

EVALUATION OF LEAN MANAGEMENT

**Final Report to
Scottish Enterprise Grampian**

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Executive Summary

This is the report of a study undertaken by SQW Limited on behalf of Scottish Enterprise Grampian (SEGr) to evaluate the Lean Management Programme (LMP) over a three year period during 2003 to 2006. It was conducted during January to April 2006. The study forms one of a series of 12 evaluations commissioned from SQW as part of SEGr's Evaluation Plan 2005-6.

The purpose of this evaluation is to determine whether key delivery targets have been met, to examine cost effectiveness and assess business and economic impact. The evaluation also has the objective of identifying learning points of both operational and strategic significance.

Overall, we conclude that participation in the LMP has been very important or important to the performance of the companies interviewed. One company commented, *“Lean Management is one of the best waste reduction programmes around”*

There is a generally high level of satisfaction with the Programme - expectations have been met and there is a high level of satisfaction with the content and style of Programme delivery.

The Programme attracts a diverse range of companies. As a result, the reasons for participating in the Programme and the benefits experienced through participation are also very varied. The benefits to companies can be directly on their “bottom-line”, but also of a wider and less directly quantifiable kind - including for some significant “change” in business practice

There is a notable emphasis on getting the “right team” and the appropriate management support as pre-requisites for success.

Although some participating companies indicated a prior intention to undertake training, the opportunities offered by LMP appear to have catalysed them into action. In one case at least there has been an increased confidence to rely on in-house capability, rather than to use external consultants

Programme impact

We estimate that for a total public sector investment of c. £270k in the LMP to date, Grampian businesses have achieved a total *gross* benefit of c. £3.7m from cost savings or productivity gains, accumulated over a 5 year period

On the basis of responses from businesses, only partial additionality can be claimed for the SEGr investment. However, given that some sponsors acknowledge that the LMP had catalysed them into taking action on training, there may be some optimism bias here. We conclude that it is reasonable to assign 60% as the level of additionality gained by SEGr's support for the LMP, assuming our respondents are typical of all participating companies.

We estimate a *net additional* benefit of c. £2.2m from cost savings or productivity gains, accumulated over a 5 year period, as a result of the public sector investment of £270k. (Note: we have not been able to take into account any *displacement* effects in this net figure)

Although there may be a limited sense of *crowding-out* commercial providers, there is also an indication here of the value of building in-house capability through using the LMP. It is important to remain vigilant over the issue of crowding out as the benefits of LM become better known locally. It is also important given that participants in the LMP have included a large company, arguably able to pay the market rate for training

Learning and development issues

There are some mixed messages from respondents on ways to enhance the attractiveness of the LMP: some respondents are looking to boost content, whilst there are also concerns over timing which lead to requests for a more intensive Programme. We recommend exploring the feasibility of re-designing LMP delivery: it may be more attractive to firms to have an intensive “immersion” rather than commitments spread over a longer period.

We recommend re-examining the “induction” process for new entrants in future to mitigate the risks associated with getting the “right team” and importantly, the appropriate management support.

We conclude that the issue of pricing requires careful consideration. Our evidence indicates variously: a willingness to pay; an ability to pay; a level of business benefit that draws some companies back two or more times; and a higher pricing policy in other LEC areas. There also appears to be other private sector providers in the market. Perceived risk and lack of full information around investing time and money in the LMP may be strong contributors to a market failure argument for first time participants, but less so for the company we have learned has participated on four or five occasions. It is also appropriate to re-assess pricing given that participants in the LMP have included a large company, i.e. not only SMEs.

1 Introduction

- 1.1 This is the report of a study undertaken by SQW Limited on behalf of Scottish Enterprise Grampian (SEGr) to evaluate the Lean Management Programme (LMP) over a three year period during 2003 to 2006. It was conducted during January to April 2006. The study forms one of a series of 12 evaluations commissioned from SQW as part of SEGr's Evaluation Plan 2005-6.

Purpose

- 1.2 The purpose of this evaluation is to determine whether key delivery targets have been met, to examine cost effectiveness and assess business and economic impact. The evaluation also had the objective of identifying learning points of both operational and strategic significance.

Methodology

- 1.3 A methodology was agreed with the client which incorporates desk research, face-to-face consultations and telephone interviews (contacts are listed in Appendix A and copies of our consultation guides are given in Appendices B and C). A number of case studies were developed with individual companies (summarised in Appendix D). In more detail:

- we reviewed contextual documents including approval papers and monitoring records
- we conducted face-to-face consultations with delivery staff from XM Services Ltd
- we conducted face-to-face consultations with participating company staff (direct staff participants and their management “sponsors”), the basis for four case studies
- we also conducted telephone interviews with direct participants and their “sponsors”
- we conducted telephone interviews with companies who had participated in the initial Process Improvement Assessment of the LMP, but did not enrol in the LMP itself.

- 1.4 All consultees were helpful and constructive: we are grateful for their contributions. Responses have been made non-attributable as agreed with consultees.

2 Background

What is Lean Management?

“Lean Management Thinking (LMT) is a customer focused methodology which can help businesses to develop their workforce by tackling live operational issues that will impact directly on efficiency and productivity.”¹

- 2.1 The aim of LMT is to enable companies to become more competitive and profitable through improved operating efficiency. It is based on ideas developed by Toyota in Japan: it helped Toyota dramatically improve its manufacturing operations and grow to become a large and successful, global company.

Strategic alignment

- 2.2 The LMP is delivered within a wider context of lagging productivity in Scotland relative to international comparators². The Programme has been developed to assist companies implement actions to achieve continuous, sustained productivity improvement.
- 2.3 This competitiveness theme is developed in ‘*A Smart, Successful Scotland*’ and in the *Scottish Enterprise Operating Plan 2005-2008* which emphasise that the productivity gap with competing economies is actually widening. This makes it important to provide tools to businesses in Scotland to help close this gap.
- 2.4 The Programme fits with the SEGr objective “to develop internationally competitive businesses” and the strategic theme of “Growing Businesses” within a *Smart Successful Scotland*. More broadly, on a European level, there is a relevant fit with the strategy “*The Environment and the Regions: Towards Sustainability*”. The project meets this policy guidance in many respects, notably via waste minimisation and increased energy efficiency.
- 2.5 The LMP has been designed to address, albeit to varying degrees, the following SE Network priority targets:

¹ “How lean is your management?” article (Ref: Z9056, p2-3)

² www.scotland.gov.uk/Publications/2005/12/0195717/57189

- number of businesses showing improved innovation performance (direct effect on Network Priority Targets)
- number of businesses achieving recognised environmental standards and/or awards (indirect effect on Network Priority Targets)
- organisations increasing their use of e-business (indirect effect)
- new products/services launched and processes implemented (indirect effect)
- *Investor in People* first time recognitions and reviews (indirect effect).

The nature of the Lean Management Programme

2.6 The LMP has been developed to provide companies with the knowledge, tools and techniques to enhance productivity. The Programme endeavours to embed these in companies' operations and to encourage sustained efforts to be made to eliminate all forms of waste in order to increase competitiveness and sustainability.

2.7 The LMP has the following objectives:

- to increase awareness of the principles of LM and resource efficiency
- to encourage organisations to think longer term about the sustainability of their processes and to make the necessary changes to ensure survival and growth
- to help make businesses more competitive and thereby safeguard jobs, notably in areas of Grampian where there is considerable weakness in the economy.

2.8 Since it began, there have been four rounds of the Programme, involving around 22 companies and c. 67 individual direct participants. At least 5 companies have participated in more than one round of the Programme, with a different team of participants each time. We estimate that a total of 29 unique company teams have participated in the Programme.

2.9 The LMP “takes companies on a journey” to identify process improvements capable of e.g. reducing waste, improving operational capacity and/or increasing efficiency. The course-based elements of the Programme consist of the six one-day modules listed in Table 2.1.

Table 2.1 Six Lean Management Modules

➤ Lean operations management	➤ lean tools deployment
➤ creating the lean team	➤ quality and waste elimination
➤ implementing lean	➤ the lean organisation

2.10 Participants attend taught sessions on different LM techniques and also develop a “live” project based on their own area of work: the intention is that participants apply the learning directly to the business they come from.

Rationale for intervention

2.11 The Programme has been running in Grampian since 2003. The motivation initially was to provide support relevant to the fish processing industry around Peterhead which was facing serious and threatening competitive pressures.

2.12 Since the LMP began, another SE Network product, the *Scottish Manufacturing Advisory Service* (SMAS), has been introduced to assist with Growing Businesses. Although similar in many ways to the LMP, the Business Gateway website states that “*SMAS is designed not to overlap or duplicate any other services currently available...SMAS will operate alongside existing initiatives such as Scottish Enterprise’s Lean Management Thinking programme, the aim being to complement these and plug any gaps which may exist.*”³

Finance

2.13 The total project costs for the LMP during 2005/2006 is £90,000, £80,000 of which was financed by SEGr. Participating companies contributed the remaining £10,000. Financial contributions from company participants were introduced in round 4. The total public sector investment over three years is £270k.

Delivery

2.14 The Programme is delivered by XM Services. Each offering of the Programme consists of the following steps:

- a recruitment phase, which included an initial Process Improvement Assessment (PIA)

³ <http://www.bgateway.com/bg-home/smas-home/smas-resources/smas-faqs.htm>

- following the identification of interested companies, there is a visit to each company to establish commitment amongst senior management and to select a project, a team and team leader. At these meetings the company's specific requirements, interests and other general areas for improvement are identified
 - dedicated workshops for individual companies during which teams from the participating firms identify specific inefficiencies/waste and make plans to enhance productivity
 - one-day modules are delivered to provide participants with the knowledge and tools to improve performance and to make efficiencies in a sustainable and continuous way. As part of these modules, cross-company teams work on small-scale group tasks
 - the company teams undertake their "live projects" on real company issues
 - a presentation is made by each team outlining the results of their project.
- 2.15 A range of recruitment methods are employed, including an awareness-raising event organised for interested businesses. Also, SEGr's Account Managers in direct contact with local companies encourage them where appropriate to participate in the Programme.
- 2.16 There currently appears to be no sectoral targeting as it is considered that LM can assist any organisation to improve performance, including those in the manufacturing, service, education and voluntary sectors.
- 2.17 Each participating company, in addition to delegating a number of staff to engage directly in the Programme, also identifies a management "sponsor".

Expected activities, outputs and impacts

- 2.18 We understand that the 2005/06 approval paper for the LMP was prepared at an SE National level: it was part of a paper covering more than 100 network products. We have not had sight of this paper. The Programme contributes to the SE target of increasing the number of processes implemented by both account and client managed businesses. We understand that the target for LMP of twelve "processes" was achieved for Grampian during 2005/06.
- 2.19 From previous approval papers and monitoring records we understand that there were no comparable targets set previously for the Programme. SEGr did not want to impose one "route" on participating companies and hence was not prescriptive in its requirements for

actions. It was left up to the company to decide on its individual project and what best suited its needs: these varied greatly between companies.

2.20 Although no specific success measures or indicators were set, there were however a number of potential types of impact anticipated from the LMP:

- improvements in production/operational performance against world class measures
- reduction in waste and energy usage
- improvements in cycle times, resource utilisation, stock control and lead times
- improved training, with greater participation in job-related training leading to more workforce involvement in business development activity
- measured savings against specific project activity
- prevention-based improvements to operational activity across the organisations
- increases in productivity
- sustainable waste reduction
- embedding of continuous improvement culture
- increases in profitability.

3 Evaluation evidence

3.1 This chapter outlines the evidence gathered to provide an assessment of Programme outputs and impacts. Contacts for face-to-face consultations and telephone interviews with participating companies were drawn from a list of 22 companies (comprising 67 participants and 28 sponsors). Contacts for telephone interviews with companies who had participated in the initial Process Improvement Assessments (PIA), but did not enrol in the LMP were drawn from a population of 27 companies for which we had contact details (3 others without contact details also did not proceed to enrolment).

Evidence-base

3.2 Our primary evidence is based therefore on:

- 2 face-to-face consultations with XM Services Ltd
- 12 face-to-face consultations with 4 companies (3 manufacturing, 1 service provider)
- 20 telephone interviews with 13 companies (11 sponsors and 9 direct participants)
- telephone interviews with 7 companies who had participated in the PIA but chose not to enrol in the LMP

3.3 We also had access to exit reports for 7 participating companies provided by SEGr.

Evidence from XM Services

3.4 SQW met with XM Services Ltd, the current supplier of the LMP on behalf of SEGr, in order to understand delivery matters. The following issues were raised:

- although companies participate in the Programme because they have problems with their operations, the actual drivers for attending the Programme are varied:
 - mainly to increase capacity, reduce waste and lower resource costs, and cut production lead times

- the diverse range of companies and people involved has been “impressive” - from e-learning businesses to fish processors
- those attending are predominantly from the shop floor.

3.5 The Programme raises significant issues for the management of companies’ operations data. In many cases companies are not sure what they should be monitoring: thus, historical data are not always available. A key benefit for companies is learning what data are required to chart operational performance over time.

3.6 XM Services suggest the importance of highlighting the ‘intangible’ benefits as well as the financial aspects in order to fully appreciate the full impact of the Programme. For example, benefits such as reductions in lead times can lead to competitive advantage and increased capacity. Improving customer satisfaction can lead to valuable referral marketing. Such outputs may therefore be considered just as important, if not more important than the monetary benefits that may accrue directly.

3.7 *In summary, XM Services report that the Programme attracts a diverse range of companies. As a result, the reasons for attending the programme and the benefits experienced through participation are also very varied. The benefits to the company can be directly on their “bottom-line”, but also of a wider and less directly quantifiable kind.*

Sponsor and participant feedback

3.8 As part of the study we met with staff in four companies to undertake in depth face-to-face consultations with a mix of direct participants and sponsors (12 people in total). We present the findings in the form of four short case studies (detailed in appendix D). The aims of these consultations were:

- to understand whether the Programme resulted in an improvement or change in business performance
- to understand what the participants and organisations they represent have gained from the experience
- to examine whether participants had taken any action based on the learning achieved.

3.9 The key findings and learning points from the consultations are outlined in the Table 3.1 below.

Table 3.1 Summary of findings

Company	
A	<i>Company A</i> reported a very positive experience of the Programme, but highlighted that management team support is vital alongside an appropriate make up of the project team in order to ensure the learning can be transferred to other projects for the future.
B	<i>Company B</i> reported a very positive experience of the Programme, but highlighted that team make-up was vital in developing a successful outcome.
C	<i>Company C's staff</i> have demonstrated significant benefits from their participation in the Programme and are sharing the knowledge gained across their organisation.
D	The experience of <i>Company D's</i> staff engagement with the Programme has been jaded by the lack of support from their management team and sponsor.

3.10 *We conclude that the case studies point to a generally high level of satisfaction with the Programme. There is a notable emphasis on getting the right team and the appropriate management support as pre-requisites for success. We recommend re-examining the “induction” process for new entrants, especially for company management representatives, to mitigate risks associated with these factors in future.*

3.11 In addition to the face-to-face consultations, we conducted 20 telephone interviews with staff in participating companies. Their feedback is summarised below.

3.12 Around half of the sponsors reported first hearing about the Programme through an approach by SEGr. Three sponsors were initially approached by XM Services. Almost all the direct participants reported that they first became involved with the Programme because they were recommended to participate by their boss/sponsor. Three participants became involved because they had received positive recommendations on the LMP either from other departments within their company or through sister organisations.

Motivations and expectations

3.13 In terms of motivations for participating, a number of reasons were reported: the philosophy of the Programme appealed; there was a wish to identify improvements, efficiency gains, waste reduction and cost savings; a similar programme had been successful at another factory; and there was a recognition of the potential benefits to be gained both in terms of increased business effectiveness and staff development.

3.14 Specifically, companies hoped to achieve the following by participating:

- *improvements in efficiency* - for example, one company was investing in a new factory workshop and wanted to introduce new manufacturing processes to maximise efficiency
- *reducing waste* - for example, by implementing an efficient stock control system
- *implement a continuous improvement plan through staff development* - for example, educating employees to make them more effective
- *reducing the cost base* - for example, of fuel usage, labour and maintenance costs
- *working together* – for example, to achieve space savings⁴.

3.15 The involvement of sponsors varied between participating companies. Some met with their teams on a fairly regular basis; others stayed close at hand to review and report progress to a company director, in order to ensure management buy-in in terms of releasing the necessary time and resources; some even attended the training sessions. In one case, involvement from the sponsor was minimal: participants perceived this to be a major problem since they did not feel they had the support required to complete the Programme successfully.

3.16 Overall, sponsors felt that the Programme met their expectations, although it was noted that it proved to involve a bigger time commitment than anticipated. Participant expectations were also met: individual comments included: *“it provided a different way of thinking”* and *“all expectations were met, although some techniques were quite biased towards manufacturing”*.

3.17 The style and format of the training sessions were well received by participants: sessions were considered to be well structured with a good mix of theory and practical work. It was also reported as useful to be given ‘homework’ as it allowed participants to build on the knowledge they gained. Participants noted that it was good to see their project evolving throughout the Programme.

3.18 On the whole, most sponsors had been considering some form of training anyway before they found out about the LMP. However, most companies had not used similar training before. One company had commissioned external consultants to address related issues, but no longer needed their services as a result of the learning gained through the Programme. The majority of participants however had not sought training, advice or support from other sources.

⁴ One company had a warehouse storing 32 tonnes of unused yarn. The aim was to make this warehouse redundant by using existing space more effectively, ultimately to save £12k per annum

3.19 *The interviewees confirmed the importance of management commitment and support: this re-enforces our earlier recommendation on induction (see para 3.10). They re-confirm the earlier conclusion that expectations have been met and also point to satisfaction with the content and style of delivery. Although some interviewees indicated a prior intention to undertake training, the opportunities offered by LMP appear to have catalysed them into action. In one case at least there has been an increased confidence to rely on in-house capability, rather than to use external consultants.*

Changes arising from participation

3.20 From our research with companies, there are a number of things that have been done differently as a direct result of participation in the LMP. Examples include:

- re-organising work spaces to reduce the amount of time spent moving between areas
- implementing an automated system of customer ordering to eliminate human error
- team communication improved resulting in increasing efficiency
- greater awareness of how to use space more effectively to minimise storage costs
- collection, monitoring and analysis of cost data more effectively
- taking the time to plan ahead, managing more effectively the flow of people and processes – including the setting up of 'Lean Teams' to ensure dissemination and effective implementation of "Lean".

3.21 Individual comments made by participants include:

- *“problem solving - now tend to look for recurring themes and opportunities to apply theory to other problems”*
- *“now able to look at problems and devise solutions independently”*
- *“how to communicate better with team, especially fellow participants, in ensuring that processes are carried out with maximum efficiency”*

- *“more analytical with respect to company processes, but need great commitment to keep this going in long term”.*

3.22 ***We conclude that participating companies attribute a diverse and in some cases a significant amount of “change” in business practice to engagement in the Programme.***

3.23 In an attempt to tease out the level of “additionality” achieved by the Programme, we asked sponsors: *“If your company had not participated in the Programme, would you have still undertaken the same activities anyway, at the same time and as effectively”.* The responses were mixed:

- some considered that *“something may have got done eventually”*, but the Programme gave them a focus and a deadline
- others suggested it would have happened anyway but *“later on”* or *“probably not to the same quality”*, *“not as effectively”*, or on a *“much longer and more costly basis”*
- for one company, our contact indicated it would not have been able to complete such activities at all.

3.24 ***On the basis of these responses, only partial additionality can be claimed. However, given that some sponsors acknowledge that the LMP had catalysed them into taking action on training, there may be some optimism bias here. Therefore, rather than assigning only a 50% level of additionality, we conclude that it is reasonable to assign 60% as the level of additionality gained by SEGr’s support for the LMP, assuming our respondents are typical of all participating companies.***

3.25 To tease out any indications of this intervention “crowding-out” other sources of provision, we asked: *“what would have been used instead in the absence of the LMP”.* Some sponsors were unsure as to what the alternatives might be, others referred to the use of external consultants or to the use of in-house training.

3.26 For one company sponsors who thought that the benefits would have been achieved to some degree anyway, this would have been accomplished with the commissioning of external consultants at an estimated cost of £20,000 per year. One participant noted however, that in order to reap the same benefits, an external consultant would not help in such an effective way - it would take the consultant time to understand the business.

3.27 *We conclude therefore that although there may be a limited sense of crowding-out commercial providers, there is also an indication here of the value of building in-house capability through using the LMP. It is important to remain vigilant over this issue as the benefits of LM become better known locally. It is also important given that participants in the LMP have included a large company, arguably able to pay the market rate for training (see comments on pricing later in this report).*

Impact on business performance

3.28 In terms of the effect on business performance, participants reported reduced costs through efficiency gains and productivity improvements. Participants report financial benefits ranging from c. £7k up to a £2,475k, the latter being however being an exceptional “outlier” amongst the data provided (see later). Many participants and sponsors indicated that without LMP, their companies would be worse off or things would have remained the same – i.e. re-affirming positive messages on attribution referred to earlier.

3.29 A sample of individual comments point to the nature of improvements that impact business performance, albeit some found it difficult to put a monetary value on this:

- *“delivery of products has noticeably increased in effectiveness, 10% increase in the amount of goods going out the door in time”*
- *“lead times were reduced dramatically from 12 to 4 days”*
- *“not yet, too early to say, but expect improvements in the future”*
- *“the changes made result in increased effectiveness in getting the product out, and consequently should impact positively on customer satisfaction. This however, is not easily measurable in terms of increased revenue attributable to improved delivery effectiveness, but expect cost savings to be in region of 5%”.*

3.30 ***Overall, we conclude that participation in the LMP has been very important or important to the performance of the companies interviewed. One company commented, “Lean Management is one of the best waste reduction programmes around”.***

3.31 On the whole, most sponsors would be prepared to send more employees through the Programme in the future. Particular comments included:

- “...would be keen to send engineers on the Programme as well as the production guys. Feel it would be beneficial for everyone in company to gain a better understanding of the processes involved”
- “...have already participated a number of times (4 or 5) and would be keen to participate again, as much as possible”
- “would love to put even more people on next course, but is too heavy a time commitment - one course takes around 24 man days. Becomes more beneficial to develop own in-house capacity”.

Exit reports

3.32 We review here the main benefits documented in exit reports prepared by participating companies after completing the Programme (see Table 3.3). We have been particularly interested in evidence of financial benefit. We received reports for 7 companies.

Table 3.2 Exit report summary			
Company	Project Type	Financial benefits	Other benefits
1	➤ Improvements in production workshop layout and storage of tools	<ul style="list-style-type: none"> ➤ reduction in waste time by 75% - saving of c. £5.8k in the Year 1 ➤ productivity increased by 5% - due to more time available to employees 	<ul style="list-style-type: none"> ➤ improved staff morale & quality of products ➤ improved working area for staff - more presentable to customers
2	➤ Improvements in the Job Order Process	<ul style="list-style-type: none"> ➤ reducing time taken for Account Manager tasks - cost savings of c. £7k per year 	<ul style="list-style-type: none"> ➤ improved the work/life balance for account managers ➤ more time spent with customers to build better relationships ➤ better internal customer relations ➤ more time in the field generating business
3	➤ Improvements in customer response time	<ul style="list-style-type: none"> ➤ efficiency gains of 9% 	<ul style="list-style-type: none"> ➤ increased the potential for customer satisfaction ➤ now have a system in place to record enquiry response times
4	➤ Improvements in the assembly process in order to reduce assembly time and idle time.	<ul style="list-style-type: none"> ➤ reduced the number of process steps from 16 to 13, which reduced the fork lift travel distance significantly from 3.6km to 1.2km ➤ lead time was also significantly reduced, by 457mins ➤ savings of c. £47k per annum ➤ future plans allow for annual savings of £68,040 by outsourcing pipe work and employing a new store man 	<ul style="list-style-type: none"> ➤ the risk of damage is reduced due to reduced transport time ➤ less forklift truck movement also improves safety ➤ more flexible work practices give greater throughput ➤ mould changes have allowed raw material cost reductions to be made

Table 3.2 continued:

6	<ul style="list-style-type: none"> ➤ Reductions in order processing time. 	<ul style="list-style-type: none"> ➤ output has increased - increasing the value of weekly production to £16,500 per week 	<ul style="list-style-type: none"> ➤ better flow of parts through the factory, thanks to better organisation. ➤ this had also led to fewer parts going missing, since staff now have better knowledge of where parts are located ➤ positive feedback from customers who are happier about getting more information about their orders ➤ delivery performance improved (by 20%) ➤ achieved target for reducing late delivery from 70 to 20 orders ➤ time saved on sample inspections
7	<ul style="list-style-type: none"> ➤ improvements in stock management 	<ul style="list-style-type: none"> ➤ reduce over-run by 5% (saving of £87,120) ➤ increase in manufacturing capacity of 5% (£83,195 – potential business) 	<ul style="list-style-type: none"> ➤ reduced lead times ➤ reduced over-run of components ➤ reduced re-work ➤ better process monitoring ➤ improved staff skills ➤ increased morale ➤ improved management focus ➤ better use of team leaders' expertise

Assessment of economic development impact

3.33 Evidence provided previously indicates the “softer” benefits gained by participating companies in terms of enhanced business capability and business processes. Here we focus on quantifiable benefits and on how the evidence of financial benefits at the company level can be used to give “a sense” of the scale of net additional benefit from SEGr’s investment in the LMP to date.

3.34 We have collated and analysed financial information obtained from companies to assess *gross* savings/gains as a result of participation in the LMP, both those achieved to date and those reasonably anticipated over the 2 year period following Round 4 of the LMP⁵. Some participants have gained one-off benefits from the LMP, others point to more of a legacy. We then assess the *net additional* benefits that result from SEGr’s investment in the Programme.

⁵ We assume that gains attributable to participation in the LMP are realised over a three year period – the year of participation and two subsequent years. This accords with what most companies that have been able to estimate financial benefit have provided to us. In some instances this will be conservative, with companies obtaining a longer legacy; in other cases companies have achieved only a one-off benefit.

3.35 Our step-wise approach to estimating gross and net benefits is described in Table 3.3.

Table 3.3: Step-wise approach to estimating gross and net additional financial benefit	
Step-wise approach to assessing monetary benefit	Comments
Number of unique <i>company teams</i> participating in the four rounds of the LMP: 29	- some companies have participated more than once. We have assessed the benefit therefore on the basis of single unique <i>company teams</i> participating in the LMP
Number of <i>company teams</i> for which we have either interview evidence or an exit report (i.e. our sample): 17	- our sample represents 59% of the population
Number of <i>company teams</i> in our sample of 17 that were able to express benefits in financial terms: 8	- 47% of our sample was able to express benefits in financial terms. - all 8 of these companies participated in Round 3 or 4 of the LMP
The level of benefits claimed by the 8 companies which can express these in financial terms varies: - one company is a marked “outlier” claiming benefits amounting to £2,475k over three years - the other 7 claim a total of £647.5k - an average of £92.5k benefit per company over three year periods, or £30.8k per company per annum.	We have excluded this “outlier” in our assessment of average benefit per firm and from our extrapolation from the sample to the population. We do however include it in our estimation of aggregate benefit from all four rounds of the Programme.
The aggregate benefit claimed by these 8 companies is: £2,475k (the “outlier”) + £647.5k (the other 7) = £3,122.5k	- however, the aggregate benefit arising from SEGr’s investment of £270k over three years and four rounds of the LMP is probably a more appropriate route to assessing the return on public sector investment (see next steps)
Extrapolating from our sample to the population: there are 12 unique <i>company teams</i> for which we have no information	- neither an exit report nor primary research evidence
Estimated number of these “unsampled” companies that are likely to be able to express benefits in financial terms: 6	- based on the same proportion of our sample that could express benefits in financial terms (i.e. 47%)
Assuming a similar level of benefit as the average from our sample (i.e. £92.5k), the aggregate benefit for these 6 companies is: £555k	- the extrapolation uses an average figure which does not include the “outlier”
The total benefit from all four rounds can be estimated as: benefit claimed by sample of 7 (£647.5k) + benefit claimed by the “outlier” (£2,475k) + estimated benefit for the unsampled part of the population (£555k) = £3,677.5k	- this benefit relates to the three year period of investment in the Programme plus two subsequent years following the delivery of round 4.
£3,677.5 is a <i>gross</i> figure. To determine the net additional benefit arising from the public sector investment we need to take account of <i>attribution</i> and <i>additionality</i> (<i>deadweight</i>) factors	- as the benefits have been expressed by companies as cost savings or productivity gains, and not as sales, we have not sought to assess <i>displacement</i> , although it is likely that, however limited, some will have occurred
We estimate the <i>net additional benefit</i> to be £2,206.5k spread over a 5 year period, i.e. on average £441k per annum	- we have reduced the gross figure by 40% to reflect company feedback on additionality: most respondents indicate that they would have probably achieved some of the benefits anyway, but less quickly or less efficiently. We would usually assign a 50% factor, but given that some firms had not previously undertaken this kind of capability building, there may be some optimism bias in play and thus our choice of a 40% discount factor. Evidence from the companies indicates a high degree of attribution. As indicated above, we have not factored out any displacement effects.

3.36 Therefore, for a total public sector investment of c. £270k in the LMP to date, we estimate that Grampian businesses have achieved a total *gross* benefit of c. £3.7m from cost savings or productivity gains, accumulated over a 5 year period. We conclude that a reduction by c. 40% is reasonable to reflect non-additionality, giving a net additional benefit of c. £2.2m.

4 Learning and development

- 4.1 In this section we set out key learning and developmental issues concerned both with the content and delivery of the LMP and SEGr’s ongoing investment in it.

The nature of the LMP and its future development

- 4.2 Key strengths and weaknesses of the LMP as reported by sponsors are detailed in Table 4.1.

Table 4.1 Summary of Programme strengths and weaknesses

Strengths	Weaknesses
➤ “encourages individuals to take responsibility for waste management and efficiency issues”	➤ “like all tools, it is a fixed process - have to try to bludgeon the real world to fit the model”
➤ “equipping staff with the confidence to carry out duties”	➤ “more time needs to be allocated to complete exercises”
➤ “an inexpensive way for small companies of establishing competencies in techniques which they can use everyday to increase effectiveness”	➤ “pitched too high for some companies with minimal Lean Management knowledge - need to make sure they get the right companies to ensure maximum benefit”
➤ “good structure - guides companies through the process”	
➤ “useful having other companies present, as it allowed exchange of ideas”	
➤ “empowerment - staff are continually thinking about the way they do things, and how this can be improved”	
➤ “systematic approach – well structured”	
➤ “enforcing the discipline of cost reduction”	
➤ “opportunity for team working”	

- 4.3 Notably, one delegate remarked: “...everything is a strength - especially the fact there are other companies to bounce ideas off”.

- 4.4 Participants and sponsors raised the following issues concerning the conduct and development of the LMP:

- **team make-up** – it is evident that the presence of a sponsor within the taught sessions or some other close contact with management helps to ensure changes can be implemented effectively in the workplace. Where possible, sponsors should be ‘hands on’ to ensure the techniques and skills learned can be transferred into the company
- **on-site visits** – many consultees suggested that it would be very beneficial if XM Services could make more visits to company premises to help develop each project more effectively. Such visits also would enable XM Services to develop a more informed approach when providing advice
- **More time allocated to group projects** – almost all consultees highlighted that not enough time was allocated to company projects and several companies fell behind. Some consultees suggested omitting the “common project” activities to allow more time to be spent progressing company projects
- **modules** - alter the course to provide more stand-alone modules such as cellular production; managing flow and achieving preventative maintenance
- **timeframe** - consider condensing the Programme into a shorter time frame.

4.5 One sponsor wanted a follow-on course for more advanced companies or for those who have attended the initial course. Some participants also suggested that more time should be allocated for data gathering.

4.6 ***We conclude that on the face of it there are some mixed messages here: some respondents are looking to boost content while there are concerns over timing which lead to requests for a more intensive Programme.***

Learning for SEGr - reasons for non-conversion

4.7 In the second running of the Programme, a one day Process Improvement Assessment (PIA) was given to all interested companies, before asking for commitment. This was in part a promotional mechanism to help with recruitment, but it did not succeed in boosting numbers. In this section we examine the reasons behind the non-conversion of interest into participation.

4.8 After speaking to seven companies who undertook the PIA, but then opted not to enrol, it became clear that the time commitment involved was the significant issue. All the firms we spoke to stated that the Programme sounded like an excellent one and that the PIA itself had

proved useful. However, most were small companies and could not devote the staff time needed.

- 4.9 Many also felt their company was under-resourced for the current work-load and was not able to release staff for another activity, especially on such a regular basis. One had undertaken SEGr's Marketing Advance Programme (MAP) instead, as this was deemed to have a higher priority for the firm. MAP was found to be useful, although it too had involved a big effort to meet the time commitment.
- 4.10 Another firm had set up a joint venture with XM Services Ltd on another scheme. The other four firms had not undertaken anything in place of the LMP.
- 4.11 *We recommend exploring the feasibility of re-designing LMP delivery: it may be more attractive to firms to have an intensive "immersion" rather than a time commitment spread regularly over a longer period.*

Learning for SEGr - financing company participation

- 4.12 We were keen to determine the willingness of companies to pay for participation in the LMP. During financial year 05/06, companies contributed £500 towards the cost of the Programme. Prior to this, companies in the Grampian area received the training for free.
- 4.13 Both SE Grampian and XM Services felt that the introduction of the fee had not reduced the likelihood of companies participating. In fact, the nominal fee is seen as helpful since it means the companies have a financial incentive to remain fully committed to the Programme. We understand that other LECs charge higher fees (up to £1,500) but there are concerns that raising the charge to this level in Grampian may result in putting companies off.
- 4.14 When we asked those who had participated in the LMP for free about their willingness to pay, most companies said they would be prepared to contribute as long as the fee was "not too high". One company contact suggested that at the time of first engagement it would have been less likely to participate if it had to pay, but now that it has experienced the benefits it might be willing to pay. This would, however, be dependent (of course) on the scale of fee. Another suggested that, if charged, the company would simply run the training in-house – and by implication, it could afford to do so.
- 4.15 *We conclude that the issue of pricing requires careful consideration in the future. Our evidence indicates variously: a willingness to pay; an ability to pay; a level of business benefit that draws some companies back two or more times; and a higher pricing policy in*

other LEC areas. There also appears to be other private sector providers in the market. Perceived risk and lack of full information around investing time and money in the LMP may be strong contributors to a market failure argument for first time participants, but less so for the company we have learned has participated on four or five occasions. It is also appropriate to re-assess pricing given that participants in the LMP have included a large company, i.e. not only SMEs.

Other learning points for SEGr

- 4.16 We suggest that it would be helpful to improve the consistency of record keeping to include e-mail and postal addresses. This would aid future monitoring and evaluation. Closer alignment between information held by SE Grampian and XM Services Ltd might be useful to ensure the accuracy.

5 Conclusions and recommendations

5.1 The Table 5.1 provides a summary of the evaluation evidence on business benefit.

Table 5.1 Summary of evidence

<i>Lean Management experience</i>	<ul style="list-style-type: none"> • met with expectations • bigger time commitment than anticipated • good mix of theory and practical work • good to work completely out with the ‘normal’ working environment • support from sponsor was crucial to project success • both sponsors and participants would be prepared to participate in the Programme again • willingness to contribute some payment for participation
<i>Changes in activity</i>	<ul style="list-style-type: none"> • reorganising work spaces to reduce time spent moving around • implementing automated systems to eliminate human error • collecting, monitoring and analysing cost data more effectively • taking the time to plan ahead and managing the flow of people and processes – set up “Lean Teams”
<i>Individual impact</i>	<ul style="list-style-type: none"> • development of problem solving skills • ability to work on own – confidence building • development of analytical skills • development of public speaking skills
<i>Business impact</i>	<ul style="list-style-type: none"> • significant cost savings identified (see para 5.2) • productivity gains • increase in efficiency, for example, 10% rise in the amount of goods going out the door on time • empowered employees and improved staff morale • customer satisfaction and time to build relationships • more efficient team communication • companies suggested they may have been able to gain the same benefits eventually, but not as efficiently, incurring greater costs and were unsure how this might be achieved • with Lean management the participant companies would be worse off or simply carry on as they were
<i>Improvements</i>	<ul style="list-style-type: none"> • more on-site visits by XM Services • encourage more networking • review the time frame – with a view to reducing its length • potential for follow-on course for the more advanced companies • more time allocated to some of the course activities such as the data gathering exercise

- 5.2 We have found a generally high level of satisfaction with the Programme. There is a strong emphasis on the need to get the “right team” and the appropriate management support as pre-requisites for success. We recommend re-examining the “induction” process for new entrants to mitigate these risks in future.
- 5.3 We recommend exploring the feasibility of re-designing the LMP delivery: it may be more attractive to firms to have an intensive “immersion” rather than a time commitment spread regularly over a longer period of time.
- 5.4 The Programme attracts a diverse range of companies. As a result, the reasons for participating in the Programme and the benefits experienced through participation are also varied. The benefits to a company may be directly on its “bottom-line”, but can be of a “softer” and less directly quantifiable kind.
- 5.5 We conclude that although there is a slight sense of crowding-out of commercial providers, there is also an indication of the value of building in-house capability. It is important to remain vigilant over this issue of “crowding out” as the benefits of LM become better known locally. This is important also given that the participants in the LMP to date have included a large company, i.e. not only SMEs.
- 5.6 We recommend that the issue of pricing requires careful consideration in the future. Our evidence indicates variously: a willingness to pay; an ability to pay; a level of business benefit that draws some companies back two or more times; and we understand, a higher pricing policy in other LEC areas. There also appears to be private sector providers in the market. Perceived risk and lack of full information around investing time and money in the LMP may be strong contributors to a market failure argument for first time participants, but less so for the company we have learned has participated on four or five occasions. This is important also given that the participants in the LMP to date have included a large company.
- 5.7 We conclude overall, that participation is rated as very important or important to the performance of participating businesses, i.e. there is a high level of attribution given to the Programme in terms of the business benefits that have accrued. We conclude that participating companies attribute a diverse and in some cases a significant amount of “change” in business practice to engagement in the Programme.
- 5.8 From our estimates of *gross* and *net additional* financial benefits, we conclude that for a total public sector investment in the LMP of c. £270k over three years, a total gross benefit of c. £3.7m has been achieved or reasonably anticipated over a 5 year period. We conclude that a

reduction by c. 40% is reasonable to reflect the non-additionality (or the “deadweight”) evident from company responses, giving a net additional benefit of c. £2.2m.

APPENDIX A

List of companies consulted

One or more consultees from each of the following companies were spoken to either face-to-face or by telephone as part of this evaluation:

- ASM Ltd
- ASEP UK
- Atlas
- Axon Instruments
- Balmoral Group Ltd
- Clean Water Systems
- Duffy & McGovern
- Ferguson Modular
- Harbro
- Hydrasun
- Hydro Group Plc
- Kelton Engineering
- Macphie of Glenbervie
- Masterpower
- Norson Services
- Precision Powertrain
- R D Downie
- Rubberatkins
- Sandy Bruce Trucking Ltd
- Score
- SPS International
- Sub-Atlantic Ltd
- Thomas Smith
- Whittaker Engineering
- XM Services Ltd (the LMP delivery contractor)

APPENDIX B

Lean Management – Aide Memoir for participant companies

- Confirm whether they are a participant or sponsor.
- Find out how much involvement they had with the actual training days

- *Experience of Lean Management*

1. How did you become involved with Lean Management? (*Also, if not obvious, ask whether they are an SE account managed company?*)
2. Why did your company decide to participate?
3. What did you hope to get out of the Programme?
4. How did your experience of Lean Management compare to your expectations?
5. Did the format and style of the Programme suit your needs?
6. What involvement, if any, do the sponsors have?

- *Impact*

7. Did you intend some form of assistance/advice anyway before engaging with the Programme?
8. Have you sought similar advice/training from elsewhere?
9. What have you done differently as a result of what you have learned during the Programme?
10. If you had not participated in the Programme, would you have still undertaken the same activities anyway, at the same time and as effectively?
11. If not, what would you have done instead?

- *Business Impact*

12. Has participation significantly affected the performance of your business? (i.e. increased sales, reduced costs etc)
13. What do you think would happen if there was not a Lean Management Programme?
14. If the benefit would have been achieved to some degree anyway, what resources would have been used to achieve it?
15. Overall, how important has participation in Lean Management been to the performance of your company?

- *Learning & Development*

16. What do you feel are the key strengths and weaknesses of the programme?
17. How might Lean Management be improved?
18. Have you make any useful contacts whilst on the Programme?

- *Future Provision*

19. Would you attend a similar Programme in the future?
20. If so, would you be prepared to pay to participate?

APPENDIX C

Lean Management – Aide Memoir for meeting with XM Services

- Rationale – how did XM’s involvement with Lean Management come about?
- Background to Lean Management programme
 - Activities
 - XM’s involvement
 - Length of programme
- How it’s the programme promoted?
- What involvement, if any, do the sponsors have?
- Relationship with SEGr
- Aims and outcomes
- Why do companies decide to get involved in the programme?
- Process Improvement Assessments – how do these tie in to the programme?
- What are the main impacts arising from the programme?
- How are progress and impacts measured, if at all?

APPENDIX D

COMPANY A

- 5.1 *Company A* became aware of the Lean Management Programme through an SE Grampian representative and the company attended the initial awareness-raising presentation. Motivations for participating included: an interest in innovation and training and the opportunity for staff to work together in order to benefit the business. The sponsor was particularly keen to try a training approach that was not “top down” and empowered workers to take responsibility for making business improvements. It was evident that the company had clearly considered what it wanted to achieve from participation in the Programme.
- 5.2 The sponsor discussed where the greatest benefit would lie in order to select the most appropriate participants. The sponsor and participants knew exactly what they wanted to get out of the Programme. Despite this preparation, the *Company A* sponsor played a limited role: participants reported to him to report on progress.
- 5.3 In terms of the format and style of the Programme, it suited the staff of *Company A* and they particularly liked the group element, suggesting that sharing experiences with other companies helped to increase their motivation. It was considered beneficial to be totally out of the normal working environment and “comfort zone”, helping them to move away from the company mindset. The frequency of the sessions ensured there was time to reflect on what had been learned and on the whole, the sessions were enjoyable.
- 5.4 However, it was noted that the Programme is a big investment in terms of personnel involvement and time: it was difficult to appreciate the scope of the benefits at the start (i.e. how much they would recoup over time).
- 5.5 *Company A*, at the time, had not considered any other forms of assistance, advice or training. They had commissioned external consultants in the past, but these contributions were not as well received.
- 5.6 As a result of participation major changes in workshop organisation and awareness of health and safety considerations have taken place. In addition, there were a number of benefits to individuals; great pride in achievement, personal satisfaction, more comfortable speaking to senior management and the ability to share knowledge with colleagues. It was emphasised that investing in this type of employee training is a good message to promote, as it is often management that engage in lots of training and not those at lower levels within the company.

- 5.7 It was hard for *Company A* to quantify its changes to business performance as a result of participating in the programme, but the participants suggested improved efficiency and health and safety awareness had been areas of significant improvements.
- 5.8 When asked, what would have happened if there was not a Lean Management Programme, it was suggested that you could probably get assistance from other means but not so easily – the top down approach does not work so well.
- 5.9 In terms of strengths, the group working element and the opportunity to work completely out with the normal environment were cited as key strengths. On the other hand, the only weaker element cited was the fact that there were few females on the course and it would have been better to have a more balanced group.
- 5.10 *In summary, Company A reported a very positive experience of the Programme but highlighted that management team support is vital alongside the appropriate make up of the project team in order to ensure the learning can be transferred to other projects in the future.*

COMPANY B

- 5.11 For *Company B* a number of employees had been on the course before and had heard about the initiative through XM Services. SE Grampian conducted an assessment and helped the company to formulate its project idea. The participants were keen to get involved as they were mostly new to the job and wanted to gain an insight into working relationships and learn where the company was going wrong.
- 5.12 The format and style of the Programme was noted as time consuming and the participants noted that there was not enough time to sit in their respective groups and work on their project. However, they did consider it good fun. In particular, the sponsor enjoyed the final presentation, “*it was good to see other companies are going through similar experiences*”.
- 5.13 The Sponsor was directly involved in the project and approached team members for their participation.
- 5.14 Other forms of assistance, advice and training were not considered, however, the Sponsor had previously taken part in a Six sigma course.
- 5.15 A number of changes occurred within the company as a result of participating in the Programme. These included: reduced delivery time, boosting confidence of employees, developing ability to focus more on key customers and embarking on lots of spin-off projects

as a result. The main business impact came from saving time and enabling capacity to be utilised more effectively.

- 5.16 In terms of personal impacts, increased confidence, the ability to tackle things in a positive way, not so shy of bigger projects and developing public speaking skills were all mentioned.
- 5.17 If there was not a Lean Management Programme, the company would not have developed project teams to run projects. The participants would still, individually, be “*fire fighting*” and would not appreciate the bigger picture. However, the company recognises that it could probably get similar advice from external consultants.
- 5.18 Key strengths of the Project cited, included a good motivating pace and the opportunity to learn from the other companies. On the other hand, there was no follow-up from XM services which had been expected.
- 5.19 *Company B* suggested that there may be a case for higher level management involvement as it had a grass roots team and as a result the structured approach has not been rolled out across all areas of the company.
- 5.20 Observations of other companies highlighted that team make-up chopped and changed and this drew attention to issues of the transferring of information. Thus, the team is a key driver in the success of the project.
- 5.21 If asked to pay for such a Programme, this would largely be dependent on how much, suggesting that it is useful to get one person through the course and then share the knowledge and lessons learnt with the rest of the staff.
- 5.22 ***In summary, Company B reported a very positive experience of the Programme but highlighted that team make-up was vital in developing a successful outcome.***

Company C

- 5.23 *Company C* became aware of the Lean Management Programme through Scottish Enterprise Grampian. The sponsor was keen for company staff to participate to improve efficiency and productivity. In particular, *Company C* knew there was wastage occurring, but wanted to find out exactly where and how it could be reduced.
- 5.24 In terms of how experience of the Programme compared with expectations, there was no expectation of great gains from the project itself. Participation was more geared towards acquiring the skills to take forward similar projects in the future. For example, subsequent

longer terms projects have created an estimated 20% savings, whereas the initial project only created approximately 1%.

- 5.25 With reference to the format and style of the Programme and its suitability towards company's needs, it was suggested that it would have been useful if two half-days had been combined into one full day. The timings were quite tight. It was considered beneficial to be working out with the office environment so that one could focus entirely on the work of the Programme.
- 5.26 Whilst *Company C* did not have much contact with XM outside the Programme, the sponsor and participants felt they received all the attention they needed. They also had XM's contact details if they required additional assistance.
- 5.27 The sponsor participated in the initial awareness event but, after the group became established, he took a back seat as he was conscious of not wishing to interfere. He was available when they needed to discuss things.
- 5.28 For *Company C*, there was a need to train and it was looking at ways of improving productivity and visibility when it found out about the Lean Management Programme. As a result of participating in the Programme, staff gained the skills and tools to benchmark and consider how things could be changed and identify problems.
- 5.29 In terms of personal impacts, "*it's been quite a learning curve*" and individuals are now able to identify time wasted in a week. It was also highlighted that individuals are more willing to question things and think more about what is being done. The sponsor noted that he had seen evidence of team building and personal development arising within the team as a direct result of the Programme.
- 5.30 Overall the Programme was considered challenging at the start, but things soon fell into place. They all enjoyed it, with confidence boosted after a few presentations.
- 5.31 When asked: "*What would have happened if there was not a Lean Management Programme?*" the participants suggested that the company would have muddled on and it would have found it difficult to train people. The sponsor feels he probably would have been against other methods of implementation. This Programme was more effective because it came from within the organisation, rather than being imposed on the organisation by external consultants.
- 5.32 The main strength cited by *Company C* related to the skills and tools gained that it was previously unaware of. It was interesting to see that other companies had similar problems,

but no useful contacts were established. On the other hand, the examples provided in the class could sometimes be distracting from own project and they would have preferred spending more time on their own project, although having a common project helped to bring all the different participants together.

5.33 *Company C* considered it worthwhile to put more participants through the course in the future. However, the short term aim of the company is not to send more but to have the current staff group to undertake more projects and then train others in the skills they have developed.

5.34 With respect to a willingness to pay for similar types of activities in the future, the company already invests in-kind with staff time, but there may be a willingness to pay.

5.35 ***In summary, Company C have demonstrated significant benefits from their participation in the Programme and are sharing the knowledge learnt across the organisation.***

Company D

5.36 Initially, *Company D* was quite dubious about what to expect from the Programme, but it gained enthusiasm when it could visualise where the project was leading. However, at the present time enthusiasm is waning because staff feel they are falling behind the other teams. They feel they have taken on too much: the project covers too big a scope in the time available. On reflection, more advice about what they were embarking on would have been useful.

5.37 The contact made with a number of different companies each doing a different project, although not comparable to *Company D*'s operations, is beginning to show how lean management thinking ideas can be applied across the board. However, staff are not very interested in other companies' problems as they are not directly relevant.

5.38 In terms of format, *Company D* did not consider the mixed team activities as worthwhile - not able to identify any transferable skills arising from the group activities.

5.39 There has not been much input or support from the sponsor, which has been frustrating. There has also been animosity from other staff, as they do not perceive any benefits to be arising. Thus, backing of sponsors is a major issue for *Company D*. Most actions have been faced with a barrier and the sponsors do not appear to listen to feedback. Things have always been done the same way and the middle management, rather than the top management, are creating problems in effecting change. The participants hope that the presence of the top management at the final presentation will encourage their ideas to be implemented.

- 5.40 *Company D* is not particularly amenable to change. Project benefits so far are not immediately visible, but staff hope that these will arise by the time the Programme finishes.
- 5.41 In terms of personal impacts, individuals cited that the Programme makes one consider the way you do things, asking why things are done the way they are and identifying potential improvements. Overall, behaviour changed with more efficient working practices being introduced, such as putting tools into a trolley to move them, instead of walking back and forth numerous times, thus increasing productivity in the job.
- 5.42 *Company D* considers that business performance benefits may follow but this is dependent upon workshop changes being implemented and if the programme did not exist, things would have just carried on as they always had.
- 5.43 In terms of strengths, staff from *Company D* found each aspect of the Programme interesting and varied - it held interest and has helped to promote better ways of doing things. They report that concepts were explained well by the course co-ordinators and were generally very approachable and helpful. On the other hand, “favouritism” arose as an issue, suggesting that if XM are interested in the project, the company gets much more attention. *Company D* suggests that more consistency in approach is required.
- 5.44 A number of improvements to the Programme were proposed. Time was highlighted as the main issue. The Programme was very challenging and there is not much time between implementation and data gathering. It was considered useful to extend the Programme over a longer period of time. If the participants could stay longer each day after the course, that would be useful. As soon as you return to the office, you have to catch up on work that has been missed, so this is not really a feasible option.
- 5.45 In terms of the willingness to pay for similar types of activities in the future, this was not considered appropriate because the benefits are difficult to identify at the start.
- 5.46 ***In summary, the experience of Company D’s staff engagement with the Programme has been jaded by the lack of support from their management team and sponsor.***