

Institution: University of Exeter		
Unit of Assessment: UoA 17 Business and Management Studies		
Title of case study: Designing and implementing an Innovation Fitness Toolkit to improve the Innovation Management Capability of organisations		
Period when the underpinning research was undertaken: 2011-2016		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Allen Alexander	Senior Lecturer	2011 to date
Prof. John Bessant	Professor of Innovation	2011-2020
Anna Trifilova	Research Fellow	2012-2019
Period when the claimed impact occurred: 2013- present		
Is this case study continued from a case study submitted in 2014? N		
<p>1. Summary of the impact</p> <p>Innovation is essential for organisational competitiveness regionally, nationally, and globally, yet organisations struggle to realise their innovation potential. Dr Alexander's team have created, refined, and successfully implemented an Innovation Fitness Toolkit (IFT) that examines organisations' Innovation Management Capability (IMC) with regards to process, learning, networks, innovation culture, and strategy, across public and private sector organisations in the UK, EU and globally. Based on their research, the IFT enables organisations to develop, manage and capitalise on new products and services, facilitating firm growth (e.g., Bott Ltd experienced a £600,000 increase in annual sales turnover and invested over £100M as a result of the process), as well as improving existing efficiency and productivity in the South West region (e.g., more than half of the 260 firms involved in a regional programme in Devon indicated an increase in efficiency). The programme has had global reach through its adoption in 60 countries worldwide.</p>		
<p>2. Underpinning research</p> <p>Origins of IFT</p> <p>Innovation involves creating value from ideas, but the conversion process is not automatic. Research has repeatedly shown the importance of building capability within organisations to enable them to capture value from their ideas. By synthesising results from literature sources, and findings from their own case study research Alexander and Bessant identified requirements to develop an understanding of the Innovation Management Capability of organisations. From this they created an assessment framework – the Innovation Fitness Toolkit (IFT). The IFT identifies key capabilities, notably: effective enabling mechanisms for search, portfolio management, agile implementation, proactively managed external links, and the presence of a clear innovation strategy.</p> <p>Development and testing</p> <p>The IFT began as a generic instrument but through a process of field testing was adapted and extended to take organisational contingencies such as size and sector into account. The testing process involved working with a wide range of user organisations and with innovation intermediaries, consultants and regional development agencies concerned with improving innovation capability. This period of engaged research highlighted the ways in which innovation capabilities could be operationalised and the importance of tacit knowledge in establishing a framework for innovation management [3.1].</p> <p>Further research, sponsored by the Intellectual Property Office, confirmed that companies were able to make resource allocation decisions and create development strategies based on the results of the IFT, with impact confirmed in terms of new products and services, improved management practices and cultural shifts, leading to enhanced productivity [3.2].</p>		

Deployment

A further phase of research involved working with colleagues from the Universities of Brighton (Drs Tsekouras and Rush) and Manchester (Professor Lamming). The research focused on working with a range of 'policy agents' seeking to boost innovation across various contexts, such as regional and national government, trade and sector associations, and large supply chains. One important finding was the role played by peer-to-peer learning networks as a means of accelerating development of capabilities. The IFT provided an important framework around which to structure the development activities of these networks and against which to measure progress [3.3].

Improving and extending the IFT

A subsequent two-year study was funded by a consortium of regional business support organisations and involved professional business advisors and coaches concerned with building innovation capability within their client-base (more than 500 SMEs in the South West). Having confirmed the utility of the IFT approach at a firm level and a policy level, it was used to explore how innovation management capability linked to business life-cycles (such as early stage small firms [3.4]), in different industries [3.5], notably in an ESRC-funded socioeconomic study into growth and innovation in the Marine industry sector in Cornwall, as well as in Creative Industries (sponsored by the Arts and Humanities Research Council). Further extension of the IFT included different country contexts (funded by the EU), and developing enhanced capabilities such as those for innovation search [3.6].

3. References to the research

3.1 Alexander, A. T., & Childe, S. J. (2012). Innovation: a knowledge transfer perspective. *Production Planning & Control*, 24(2-3), 208-225. <https://doi.org/10.1080/09537287.2011.647875>

3.2 Bessant, J., Abe El-Alla, N., Stotzl, M., Pinkwart, A., Schrenker, K. (2013). Accelerating high involvement innovation. *International Journal of Innovation Management*, 17(6), 1-22. <https://doi.org/10.1142/S1363919613400203>

3.3 Bessant, J., Alexander, A., T, Rush, H., Tsekouras, G., & Lamming, R. (2012). Developing innovation capability through learning networks. *Journal of Economic Geography*, 12, 1087-1112. <https://doi:10.1093/jeg/lbs026>

3.4 Adams, R., Alexander, A., & Öberg, C. (2014). Innovation management capabilities for Start-ups and Spin-offs: a literature review. *30th Annual IMP Conference*, 1st-6th September 2014, KEDGE Business School, Bordeaux Campus: EURAM 2013. *Available on request*.

3.5 Öberg, C., & Alexander, A. (2018). The openness of open innovation in ecosystems – Integrating innovation and management literature on knowledge linkages. *Journal of Innovation & Knowledge*, 4(4), 211-218. <https://doi.org/10.1016/j.jik.2017.10.005>

3.6 Bessant, J., & Trifolova, A. (2017) Developing absorptive capacity for recombinant innovation. *Business Process Management Journal*, 23(6), 1094-1107. <https://doi.org/10.1108/BPMJ-10-2016-0215>

4. Details of the impact

The Innovation Fitness Toolkit (IFT) has built repeatable organisational capability to capture the value from innovative ideas and to ensure that even if firms do not land their first innovation, they are able to continue to create a portfolio of high value innovations. The successful roll out of this tool has led to a diverse range of public and private organisations driving innovation, improving products and services and increasing efficiency and growth. This has been achieved during a period of global austerity and rapidly emerging digital disruptions. The impact of the IFT has been seen in global organizations (e.g., Bott Ltd and Hydro International); in the South West with 260 businesses and micro-organisations through Devon County Council's economic development programmes; in public sector organisations such as Cornwall Council and Cornwall Marine Network; and across the world via the International Society of Professional Innovation Management (ISPIM).

Examples of IFT impact on new product and service development in organizations

The IFT approach has resulted in two Knowledge Transfer Partnerships (KTP), a part funded government programme which helps UK businesses to innovate and grow by linking them with an academic and a graduate.

Bott Ltd

In 2015, a KTP was developed with Bott Ltd, a leading international manufacturer of vehicle and workshop equipment, which employs over 950 people in the UK and Germany. The aims of the partnership were to develop, build and embed an effective innovation process to deliver a new product and service offering through the company's two UK sites. The Innovation Management Capability (IMC) approach incorporating the IFT was conducted as part of the KTP [3.2]. It enabled Bott Ltd to embed new project management structures and an 'Innovation group' that led to the development of new products. One of the innovations directly attributed to the KTP was the 'Smartvan offer', which saw an immediate £600,000 increase in annual sales turnover and a predicted £3,000,000 change in annual sales turnover in three years [5.1]. Another innovation, Tilt Box, resulted in the company investing £100,000,000 in plant and machinery [5.1]. The KTP enabled Bott Ltd to diversify its offering with 90% of the profit increase attributed to the KTP, related to new products for new markets in both their UK and German operations [5.1]. The KTP Associate was tasked with interpreting the IMC approach to fit the company's strategic aims. According to the Head of Marketing & Development at Bott Ltd *"[the approach has] strengthened our internal processes and has resulted in positive improvements to the ways in which we manage our organisational systems as well as developing a better awareness of how to embed and harness innovation as part of a structured process"* [5.2]. The KTP resulted in Bott Ltd taking a *"far more strategic approach to innovation and product development. This in turn has driven the firm to adopt an evidence-based decision-making process, enabling the company to allocate development resource to the activities offering the greatest growth opportunities"* [5.1, p.10]. The IFT has also led to a far-reaching international network exercising the team's IMC approach.

Hydro International

In 2014, Dr Alexander was approached by Hydro International Ltd to lead a KTP to assess the organisation's innovation strategy and identify potential gaps. Hydro International are a global company with a turnover in excess of \$250M, who provide advanced products, services and expertise in water management. The IMC approach incorporating the IFT was implemented to identify and develop processes and behaviours that could be translated into positive changes in Hydro's management practices for new product development, in their offices in Bristol and Cambridge (UK) and Portland, Oregon and Portland, Maine, USA [3.2]. The Director of Group Product Development for Hydro International Ltd stated that, due to the KTP, Hydro has a *"better framework for assessing market opportunities and a better awareness of how to optimise resources and go to market faster for Product Development Initiatives"* [5.3]. Furthermore, the KTP has *"strengthen(ed) Hydro International's reputation as an innovation leader in the water sector"* and that by implementing IMC, Hydro *"can now do early market research which was not possible before (...) that staff have benefitted from being fully engaged in the product development cycle"* [5.3]. A standardised, faster and more efficient process is now in place which means Hydro are able to provide solutions to clients faster [5.3].

Impact of IFT on innovation leading to efficiency and growth in the South West region

In 2015, Devon and Cornwall had the third and eighth lowest labour productivity levels nationally (Source: ONS). Dr Alexander has been instrumental in equipping public and private sector organisations in the South West with tools such as the IFT to drive innovation within their organisations.

Devon County Council (DCC)

IFT has been implemented in 260 private businesses in Devon through the Rural Growth Network Business Support Programme delivered by DCC throughout 2014-2015 [5.4].

Businesses involved received a package of support, based on the IMC approach, which was designed to enable rural enterprises to engage with innovation at a level best suited to their organisation. The DCC's 2017 evaluation report [5.4] stated that the result of this programme for businesses involved has included significant impact, with 55% of those surveyed stating they felt the programme had resulted in *'running the business more efficiently/effectively'* and 33% believed it had supported them in *'identifying new markets'*. In addition, 74% stated that they anticipated future benefits in terms of *'the further growth of the business'* [5.4].

Cornwall Marine Network / Cornwall Council

In 2017, a socio-economic and innovation analysis of the Marine industry in Cornwall was conducted by the Exeter team, in partnership with Cornwall Council and Cornwall Marine Network (CMN) using the IMC approach which incorporated the IFT. The project investigated how innovation can inform policy (Cornwall Maritime Strategy 2012-30) and associated macro-level interventions (e.g. Marine Strategy Action Plan). An Economic Development Officer at Cornwall Council described this work as *'providing vital intelligence which in a rural, micro economy is extremely difficult to otherwise quantify'* [5.5]. Thirty SME businesses attended Masterclasses on Innovation Management Capability, which included the IFT, run by Dr Alexander, Professor Bessant, and Dr Pye (ESRC IAA Knowledge Exchange Fellow), in 2018 and 2019 [3.4]. In addition, other SMEs signed up for direct innovation support under the Marine-I programme, run by the University of Exeter. Cornwall Council have stated that the IMC approach helped *"Cornwall Council hone its review of the [Marine and Maritime] strategy and (more importantly) both better understand (a) supply chain issues and (b) workspace needs and demands"* [5.5], creating a plan for inward investment in the key maritime regions in Cornwall. Operations Director, Cornwall Marine Network [5.6] states that the engaged research gave CMN a *"new and improved understanding of business functionality in this sector"*, and of *"the impact of CMN itself on the marine economy in both Cornwall and the Isles of Scilly and in Europe"*. This, she said will enable *"a better targeted approach for CMN to identify and deliver its current and future services"*, providing information *"to inform and influence public sector support"*. The IFT final report [5.7] demonstrates the benefits that a number of Marine Network members saw from the IFT: for example, one participant (case study C) was able to achieve a major step-change in its activities during the five months in between its IFT self-assessments as a result of taking full advantage of the project's services and support. This led to the company being selected from over 1200 applicants to attract international interest and investment by prestigious global organisations.

Global Impact of IFT through the International Society for Professional Innovation Management (ISPIM)

ISPIM is a community of 600 members from research, industry, consulting and the public sector across 60 countries. ISPIM have worked with the innovation management capability (IMC) model through a series of initiatives since 2010. As part of these, a Special Interest Group (SIG) on Teaching and Coaching Innovation for industry and academia was developed (2015-2020) and through this group *'Professors Alexander and Bessant have changed the way innovation and entrepreneurship is taught and coached in upwards of 500 organisations, mostly throughout the EU'*, states - Operations Director, ISPIM, in 2018 [5.8]. Feedback to ISPIM from member organisations on the IMC model has highlighted its effectiveness at all sizes of corporate organisation. The Operations Director of ISPIM concludes that *"The impact that Prof Alexander and Prof Bessant have had on the field of innovation management is a significant one. Without their actions through the University of Exeter as an ISPIM Member, our members, and the field in general would be significantly poorer"* [5.8].

Between 2014 and 2020, The IMC has impacted innovation and entrepreneurial activity across 60 countries through the coaching of 600 global businesses at ISPIM together with creating substantial change to innovation and entrepreneurship thinking and practice to the SW region. Within the SW, Alexander has influenced at policy level by designing innovation processes with Cornwall and Devon local authorities and then at business level implementing the IMC and IFT through local business networks to reach 290 businesses. In addition, businesses Bott Ltd, Hydro International and Marine-I programme participants have been able to make substantial

improvements to their innovation management processes through long term involvement of Alexander. As a result, these businesses have adapted their innovation strategies enabling the design and delivery of new products and services, bringing demonstrable business growth.

5. Sources to corroborate the impact

5.1 Evaluation report: Bott Ltd - Partners final report form for the Knowledge Transfer Partnership (KTP) with Bott Ltd in 2015. This report details the achievements of the KTP including a £600,000 change in current annual sales turnover directly attributable to this KTP and an expected annual sales turnover of £3,000,000 in three years' time (p7) and Tilt Box, resulted in the company investing £100,000,000 in plant and machinery (p9).

5.2 Testimonial Letter from the Head of Marketing & Development, Bott Ltd - Testifies to the impact the Innovation Management Capability model had on Bott Ltd including a better awareness of how to embed and harness innovation and strengthening the organisations reputation in their industry.

5.3 Testimonial Letter from the Director, Group Product Development, Hydro International - Testifies to the impact that implementing the Innovation Fitness Toolkit and Innovation Management Capability model had on Hydro's management practices, including: a better framework for assessing market opportunities and a better awareness of how to optimise resources and go to market faster which has strengthened the organisations reputation as an innovation leader in the water sector.

5.4 Evaluation Report: Devon County Council – Final report for the Innovation Fitness Toolkit Programme between 2014-2015, with 260 private businesses across Devon. The report testifies that of the businesses involved 55% reported that the programme resulted in them being able to run the business more efficiently/effectively, 33% stated it helped identify new markets and 73% anticipated further growth of the business.

5.5 Testimonial Letter from the Economic Growth Officer, Cornwall Council – Testifies to the impact of the 2017 socio-economic and innovation analysis of the Marine Industry, using the Innovation Management Capability and Innovation Fitness Toolkit. This work was described as providing vital industry intelligence and helped the Council better understand supply chain issues and workspace needs and demands.

5.6 Testimonial Letter from the Operations Director, Cornwall Marine Network – Testifies to the impact the 2017 analysis of the Marine Industry has had and will continue to have on informing future policies and services provided to the marine sector. This includes, providing an improved understanding of business functionality in this sector which will enable CMN to identify and deliver its services to meet need and demand.

5.7 Marine-I Innovation Fitness Toolkit Programme: Final Report - summarises outcomes from delivery of the Innovation Fitness Toolkit (IFT) to Cornish marine businesses, to five participating client organisations following their innovation journeys. The case studies show how well enhanced awareness of innovation has been integrated into company activities.

5.8 Testimonial Letter from the Operations Director, ISPIM - Testifies to the impact the Innovation Management Capability model has had on ISPIM stating that this has changed the way innovation and entrepreneurship is taught and coached in upwards of 500 organisations with members reporting more creative and innovation capable employees, reduced innovation process cycle times and improved product innovation performance.