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hachette UK

case study

Implementation of Lean Six Sigma at Hachette UK

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Bookpoint Lean Six Sigma Case Study

Introduction

Hachette UK is the largest and one of the most diversified book publishers in the UK. The Group is made up of several publishing companies and imprints including Headline Publishing Group, Hodder & Stoughton, John Murray, Orion Publishing Group, Octopus Publishing Group, Little, Brown Book Group, Hodder Education Group, and Chambers.

The main focus of **Bookpoint** is the provision of high quality distribution services primarily on behalf of the publishing divisions of Hodder Headline but also for a number of third party client publishers. The business delivers a comprehensive customer service including an export department and a direct service department handling orders straight to the end consumer.

In early 2009 **Silicon Beach Training** provided a standard Lean Six Sigma Champion and Green Belt training for the IT Management and staff. The course was well received and Chris Emerson, Group Chief Operating Officer, asked Silicon Beach to provide a bespoke programme for the management and staff at Hachette's two UK distribution centres starting at **Bookpoint** in May 2009; work at the second distribution centre, **Littlehampton Book Services**, is currently underway.

Action Learning Training Programme

The management team at Bookpoint have extensive experience in the publishing industry. Some have been involved in continuous improvement programmes in other organisations and it is fair to say that they didn't all hold a positive impression of this type of initiative. The programme started with a **two day Champion and Executive programme** which was focused on providing an understanding of the approach, the infrastructure required and their role as change leaders. The issue of waste in their organisation was really brought home by going to Gemba (work place) and looking for waste; and by a 10 minute video highlighting the waste in their distribution activity. The outcome of the course was a commitment to appoint a Programme Manager, set up an infrastructure and implement, as far as possible, the recommendations that came out of the subsequent training programme.

Training was aimed at managers and senior supervisors from all areas of Bookpoint. The **five day "Lean Training" programme** was focused on Lean tools and used the Six Sigma DMAIC methodology as a structure. The training programme was focused on analysing and improving the Small Packet Value Stream that processed, on average, 1000 customer orders per day. Training was split into two parts; the **first two days (Define and Measure)** were followed by a break of 5 weeks when the process was measured and data, such as cycle time, queue time, customer satisfaction, etc were collected. The **second three days (Analyse, Improve and Control)** used this information to understand how the process currently worked, its performance and identify waste. A future state value stream map was then developed and an implementation action plan identified. The analysis and recommendations were presented to the management team at the end of the training.

Implementing the future state would **half the order receipt** to despatch time and **double the percentage of value add time**. The value stream would change from a batch and push process with significant queues and delays to single piece flow and a pull process with the packaging machine acting as the pacemaker for the whole process. The process would be much tighter with 15 orders being launched every 10 minutes, a FIFO lane to control the 60 trays (one per order) and a heijunka box to level the schedule at the launch station. The process could run for a maximum of 30 minutes before a problem with the packing, picking or launch processes was identified.

Two, three day sessions of "Kaizen" training aimed at supervisors and team leaders followed the "Lean Training". Again the DMAIC methodology was used, but the tools were at a more detailed "work centre" level. The two Kaizen training sessions each used an improvement action from the "Lean Training" for the Small Packet Value Stream; one focused on the launch process and the other on the packing process. They defined standard work for the two operations, revised layouts to minimise walking and handling, as well as conducted 5S audits. Again the analysis and recommendations were presented to the management team at the end of each of the Kaizen training sessions.

The final component of the training was **"Train the Trainer"** where we taught a group of four delegates from the earlier training sessions to deliver a **one day continuous improvement training session for staff**. As well as becoming familiar with the material (they had already seen this and more on their courses) they also delivered the training to the first "batch" of staff.

Throughout all of the training there was a strong emphasis on going to "Gemba" to understand what actually happens; to observe; to ask; and, on some occasions, to conduct small tests.

Results to Date

Bookpoint have implemented the more immediate recommendations from the Lean and Kaizen training. **The queue, decanting and set up at the packing machine has been eliminated**; the conveyor now flows right to the packing machine with each order in a separate tray. The empty trays waiting to go back to launch as a pull signal can be seen on the right. Standard work has been implemented. These improvements have **reduced the staff from 3 to 2 on the packing machine** for the same small packet order volume.

The notice board adjacent to the work area shows the standard work for the packing machine in the bottom diagram (the old method is in the diagram at the top).

5S was initially applied to the Small Packet Value Stream, then the rest of Operations and finally the office complex. Weekly audits are conducted, results are widely displayed. Paul Gibbon who is the Continuous Improvement Programme Manager has been pleasantly surprised by how well 5S has been received, he commented, **"5S has become very competitive; it our biggest initial success".**

The Small Packet launch area has also been transformed. A heijunka box is now used to level the schedule. Orders, still printed over night (a further improvement action from the future state map) are sorted into groups of 15 and placed into the heijunka box which has a slot for each 10 minute pitch. The Small Order Launch operator just takes the next set of 15 orders every 10 minutes and places them into individual trays. The heijunka box provides both a level rate of activity, visibility on both status and the volume of orders to be processed that day. A FIFO lane is used to organise stacks of 15 empty trays, it can hold a maximum of 45 trays or 30 minutes of work. If there are no trays then launch finds out there is a problem with either packing or picking within 30 minutes. Alternatively, if there is no space in the FIFO lane for the 15 trays returned from packing then there is a problem with launch process.

The tighter lean process in the small packet value stream has exposed other problems in the picking area that now need to be tackled to further improve the process. This has reinforced the metaphor used on the training course: "lowering the water level in the swamp to expose new problems to be solved".

Whilst the implementation of many of the changes recommended by the training course is satisfying, more important is the **drive to expand the continuous improvement activity** to all areas of Bookpoint. The continuous improvement programme has been dubbed "BITE"

(**B**ookpoint **I**nitiative **t**o Improve **E**ffectiveness). Paul Gibbon is the 'BITE' Programme Manager and a senior management board has been established to review improvement proposals; review projects already underway; manage the 5S programme and plan training. **Four "Lean" and "Kaizen" projects are currently in progress and are starting to deliver results**. The projects will extend the Small Packet improvements to other picking lines, drive out waste in goods-in, reduce the number of documents being used in areas like credit control and rationalise the range of packaging material used throughout the business. There is also ongoing work on the Small Packet line to further improve performance.

The **internal one day Continuous Improvement training programme**, provided by Silicon Beach, is being **rolled out to the whole organisation** by the internal trainers with two sessions a month for up to 10 delegates per session. The **training is being very well received** and even the "doubting Thomas's" who had avoided attending are now demanding to be on the course.

The 5S programme has been has been well received by all areas of the business. Roll-out started in the Operations activity and then moved to all of the offices. **The follow up tour we made of the facility showed a marked improvement with much of the clutter removed, clear labelling in many locations and strong evidence of the regular audit programme**.

Going Forward

In the few months since the training programme was completed Bookpoint have **established an infrastructure, started follow-on projects, established an audit programme, and rolled-out the one day training programme**. Bookpoint have not only maintained the momentum created by the training course they have amplified it so that **the whole site is eager to get involved in improvement**. The projects that have been undertaken to date are already starting to free resources so that more **investment in improvement can be made**. The 'BITE' Steering Group have a number of new projects planned as well as completing the roll out of 5S and establishing Quality Circles in the areas of the business where improvements have been made.

Whilst it is too early to talk about cost savings there is a strong belief in the organisation that when business picks up after the recent, industry wide, downturn there will be **less of a need for the return of temporary contract staff to meet customer demand.** Bookpoint is improving its ability to take-on and win the challenges that the publishing industry is already starting to face. Changes that will be relentless over the coming years as the demands of customers for instant access at low cost to their favourite authors, and or sources of stimulating knowledge bring about a transition that some may not survive.