Investing to Improve - Organisational Development and the link with Lean for Continuous Quality Improvement

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Abstract

Originality/Value of paper

HE sectorial evidence and case study relates mostly to established CQI in US universities and colleges based on Baldridge award criteria but with Lean tools now beginning to be used. Several UK universities are investigating the applicability of Lean as a CQI approach. However, no specific evidence has been found for the use of Lean driven by and through organisational development and the improvement of leadership competency to deliver tactical improvements linked to strategic requirements. Thus this reported work is original and would be of interest to the HE sector and the public sector more widely.

Purpose

In the face of global competition intensifying the need for high-level skills and knowledge and growing competition for students, the demands being placed on universities is increasing. These demands are also rising in complexity, from the growing number of stakeholders e.g. students, businesses, the public sector, society and government, and in their varied requirements, for example, in the variety and diversity of provision and in the use and development of new technology.
This paper will describe the strategic response that Coventry University is making to address these demands. In particular the way in which 'customer value' is being recognised and steps taken to 'added value' efficiently and effectively throughout systems, processes and work streams through the use of Lean principles, tools and techniques for continuous quality improvement (CQI).

Methodology/Approach

Experience in other sectors has shown that for CQI to be developed and sustained requires a methodology that does not focus simply on the use of improvement tools but includes a longer-term emphasis on development, leadership and cultural change linked to corporate strategy.

Recognising these guiding principles Coventry has embarked upon the implementation of an extensive Leadership programme (LDP) involving over one hundred key staff and from this the formation of leadership Action Teams (LAT's) to undertake improvement projects identified for their strategic importance to the corporate agenda.

Findings

An LAT pilot project, described in the paper, was undertaken to improve the staff approval and recruitment process. Lean tools, in particular Value Stream Mapping (VSM) were used to identify the customer pathway and deliver improvements. The result is a streamlined process with less documentation which is significantly easier to complete. Representing an improvement of 54% in time to process and a 42% reduction in value added time.

Keywords

Strategic, Development, Competency, Quality, Lean, Value, VSM.

Paper Type

Excellence in Higher Education

Category: Case Study

Introduction

As we move further into the 21st century, organisations have to increasingly align their operational activities with their strategic plan in order to achieve the desired competitive advantage. More recently universities in the higher education (HE) sector within the UK have begun to do this and to adopt the principles tools and techniques established in other business sectors to realise the desired change and improvement. This is predominantly due to increasing competition within the HE sector, the increasing number of mature students, the sizable population of part-time students, the requirement for change in the pace and place of learning, the integration and use of new technology, the necessity to provide a rewarding student experience, the student expectation of a good graduate level job at graduation and increased involvement in applied research. In addition the introduction of a variable tuition fee (in England and Wales) has affected the willingness of students, as customers, to pay a higher rate. This depends on a number of core factors include; quality (perceived or measured), flexibility and the facilities that are provided. To exploit this opportunity universities have started to focus on organisational development that will constitute towards operational efficiency that focuses on meeting customer satisfaction.

From an investigation of published literature in the broad areas of total quality management (TQM), continuous improvement (CI) and Lean one guiding principle for cultural change and sustained success in CI seems to prevail namely; that it should involve an holistic top-down implementation, with a strong relationship developed between the corporate plan and the 'key' strategically aligned actions. The above approach has been successfully applied within manufacturing organisations and has more recently emerged as an approach appropriate to the public sector (Radnor et al, 2006). This same approach is now being applied within universities in order to leverage the same benefits that the manufacturing sector has enjoyed. It has been shown that the tools and techniques cannot, in most cases, be directly applied due to the differences in the operational framework of the sectors (Radnor et al, 2006) however, from the limited published work available (Alp, 2001), (Emalini, 2005), (Emalini, 2004), (Emalini, 2004a) and (Wiklund and Wiklund, 1999) it is clearly feasible to adapt lean principles and practises from the manufacturing sector to that of education. While it remains important to make use of the transformational tools, with their emphasis on reducing waste and improving quality, for sustained improvement attention needs to be paid to addressing prevailing beliefs and behaviours. For example, the development of leadership in middle management has been identified as a requirement for the alignment of tactical responses to strategic requirements (Martin, 2001). This involves training and development in not just the CI tools but is likely to include changes in how performance is recognised and rewarded (Emalini and Stec, 2005) for sustained improvement the emphasis therefore appears to centre on developing a holistic approach to the implementation of Lean (Bhasin and Burcher, 2004), (Hines et al., 2004), (Ligus, 2007) and (Zink et al., 2008).

Framework

Recognising this guiding principle Coventry has embarked upon the implementation of an extensive Leadership development programme (LDP) involving over one-hundred key staff from throughout the university. LDP topics cover a wide range of business related areas including performance management and employment law, finance fundamentals for HE leaders, leading with impact and influence, customer

relationship management, managing difficult conversations, working with the press and media as well as a host of additional awareness raising events. Participants of this programme have become members of Leadership Action Teams (LAT's) who are undertaking improvement projects identified for their strategic importance to the corporate agenda.

Figure 1 diagrammatically represents this approach to delivering improvement benefits where the executive will sponsor an LAT to review and improve a process or system that involves often many of the functions within the university and if successful will impact on one or more of the areas of focus in the 2010 corporate strategy.

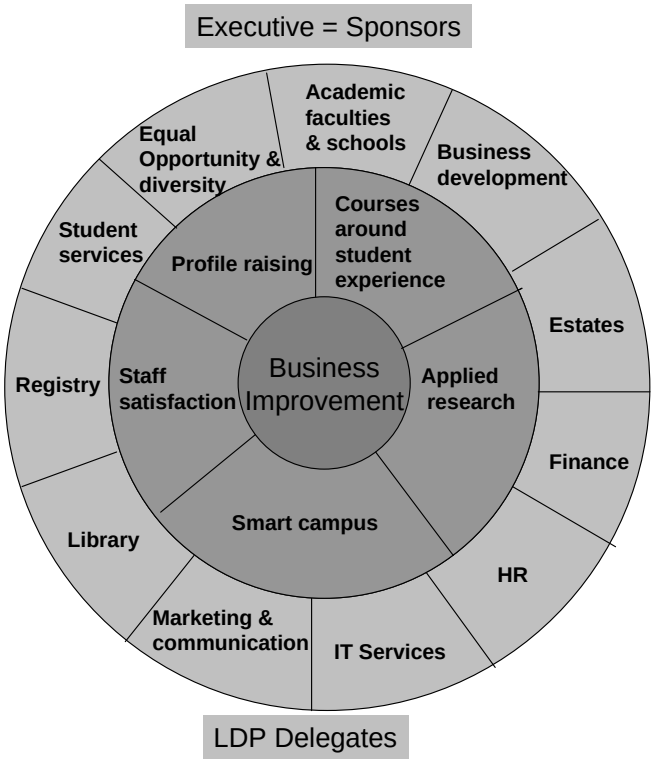

Figure 1: Process improvement strategy

This paper describes a pilot project undertaken to improve the staff approval and recruitment process. The aim of this project was to review the current approval and recruitment process and action changes that would reduce significantly the time taken to recruit additional or replacement staff. Achieving this would impact in a number of areas most notably staff satisfaction, student satisfaction, applied research and profile raising.

Applying Lean Concepts to the Staff Approval and Recruitment Process

To accomplish this work, lean tools and in particular Value Stream Mapping (VSM) were used to identify the customer pathway and deliver improvements. The result is a streamlined process with less documentation which is significantly easier to complete. Representing an improvement of 54% in time to process and a 42% reduction in value added time. The details of this work are presented in the following section.

This project was sponsored by the human resource (HR) director and included a rapid improvement event (RIE) conducted over two consecutive days. The team, made up of eleven participants, was carefully selected such that it composed of various roles and responsibilities throughout the organisation. The participants were drawn from HR recruitment team, suppliers (external recruitment agencies), IT services, and customers drawn from library services, academic faculty and student services who during the workshop period, and indeed after it, were empowered and encouraged to access the wider resources available to them. The RIE a mixture of trainer led-learning in the methodology and simple tools and techniques to be employed as necessary, and participant led improvement activities was divided into activities as illustrated in Figure 2. where day one was designed to deliver a map of the current process and identify areas for improvement and day two would build the future state map through the elimination or reduction of the wastes identified in the current process.

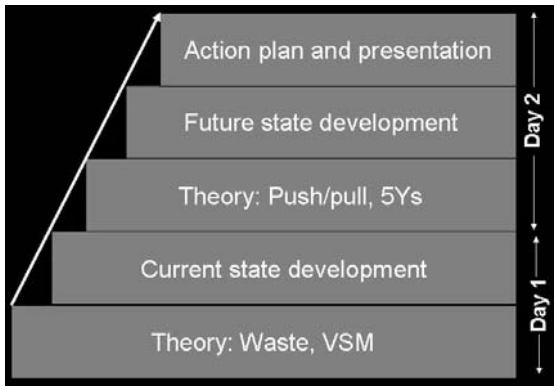

Figure 2: Structure of the RIE

The workshop was started by introducing the general principle of non-value added activity with respect to the service environment. The participants also had the opportunity to practice a number of short exercises that made them conversant with the basic principles of lean. This provided them with a clearer understanding of value stream development featuring a service type example. The next stage was the development of the current state map for the recruitment process. The main development work was conducted by the participants with guidance from the trained internal facilitator where necessary. Figure 3 shows the current state map in development.

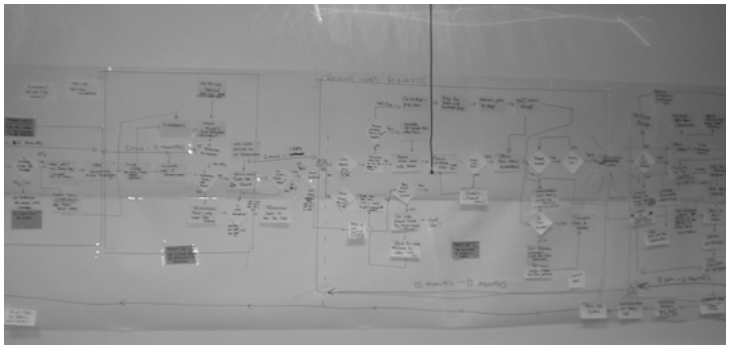

Figure 3: Development of the current state map for the recruitment process

The development consisted of identifying the main tasks and the function with responsibility for completing it and finally attaching a time element for both value added and non-value added element of the activities. Allocating the time element proved to be of some challenge due to the variability of the tasks involved. In light of this variability average times were agreed. Despite the need for this the lead-time calculated from the value stream map corresponded well with the to previously recorded recruitment lead-time provided by a number of the participants involved. The value stream map when completed provided a good representation of the issues faced within the recruitment process.
With the aid of the value stream map the participants were able to apply the seven-wastes concept to identify the non-value added activities in the process. Some of the key wastes identified at the macro level included the following:

- Waiting for signatures
- Preparation of job advertisements
- Coordination of information
- Short listing process
- Organisation of interviews
- Confirmation of pre-employment checks
- Preparation and sending out of contract documents

Applying the Lean principle of allowing the customer to pull and the 5-why's improvement tool simplification and streamlining of the current state through the use of parallel processing where possible, better method of coordination between the various departments, elimination of duplication of activities, minimisation of transport by use of electronic means where possible, use of pull system in conjunction with the use of required-by-dates to prevent overproduction as well as unnecessary work in progress, provision of additional training and systems that embraced standardisation where applicable to minimise rework during the various stages and simplifying activities without the compromise on quality standards to cut down time that was consumed due to over-processing resulted in a future state map in which the lead time to approve and recruit a new member of staff was reduced by 54% from 96 days to 44 days and the time taken to add value within this process was reduced by 42% from 6 days to 3.5 days as shown by Figure 4.

The final stage involved putting together an action plan and delivering the achievements of the workshop along with the implementation plan to the executive sponsor. Key items on the action plan included the following:

- Approval of AP forms in the absence of executive staff
- Use of email to send applications between functions
- Purchase and use scanner
- Develop and use new approval form
- Develop useful templates
- Negotiated turn around time for approval with finance
- Establish a system that will allow effective coordination
- Pre employment checks
- Accessibility to clients
- Higher capacity answering machines

- Evaluation of suitability of current processing software

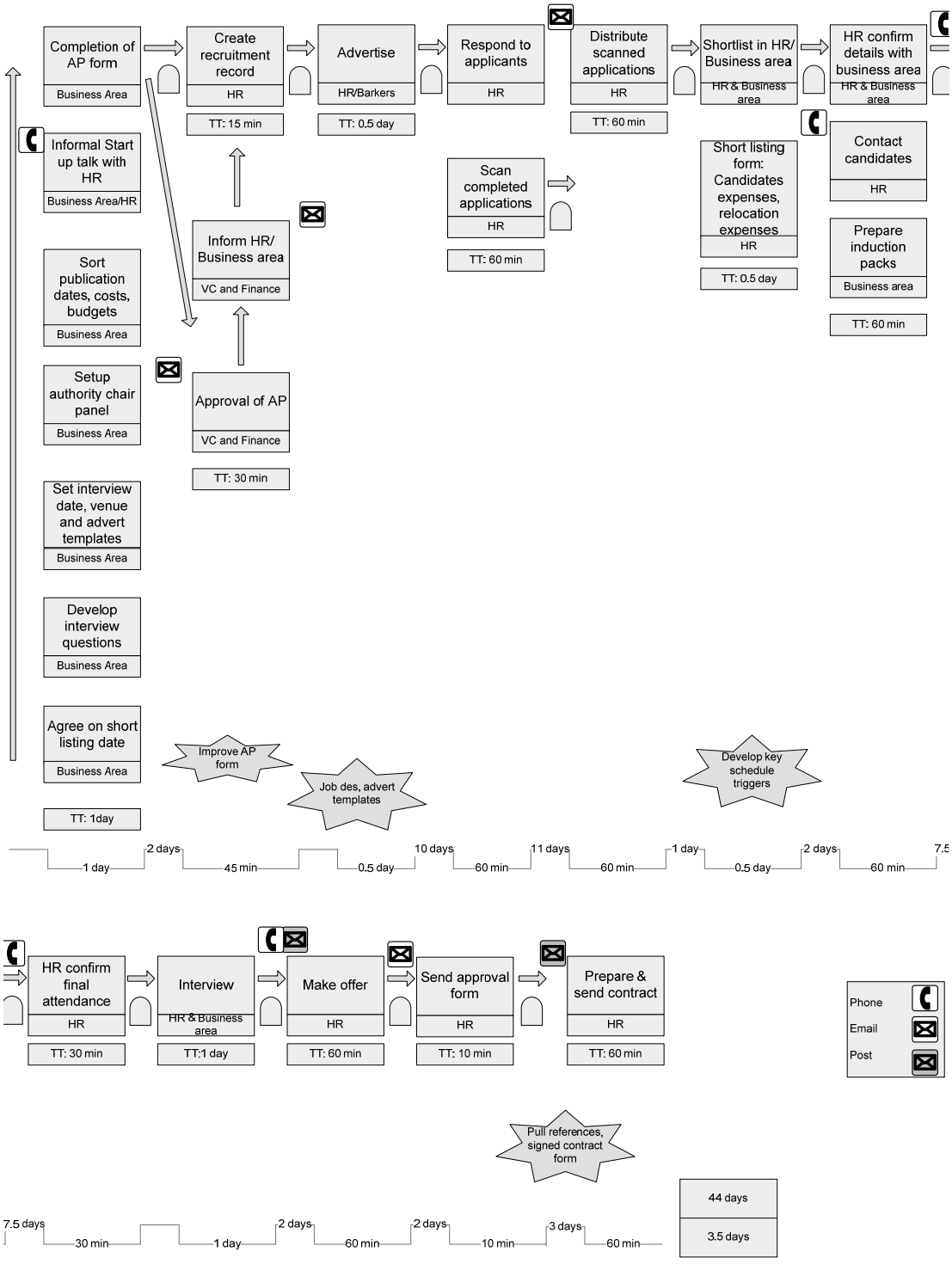

Figure 4: The future state map of the recruitment process

The actions were also prioritised as illustrated in Figure 5. where extent of impact on the process efficiency and ease of implementation were considered in prioritising actions.

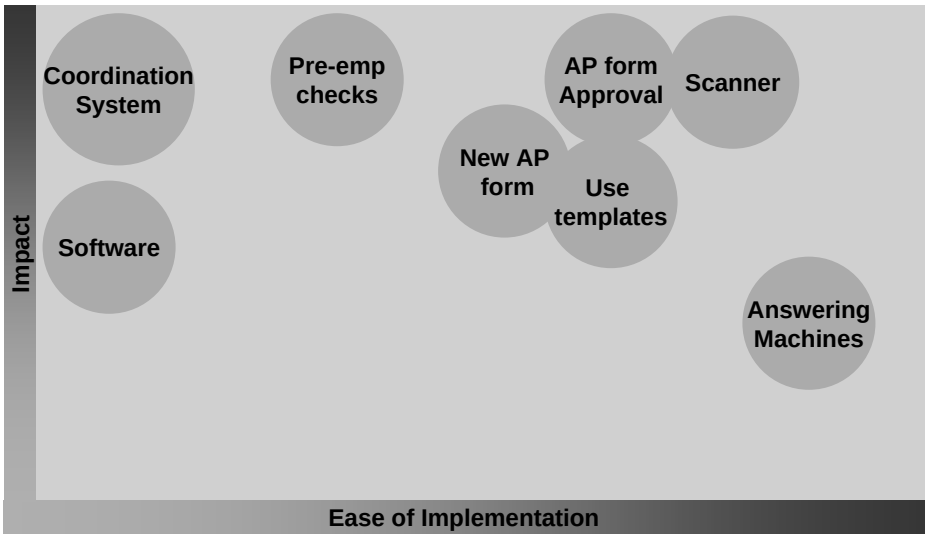

Figure 5: Prioritising the implementation of identified tasks

Team participants took responsibility for actions and completion dates were agreed. For many of the actions identified the executive sponsor was able to provide immediate approval or approval within a relatively short time-frame however, as might be expected certain proposed actions required approval from other areas of responsibility. In particular agreement to the selection of software to automate many of the process stages which would need to integrate within the university's IT strategy and would require a significant level of investment was noted but considered outside the scope of the improvement brief.

Periodic review at 30-, 60- and 90-days after the RIE was agreed and revealed challenges associated with completing and closing off agreed actions. The following reasons for the partial or incompletion of some of the actions have been cited:

- Lack of a recognised process owner driving results achievement, maintaining momentum and overcoming obstacles
- Pressure to complete day-to-day activities where competing priorities and demands impinge on the ability of individual participants to sustain focus
- Delay in approving actions that involved agreeing policy changes
- The complexity of software solutions that impinge on the effective operation of other areas of the business

Despite these challenges actions implemented to-date have resulted in a 20% reduction in the overall time taken to approve and recruit a new member of staff.

From the pilot study undertaken, it can be seen that there have been a number of challenges faced in the timely achievement of the desired result and thus the extent to which this particular change will support the corporate objectives. Generally where process changes to the value stream were proposed that were within the control and

responsibility of a functional area these were acted upon. However where changes proposed affected a number of functional areas i.e. changes to end-to-end processes, the lack of ownership, responsibility and authority becomes an issue. One should also recognise the operational differences between the manufacturing sector, particularly where repetitive manufacturing is practised, and HE where variety in activities and demand cycle determine the specific tasks being undertaken and prioritised at any particular time. If this is coupled with the degree to which different parts of the organisations activities and priorities are actually synchronised it emphasises the fact that though the principles of Lean may apply the methodology, tools and techniques cannot simply be adopted but will need to be adapted for use within the HE sector.

Conclusion

This paper has provided an overview of the increasing competition between organisations and more especially the higher educational sector and the increasing importance of CI in order to maintain competitive advantage. Lean has been identified as appropriate to the public sector and this paper has cited a number of existing publications to support this assertion. Further an original case study of a Lean improvement activity has been referred to within this paper and the approach taken and the tools used have demonstrated that Lean can deliver measurable improvement to a process. However, through the challenges that implementation exposed it has also revealed the gaps in knowledge that exist in order to deliver Lean in a holistic way and to sustain it, this despite the work done already within Coventry University to align tactical interventions for improvement with the strategic business requirements and more research into this emerging application is needed.

Organisational culture as embodied in individual beliefs and behaviours, existing organisational structure within the HE sector and the diversity of institutional focus may make it impossible to develop a unified approach to Lean improvement within the HE sector however, as more universities engage in the use of Lean as a way of delivering improvement, and as these become known, proven strategies should emerge and adapted tools and techniques should appear to assist the quality improvement process.

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