



Lean and systems thinking – maximising the efficiency case

This briefing is one in a series of briefing papers being issued by APSE around efficiencies and how local authorities can deal with budget constraints and maximise their opportunities such as income generation. As councils face tougher times and unprecedented financial constraints, APSE have brought together some examples of where efficiency savings have been made and some examples of best practice. Whilst many ideas are transferrable between councils, APSE recognises that local circumstances will vary and some routes may be more appropriate to some than others. This briefing paper relates to lean and systems thinking techniques and provides case studies from authorities using these techniques to secure improvements in systems/processes, as well as associated financial savings.

Key issues:

- An outline of the different 'lean', 'continuous improvement' and 'systems thinking' approaches to service transformation
- Contains a range of case studies for front line services demonstrating improvements in systems and associated financial savings
- Further information and support is available from APSE by contacting djohns@apse.org.uk

1. Introduction

The impact of the financial constraints facing councils and the need for efficiency has generated a real interest in redesigning services to eradicate waste, reduce steps in the supply chain and most importantly make them more user-friendly. The words 'lean', 'continuous improvement process' and 'systems thinking' are often used interchangeably to describe approaches to service transformation. This briefing paper looks at some approaches to redesigning systems and processes and highlights some case studies where these methodologies are being used by councils throughout the UK.

2. Defining 'lean' and other service transformation approaches

This section outlines some of the techniques and approaches to transforming service delivery.

(a) Continuous improvement process

'Continuous improvement process' describes an ongoing effort to improve products, services or processes. It has a set of principles based on self-reflection of the processes, elimination of suboptimal processes and incremental, continuous steps to improvement rather than giant leaps. Deming (1900-1993) was associated with a range of continuous improvement approaches including the application of statistical methods. Tools used include Business Process Management, Quality Management and Project Management.

(b) Six sigma

Six sigma is concerned with service processes and aims to model, measure, modify and improve them in order to make savings. Six sigma uses a number of tools including DMAIC (define, measure, analyse, improve and control) and the Voice of the Customer (a method of translating customer feedback into meaning and then into measurable requirements).

(c) Lean principles

Lean is doing 'more for less' and the lean management principles are considered to be founded by Taiichi Ohno (1912-1990), a Toyota Executive. Lean is considered to be the antidote to waste and has 5 principles; specify value, identify the value stream, flow, pull and pursue perfection.

(d) Systems thinking

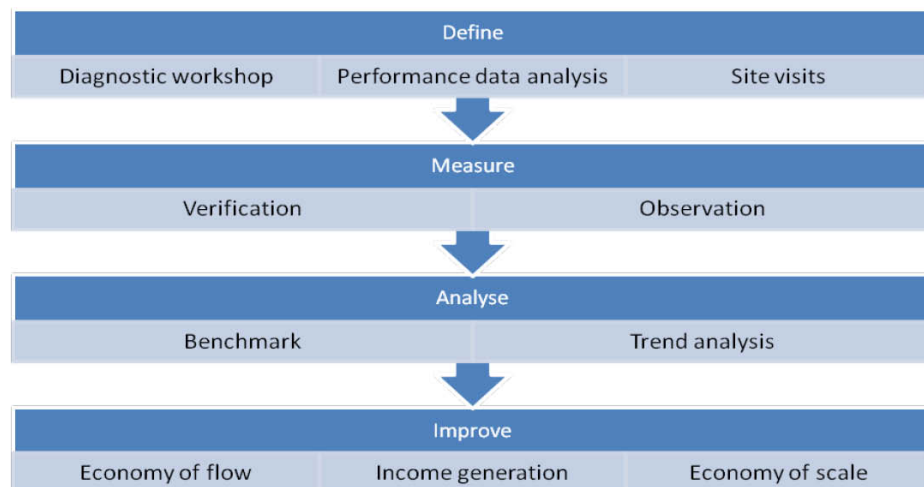
Systems thinking is best understood through action-learning. It is commonly associated with John Seddon, who wrote *'Freedom from command and control: a better way to make the work work'*. Seddon argues that the Toyota Production System is just that – a system. Tools are considered to be the least important element of systems thinking; the most important part is understanding the organisation as a system and thinking in terms of systemic cause and effect.

(e) Process benchmarking

Process benchmarking focuses on selected processes within an organisation rather than on the organisation as a whole. By identifying best practice processes and comparing actual processes that organisation use, managers can improve the performance of sub-systems—leading to better overall performance. The goal of process benchmarking is to improve different stages of the process and to increase efficiency by “learning from others”. Sharing experiences is crucial for the success of the technique. For example, by comparing specific core indicators (and the procedures currently used that affect those indicators), best practice can be identified and transferred to other organisations. APSE has established process benchmarking groups in building maintenance, parks, refuse collection, street cleansing and transport services. For more information, [click here](#).

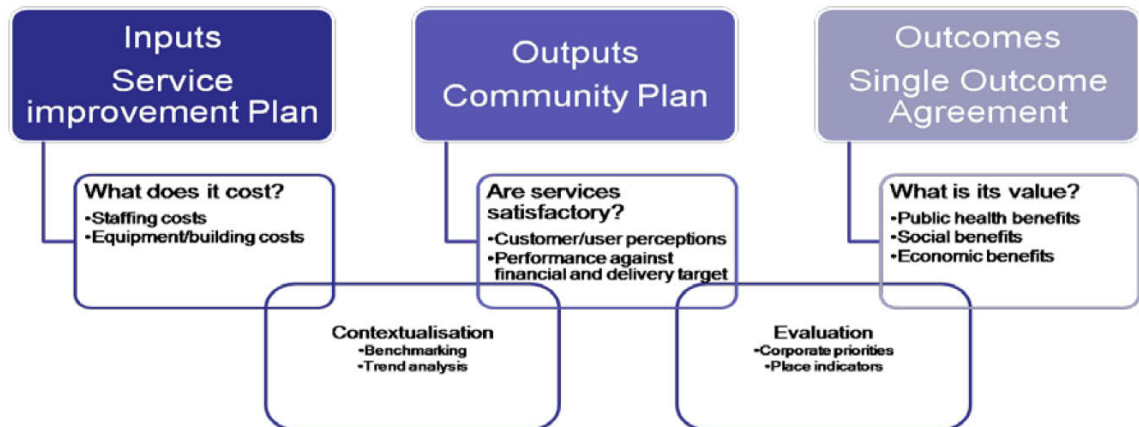
(f) APSE approach

APSE uses a combination of approaches for service improvement projects or options appraisal, drawing on the strengths of the models above combined with performance data from the UK's largest public sector benchmarking model, [APSE performance networks](#). [APSE's best value consultancy](#) have developed approaches for local authority projects that are specific to the local circumstances in which the council is operating and drawing on APSE's extensive knowledge of front line service delivery. An example of a model developed for a specific efficiency project is as follows:



(The above model has been adapted by APSE from the Six Sigma DMAIC model, 2010)

APSE thinks that cost, price and value all need to be taken into account when reviewing services and identifying savings. To view individual service areas as simple cost centres that can be cut without considering wider issues of public value could be counterproductive. For instance, increasing the price of a school meal might help balance the school catering budget but if it deters children from eating healthier, the long term costs to health and the economy would make this a poor choice in terms of public value. Therefore, whilst it is important to review inputs, front line public services need to measure outputs as a proxy for public outcomes. A simple model showing all 3 dimensions is shown below:



APSE 2010

3. Opportunities for local authority services

Set out below are a number of case studies from local authority services throughout the UK which show real financial and organisational benefits from using service transformation techniques. Further details, including contact information, are available to APSE member authorities by contacting the APSE office on 0161 772 1810.

- Case study 1: Continuous improvement of front line services through value for money reviews.** This local authority in south Wales asked APSE to undertake service reviews in transport, corporate building services and parks and open spaces. This involved a cost/quality appraisal, identifying 'added value' features of the service and options for cost reductions and improvements in operational efficiencies and an options appraisal. Recommendations included:
 - A centralised vehicle function is established for fleet procurement
 - For corporate building services, scope for increasing productivity and adopting more targeted inspections
 - Review seasonalised working hour arrangements and increased machinery utilisation.

The reviews realised savings of £155k per year.

- Case study 2: Systems thinking approach to highways maintenance.** The highways department of this unitary council in central England decided to carry out a Systems Thinking Review of their reactive maintenance service following concerns about the quality of service and the potential pressures in the future. The review began in 2009 and was supported by funding from Improvement and Efficiency West Midlands. Key improvements included:
 - Average time to complete a repair reduced from 36 days to 2 days
 - Average cost of repair reduced from £68 to £59 (for potentially 11,500 repairs, this is a saving of over £100k).

- Reduction from 3 months backlog of work to no backlog
- Reduction from 10% of first visits being aborted to 0% of jobs aborted
- **Case study 3: Establishing a Change Management and Innovation Unit.** This council in south Wales, as part of its approach to deliver efficiencies, has developed a Change Management and Innovation Unit. The unit has been tasked with delivering transformational change across the council. To date the council has undertaken around 15 reviews ranging from Development and Control to Child Protection. The first systems review was in the Development Control service, where despite being a good performing service, they reduced the average time it took to make a decision on planning application from 86 days to 31 days.
- **Case study 4: Road drainage improvements.** This local authority in Scotland has used a systems approach to redesign its gully cleaning process. The main changes introduced included:
 - More and better focused performance measures
 - Introduction of IT systems, including vehicle-based equipment
 - Changes in geographical boundaries to match Neighbourhood Management
 - Annual, city-wide scheduling
 - Co-ordination of routine cleaning, high pressure jetting and traffic management
 The results have included:
 - Average response time to customers reduced from 53 to 11 days
 - 93% blocked gullies reported by customers cleaned on the first visit
 - Proportion of all gullies successfully cleaned first time increased from 60% to 75%
 - The cost of developing the IT system was £24k but the annual saving in staff time is £14k.
- **Case study 5: Expenditure review for library services.** This authority in north Wales sought to reduce year-on-year revenue expenditure on its library service by £90k from 2010 onwards. APSE reviewed the service and provided a series of savings-related and non-savings related recommendations, including a new structure, reviewing opening hours and increased partnership working, to achieve this annual saving target.
- **Case study 6: Rethinking support services.** This metropolitan council in northern England has used systems thinking techniques for its support services. Improvements have included:
 - An increase in the percentage of people who contacted the IT helpdesk who could be dealt with immediately from 17% to 85%.
 - In HR and payroll, the percentage of people who could be dealt with immediately has increased from 0% to 85%.
- **Case study 7: Systems thinking approach in Housing/Council Tax benefits.** This council in south Wales has applied a systems thinking approach to Housing and Council Tax Benefits. Redesign commenced in 2009 and benefits to the customer include that they now only have to complete a maximum of 5 pages to inform the council of a change in circumstances rather than 36 pages. The end to end time has been reduced from 45 days to 12 days for new claims and 35 days to 8.6 days for changes to circumstances.
- **Case study 8: Local authority building repairs and maintenance service.** This unitary council on the English south coast first applied systems thinking to their

repairs and maintenance service. They have successfully reduced the average number of days for all repairs from 24 days to 6.9 days to fix the originally reported repair and 11.2 days to fix all repairs identified at the property. They have also reported that costs per job have fallen by 7% through the redesign.

- **Case study 9: Cleaning communal areas in residential buildings.** This unitary council in southern England applied a systems thinking methodology to cleaning communal areas in residential blocks of flats. They first did a deep clean intervention test on a block of flats and when the block was as near to perfect as possible, an additional test was undertaken to simulate a routine clean of the block. The perfect condition was maintained by doing only what was needed NOT what would normally have been specified in a cleansing contract specification. They then cleaned another block, building upon what they had learnt, using alternative methods and materials. The total cost of this was 85% cheaper than the first test.

4. APSE commentary

The case studies above demonstrate clear improvements in processes and systems for a range of council services, including some front line services. Whichever tools and techniques are used, there are key differences between whether an 'evolution' or 'revolution' approach is taken; continuous improvement or 'big bang'. Some of the key differences are listed below:

Evolution	Revolution
<ul style="list-style-type: none"> • Flexible, pragmatic approach • Control over process • Managing the risks 	<ul style="list-style-type: none"> • Big bang all at once • Loss of control and high risk strategy • Risk of alienating stakeholders – particularly workforce
<ul style="list-style-type: none"> • Taking stakeholders along 	<ul style="list-style-type: none"> • Difficult to make changes or go back if unforeseen problems
<ul style="list-style-type: none"> • Relatively straight forward to procure external input if needed 	<ul style="list-style-type: none"> • Complex, lengthy, expensive procurement process if external input needed • May force cultural change

Reviewing processes is not a new phenomenon and councils should learn from exercises that have been undertaken previously by organisations such as APSE and improvements made in local authority services throughout the UK. Further support is available from APSE via obtaining these full case studies, additional support in conducting an options appraisal or service review, performance measurement and process benchmarking, skills development and training, as well as advisory services. Please contact djohns@apse.org.uk for more information.

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