assessment
- *structured discussions and panel discussions* with the software suppliers, culminating a final panel discussion at the University's campus in London in April 2009
- *role plays, performance 'try-outs'* and *simulations* to allow systems users to try out new systems functions in a test environment
- *team tasks* were deployed on the three company sites to ascertain reporting requirements from the new systems and also to transfer project data from old systems into the new Workspace environment

3.2 Change Indicators

The impact of the overall project and L&D initiatives was assessed from a number of perspectives:

Professional development: Impact on the stakeholders (especially the company members) mainly lies in the changes in their normal work routine in IT systems. Ongoing training, coaching and support were needed to ensure that they got used to the new Workspace systems and processes as quickly as possible. Embedding the principles of PRINCE2 in the project management process also constituted an upgrade in professional practice in the systems area.

Organisational development: Certain company policies and procedures had to be modified, clarified or replaced to adequately support the new company. Business process flow charts were revisited to re-emphasise the role of the process owners, their responsibilities and new activities associated with each process. The IT/IS

function was also significantly advanced, moving from the stage of end-user 'Contagion' to a stage of 'Control' and 'Integration', in Nolan's classic model of the evolution of the IT function (Nolan, 1979)

Resource commitment: To implement the recommended IT and process change solution, significant commitment and support from company staff was necessary. They needed to spend time on training & learning, and a range of tasks geared to the ushering in of a new way of working. Resources from the supplier were also needed for system support and configuration.

Skills Enhancement: The training of over 30 staff in the use of the new Workspace software through formal training sessions, supported by workshops and one-to-one coaching was a major embedding of new skills. This will be carried on via the selected four user champions. The embedding of new consistent sales processes to underpin the business development element of the system has also been a significant up-skilling in process understanding, ownership and management.

Change Management: Creating enthusiasm among staff for the new Workspace system was very important. A key to this is identifying and addressing common bottlenecks and causes of frustration and irritation in their job roles. End users will ultimately be responsible for making the system a continuing success. Thus, it is important to make them understand why the change is happening and what is needed to effect the change. For example, clear process flow diagrams, with defined roles and responsibilities, can improve communication and engender support for process change necessary to deliver project outcomes.

3.3 Impact on Optimum's business performance

For Optimum, the actual impacts of the project have been in improved efficiencies, time savings and the avoidance of additional administrative headcount. It was estimated that 5% of working time was being wasted due to inefficient IT systems and associated procedures. Removing this waste through improved efficiency of the IT systems portfolio has contributed up to £60K per year by reducing the administrative work of the fee-earning project managers, whilst avoidance of additional administrative headcount has provided an additional saving of £140K per year (4 extra administrative heads saved as the company has moved to a 1:5 admin-fee earning staff ratio). The Workspace software provides instant access to corporate information on overall company performance, forward workload and future prospects as well as full details for every job, including who is looking after it, the client, fee type, value, allocated costs and the margin that is being achieved has greatly improved the efficiency in all business activities. Moreover, the standardised enquiry response process is now being embedded through workshops and structured discussions with customer facing staff. This alone will drive an estimated additional increase in turnover of circa £200K per annum from 2010/11. This will emanate from improved quality of customer response and the improved prospects of securing new business against competition. The standard components of customer response (project data sheets, accounting and insurance templates) are now in place across all three offices, allowing more time to focus on the customised elements of customer

response (project specific approach an method). Different combinations of products and services are being fine-tuned for different market sectors and key customers. These benefits are now combining to enable the growth of the business and increased profit margins.

3.4 Stakeholder impacts and perceptions

The KTP programme focused on implementing an integrated approach to systems development and process change across the three offices of Optimum. The initial implementation addressed the key business information bottlenecks of document control, sales contacts and access to project information. The impact and perceptions of key areas of the Optimum business are summarised below:

People: This new collaboration software is able to integrate the management of time and resources and the recording of skills and training into the mainstream corporate database. Optimum staff benefit from having instant access to forward schedules and resource availability without a reliance on monthly paper/spreadsheet reports, which is very difficult and time-consuming to maintain.

Business Development: The new integrated system and sales procedures play a key role in business development, keeping track of enquiries, and underpinning sales and marketing campaigns. Any work done on prospective jobs is kept in the system. This allows the tracking and managing of the 'new work pipeline'. When Optimum wins a job, it gets migrated to a project record which holds all of that history. Before the new software and associated procedures were introduced, this data was held in spreadsheets in which a lot of information was being duplicated with no version control.

Finance: The existing accounting software (Sage) has now been linked with the new Workspace system. Senior management and team leaders now have instant access to information about overall company performance, forward workload and future prospects as well as full detail on every job (e.g. fee type, value, allocated costs and the margin that is being achieved). This leads to more accurate costing and invoicing and shortens the management reporting cycle. The link to the timesheet system ensures that costs are up to date and this eliminates what was a laborious process under the old way of working.

Operations: Management of projects has been made more efficient through the new Workspace system. Once a bid is won all the information is ready to be automatically transferred to the project record. This ensures continuity and reduces errors. The ability to find things more quickly will prove increasingly useful as project progress. Previously, field-based staff has been struggling to access the information they needed. The system will bring a complete picture of what the business is doing in one place and directors are better informed about projects. They can log into the system to access financial information on a project instantly.

4 Concluding Remarks

This case study has illustrated how the KTP scheme can be used to support an SME achieve key business objectives that revolve around a combination of multi-disciplinary learning and embedding of new skill sets and knowledge. Utterback (1994) has noted that 'a strong technological base is as critical to the prosperous survival of a firm as a good understanding of markets and a strong financial position', and knowledge transfer from Universities can play a crucial role in the technological advancement and organisational development of local industries. The UK Department of Trade and Industry (DTI) has specified a range of products for supporting local businesses (DTI, 2003), including the KTP scheme which provides direct support in excess of £25 million per annum for knowledge transfer projects in firms of all sizes, but particularly in SMEs of less than 250 staff (Wynn and Jones, 2006). The KTP scheme has a track record of benefits delivery to all parties, which suggests it is worth continued support in the current period of economic downturn and reduction in public expenditure budgets.

Acknowledgements. The Partnership received financial support from the Knowledge Transfer Partnership programme. KTP aims to help businesses to improve their competitiveness and productivity through the better use of knowledge, technology and skills that reside within the UK Knowledge Base. KTP is funded by the Technology Strategy Board along with the other government funding organisations.

References

1. Wynn, M. (2009), 'Developing and implementing IS strategy in SMEs', Management Research News, volume 32, No 1, February, pp78-90
2. Wynn, M., Turner, P., Abas, H. and Shen, R., (2009) 'Employing knowledge transfer to support IS implementation in SMEs', Industry and Higher Education, Vol 23, No 2, April, pp 111-125
3. DTI, (2003), DTI Innovation Report, Competing in the global economy: the innovation challenge, December
4. Nolan, R. L., (1979), 'Managing the crisis in data processing', Harvard Business Review, Mar-April
5. Utterback, J. M., (1994), Mastering the Dynamics of Innovation (How companies can seize opportunities in the face of technological change), Harvard Business School Science and Innovation Policies, HMSO, Crown Copyright, p55
6. Wynn, M. and d'Ayala, P.G. (1982) 'Human settlement management training: an approach to course design', Ekistics, Vol 49, No 292, Jan/Feb, pp78-84
7. Wynn, M. and d'Ayala, P.G. (1986), Handbook for the Design and Organisation of Courses, UNESCO Human Settlement Managers Training Programme and Man and the Biosphere (MAB) programme, revised version, CIREA, Parma, Italy
8. Wynn, M. and Jones, P. (2006) 'Delivering Business Benefits from Knowledge Transfer Partnerships', International Journal of Entrepreneurship and Small Business, Vol 3, Nos ¾, pp310-320