

Using Lean to drive Operational Effectiveness and Efficiency at a National level – The Irish Lean Business Offer initiative

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Abstract

Much research in Operations focuses at the company or group level. This paper presents an insight into an ongoing Action Research project conducted at the level of analysis of a country – Ireland.

Ireland is a sovereign state of nearly four million people. Located on the Western edge of Europe it is an island and operates a very open export oriented economy. It is member of the European Union and also a member of the European Monetary Union, using the Euro as its currency while its two major export markets are the UK and the USA.

Irish business faces many competitive dis-advantages due to location, scale infrastructure deficit and history. This paper presents an insight into an action research initiative on the development, application and expansion of a three tiered Lean support offer, delivered nationally, to attempt to address the competitiveness issues faced by Irish business. Based on earlier research where a set of world class tools that would work in an Irish context were identified and subsequent efforts to find a means of expansion of the delivery of the tools using benchmarking and networking, this research looks to scale the Lean improvement effort in a non-constrained way.

The paper presents the rationale, methodology and impacts of this multi-annual, multi sectoral and multi-layered Action Research project and describes the evolution of the adoption of the approach by the different state development agencies in Ireland. The programme has provided support to over 800 improvement projects to date across many sectors and sizes of companies.

The approach used for the Action Research project is based on the work of Voss et al, where the link between practice and performance was identified and also the possibility of using State agencies as a means of delivering practice to companies. Also, the work of Ferdow and De Meyers, capability building concept provided the impetus to develop a tiered support, similar to the PDCA circle but represented as a spiral of improvement to show capability being build and progression being made. The approach also sought to address some of the issues identified by Kotter through the provisions of a tiered journey to operational improvement.

Focused on Irish experience, this paper presents an Action Research approach being taken at a National level to help improve the competitiveness of companies. The research is based on what is known as the Lean Business offer. Initially promoted by Enterprise Ireland, one of the

State Development Agencies, it is now being offered by all three state agencies and others, to support the competitiveness improvement journeys of companies in Ireland. The paper presents impacts as well as methodology.

Keywords

Competitiveness, Lean, Operations Improvement

Background

Ireland is a small island nation of approximately 4 million people located on the Western edge of Europe. Our closest neighbour and largest trading partner is the United Kingdom. Our economy is based on an “Open” business model where we have organised ourselves to be export led. Per capita of population Ireland is one of the leading global export economies. This openness is generally seen as a good thing for our country, but, it also means that we are very sensitive to negative changes in the global economy.

This paper deals with an aspect of the efforts of Ireland to help companies to address their competitiveness issues. The Lean Business Offer was presented at ICOPEV (Keegan 2104). At that time it was being offered solely by Enterprise Ireland. It is now being offered by the three leading Agencies on the island of Ireland, Enterprise Ireland, IDA Ireland and Udaras Na Gaeltachta.

IDA Ireland is the Irish State Agency charged with attracting Foreign Direct Investment into Ireland. In 2015 IDA decided to pilot the Lean Business Offer to smaller companies in its portfolio, initially at Lean Start level. Following positive feedback from its clients it moved to make the offer available to all its clients at the three levels of the LBO.

Udaras Na Gaeltachta is the development agency charged with supporting companies located in the Irish speaking regions of the country. They adopted the full LBO around 2011.

Ireland has adopted a National approach known as the Action Plan for Jobs to drive the national growth of GDP. In 2014 the LBO was included as a disruptive reform, in 2015 it was again included with the IDA to adopt Lean to support the development of their client’s competitiveness and in 2016 Lean was again included in the APJ in an effort to create a Lean Ireland approach where all key actors would co-operate to improve the competitiveness of the island.

What is Enterprise Ireland?

Enterprise Ireland (EI) is the State body charged with the support and development of indigenous industry and businesses and Multi National Corporations using natural resources. EI has offices across the globe in leading markets for Irish companies and also in up and coming markets. These overseas offices support Irish exporters to enter markets and help overseas buyers identify potential suitable suppliers in Ireland. In Ireland, EI supports innovation in existing companies and Innovative Start Up companies as well as companies already exporting and those with the potential to do so. Enterprise Ireland employs about 800 staff. It works with a wide range spectrum of client companies from innovative start-ups to global players. The needs of this wide range of clients are very varied. Details of Enterprise Ireland and the full range of supports available to our client base are available on

www.enterprise-ireland.com. EI retains a core of staff with experience and expertise in directly supporting companies to develop capability.

In 2008, the then Chief Executive, working with his analysts, identified the beginning of the downturn and decided that the State could help our clients to “weather the storm” if we could scale up our existing competitiveness offer. The then existing offer was delivered by Enterprise Ireland staff in a cluster format to a group of 30 client companies. The developed offer became known as the Enterprise Ireland Lean Business Offer (LBO), where delivery migrated from the internal resources of Enterprise Ireland to a scalable model where the programme was delivered through a cohort of external consultants working with Enterprise Ireland. A directory of approved external service providers has been developed with over 100 consultancies registered to deliver on the LBO.

The Lean Business Offer

One of the most notable features of change programmes is that many of them fail (Kotter, 2007). The Lean Business Offer is designed to address many of the factors that usually lead to failure or reduced success with change programmes. The thinking behind the Lean Business Offer (LBO) is also guided by the work of Prof Chris Voss (London Business School), who identified the link between Practice and Performance. Voss found that good practice drives good performance and identified the important role that government agencies can play in driving performance improvement particularly in SMEs. (Voss, 1994, Voss et al 1998). The LBO was formulated to drive the adoption of improved practice by Enterprise Ireland clients. The LBO was also designed to meet the spectrum of needs of our clients. As was stated earlier they have very different needs and are at different stages in their maturity levels. The LBO was based on the author’s academic research (Improving SME Operational Performance using Benchmarking and World Class Networks, Ph. D. dissertation, National University of Ireland-Galway, 2000), and pilot level continuous improvement efforts carried out subsequently within Enterprise Ireland for its clients.

The first key point of note is that the Offer is a “Business” and not a “Manufacturing” offer. The Offer was designed from the outset to help companies improve their performance and competitiveness across all areas of the business using Lean Principles. The author co-wrote “Applied Benchmarking for Competitiveness” with Prof Eddie O’Kelly, Oak Tree Press, 2004. This text gives a basis for the second key point of the LBO – it is based on the principles of Lean, but, has the flexibility to absorb key elements of improvement from other change initiatives such as Six Sigma, Total Quality Management, Total Productive Maintenance and Management, Business Process Re-Engineering and others. In other words the Enterprise Ireland Lean Business Offer uses Lean principles as a guide and not as a dogma.

The third key point of the LBO is that the services offered to clients are offered at three distinct levels of intensity:

Lean Start – 7 day interaction, over 1-2 months,

Lean Plus – 3-6 months of activity,

Lean Transform – Over 2 years activity.

The offer is explained graphically as a “Spiral of Improvement” as opposed to the more traditional way of describing continuous improvement as “Circles” of Plan-Do-Check-Act circles (PDCA). The spiral of improvement represents progress, upwards and outwards as companies develop the capability and capacity of their people and processes. The tools and techniques “used” by companies change and develop as companies move “up” the spiral, as represented in Fig 1.

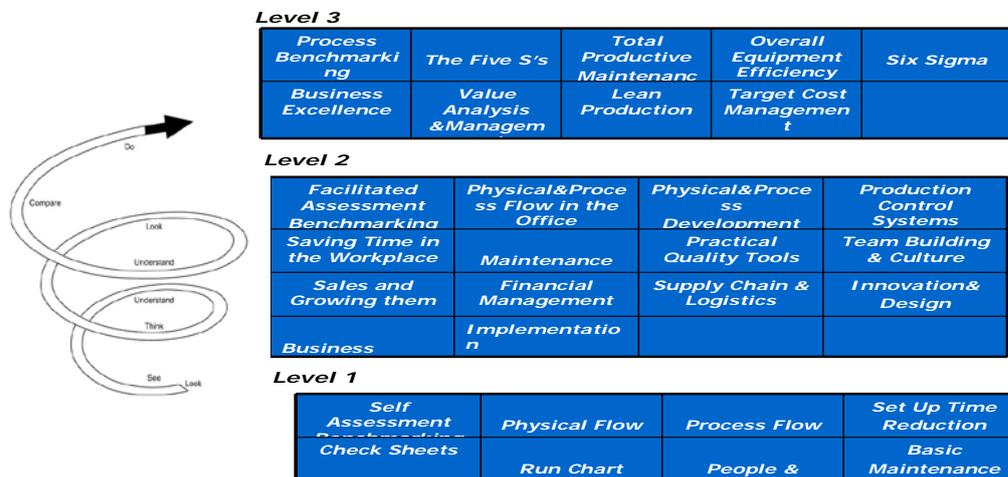


Fig 1: Spiral of Improvement and associated tools

The fourth key point of the LBO is that the programme is delivered by a cohort of Lean consultants, both national and international. These consultants are made available to EI client companies through a publicly available directory.

The fifth key element of the LBO is that Enterprise Ireland manages the directory. Consultants have to show they have experience and expertise with Lean implementation before they are accepted on to the directory. Also, EI convene Spring and Autumn Fora where the progress of the programme is discussed with the consultants and where issues and opportunities are considered.

The sixth element is that of best practice visits and opportunities to challenge and support company understanding of what is indeed good practice and how to implement it. A series of visits are organised nationally to large and small companies in many different sectors, to give people the chance to see what others are doing and to learn from each other.

The seventh element is international best practice visits. The purpose of the international visits is to challenge the perceptions beyond those that exist in Ireland. The international aspect is to try and get over the “island mentality” and to help ensure that Irish companies are operating to international levels of performance.

The Lean Business Offer is further supported through the co-development of a National Guide to Lean in conjunction with the National Standards Authority of Ireland and a group of companies, indigenous and MNC, consultants, academics, representative associations and state organisations (NSAI, 2013). Additionally, Enterprise Ireland has started to develop a

directory of Lean education providers with information on the availability in Ireland of diploma, certificate and degree level courses, and thereby further moving to professionalise the Lean effort in Ireland.

Introduction- Linkage with Literature

A lot has been written on lean. An effective lean implementation requires that management understand lean and have a certain capability with the concept (Netland, T. & Ferdows, K. (2014)), (Rosenzweig, E. & Roth, A. (2004)). Effective implementation of lean is not an instantaneous transformation within the firm. Voss, Blackmon, Cagliano, Hanson and Wilson, (1998) concluded that a successful and growing community of SMEs needed to adopt progressively practices, such as lean production, of larger world-class companies. They recommended that policies aimed at encouraging or sustaining employment growth in SMEs ought to address both the diffusion of such practices and special support for the smallest among them. This work raises the challenge in practice of diffusion of capabilities and the ways in which SMEs might be enabled. The LBO was designed to address this question of how to spread the understanding of Lean to SMEs.

The Lean Business Offer (LBO) is a three tiered programme delivered by Enterprise Ireland (EI) to help firms to improve their operations-based competitiveness. EI is the State body charged with the support and development of indigenous industry, and of multi-national corporations using natural resources. To date, 823 firms have participated in the LBO programme supported by EI. Earlier analysis of the broad set of LBO firm-level data suggests that the development of lean capabilities is enabled through such a tiered programme (Coughlan, Fynes, Keegan & Ledwith, 2015). The tier, sequence, duration and timing of engagement seem to be significant to the capability improvements achieved. For example, participating firms exhibit differing paths through the tiers of the programme. Some engage at a single tier and go no further. Others migrate from one tier to the next in the sequence envisaged by the LBO developers. Correspondingly, levels of performance depend upon the starting point and the extent of migration from one tier to the next. Of particular note is the evidence of different impacts depending upon the number of improvement projects engaged in or the sequential progression from one tier to the next.

Developments with Lean Business Offer

In 2015 the Irish Government had research conducted on the effectiveness of the LBO (Government, 2015). This research concluded that the programme was both effective and worthwhile. High level impacts using a system of counterfactual econometric analysis found that the difference from companies engaging in the LBO was a 40% increase in sales, a 20% increase in productivity and an 11% increase in employment. Many other results were recorded also. The support levels given by the state equated to approximately 26% of the spend by companies with a very highly leveraged impact being achieved. When the analysis was carried out on the cohort of 320 companies who had engaged in the LBO at the time, the total expenditure was estimated at approximately €67 million while the productivity increase alone was estimated at €32 million. To date 823 projects have been supported by Enterprise Ireland under the LBO.

In 2015 the IDA took on the LBO for their smaller clients, all foreign direct investment companies in Ireland, but typically employing up to 150 people. The early interest from their clients prompted them to roll out all three tiers of the Offer to their clients and to make it available to the full extent of their client base, large and small.

In the second half of 2015 the group of support organisations for the Micro companies in Ireland, known as the Local Enterprise Offices carried out a pilot Lean activity. This pilot was to determine if the Lean approach had applicability at the micro firm level. Ten projects were launched across the country. Of the ten, nine were one on one activities, where a consultant engaged with a company to introduce Lean and to try and help them address competitiveness issues. In the tenth case a group approach was taken where a cluster of 12 companies engaged with a single consultant. This approach mirrored the original second step followed by Enterprise Ireland before the launch of the LBO. Neither the consultants involved or the LEO office were told about the EI approach.

The results from the pilot study showed very similar improvements being achieved at Micro company level. Interestingly the Cluster initiative proved more beneficial on average than the one on one interactions.

Conclusion

The Irish approach to Lean Business Offer appears to be working and is ongoing in its roll-out. Companies engaging in the three tier approach seem to benefit better than those who just take a single step. The ongoing support and interaction with companies seems to give them support and impetus to continue to improve.

The question of how to support those who have reached a good level of capability is currently under consideration, to see if there are steps that go beyond the three current steps of Start, Plus and Transform.

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