Lean – Get Lean & Fit for the Future

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'Managing with less – doing things better'

Aims & Objectives of Presentation

- Why are you here & what do you hope to gain from this session?
- Context & purpose
- An introduction to Lean
- The five principles of Lean
- Value versus waste
- A 10 point plan to support effective Lean implementation
- Hard & soft benefits
- Applying Lean how to overcome the barriers
- Questions

Why are you here & what do you hope to gain from this session?

Context

Tough Times (Managing with Less)

- the days of 'the way things are done' have gone!

The significant problems we face cannot be solved by the same level of thinking which caused them

- Einstein

On the subject of thinking...

"Gentleman, we are out of money, therefore we will have to think."

Churchill, to Parliament, during WW2



Purpose

To explore how the Lean 'business improvement' philosophy can be used to effectively identify, test, measure, Implement, realise & sustain efficient & effective ways of working

What is 'Lean'

What do you know about Lean?

 Lean is a business improvement approach which has its roots in Manufacturing. In recent years it has been applied to great effect in the service & public sectors

Lean within Welsh Government

- Oct 2008 to present: 50+ Lean interventions to date (diverse range of projects)
- Lean has helped to enable savings of £4.3m
- Other achievements Welsh Government award ('delays' reduced by 80%) UK civil service awards (shortlisted)
- Strategic positioning of Lean Expanding Lean team means more opportunity to pursue 'vital few' efficiency improvements

" Lean thinking has been like shining a light in dark places. Asking basic questions like who is the customer?, what value does this process step really add? why do we need to do this? has enabled us to strip out a large number of unproductive steps.

Not only have we been able to cut the inspection process map by a third, we have reduced the burden on our customers and substantially improved the quality of our work. Less is indeed more as they say"

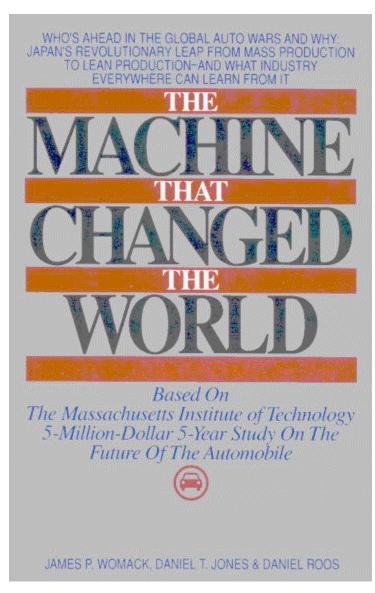
- CSSIW (David Francis)

An Introduction to Lean

(Background Theory & Context)

Origins of Lean

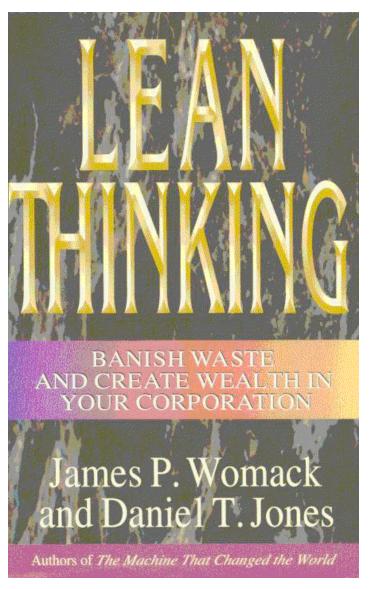
- 1574 Historians cite King Henry of France observing the continuous flow processes used by the Venice Arsenal to build complete galley ships in less than 1hour
- 1898 FW Taylor begins his 'Time & Motion' study
- 1913 Henry Ford establishes Highland Park plant using the moving assembly line
- 1948 Quality guru WE Deming first sent to Japan.
 Lectures on waste as being the prime source of quality problems











'Business Improvement' 'Change Management' 'Fit for the Future'

- Where do we start ???

Good News!! - there are only three elements of work for us to consider...

Three Elements of Work

1. Value Added Activities:

An activity that transforms or changes information
 And the customer/client/citizen/end user needs it
 And it's done right the first time, on time & every time

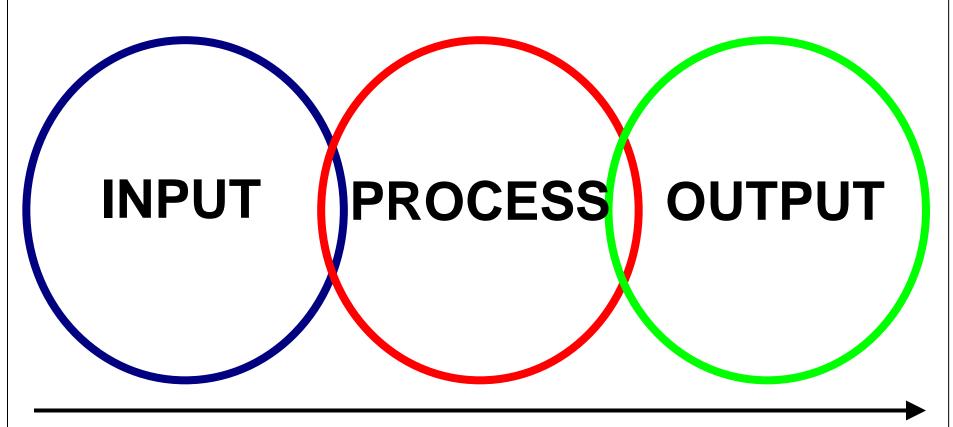
2. (Required) Non Value Added Activities:

- Activities which create no value but which cannot be eliminated <u>at the moment</u> due to existing technology, equipment or thinking
- Regulatory, customer mandated, legal

3. Waste....Non Value Added Activities:

- Activities that consume resources but create no value in the eyes of the customer
- If you can't get rid of it, it turns to 'Required Non Value'

Lean is effective if these conditions exist -



Customer demand

Requirement

Request

Need

Transforms & adds value

Produces/enables

Develops

Creates

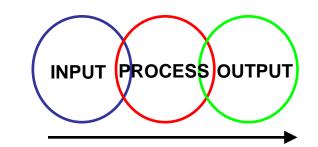
Value has been added

Completion stage

Intent on satisfying customer demand

Outcome

Basic Questions



Input

- What is the demand?
- Is it predictable? (runners, repeaters & strangers)
- Can we satisfy the demand? (capacity/expertise)

Process

- How many steps/stages are there in the process?
- How long does it take?
- How much resource is involved? (time/people/money)

Output

- Do we measure the outcome?
- Failure demand/ 'right first time'/ 'value' v 'waste')
- How satisfied is the customer?
- Learning & continuous improvement/future proofing?

In this context Lean provides a common sense methodology for enabling 'evidence based' decision making!

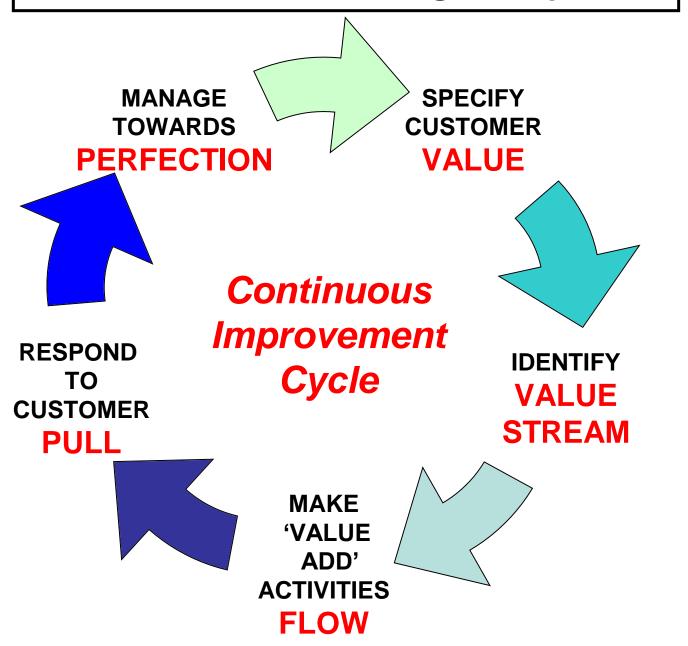
Based on the following 5 key (common sense) principles...

The Five Lean Thinking Principles

- 1. Specify what creates **Value**, from the perspective of the customer/client, not individual functions or departments.
- 2. Identify the Value Stream for each product or service providing that value and challenge all of the wasted steps.
- 3. Make those activities that create value, Flow without interruption, detours, backflows, waiting or rework.
- 4. Respond to what is **Pulled** by the customer (i.e. customer needs).
- 5. Manage towards **Perfection** so that the number of steps and the amount of time and information needed to service the customer continually falls.

Based on Womack & Jones: 1996

The Five Lean Thinking Principles



Lean provides a common sense methodology for enabling 'evidence based' decision making!

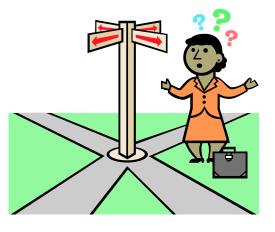
From this...











and sometimes this...



To this...

'Evidence Based' Change



"Once you embrace unpleasant news not as a negative but as evidence of a need for change, you are not defeated by it, you're learning from it."

Bill Gates

Ultimately; Lean is Common Sense!

The Enemy of Lean

'Waste'

What do I mean by 'Waste'?

VARIATION

Inconsistency.
Lack of standard
working
procedures

WAITING

For paper people, information equipment & decisions

DUPLICATION

Re-entering data, repeating details on forms, copying information across

HUMAN POTENTIAL

Untapped ability, skills knowledge & creative thinking

WASTE

UNNECESSARY MOTION

Walking, searching, reaching, choosing, arranging, poor layout

RESOURCES

Time, people, money & equipment due to inefficiency

ÉRRORS/ DEFECTS

Any rework of information is Waste

INAPPROPRIATE SYSTEMS Excessive information

& communication.

Automation manual

COMMUNICATION

UNCLEAR

Uncertainty, lack of clarity, non existent/vague process procedures

A Wake Up Call!

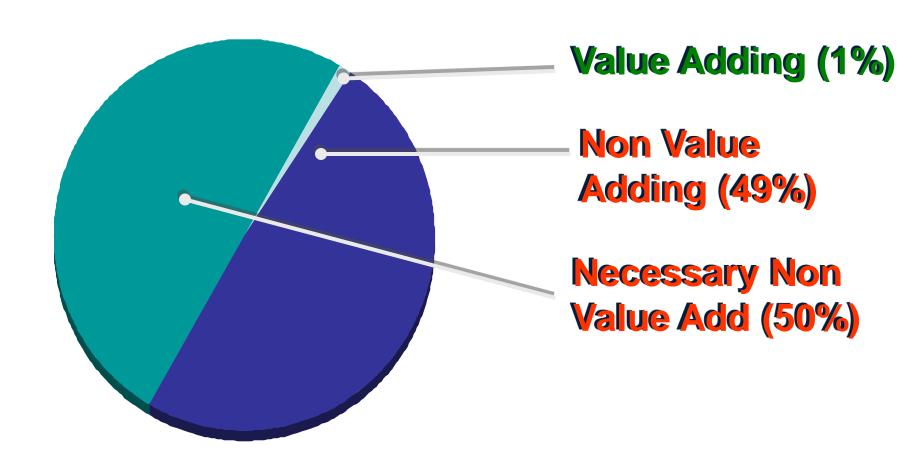


Typical % Added Value ?

- have a guess

'Value' Versus 'Waste'

Information Environment



Source: Cardiff Business School 'Going Lean'

'Value' V 'Waste'

- Potentially 99% to play for!!



Lean – What Category Are You In?

| We are already doing it | We are doing something else |
|---|---|
| We have evidence to demonstrate tangible benefits & cultural improvements | We have evidence to demonstrate tangible benefits & cultural improvements |
| We are not doing it | We do not need to make any (more) improvements. |
| not got the timenot got the expertisenot thought about it | We have evidence to demonstrate tangible benefits & cultural improvements |
| we need to do it | |

The Approach

A 10 Point Plan to Support Effective, Repeatable & Quality Assured Implementation of Lean

Preparation Work & Scoping Exercise (pre '1 day event') -

1. Ownership Commitment & Preparation.

2. Rationale & Evidence Base to Justify the Project.

3. Awareness & Involvement.

'Scoping Exercise' Form - Example

(How To 'Lean' The preparation work)

Scoping Exercise (Value Wales) (Agreed Focus: Supplier Adoption & Content Management Process)

Content

- Proposed Vision Statement (a basic outline, to be considered & finalised at the workshop)
- 2. Key Stakeholders
- 3. Overview Current State Map
- 4. Actions Required

Proposed Vision Statement (outlining the intent of the project)

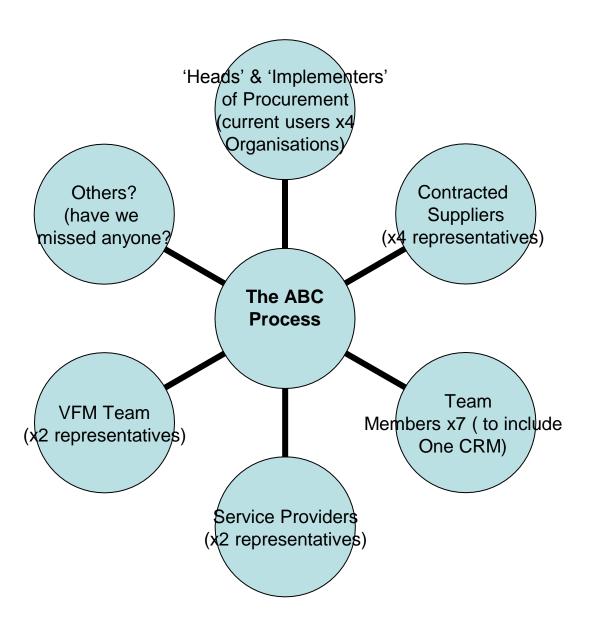
"To ensure the supplier adoption & content management process is as efficient & effective as possible, meeting stakeholder expectations"

Identify Key Stakeholders

The definition of a Stakeholder

A stakeholder is a party that can affect or be affected by the actions of an individual, team or business

Key Stakeholders



ABC Process

'Current State' Macro Overview

| Start of Process (trigger) | Step 1 Senior executive signs up to implement etrading | Step 2 Scope and benefits process | Step 3 Contractual agreement to proceed and implement (legally binding) |
|--|--|---|--|
| Step 4 Ask organisation to identify their 'top 100' suppliers. | Step 5 Prioritise supplier list of a 'go live' date | Step 6 Deliver the rest of the 'top 100' for the organisation | Step 7 Hand over back to the organisation for them to take on supplier adoption |
| Step 8 The organisation now owns the process – however this does not apply to schools (note: map out this deviation from the norm) | Step 9 Business as usual, including checks, monitoring, benefits measuring, resolving issues, training etc | End of Process | |

Actions Required

- Building on 'key stakeholders' slide the project owner needs to finalise a list of key stakeholders to participate in the project (specific names) Project lead and stakeholders need to attend for the full duration of the workshop
- Agree date & book venue for 1 day Lean workshop event.
- Venue Arrange for laptop projector & two flip charts to be available in the room. Get agreement to use walls (for displaying visual aids)
- You invite finalised list of stakeholders to participate in the event (typically 9:30am to 4:00pm or 10:00am to 4:30pm)
- Lunch (ideally set up in a separate room, to avoid distraction) to be available from 12:00.

At the event –

4. Introduction to the day. Provide an overview of the plan for the day (using pre prepared slides) Present the project team with a potentially suitable Vision Statement e.g.

"To maximise the effectiveness of the XXXX process in order to meet client needs through optimising the expertise of the department"

The Plan for the Day (Typical Example)

(Lunch 12:30 Finish 4:00)

Introduction context & scene setting

- Introduction from SRO
- 'Around the table' introductions
- The process for xxxxx; what is it like for you?
- Rules of engagement; our role/your role

Lean

 Brief introduction; philosophy, principles, 'value v waste' structure tools & techniques

Workshop

- Current state map; ('as is') capture an accurate picture
- Future state map; a 'fit for purpose' redesign
- Agree & document what needs to be changed/improved. Allocate ownership of tasks (improvement realisation). Agree dates

Next steps, timescales, actions & expectations

5. Encourage Early Interaction

- engage 'hearts & minds'

'Whether you believe you can, or whether you believe you can't, you are absolutely right.'

Henry Ford

What We Don't Want Is This!! -



Encourage Early Interaction

'Around the Table' - (very briefly please!)

- Name
- Responsibility
- Briefly share your views on the suggested project 'Vision Statement' and, in this context, briefly tell us what you think of the xxxxx Process (Good/Bad/Other)

The XXXX Process - What is it like for you?

| · C | omplex | Process |
|-----|--------|----------------|
|-----|--------|----------------|

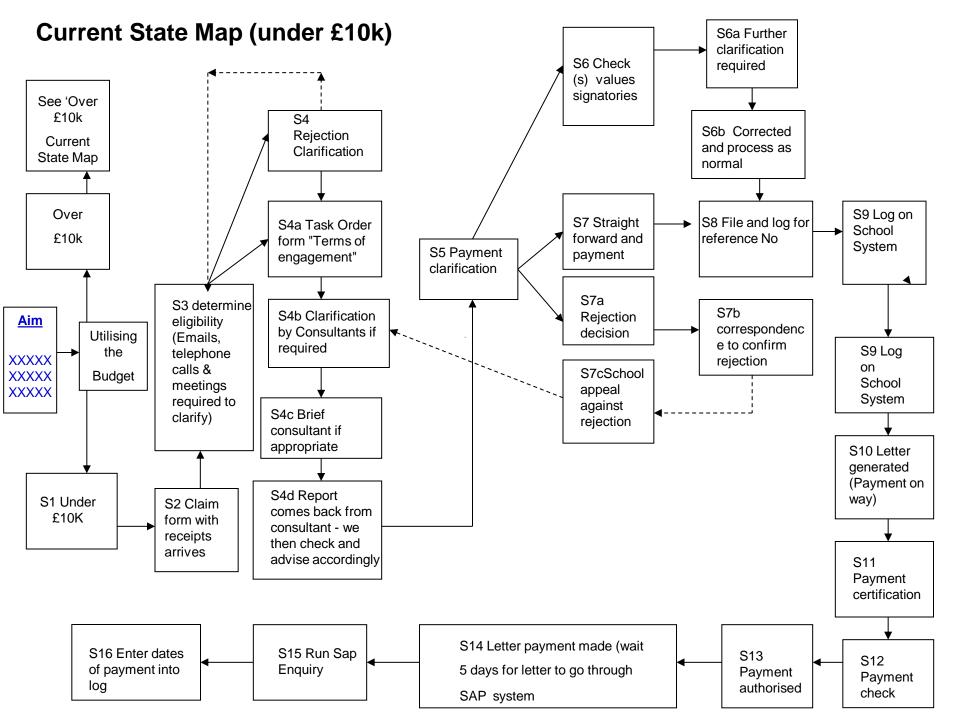
- Quality must be "right"
- Process creates barriers
- Need for balance regulation/user friendly.
- Importance of 'Legal' part being right
- Must be consistent current variation
- Not robust enough!
- Need 'All Wales' consistent approach!

- Process needs to be formalised and regularly updated.
- Concerned at time taken to get it right first time
- Time consuming process
- All offices 'do it' differently!
- Some existing good practice happening
- Registrations <u>can</u> go on for YEARS!!
- Must make better use of total resource available.

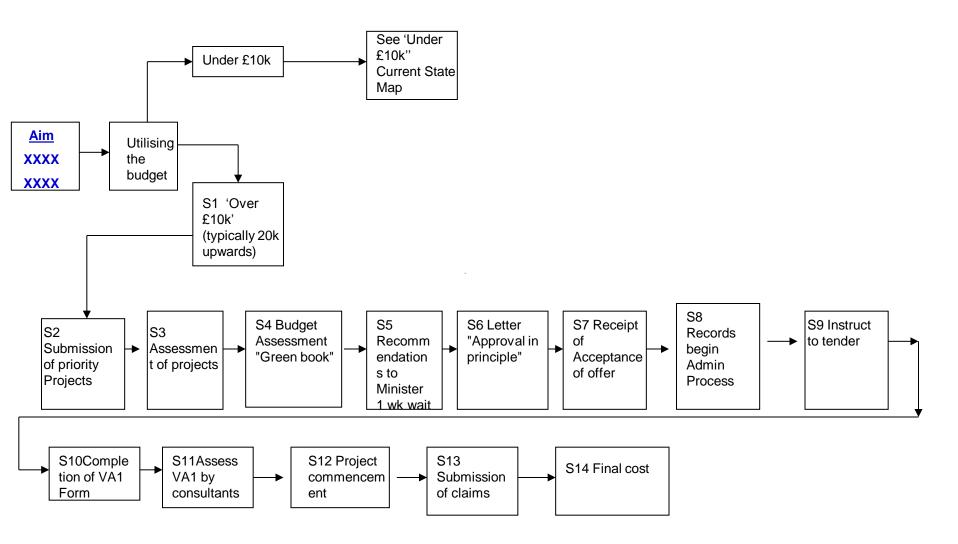
- 6.Confirm Dynamics & Rules of Engagement for the Project (i.e." my role, your role, our role"). message must be motivational convincing & compelling!
- 7. Map 'Current State' Map. As a team, (using process activity mapping) begin to compile 'current state' map ('post-it' exercise)

Essential to agree a logical 'trigger point' e.g. "need to advise Minister on xxx". Ask project team to write out each step.

Remember this is the reference point to justify changes & quantify future benefits (i.e.' manage by fact') See example...



Current State Map (over £10k)



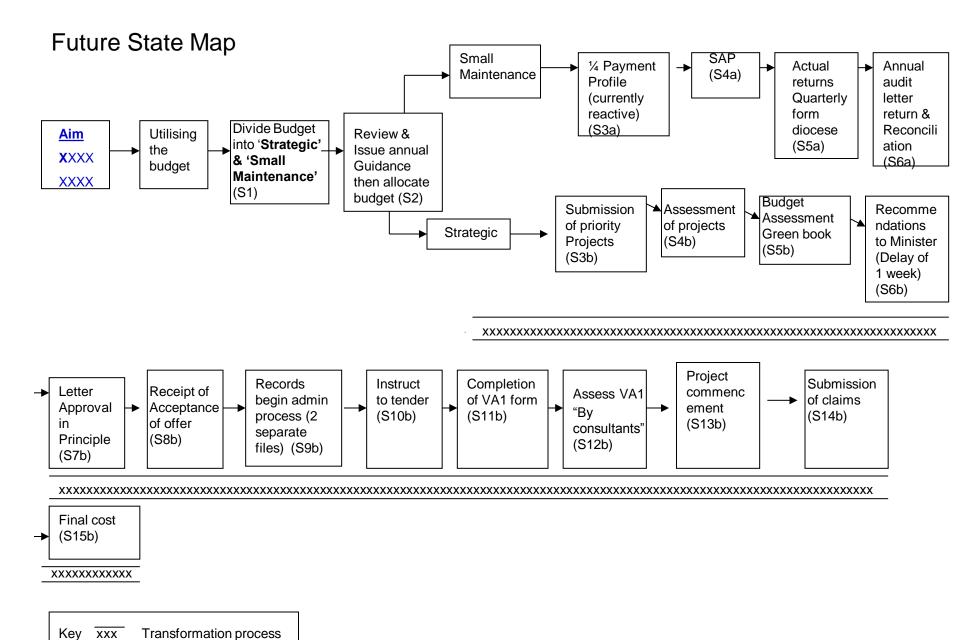
8. Design 'Future State' Map. As a team, focus on redesigning the map, challenging reducing & removing existing 'waste' (non value adding) steps within 'current state' map.

Some considerations –

- Can 'checking/inspection' steps be brought forward or eliminated?
- Can steps be done in parallel?
- Are they obvious candidates for automation?
- Any duplication?
- Can steps be eliminated or carried out more efficiently by another department or person?

9.Document the Changes. Capture each improvement opportunity. 'Colour code' and agree the classification of each opportunity i.e. 'just do it' or 'needs further consideration'.

Agree the allocation of specific responsibilities to members of the team for them to investigate if potential 'waste' can be removed. Agree timescales for answers to questions to be available, see examples...



| Improving Opportunities | | | |
|--|--|---------------------|--|
| 'Just Do It' 'Needs Further Consideration' | | Responsibility/When | |
| Step 2b | DSG Sign-off to be bought forward earlier in process – revisit timetable | Jon/Aug | |
| Step 3b | Non-financial data sourced directly – this needs to be scoped for each indicator | Simon/Sept | |
| Step 5a | Consider more efficient ways of working to ensure greater clarity and consistency – for specified bodies, new responsibilities and transfers | Steve/Sept | |
| Step 7a | Work with IDEAS to improve availability of information at time of provisional settlement – specific grant information | Steve/Jan 2010 | |
| Step 5b | Use website to enable authorities to check/validate data. | Adam/Dec | |

Г

| Step 9 | Rachel runs SAS system only | Rachel |
|---------|--|----------------|
| Step 10 | Run grant allocations on SAS – consider resource implications | Emma/Aug |
| Step 12 | Provide Minister with early sight of allocations – failure demand implications | Jon/Sept |
| Step 13 | Create comprehensive briefing pack - ask/survey of local authority needs | Sarah/Sept |
| Step 13 | Prepare briefing/letter for loading onto web for electronic dissemination | Adam/Feb 2010 |
| Step 15 | Consider awareness raising occasion to reduce confusion and misunderstanding | Rob/Dec |
| Step 15 | Consider bringing forward the CT1 collection for earlier estimation of the tax base. | Steve/Nov 2009 |

10. A Separate Follow Up Event. Review progress and begin to capture 'soft' benefits and quantify the 'hard' benefits. Update the map accordingly.

Remember, this newly designed map becomes the new 'current state' i.e. the only recognised approved way of doing things. Encourage use of map to drive personal training plans & induction programmes.

Here's a typical example of how this review process works followed by the types of 'hard and 'soft' benefits we can expect.....

| | IMPROVEMENT OPPORTUNITIES | | | | |
|--------------|---|----------------------------------|--|--|--|
| | XXXX Process Update Meeting – Event Three (11/08/09) | | | | |
| Ref/ Type | Opportunity | Responsibility for investigating | Actions Needed/ Outcome | Benefits Achieved/ Expected (HARD & SOFT) | |
| 2b/ | DSG 'Sign Off' to be brought forward earlier in the process - Revisit timetable | Jon | Improvement Accepted – Ongoing monitoring required. Update: Completed | •Reduced Bottleneck •Reduced work load | |
| 3b/ | Non-financial data sourced directly – this needs to be scoped for each indicator. | Simon | Improvement Accepted – Ongoing monitoring required. Update: Completed | •Reduced Bottleneck •Improved Quality •Improved Efficiency •Human Resource Cost Saving •Improved Response •Less Stress | |
| 5a/ ● | Consider more efficient ways of working to ensure greater clarity and consistency for specified bodies, new responsibilities and transfers. | Steve | More work required -Ongoing Analysis of Opportunities. Update: Ongoing analysis required | Improved QualityLess StressImproved Ability to 'manage by fact' | |

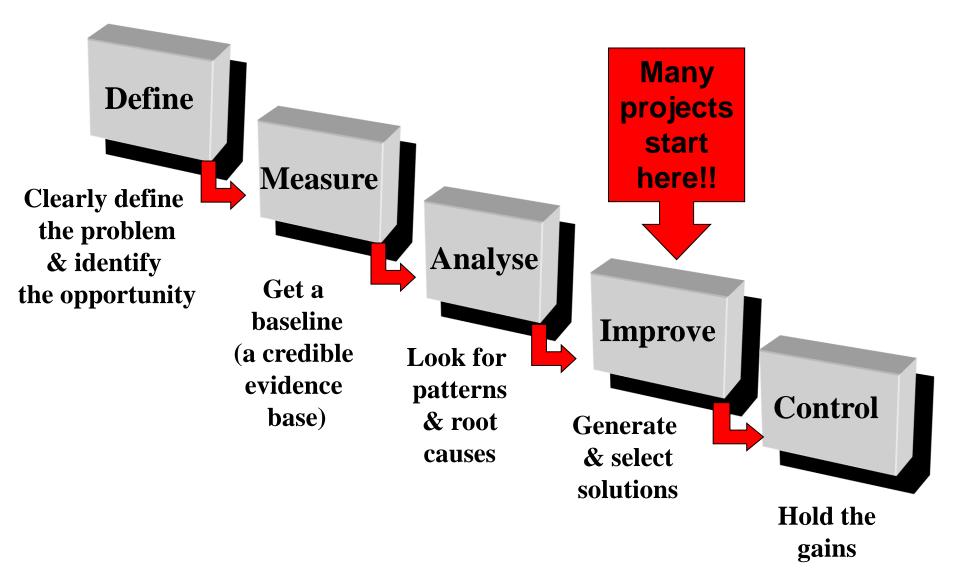
| XXXX Settlement Process | | | | |
|-------------------------|---|--|---|---|
| Ref/ Type | Opportunity | Responsibility for investigating | Actions Needed/ Outcome | Benefits Achieved/ Expected (HARD & SOFT) |
| 15/ • | Consider awareness raising event/occasion to reduce confusion and misunderstanding | Rob | Improvement Accepted/Agreed – Events to be arranged, needs further consideration Update: Awaiting feedback of survey before progressing | Reduced confusion and misunderstanding |
| 15/ • | Consider bringing forward the CTI collection for earlier estimation of the Tax Base | Steve | -Check the regulations and what would need to be changed Consult with Local Authorities on feasibility Update: Ongoing; will have conclusion by end Aug 09 | Greater accuracy of final settlement Allow for improved 'forward planning' for the customer |

IMPROVEMENT OPPORTUNITIES

ACTIONS

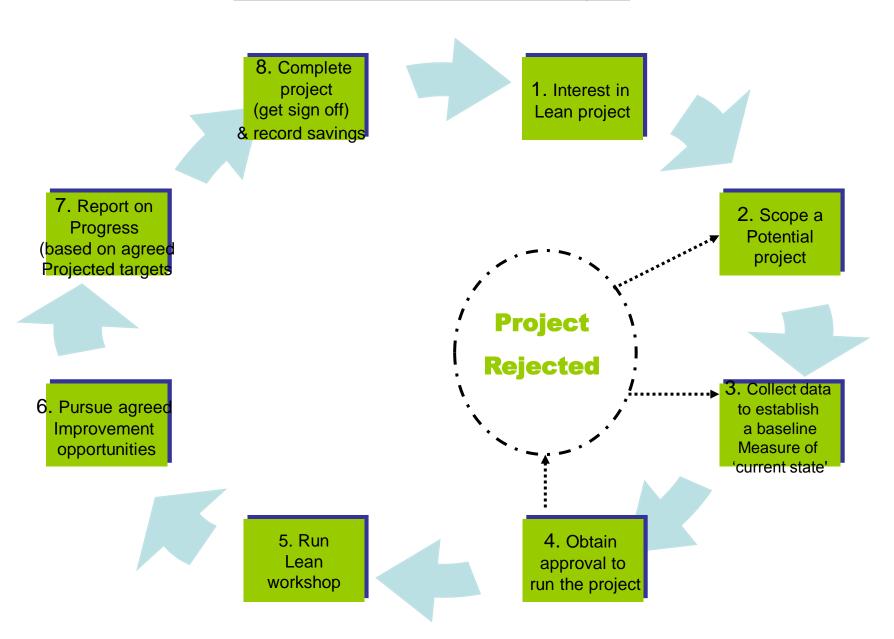
- •T Mizen to arrange next 'update meeting for sometime in Jan 2010
- •J R and Team to continue to review all improvement on regular basis and amend/implement as appropriate.

All Underpinned by DMAIC Improvement Discipline



Lean **Business** Improvement Cycle

Lean Business Improvement Cycle



Expected Benefits

Hard & Soft

'Hard' Benefits Will Include...

- Improved Quality
- Reduced Waiting
- Improved Response Time
- Reduction in need to Rework
- Time Saved
- Human Resource Saved
- Money Saved
- Efficiencies Achieved
- etc...

(Important to Quantify: "time/cost/people/quality" from macro to micro perspective)

'Soft' Benefits Should Include...

- Improved Morale
- Less Stressful Working Environment
- Greater Job Satisfaction
- Easier to do my job
- Job is more interesting/rewarding
- The credibility of the dept has improved
- Customer feedback is more positive
- Now a better place to work
- Positive Impact on Staff Retention & Recruitment
- Etc etc

(Will become increasingly evident over period of time)

Hard & Soft Benefits

Equally Important

"Not everything that can be counted counts, and not everything that counts can be counted."

- Albert Einstein

Lean – Success Stories to Date (1/8)

- Legislation Folders: 50% (initially) improvement in productivity & supply chain efficiencies – time & human resources.
- Print Processes: labour saving from 20 mins to 5-10 mins per transaction. Cost savings £188k pa.
- DCELLS VA Schools: 50- 60% time saved (i.e. time spent dealing with payment of invoices & handling queries) 10-20% time saved (misc admin) & 5% time saved (senior managers time). Staff saving of 1 person (£21, 000). Positive environmental impact (less paperwork). Improved efficiencies and greater quality assurance.

Lean – Success Stories to Date (2/8)

- DCELLS 'ReAct' Process: £50k pa (Records Management) Response time reduced by 10 mins per transaction (10,000 transactions per annum = 100,000 minutes staff time saved each year) Four full time employees redeployed as a result of introducing more effective working practises identified during the lean process review (approx £100k saving/cost avoidance)
- Local Government Settlement Process: Response time efficiencies improved by 28% (briefing for Minister on settlement allocations). Data validation brought forward 2 months (22% improvement) and 66 'person days' saving.
- Saving of 1 HEO (£38k based on 2010-11 estimates for the cost of vacant posts) since initiating the Lean process, without any lose in outputs.

Data collection 17% ahead of schedule. 8% reduction in running costs as a result of streamlining the data validation process with Local Authorities. Cost savings (£20k initially) as a result of Integrating systems and direct sourcing of data from published sources.

Greater Customer Focus - survey introduced to ensure a clear understanding of customer needs.

Lean – Success Stories to Date (3/8)

- Visit Wales QA: Reduced waiting time from 40 to 30 days (i.e. 25% improvement). improved quality & environmental benefits (able to sell Grading Applications and take online payments).
- Enabling Better Legislation: Productivity gains and 'programme cost' reductions including 'set up time' savings resulting in £1,800,000 savings so far (made up of £645K productivity gains and £1,155K programme costs) Over the next two years we anticipate to yield further annual savings of up to £1,100,000 '. Total saving of £2,900,000







Lean – Success Stories to Date (4/8)

Farming Connect.

 Customer waiting time has been reduced by 80%. The process is now streamlined to the point where the customer can apply for services within 2-3 days of registering instead of 2-3 weeks.

The time taken to register has also been reduced by 33%

Environmental savings of **50%** plus staff resource savings

Time saving of up to 2 minutes per transaction

Lean – Success Stories to Date (5/8)

PSLGD (DG Challenge) Advancing Equality Fund & Inclusion Grant Process)
Summary: new streamlined process will mean lead times being reduced by
over 30% along with greater transparency and less red tape for applicants.

(24 Improvement Opportunities Identified)

Specific areas of improvement are as follows;

- - Quality improvement of approximately 10% (reducing waiting time by 3 4 weeks per cycle)
 - Quality improvement of approximately 10% (20 days saving per cycle)
 - 2 weeks saving per cycle (for stakeholders), plus cost avoidance.
 - 1 day saving per cycle (introducing automated email. Environmental (& cost) saving by discontinuing the sending of paper documents
- Reduction in waiting time of 2 weeks/5% per cycle
- Waiting time saving of up to 3 weeks/7.5% saved per cycle. Plus man hour savings through pursuing the opportunity to discontinue the drafting of a Ministerial submission. Estimated saving of half a day per cycle (through exploring opportunity for Minister to delegate authorisation)

Lean – Success Stories to Date (6/8)

DCELLS (DG Challenge) Lean workshop focus: WDP & IiP Business Skills Processes (32 Improvement Opportunities Identified) To date it has been possible to project measurable savings and benefits within the following areas;

- Quality Improvements 80% improvement (Grant Award Letter)
- Time Savings 20% improvement (Grant Award Letter) & 20% potential improvement (data capture alternative) & 10% potential improvement (improved data control of client records) & 10% potential saving (Captavia usage time)
- Cost Savings (in place & being pursued) Total: £86,479.
- Environmental Savings 4,500 sheets of paper saved pa
- Strategic improvements
- Cross cutting culture improvement

Lean – Success Stories to Date (7/8)

Forestry Commission

- Government Procurement Card A 21% reduction in the number of card holders with reciprocal savings in back office costs.
- The combined efficiencies identified through the adoption of Lean methodology has enabled the team to take-on the financial processing for Civil engineering services previously carried out by 1 Full time equivalent member of Staff (cost avoidance/ saving circa £25k).

Lean – Success Stories to Date (8/8)

CSSIW Modernisation Review/Inspection Process

- Saving of 3,250 inspection hours per year (based on 30 minutes per case load x 6500 case loads per year) Equates to £945k pa
- Redesigned inspection report initial saving of around 50% expected to rise to approximately 75% as staff become more familiar with new design

Other Achievements

 Lean projects shortlisted in three categories (Leadership, Public Value & Customer Service)



Farming Connect team being presented with the Public Value Award.



How to Overcome Barriers

| Potential Barrier | How to Overcome |
|---|--|
| Threat of 'change' being imposed | We only 'facilitate'. The project team capture the current ways of working & decide to what extent (if at all) if you need to change & improve |
| Why should this approach work when none of the others have! | Lean provides a means of enabling 'evidence based' decision making and the ownership for making it work ultimately lies with the people who do the work |
| Is their a risk of staff loosing their job as a result of applying Lean? | If we are serious about positioning Lean as a sustainable solution provider it must not be used as a means of making people redundant. It should be used to identify opportunities for waste reduction which could result in an opportunity to redeploy staff into more meaningful added value roles |
| I've heard that Lean creates stressful working conditions by trying to squeeze more and more work out of the workforce? | Lean is based on working smarter not harder and although it aims to 'do more with less' it achieves this by removing the things which do not add value (e.g. re-inspecting, fire fighting etcsee 'wastes') By reducing the 'wastes' it actually creates a less stressful and more enriched working environment |

Ways To Work

"Work Smarter Not Harder"

- W E Deming

- 'If I had 8 hours to chop a tree,
 I'd spend the first 6 hours
 sharpening my axe'.
 - Abraham Lincoln

Looking Ahead –

Strategic Positioning of Lean

- 'Vital Few' strategic focus
- Remit now includes wider Public Sector
 - Need to prioritise
- Opportunity to work across supply chains ('big picture' customer/supplier perspective)

- Evolving

Public Sector Lean Interventions

Prioritisation & Positioning

Political Priority LOW HIGH "VITAL FEW" Lean Interventions High Low 'VITAL FEW Lean Interventions High Low

Strategic Priority

LOW

HIGH

Finally...

Please Remember

Lean <u>will not</u> solve all problems

'If the only tool you have is a hammer, everything starts to look like a nail.'

- Abraham Maslow

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- Hard & soft benefits
- Applying Lean how to overcome the barriers
- Questions

Why are you here & what do you hope to gain from this session?

Any Questions?

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Tony Mizen

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Welsh Government

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