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Lean in Services- British Airways as a Case Study

Abstract

Lean is defined as a process optimisation methodology that focuses on improving the effectiveness and efficiency of a process by eliminating activities that do not add value to the customers (Jones and Mitchell, 2006).

Lewis (2000) argues that Lean can help organisations within any sectors to achieve significant performance improvement. The improvement can be in many dimensions including quality, productivity, cost efficiencies, and profitability and customer satisfaction (Ohno, 1998).

Lean is expanding fast into the new areas such as Construction, Logistics & Transportation, Services (e.g. Health, Insurance, Bank and Aviation) (Wallace, 2006).

Womack, Jones & Roos (1990) maintains the claim that Lean is a business methodology, not simply a collection of tools and techniques. Liker (2004) supports this notion by claiming that Lean is a management intervention, and the ultimate test is whether it can lead to better performance. He further asserts that Lean can be viewed as a way to transform an entire organisation into a safe and high-quality, high-performing product or service delivery system.

During the recent challenging time for the Aviation Sector, British Airways (BA) turned to Lean and the variations of continuous improvement programs to rescue their profitable business. Since 2004 BA has applied ‘Lean’ through using some of the Lean tools and techniques into some business areas.

With proven results from a number of business improvement engagements, BA’s Leadership Team (BALT) now believe that ‘Lean thinking’ can become a vehicle for change, leading to efficiency gains, improvement in customer satisfaction survey and will support BA’s new
vision as stated in BA’s business plan 2011 - “To be the most admired airline across the world’s key cities”.

Through considering Lean, BALT have accepted the fact that ‘Lean’ requires complete and total commitment from the highest executive levels and cascading down to all departments and throughout all levels of business.

This paper aims to discuss Lean concepts, factors that may affect Lean adoption and its adaptation by British Airways.

**Introduction**

Ohno (1998) describes Lean as a philosophy with an aim to develop a good practice of process/operations improvement.

According to Graban (2008), service businesses are struggling with customer demands for better quality service and managerial demands for cost reduction. Maleyeff (2006) makes a claim that to date significant improvements have taken place in Lean Services, yet it is also true that for the majority of the operations departments within Services Lean potential has hardly been tapped.

Earlier work by Liker (1998) emphasises that since the early days of Lean, it has been well proven that organisations of any size generally operate with around 90% of process-oriented ‘waste’ leaving a mere 10% of value added activity delivering services and products to their customers. He further highlighted that by doing rapid improvement events the easy 20 percent of needed change can be identified and applied. He makes the claim that these improvements demonstrate the ‘proof of Lean concept’. However, it does not create a culture of continuous daily improvements.
Significance of Research

Despite the track record for successful implementation of the methodology in BA, evidences gathered from BA’s Lean Portfolio Management Team pinpoints that about 30-40% Lean projects were put on hold and consequently withdrawn in year 2010 to 2011. The purpose of this research is to analyse this level of performance from a Lean, problem-solving and continuous improvement perspectives and ask: Why did those projects fail to achieve Lean success? What are the organisational factors that either help or hinder the change? This research is going to point out detailed analysis of theories and collect data with respect to making the change and sustaining it.

Aim

The main aim of this study is to analyse the application of Lean within British Airways.

Objectives

- To conduct a comprehensive review of theories and related literature to identify key factors that can affect Lean adoption, adaptation, validation and sustainability
- To examine empirically the Lean principles and conceptual change management framework in the context of BA
- To propose a final framework of factors that affect on Lean adoption and adaptation in creating continuous improvement ethos into BA

Lean in Services

From the 1970s, a debate occurred as to whether manufacturing goods and services could be treated the same (Chase, 1978). Grönroos (1990) was one of many authors noting the differences between Services and Manufacturing and identified the four distinct service characteristics:
1. Services are more or less intangible.

2. Services are a series of activities rather than things.

3. Services are at some extent produced and consumed simultaneously.

4. The customer participates in the production process at some extent.

Grönroos (2000) further explained that it is hard to believe that both Manufacturing and Service organisations should implement Lean the same way since they have different characteristics. He asserted that the wide applicability of Lean does not necessarily mean homogeneity.

Swank (2003) has claimed that many of the processes within the Service Sector could gain greater efficiency by considering and implementing aspects of Lean.

Bicheno (2004) has emphasized that indeed Lean can effectively improve performance within the Service Sector, but the effectiveness needs to be empirically validated at different levels and dimensions. Kennedy et. al., (2007) agrees and stresses that if such scientific evidence cannot be obtained, discussions about Lean Services bear the risk of becoming meaningless and irrelevant.

Lean application into the Aviation Sector has been partially explored. For example, there are various LEI conference papers suggest that a few airlines such as Delta, American Airlines have used some form of Lean approach but the results are not documented. Within BA the Lean journey results have not yet been fully evaluated.

**Relevant Literature**

Lean was developed and implemented by the Toyota Manufacturer between 1945 and 1970 (Womack et al. 1990). Liker (1998) mentions that Lean was introduced as an alternative approach to mass production techniques. Lean led to raise productivity and quality levels by allowing flexibility of ‘skilled’ production with the volume efficiencies of ‘mass’
manufacturing (Liker 1998). Womack and Jones (2005b) have observed that Lean is constantly evolving and it is the “how to” of managing change and sustaining change.

According to Smeds (1994), Lean focuses on the following key points;

- Eliminate non-value-added activities
- Trial and error
- Learn as you go
- Depends on intuition
- Promotes rapid radical change

A number of authors (Shostack, (1984), Smeds, (1994) and Swank (2003)) have noted that irrespective of the sector, businesses can create value through defining the process from a customer’s perspective, simplify processes, eliminate waste, improving flow and all of these are underpinned by the mindset of continuously improving.

Womack & Jones (1996) took these key points further and described them as having five principles;

1) Value - define value for a specific product or service from the end customer’s perspective
2) Value stream - the entire set of activities across all parts of the organisation involved in jointly delivering the product or service
3) Flow - product or service “flows” to the customer without any interruption, detour or waiting
4) Pull - produce only what the customer wants when the customer wants it
5) Perfection - the process continues towards the theoretical end point of perfection
Ahlstrom (2004), Abdi, Shavarini, and Hoseini, (2006) have asserted that the five basic Lean principles defined by Womack and Jones in 1996 have different implications when applied to Services. The table-1 illustrates differences of Lean principles in Manufacturing compared with its application to Services.

<table>
<thead>
<tr>
<th>Lean Principles in manufacturing</th>
<th>Basic Lean Principles</th>
<th>Lean Principles in services</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Specify the value desired by the customer</td>
<td>Value</td>
<td>Multiple customers and often customer is also the supplier</td>
</tr>
<tr>
<td>• Identify the value stream for each product providing that value, and challenge all of the wasted steps</td>
<td>Value stream</td>
<td>Understanding of transactional and discretionary processes</td>
</tr>
<tr>
<td>• Make the product flow continuously</td>
<td>Flow</td>
<td>Often highly variable demand and multiple handoffs</td>
</tr>
<tr>
<td>• Introduce pull between all steps when a continuous flow is impossible</td>
<td>Pull</td>
<td>Making the process responsive to providing service only when the customer needs it</td>
</tr>
<tr>
<td>• Manage towards perfection so that the number of steps and the amount of time and information needed to serve the customer continually falls</td>
<td>Perfection</td>
<td>Continuing to attack waste especially using frontline staff</td>
</tr>
</tbody>
</table>

Table 1 - Five Lean principles (adopted from Womack and Jones, 2003)

Based on the above differences and lack of concrete empirical examples of successful Lean implementations in the Service Sector, a number of researchers have questioned Lean application within the Services with the following criticisms:

- **Over standardisation:** Service organisations are under pressure to meet individual customer needs and standardisation of services to fit the Lean model can lead to accusations of “McDonaldisation” (Chase, 1978)
• **Inflexible and fragile:** A truly Lean system lacks flexibility in terms of ‘space to experiment’ and ‘time to think’ (Quinn & Gangnon, (1986) and Seddon (2005))

• **Lack of contingency:** ‘Lean Thinking’ may encourage organisations to remove buffers which may not always be in use but are necessary for occasional or unforeseen factors (Swank, 2003; Maleyeff, 2006)

• **Human aspects:** Lean systems can be seen as exploitative and high pressure to shop floor workers. The long term sustainability of any Lean programme is dependent on the human dimensions of motivation, empowerment and respect for people (Sprigg & Jackson, 2006)

• **Unable to deal with uncertainties:** Higher levels of Lean can remove essential levels of organisational slack, which are required to deal with uncertainty. It gives preference to efficiency over robustness and system reliability (Cooney, (2002) and Atkinson, (2004)).

• **Coping with variability:** Various Lean approaches manage variability and create capacity by utilising assets more effectively. In many sectors however, as demand varies the ability of Lean and supply chains to cope can become the main inhibitor to the implementation of Lean (Levitt, (1972) and Piercy and Rich, (2009)).

• **Scope and lack of strategic perspective:** There is a lack of discussion of strategic level thinking in Lean programmes leading to a lack of sustainability of many Lean transformation programmes (Karlsson & Ahlstrom, 1996)

Syrett and Lammiman (1997), suggested that by considering the fundamental ideas of ‘Lean Manufacturing’ and ‘Lean Thinking’, it is possible to develop the concept of ‘Lean ways of working’ or ‘Leanness’.
Pettersen (2009) observed four approaches to Lean, which are:

1. Toolbox Lean – practical and operational
2. Becoming Lean – practical and strategic
3. Leanness – philosophical and operational
4. Lean thinking – philosophical and strategic

These four approaches are based on two dimensions (Shah and Ward (2007) and Hines et al., (2004)). The first dimension builds on a literature review of Lean production conducted by Shah and Ward (2007) that shows that Lean production is generally described from two points, either from applying tools and techniques or a philosophical perspective. The second dimension is borrowed from Hines et al. (2004) and concludes that Lean exists on two levels: operational and customer-centred strategic thinking.

According to Karlsson & Ahlstrom, Rees & Scharbrough, et al. (1996), ‘Leanness’ is seen as an ideal to be pursued and not a system to be implemented. It should be considered as dynamic and a journey rather than a fixed point that has no final destination.

Smeds (1994) and Womack and Jones (1994, 2003a) noted that as organisations begin their Lean journey, the first step is usually to apply Lean tools and techniques in specific areas of the organisation. Shingo (1988) and Smeds (1994) claim that the Lean journey then proceeds to the System level, creating a more integrated, and sustained improvement model. Eventually all employees throughout all business processes develop a deeper understanding of the Principles – the ‘know why’ empowering the organisation to develop and deploy specific methodologies and practices unique to the organisation.
Many authors such as Allway & Corbett (2002) and Jones & Mitchell (2006) have noted that customising Lean is required in order to fit Lean principles into an organisation’s specific context. Moreover, as claimed by Bowen and Youngdahl (1998) organisation change may vary at different levels and it may have a different effect on each level of the business. Through the literature review, it remains unanswered how contextual factors affect Lean effectiveness, its design and how the fifth principle of Lean - Continuous Improvement element can be successfully embedded into a company.

**Research Approach**

To record the softer side of the change (i.e. subjective opinions from the people side of change), and to evaluate results objectively the study will be therefore both descriptive and analytical and will require taking a broad range of approaches from multiple sources.

Secondary research will be conducted through reviewing academic and practitioner literature and studying existing case studies. Three major databases; ABI INFORM, Business Source Premier and Academic Search Complete are being used to search articles on Lean.

A number of webinars held by the Lean Enterprise Institute were attended to enhance understanding on the subject as well as to identify the current trends in Lean applications in various industries. A full list of webinars can be found in the reference section.

Primary research will include informal interview meetings with the expert practitioners within BA to discuss various aspects of practical elements of Lean in BA. A survey questionnaire will be distributed in order to obtain the managers’ and employee’s responses on the change barriers. For the validation of some of the questions on the questionnaire, a pilot study may be considered.

**Conclusion**
In the past two decades, Lean has gained popularity in a wide variety of organisations and has demonstrated its effectiveness through a large body of anecdotal evidences (Womack and Jones, 1996). The five fundamental principles of ‘Lean Thinking’ can be applied into a Service Sector (Garban, 2008).

Hardgrave & Ward (2008) have noted that there is still relatively little evidence of the complete Lean philosophy being applied within the Aviation Industry. In light of the Lean literature, there is a need for more Lean theory development. There is also a need to understand what to customise when adapting Lean into organisations and to validate the effectiveness of Lean application in the airline services.
REFERENCES:


Webinar List at [WWW.lean.org](http://WWW.lean.org)

Big Company Disease:
What is it? and Why should I care?

Go and See:
Why go to the Gemba and what to do when you are there
Originally presented: November 9, 2010. Viewed on May 25, 2011

On the Mend:
Putting culture change at the heart of a lean healthcare transformation
Originally presented: September 13, 2010 Viewed on May 30, 2011

Lessons from "Lean Startups"
Originally presented: April 28, 2010 Viewed on May 25, 2011

Creating the Lean Manager, Originally presented: September 9, 2009. Viewed on June 2, 2011

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Follow the Learner:
The Role of a Leader in Creating a Lean Culture

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Originally presented: May 1, 2008. Viewed on June 2, 2011

A Wall Street View of Lean Transformation

Value Stream Improvement for
the Office and Services

Lean Product and
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Lean Management &
the Role of Lean Leadership