

Institution: The University of Northampton
Unit of Assessment: 34
Title of case study: Design and Knowledge Transfer Partnership collaborations
<p>1. Summary of the Impact (85 words)</p> <p>This case study describes the impact of research in Design Management and Product Design carried out by the Design Research Group at the University of Northampton in embedding design competencies in a number of British companies, particularly in the Northampton region through inter-related, collaborative Knowledge Transfer Partnerships (KTPs). This case study demonstrates how the research in Product Design and Design Management has benefited companies economically in adding value to the UK economy, and as a consequence of one particular KTP, significantly improving quality of life.</p>
<p>2. Underpinning Research (499 words)</p> <p>The nature of the underpinning research took place between 1999 and 2010 in the fields of Product Design and Design Management in the form of research by members of the Design Research Group: Mark Wilkinson (1995-2008); Randle Turner (1997-2012); Vicki Battle (1993--); and Friedemann Schaber (1999--).</p> <p>Dr. Mark Wilkinson (1995-2010), founder and leader of the Design Research Group at the University of Northampton (1995-) and Reader in Product Design (2004-2010) –(later Director of the Leather Institute at UoN (2010-2012)), in collaboration with Roger Sale (Professor of Industrial Design at the University of East London, previously at the Royal College of Art) articulated (1,2,3,4) new insights for the role of Design Management and Product Design in the development of new products. Their research identified new opportunities for networked partnerships between retailer, technology developer and academic researchers which found an application as applied research through KTPs with the companies Datapride (2001); Hambleside Danelaw (2003); and Creative Topps (2004), where Wilkinson acted as KTP Principal with others including Turner and Thomas (Battle). In “Beyond the Fridge - Collaboration as a paradigm for Innovation” (1), a demonstration project funded with £20,000 by partners J. Sainsbury, Electrolux and 3M, and in research “Collaborative Envisioning”, (2,3) Wilkinson and Sale contested the accepted model of partnership based on the transfer of ready-made solutions. This provided a new model that used an inclusive, iterative and objective driven method, with a focus on the role of design as a project management tool. This model was tested through the project and suited to the exchange of knowledge and new product development in KTPs. A further insight resulted from the analysis provided by Wilkinson and Sale (1,2,3,4) of the transfer of technological innovation and its identification as a creative process (e.g. the early case study of design management and creative technological process in creating Dyson’s first products, and in supply chain innovation(4)).</p> <p>The KTP with Hambleside Danelaw (Wilkinson and Turner) was a key outcome (8) / (S5) of the successful application of research by Wilkinson leading to a research model that was used and applied by other members of the Design Research Group (Turner, Schaber and Thomas) in studying the Design Groups KTPs (5,6,7) for the purposes of applying the resulting research to the development of new KTPs (Sue Ryder, BCE and John Crane). Friedemann and Thomas (Battle) also researched the impact of international trade on the UK toy design and businesses in the giftware market (6), important for some of the KTP partnership companies. Turner followed Wilkinson’s technological innovation transfer research to apply his research on: computer-aided design; creative applications of visualising software; and specialist laser-cutting and three-dimensional printing technologies in creating prototypes – into the work of Sue Ryder Care Ltd (2008); BCE Distributors Ltd (2010); and John Crane Ltd (2010).</p>
<p>3. References to the research (indicative maximum of six references)</p> <p>(1) Wilkinson, Mark and Sale, Roger (1999). “Beyond the Fridge: Collaboration as a Paradigm for Innovation” in <i>New Structures for Design Management in the 21st Century: Proceedings of the 9th</i></p>

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International Forum on Design Management Research and Education. New York: The Design Management Institute. (561-578).

(2) Wilkinson, Mark and Sale, Roger (2001). "Collaborative Envisioning - a methodology for new product development in a connected economy" in *desire designum design: Proceedings of 4th European Academy of Design Conference*. Aveiro, Portugal (300-303). ISBN No: 972 789 024 5.

(3) Wilkinson, Mark and Sale, Roger (2000). "Collaborative Envisioning - a strategy for future innovation" in *Design and Knowledge Management: Proceedings of the 10th International Forum on Design Management Research & Education*. Frankfurt: The Design Management Institute. (875-912).

(4) Wilkinson, Mark and Sale, Roger (2002). "Designing Supply Chain Innovation" in *Common Ground: Proceedings of Design Research Society International Conference 2002*. Stoke-on-Trent: Staffordshire University Press (183 and CD-ROM). ISBN No: 1 904133 11 8.

(5) Schaber, F. Thomas (Battle), V. and Turner, R. (2011). "Designing Toys, Gifts and Games: Learning through Knowledge Transfer Partnerships" in *Handbook of Research on Trends in Product Design and Development*. Eds: Silva, A. and Simoes, R. Hershey, Pennsylvania.

(6) Schaber, F. and Thomas (Battle), V (2008). "Knowledge Transfer: Industry Academia and the Global Gift Market in *Design Management Journal, Vol 3 Issue 2*. Design Management Institute, Boston, Massachusetts. 69-81.

(7) Schaber, F. and Turner, R. (2010). "Design and Local Development, Case Studies from the UK" paper presented at the *1st International Congress on Design and Innovation of Catalonia*, Sabadell Barcelona.

(8) -S5 The Danelaw Hambleside KTP

Source: http://www.ktponline.org.uk/case-study-search/723/KTP_HamblesideDanelaw_353.pdf

4. Details of the impact

The Design Research Group engaged in applied research through KTPs with the following companies and charities during a nine-year period: Datapride (2001); Hambleside Danelaw (2003); Creative Tops (2004); Lionmede (Northampton Signs) (2006); Sue Ryder Care (2006); BCE (2007); The Salvation Army (2007); Primarius UK Ltd (2009); and John Crane (2010).

The companies and charities supplied and manufactured a range of products including: toys, games and gifts; signage; phone systems; building products; household goods; and train seats. This resulted in the following impact: the creation of new products; growth in design capability; and resulting business growth with increases in sales, profitability and employment. A further impact, an increase in quality of life provided by the charity Sue Ryder Care, followed from the improved business performance of the charity. This account will focus on the impact on three of the KTPs: Sue Ryder Care; BCE; and John Crane.

Sue Ryder Care KTP (2006-2009) was the central project of the Design Research Group accounting for considerable impact. Previous KTPs informed The Sue Ryder Care KTP: Datapride (2001); Hambleside Danelaw (2003) (S5); and Creative Topps. Research carried out by the Design Research Group informed more recent KTP projects such as the BCE KTP and John Crane KTP.

In the Sue Ryder Care KTP the associate (Stewart Betts) under the supervision of lead academics **Turner** and **Battle** applied the research in design and design management, and the application of computer-aided design (CAD) in the design process to retail new products (primarily toys) through its chain of 380 shops. Sue Ryder Care had previously sourced the design and manufacture of its products overseas but due to poor-quality products, required an in-house design facility. The KTP addressed the previous quality problems by implementing a new product design methodology. This

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contributed to an increase in **total gross profit of £XXXX** for the charity in the year following the beginning of the KTP (S1) as part of an **increase in sales of £XXXX** (S1). The income generated was used for palliative care, a further impact of the KTP.

The new design capability has enabled the charity to capitalise on opportunities that previously would not have been explored and continues to impact positively on the charity's sales and profits. Sue Ryder Care reported (S4) that over the period 2006-2009, a creative design capability had been embedded and through a successful marketing campaign in the *Daily Mail*, a profit of **£XXXX** was added to the charity's figures for one new product. The charity reported an increase in turnover of **30%** and an increase in sales of **50%** (S1) during the KTP period. In response to a questionnaire in June 2013, Sue Ryder Care Head of Commercial Operations, Dawn Bullen (S4), reported that during the period 2009-2013 – from the date of the final KTP report to June 2013 – turnover had increased by **£XXXX**: from **£XXXX to £XXXX**, noting an annual profit increase between 2009 and 2013 from **£XXXX to £XXXX** for 2012-2013. Bullen reported that the number of employees had increased from **14 to 19** in the same period.

Bullen stated that Sue Ryder Care had benefited from KTP associate Stewart Betts (subsequently employed by Sue Ryder Care): *'Stewart brought a distinctive taste level and innovation to the own branded Sue Ryder offer of toys and musical instruments. During 2010 the organisation "re-branded" itself. Stewart was the principal driver behind creating products and packaging that fitted the new brand. This was key in differentiating Sue Ryder New Goods from the donated goods that they also sell and has helped raise their profile and promote their sale.'* Bullen summarised the increase in profitability at **6%**, with percentage increases in market share and sales, and improved quality and operations.

KTP associate Betts was awarded **KTP Business Leader of the Future** by TSB and Nesta at Westminster (2008). The nomination form states clear evidence of the Associate's impact upon the financial success of the company, through the application of the research by Wilkinson and others: *'The financial expectations have been surpassed, with extensive sales and profits being made in year on year. . . more importantly Stewart has embedded new products and design capabilities which will considerably impact the company's sales and profits going forward.'* (S7).

BCE reported (S1) that between 2007-2010 the KTP was 'invaluable' – as a consequence they were able to **register three patents**. The KTP introduced "a completely new style of design to BCE customers" with **£XXXX** saved because they no longer outsourced their creative graphics; an increase in employees by **three**; a **50% increase in turnover**; and a **50% increase in sales** (S1).

In a response to a questionnaire (S3) in April 2013, BCE reported that *' . . . the KTP collaboration has allowed BCE to bring all design elements in house, which during the downturn, has been key to how responsive we can be. In the past all design/creative work would have been outsourced to different companies, which would produce work but never quite capture what was wanted as a business and brand. With this internal infrastructure BCE have been able to build several solid brand identities that portray a consistent brand image, which is expected from the leaders or their respective markets.'*

Further: *'The all round design capability that the KTP associate offers has allowed the company to put in place several successful patents and design registries, which have eliminated the many problems that the company faced from rival businesses in the markets in the years before the collaboration. Once promoted to Design Manager, shortly after the collaboration had concluded, the associate also took control of all forms of media, marketing and advertisement for the company's brands. This allowed BCE to strengthen their brand's image even further.'*

The impact of the KTP is clear: The internal infrastructure enabled BCE to **control their brand** and **design direction** and champion new design technology and innovation in their products, which increases appeal to customers and strengthens their brand image in the marketplace. In a design capacity, the company is now more proactive than reactive and customers recognise this strength when selecting their products. (S3)

John Crane Ltd (2010) successfully embedded design competencies through our KTP partnership that enabled them to develop their own design studio. Many companies were buying and distributing finished products from overseas rather than designing and creating their own ranges.

As a consequence of the KTP scheme, John Crane's Managing Director Jonathan Thorpe reported in April 2013 (S4) that *'this autumn we will have nearly 15 products in John Lewis that the design department has taken from paper to retail shelf and this will generate up to £XXXX in sales'*.

He further notes: *' . . . we will also have 10 products in our own Tildo brand that will produce revenue up to a further £XXXX.'* Thorpe states: *'With your help (the KTP principal) and that of the University of Northampton and the KTP programme, we have established a studio and it now works exactly how I envisaged it should nearly two years ago . . . resulting in financial rewards'*.

5 Sources to corroborate the impact

S1 Analysis of KTP reports held by the University of Northampton Knowledge Exchange office, now part of the Research and Strategic Bidding Office.

S2 Independent Testimonial from Sue Ryder Care: Dawn Bullen, Head of Commercial Operations, Sue Ryder Care, June 2013.

S3 Independent testimonial from BCE: Richard Friend, Operations Manager, BCE. 17 April 2013.

S4 Independent testimonial from John Crane.

S5 The Danelaw Hambleside KTP

Source: http://www.ktponline.org.uk/case-study-search/723/KTP_HamblesideDanelaw_353.pdf

S6 References to KTP reports submitted to the Knowledge Transfer Directorate, UK Government Department of Trade and Industry and Technology Strategy Board.

www.ktponline.org.uk/assets/Uploads/KTPAR07-08.pdf

www.ktponline.org.uk/assets/Uploads/eTransfer_Issue18html

S7 Independent Testimonial Nomination form for Business Leaders of Tomorrow, submitted by Sye Ryder Care 2008.