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Managing 'Lean': Lean Implementation within a UK Business School

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Introduction

For business schools in the United Kingdom (UK) and other European countries, issues such as the influence of globalization and innovation, the value impact of research and the importance of clear perspectives about corporate social responsibility and leadership is fundamental to competitive success (Thomas and Cornuel, 2011).

For UK business schools in particular, the impetus to compete internationally is a result of the change in government policy concerning the status of foreign students, the need to undertake collaborative research, the search for additional funding as a consequence of reduced funding from central government and the pursuit of excellence (Ahola, 2005)).

Future competitive strategies within the business School sector are likely to result in the increased use of global benchmarks to assess the performance of institutions.

Already a key driver for business schools in mapping their strategic positions within the competitive environment has been accreditation (Tullis and Camey, 2007), particularly with respect to internationalization of programs of study as part of EFMD-EQUIS and AACSB accreditation bodies. Clearly, learning from peers and cooperating with them are not only essential in research but for institutional strategy, incorporating teaching and learning (Noorda, 2011).

Given this background, over the last few years there have been an increasing interest in the application of business process improvement methodologies and techniques as a mechanism for improving the operational efficiency and competitive position of some UK Higher Education Institutions. This in itself mirrors a growing interest in developing or adopting new approaches to management across the United Kingdom (UK) public services.

Lean, Business Process Reengineering (BPR) and Process Improvement Techniques such as Total Quality Management (TQM), Kaizen and Benchmarking have all been advocated as means of enabling organizations to change in a way that makes their business processes responsive to changes in both economic and social conditions. Given this context, following the UK Government's Comprehensive Spending Review (CSR) in October 2010, it is clear that the drive for efficiencies across all areas of public spending has accelerated with the need for fundamental reforms of the way in which services are managed and operated (Radnor, 2010)..

Given this context this paper seeks to evidence the impact that the implementation of a 'lean thinking' approach to managing a UK Business School has had on internal operations both in terms of output measures and staff satisfaction. From an academic research perspective the intention is to add to the growing literature on the impact of 'lean thinking' within the public services (Seddon, 2004; Krings, 2006; Radnor, 2010). Which identify that there is growing evidence across a range of public service (HM Revenues and Customs; HM Court Services; Health and Local Government Organisations) environments of improvements in service performance, improved processing times and achievements in terms of 'better value for money' having resulted from such lean interventions (Hines et al. 2008).

Globalization Trends in Higher Education

Higher education systems, policies and institutions are being transformed by globalization where worldwide networking and exchange are reshaping social, economic and cultural life (Marginson and van de Werde, 2007). In higher education, globalization is manifested through cross border relationships and continual global flows of people, information, knowledge, technologies, products and financial capital

through a process of growing inter-dependence and convergence. Consequently higher education has become increasingly internationalized over the past 30 years (Zammuto, 2008). Although higher education institutions often see themselves as objects of globalization, they are also its agents (Marginson and van de Werde, 2007). Changes in student demand (Nioche, 2007) have led to a realization that providers need to be more competitive.

In Britain, the climate for universities changed in the early 1980s. Since then, government funding for universities has been decreasing whilst at the same time universities have been pressured to accept more students (Deer, 2002). In 1988, the Government exerted more power on educational systems when it passed the Educational Reform Act which had required universities to become more accountable, market-oriented and efficient (Deer, 2002). Also in the 1980s, research funding was radically overhauled with the introduction of the Research Assessment Exercise (RAE) which distributed more research funding to those universities with an excellent record of accomplishment in research. As a result the UK higher education has been pushed towards becoming more efficient, self-sufficient and accountable (Marginson and Rhoades, 2002). For example, in the UK the New Public Management (NPM) approach facilitated an entrepreneurial revenue directed approach to cross border relations (Marginson and van der Wende, 2007). NPM is characterised by managerialism, which includes continuous increases in efficiency, the use of more sophisticated technologies, a labour force disciplined towards productivity, clear implementation of professional management roles where managers are given the right to manage (Pollitt, 2000), the requirement for continual improvements in quality, and performance measurement (Walsh, 1995). During the same period, many national and international quality improvement initiatives entered Higher Education across the

globe. For example in the UK, ISO9000 and the Quality Assurance Agency for Higher Education (QAA) monitors and oversees the quality of education provision. As a result over the past twenty years, management education has witnessed a surge in the number of international independent bodies overseeing quality through the medium of accreditation. Bodies such as AACSB and EQUIS transcend national boundaries and are a major factor homogenising management education around the globe (Barton et al, 2011)..

Lean at Nottingham Business School (NBS): Case Study

Nottingham Business School (NBS) embarked on the preparation and implementation of 'lean' during the latter part of 2007. The drivers to implement 'lean' at NBS were many folds. With the increasing demand for business and management education in the UK and globally, NBS set itself the strategy to differentiate itself from the other 110+ business schools in the UK. The intention is to be internationally recognised for excellence with a mission to transform business and industry through creation, development, application and diffusion of cutting edge business and management knowledge and through the quality and readiness of the people it developed and educated.

The overall drivers can be summarised as below:

- 1- The challenges facing the university sector in the UK due to the changing demographic and funding environment as reported by successive government sponsored reports such as The Lambert Report (2003) and then Leitch Review (2006) and later the Browne report (2010).

- 2- Intensification of competition amongst business school in the UK and indeed internationally.
- 3- NBS' need for transformational and sustainable ways to implement change to speed up its development.
- 4- Creating reality and not simply rhetoric as to a business school which is run both effectively and efficiently.

The NBS Approach to Lean implementation

Since the introduction of 'lean' to the western business world by the publication of *The Machine that Changed the World* (1990) which introduced the Japanese management practices in the auto industry, there has been a wide spread adoption of 'lean' principles in the manufacturing (Womack et al. 2001) and increasingly in the service sectors. Drew et. al. 2004, identify 2 basic approaches in implementation of 'lean'.

- 1 .Creation of islands of lean application which are then grown to cover larger and eventually all sections of a company; and
2. Creation of a Lean System across a company as a whole.

In manufacturing, many companies in all sectors have followed the automotive industry and its supply chain in general adoption of 'lean' practices, aided by the physical creation of flow and pull system which can be very visible in the manufacturing processes. In the service industries the flow of information (as distinct from physical items) can often be hidden. This is particularly true of the high intensity knowledge based activities such as R&D and product development (2006). In the educational and business R&D world of a business schools, therefore, the approach to the implementation of Lean must be carefully chosen and implemented.

The NBS approach has been based on a previously successful introduction and implementation of 'lean' in the Jaguar Land Rover (JLR) product development system. The NBS approach was deliberately chosen to be gradual and step by step. This approach was chosen as the best way to create a sustainable 'lean' as the operating system that will be delivering improvements at all times. The overall NBS Lean Operating System covers all the fundamental elements of a system encompassing: Structure, Management and Leadership, Processes, Tools and Technologies, and above all engages staff. This was seen as more advantageous than a tools and methods driven way of introducing 'lean', which can often fade away after a number of business processes have been improved. In order to explain this in context a research methodology was devised and the findings are identified within the next sections of this paper.

Research Methodology

The implementation of lean has been described as a 'journey' (Bicheno, 2004) and the intention of this paper is to chart the process and progress of its introduction within a UK Business School over a three year period from 2008. In order to contextualise this paper provides a case study of a UK Business School and describes the introduction of a distinctive 'lean thinking' Project. This is supported through a documentary review of the internal 'Blue Sky' Lean Project documentation and includes a review of the School's A3s and supporting metrics. In addition emerging findings are supported by longitudinal staff satisfaction survey data which is analysed to provide details of changes in the attitudes of faculty since the Project was introduced.

Details of Lean at NBS

The chronological account of the main aspects of the implementation of Lean Operating System is presented below. A sequence of developments were designed and rolled out to agree a common vision and agenda manifest in a ‘Blue Sky Vision’ and Balance Scorecard.

A number of workshops amongst the leadership team culminated in an agreed Blue Sky document for 2008-2013. This was organised in 4 Columns of Quality, Delivery & Volume, Income & Cost and finally People. Under each column the 5 year aims of the main activities of Education, Research and Intervention were articulated in terms of improved operational metrics, as shown in the figure 1. Under each Column the main targets of Quality, Delivery & Volume, Income & Cost, and People were also agreed and stated.

NBS Blue Sky Vision: 2008-2013 AIM – Amongst the Top UK Business Schools				
	Quality Achieve EQUIS in 3-4 Years AMBA in 3-4 Years	Delivery & Volume Stabilise UG Grow PG and Exec. Ed.	Income & Cost Increase 'margin' by 10% YOY	People Lead by Example? Increase Staff Satisfaction by 5% YOY
Education	M1 Increase Student Sat by 10 % YOY (focus on composition) M2 Increase Student Tariff to 320 M3 Introduce GMAT and achieve 600 M4 Increase proportion of all UG 1 st class honours to 10% by 2012 M5 Reduce failure/referral rate by 10% M6 Increase entry level of MSc Progs to 2:1 min	M13 New entrant UG EU – 800 M14 New entrant UG Int. – 225 M15 Open PG EU – grow to 500 M16 Open PG Int. – grow to 500 M17 Treble No. EQUIS/AACSB accredited partner universities M18 Treble No students involved in Double/dual degree awards with prestigious universities M19 In 5 years 20% of UG to do work / study abroad	M25 Increase margin on programmes by 10% YOY M26 Increase MBA price to 18K (higher subject to accreditation) M27 Increase ROI on travel by 5% YOY	M30 Increase International experience of core staff (metric required.) M31 Increase International Core Faculty to 25% (3 yrs?) M32 Employee Sat Index Increase by 5% YOY M33 Expand no. of methods of communication to all staff
Research	M7 Increase no. of publications in 2*/3*/4* Journals (10% in 1 year / 50% in 5 years) M8 Increase citation (Start measuring) M9 Improvement of 20% on RAE Esteem Factors	M20 Increase no. of research active staff to 75% of Core Faculty (1 Int. Peer reviewed conference and or paper / yr / RA staff) M21 Increase PhD completion 10/ year M22 Increase DBA completion 20/ year	M28 Increase Research income by 60% / annum	M34 Increase doctoral qualification of staff to 75%+ M35 Increase quality research seminars to 30 across NBS And operating at all divisions M36 Decrease STD for RA staff to maximum of 250 hrs / year
Intervention	M10 Increase proportion of Senior managers in Exec Programmes M11 Increase number of publications in Case Clearing House by 10% YOY M12 Increase the % improvement in company desired capability for all clients (ROI measure to be determined)	M23 Increase number of trade accounts over £150k per annum M24 Increase Income from Exec Ed Portfolio (DBA, Masters, Tailored, Short Courses, Custom, Other) – and measured proportionally	M29 Increase Product Price and Product Margin over time	M37 Increase the proportion of staff (NBS, International, Adjunct + Alumni In exec. Ed. (1 year)

Figure 1: NBS’ Agreed Blue Sky Vision for 2008-2013 – Dated: December 2007

Each metric was then converted into annual targets and expressed in a balance scorecard. It was important to ensure that the scorecard is truly balanced and achievable and therefore the impact of each individual metric on the rest of the chart was carefully analysed and debated. Overall the final result at the end of 2007 was agreed as ambitious but a balanced scorecard with annualised metrics and targets which were in the main achievable.

Initially two members of the leadership team were assigned to each column and each was responsible for a set of deployment actions to achieve the target results for the following year. It was important that the Metrics and individual deployment actions had an member of the leadership team developing and delivering them. Therefore some 40 projects (deployment actions) expressed as an A3 were developed by the NBS leadership team.

The process of review of the A3s was therefore possible to start. The entire process of developing and agreeing overall mission, aim and vision of school and how they translate into a Blue Sky document and Scorecard took some 8 months in total taking NBS to the beginning of 2008. It was then possible to start the process of developing the A3s and then the review of A3s in a cadence could be started. This process was aided and facilitated by an NBS Visiting Fellow whom has had considerable expertise in implementation and running of Ford's Leanest plant in the world as well as an Lean Immersion Day at JLR's Lean Learning Academy at the Halewood Manufacturing plant. The relationship between Blue Sky, Scorecard, A3s and the overall Master Schedule is shown in figure 2.

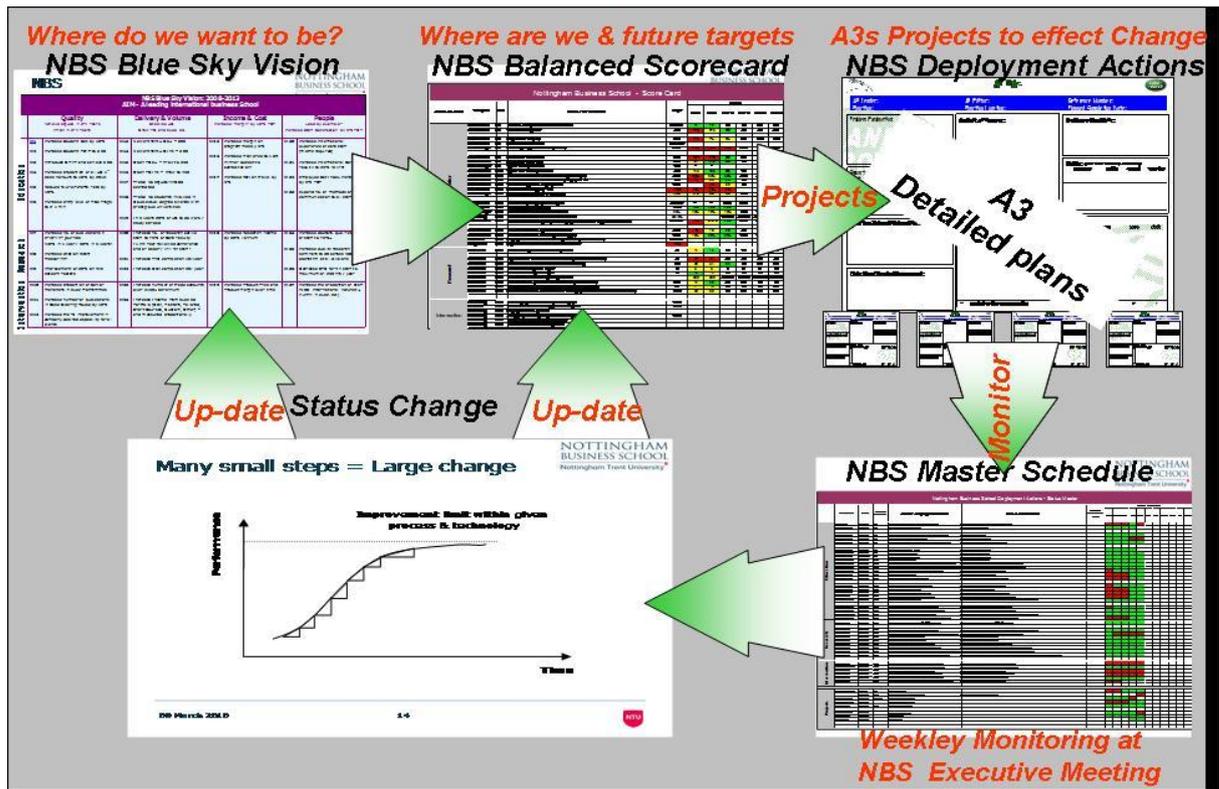


Figure 2. NBS' Lean Cascade

In order to succeed with the Blue Skies Vision the NBSs leadership team (School Executive) recognised that without the understanding and 'buy in' from the rest of the staff within NBS then the implementation plan would have little chance of success. Throughout 2008 and 2009 the leadership team through both Divisional and School wide meetings presented the rationale for the implementation of Lean within NBS and provided an open forum for debate. At the same time there was a recognition that to fully support the programme a significant cross section of staff should be more formally trained in the basic concepts of Lean. The decision was then made to send cohorts of staff from across the School both administrative and academic to the Lean Learning Academy at Halewood. Here groups of up to 14 members of staff were introduced to the concepts and basic tools and techniques of Lean. This 3 day

intensive programme engaged staff in simulations and was attended by a member of the leadership team on each occasion they were run. By the end of 2010 therefore a significant number of NBS staff had received training in Lean and were positively contributing to a significant number of projects arising from the A3s.

Over the last 3 years the original template and Blue Skies Vision has undertaken a number of iterations as would be expected in such a dynamic process. For example ‘research’ has an identified ‘champion’, who has revised the research metrics and associated A3s on an annual basis, which has resulted in the latest iteration (Fig 3.)

<p>NBS Scorecard 2010-16</p> <p>Mission: To provide education and research that combines academic excellence with impact, transforming business and organisations through knowledge and people</p> <p>Vision: To be one of the UK’s leading business-focused business schools</p>
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	M #	NBS Level 1 Metrics	Target	
Research	Doctoral Degrees	M31	PhD Completions to reach 7 /Year	7
		M32	DBA Completions to reach 15/Year	15
	Research	M33	Rank in the top 40 REF	Top 40
		M34	Rank in the top 35 Research Power	Top 35
		M35	2*/3*/4* Publications to Reach 50/Year	50
		M36	REF Returnable to reach 40+	40
		M37	Research Active to Reach 60+	60
		M38	Grant Income to Reach £500K / Year	£500K
		M39	Contract Research to Reach £500K / Year	£500K

Fig.3. Research metrics. January 2012

The NBS ‘research’ champion is currently the Chair of the Research Directorate within NBS who has the responsibility for developing the 9 metrics (M31-M39) and to set realistic targets. (Fig.3) In addition, each NBS Level I metric has its own assigned A3 which includes a series of time dated deployment actions .

Such fundamental reforms of the way that that NBS now conducts its activities has clearly been met with certain levels of internal and external resistance and important measure of gauging the relative success of the project has been to try and monitor the implementation process. .One way in which this is being monitored is to inquire into the wellbeing of staff. In order to make an initial assessment of this a staff satisfaction survey was administered during 2009 and repeated again in 2010. (Fig. 4).

NBS Staff Satisfaction Survey

Whilst important to recognise that the survey is rather general in nature it provided a useful indicator as to relevant areas for concern within the workplace. Clearly in 2009 the particular areas of concern related to physical conditions in which staff operated. This was understandable as this was the transitional year before moving into new premises the following year which in 2010 showed a marked increase in satisfaction. Of perhaps more concern and although only marginal in nature there were slight decreases in the levels of satisfaction in terms of the nature of work (-1%) and the amount of work (-6%). This was an interesting result as the anticipation would have been that some of the efficiencies sought from the Lean implementation might have resulted in a corresponding reduction in the amount of work experienced by individuals and that the nature of the working environment might have become more interesting? And therefore lead to greater job satisfaction.

Factor	09/10			10/11			Change 09/10-10/11		
	M + S	D	NR	M + S	D	NR	M + S	D	NR
Pay	89%	11%	86	86%	14%	87	-3%	3%	
Other benefits	95%	5%	87	95%	5%	87	0%	0%	
Line Management	80%	20%	88	87%	13%	89	7%	-7%	
Recognition	70%	30%	86	75%	25%	87	5%	-5%	
Nature of Work	95%	5%	86	94%	6%	88	-1%	1%	
Amount of Work	84%	16%	86	78%	22%	88	-6%	6%	
Co-workers	95%	5%	87	99%	1%	88	4%	-4%	
Resources	70%	30%	86	75%	25%	88	5%	-5%	
Training	73%	27%	86	85%	15%	87	12%	-12%	
Development	76%	24%	88	84%	16%	87	8%	-8%	
Promotion	66%	34%	87	68%	32%	87	2%	-2%	
Job Security	92%	8%	87	90%	10%	88	-2%	2%	
Physical Conditions	65%	35%	86	79%	21%	87	14%	-14%	
Rules & Procedures	82%	18%	87	79%	21%	87	-3%	3%	
Overall NTU	Not measured			93%	7%	87			
Overall Job	91%	9%	86	89%	11%	88	-2%	2%	
Overall NBS	82%	18%	87	93%	7%	87	11%	-11%	

Key

D Broadly Dissatisfied (5 and 6 ranking)

M Mildly Dissatisfied/Satisfied (3 and 4 ranking)

S Broadly Satisfied (1 and 2 ranking)

NR No response

	= 90% N/S
	= 80-89% N/S
	= less than 80% N/S

Fig 4: NBS Staff Satisfaction Survey

Clearly the results are inconclusive and the impact of the Lean Project within NBS requires more detailed analysis. Overall however it is encouraging to find that overall satisfaction within the organisation has increased (11%) over the sample period.

Conclusions

The future of Higher Education is currently a topical debate and one that would still appear not to be fully resolved. Clearly the need to pursue quality and to maintain an effective control of the financial management of all Higher Education establishments is a clear strategic priority for the current government. For its own part NBS recognised the need for a new forward thinking and innovative approach to delivering its services back in 2007. Since then it has engaged in a determined effort to rationalise a particular approach to Lean implementation within the Higher Education sector. The nature of the delivery is one of constant evolution and one that has at its core value the delivery of excellence with its staff being a central focus of its delivery. There is a recognition that only through the commitment and personal professional development of its staff can all the objectives of the Blue Skies mission be achieved. Success will be measured through achievements over the coming years although the emerging evidence continues to remain highly encouraging.

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