The Institute of Management Services is the primary body in the UK concerned with the promotion, practice and development of the range of methodologies and techniques for the improvement of productivity and quality, known collectively as ‘Management Services’. This embraces the disciplines of industrial engineering, work study, organisation and methods, systems analysis, and a wide range of management information and control techniques as illustrated in our Body of Knowledge.

The Institute acts as the qualifying body for the Management Services profession in the UK, focusing developments in practice and knowledge and acting as a forum for information exchange. This in turn enables our members who work under a variety of job titles across the whole of the UK economy, to make a more effective contribution to the well-being of their own organisation and to the nation’s economy as a whole.

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Management Services needs good articles on improving productivity and related matters. Why not write one? You will receive help from the editorial team if you need it.

If you want to try your hand at writing a feature for Management Services, please submit an abstract (around 200 words) explaining what your feature is about, with intended word count. (Features should be between 1500 and 2000 words, although exceptions can be made.)
Send your abstract to Melanie Armstrong, Editor, Management Services, Ewell House, Graveney Road, Faversham, Kent, ME13 8UP or email editorial@msjournal.org.uk

We also want your news and points of view about what appears in this journal. Something you disagree with? Tell us about it.
In this issue of Management Services...

Cover Story

In this edition, Dr John J Lucey concludes his series of articles by exploring whether employee engagement can be used to predict the success and sustainability of major lean transformations.

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Dr Janet Godsell discusses a customer driven supply strategy
In my column in the Summer Journal, I highlighted the lack of action by the UK Government to address productivity issues in the public sector, especially in the present economic climate. Since writing that, we have seen the setting up of a NHS Productivity Unit, headed by Margaret Edwards, the former chief executive of the Yorkshire and Humber strategic health authority. The objective of this newly established NHS Productivity Unit is to prepare the health service for the economic downturn. At face value this appears to be a positive step until one learns that the unit’s annual budget is only £350,000. I understand that the unit has only two members of staff, so it would appear to be slightly understaffed to perform the mammoth task of increasing productivity and so delivering an efficient health service that meets our needs in a cost effective manner.

The right direction?
I suppose the establishment of the NHS Productivity Unit is a move in the right direction but can anyone really be serious that it will be an effective unit for increasing productivity and reducing costs with a budget of only £350,000? I suspect we have yet another example of playing with the concept of productivity and being seen to do something but actually doing very little that is meaningful. As I indicated in the last Journal, Gordon Brown is a great advocate for increased productivity but never actually manages to follow through with any meaningful actions.

On a sad note, I have to inform you of the death of Elwyn Cule Davies. Elwyn had been a long-standing and active member of the Institute. When I first joined the Institute’s Council of Management in 1977, Elwyn was also a member of Council but resigned to take up a post in the Middle East where he worked for many years. On behalf of Institute members, I offer our sincere condolences to Elwyn’s family.

Can I please ask that you make a point of reading the back cover of this journal, which gives details of the European Productivity Conference that is being hosted by the Grimsby Institute of Further & Higher Education. The conference will take place on 28-30 October 2009 and I would recommend that IMS members give consideration to attending this important productivity conference.  

David Blanchflower
Chairman

“I suspect we have yet another example of playing with the concept of productivity and being seen to do something but actually doing very little that is meaningful”
The creation of an IMS email group

Over the last two years we have developed our website (www.ims.productivity.com) into an interactive ‘shop window’ for the Institute. The website can receive and transmit IMS related material on a worldwide basis and has become an important communications instrument.

Currently, a sub committee of Council under the chairmanship of Dr Andrew Muir is nearing the end of a detailed strategic review and our website has been identified as an important communications tool. It is also important that the Institute keeps abreast of developments in information technology and uses them for the benefit of the Institute and our members.

Accordingly, we have produced a preliminary email group address based upon the records in our membership database. A test message with an automatic confirmation of receipt has been sent out to that group. The e-group will enable the Institute to inform members of National events, conferences, Region meetings and any breaking news.

Since the Journal moved from monthly to quarterly, it is not always possible to make members aware of events at short notice. We also want to encourage members to contribute and comment on any of the Institute’s activities. You are probably aware that the Journals can already be accessed online. A password has to be used for the current Journal but previous ones are available to anyone. This facility is a great benefit to our overseas members. It makes the Journal available sooner, as well as saving postage.

By the time you receive the next Journal, we hope that you will have received the first email. We do hope that you will embrace this development, after all we are the Institute that advocates change! If you wish to unsubscribe from the e-group, you can of course ask to be removed. The e-group information is confidential to the IMS and will never be disclosed to a third party.

In conclusion, I do hope that you will become a member of the e-group and interact with your Institute. To join, all you have to do is to send an email to Mrs Lynette Gill, admin@ims-stowe.fsnet.co.uk.

Dr John Lucey
Chair of the Media Committee

MTM

Chairman: R.W. Pearce (0114) 2481793
Secretary: D. Findon (0151) 4233175
Technical/Examinations/Membership: P.D. Horton (0182) 761424

UK MTM Association apologises for the conference being postponed until late spring 2010.

However, the UK MTM Association is pleased to advise all interested parties that we will be participating in the European Productivity Conference in Grimsby with a number of speakers including directors of the UK MTM Association.

Further details can be obtained from R.W. Pearce or P.D. Horton.
Management Services
Autumn 2009

The Botswana Directorate of Public Service Management (DPSM) in Botswana is working towards reducing government reliance on private consultancy firms.

The directorate engaged the Harry Mitchell College, the training division of Chinal Management Services, to help to equip members of its staff with the appropriate technical skills to ultimately develop them into fully-fledged consultants.

The training programme was considered to be sufficiently vital to the Government to be underwritten by the President’s Personal Department.

A series of specially tailored training and coaching programmes, including the Institute of Management Services Certificate, was delivered to 29 members of the DPSM staff in Gaborone.

The courses started in January 2009, and covered Work Measurement, Lean Methods Development and a range of consultancy and motivational skills. The delegates were all enthusiastic participants in the course, bringing issues from their work place into the training and discussion sessions. Our extensive experience of skills transfer enabled delegates to use the relevant techniques immediately to help them measure work and identify practical methods for improvement opportunities.

The Harry Mitchell College team in Botswana comprised of Andrew Reid and Dave Beexon, who delivered the IMS section of the courses, and Harry Fitch, who delivered Motivational, Business Transformation and Consultancy skills.

At the end of the IMS sections of the course, the delegates sat appropriate examinations. All the delegates passed their examinations with flying colours – many with high marks of distinction.

Following the courses, the delegates attended a graduation ceremony at which the Director of the Department of Public Service Management, Pearl Matome, and Eugene Chinal (Managing Director of The Harry Mitchell College) presented them with their certificates.

During the graduation ceremony Ms Matome said: “With the technical skills they (the graduates) have learnt, they will be able to measure the work, determine the number of people to be employed and measure the cost. Additionally, Eugene Chinal provided guidance on carrying out consultancy projects.”

The Botswana Government develops a consultancy capability

The following students from Botswana have completed the IMS Certificate and are proud members of the IMS

Matshwenyego Zoe Matlapeng
Susan Mmasebolelo
Ramoolemana
Mary Tsholofelo Molokwe
Mositi Otsetswe Tsengan
Zibo Oageletse Mosimanyana
Mmapula Leepile (nee Kgosimore)
Unami Mpopi Gondo
Bob Esau
Shathani Sebonge
Ponatshego Bathamile
Kagiso Maphane
Khabe Radinoga
Kegomoditswe Tiny Mathake
Patricia Tabengwa

Kito Dithokwana
Galeome Ramajalwa
Chuma Sesinyi
Lame Stella Mothebe
Moses Mmlileng Morei
Tshepo Moshaga
Keneelwe C Senyarello
Liverson Mdongo
Gay Meudah Motshome
Tebogo A Nkuru
Balatedi Mpule
Godirane Goodwill Legwaila
Moanamisi A Maphane
Selina Tsheko
Kelebogile Nkgabane

Regional News

Forthcoming Event

There will be a visit to the Bank Top Brewery at Astley Bridge on 22 October at 7.30pm. The trip will cost £10 per person. For further information, please contact Ian Cooper on 01257 421383 or Len Price on 01204 840672.

Lecture

Brian Mann will give a lecture entitled ‘TRS2 In Retrospect’ on Wednesday 28 October. The lecture will start at 2pm and will be held at the Tunley United Reform Church, Mossy Lea Road, Wrightington. Admission will be £2.50 per person.

The lecture will outline the state of the aircraft industry and the development of Britain’s first supersonic nuclear bomber. The prototype’s air tests will be discussed, as well as the proposed mission profile, weapon options and the controversial cancellation of the project.

For information, to book a place and to get directions, contact Ian Cooper on 01257 42138 or Keith Gowing on 01619 620367.
Obituary

Dr Elwyn Cule Davies
It is with deep regret that we have to report the death of Dr Elwyn Cule Davies. Elwyn first joined our Institute in 1964 and was a member of the Institute’s Council of Management for a period in the 1970s.

He was born in 1934 in Cardiff and after gaining a BSc (Hons) in Mining from Birmingham University, joined the National Coal Board as a management trainee in 1955. In 1966 he was appointed as Senior Industrial Engineer at the Port Talbot Steel Company. In 1977 he moved to Saudi Arabia were he remained until 1988, holding a number of senior positions in Management Services.

In 1993 Elwyn retired after two serious operations but his involvement with Management Services continued when he commenced research into Total Quality Management at the University of Wales in Cardiff, where he gained a PhD in 1997.

While in Saudi Arabia, Elwyn undertook the duties of overseas delegate for the Institute. On his return to Wales in 1992, he once again became active in the Institute’s Welsh Region and, in 2004, organised a series of meetings for IMS members in Wales in conjunction with the University of Wales.

While Elwyn was always a great supporter of the IMS, he was also an active member of the Institution of Electrical Engineers and the Institution of Mining Engineers. Elwyn was also a lifelong member of the Scout Association, an organisation of which he was very proud to be a member. His involvement with scouting started in his teenage years and continued right up to his death.

I knew Elwyn for more than 30 years and can personally affirm how hard he worked on behalf of our Institute, both overseas and in his native Wales, to project and enhance the image of our Institute. The passing of such a member is sad as Elwyn contributed so much to the IMS, scouting and many other professional bodies. On behalf of the IMS members, I offer heartfelt condolences to his wife Barbara and his two daughters.

David Blanchflower

The very best professional help

We are always keen to help members and any enquirers of the Institute in their quest for knowledge or assistance when it comes to productivity issues. We’d like to draw readers’ attention to the following solutions for help with Performance Rating, which is still an internationally used technique.

New rating films for professional analysts
We have explored the possibility of creating new rating films but found the costs quite prohibitive. We were advised by Scott-Grant Ltd, one of our accredited training providers, that they had recently produced a new and comprehensive series of 12 rating films on DVD and we have fortunately managed to secure access to them. The rating films show examples of real jobs being undertaken in the workplace and the industries include:

- manufacturing
- electronics
- engineering
- distribution
- timber
- needle trade
- retail
- manual work
- warehousing
- high volume distribution

All the films are intended to develop the application skills of analysts. They are an invaluable means of professional development for re-calibrating and maintaining the rating accuracy of every professional analyst, to ensure that the high standards of the Institute are maintained.

Performance Rating explained
Scott-Grant have also produced “How do you rate?” – a practical, 35 minute DVD to explain clearly how to use Performance Rating when measuring work. We would encourage every industry to use this film if they want to improve productivity in their workplace. Although the subject matter is very serious, “How do you rate?” delivers its message in a relaxed and entertaining way. Above all it is designed to be informative, practical and memorable.

Within 20 minutes viewers will have the opportunity to assess performance in carrying out a simple task, using the criteria explained in the film.

Please contact Lynette at the Institute head office Tel 00 44 (0)1543 266909 for more details.
The concept of a sustainability zone

In the final part of his series of articles, Dr John J Lucey explores whether employee engagement can be used to predict the success and sustainability of major lean transformations.

Introduction
This is the final paper in a series which has examined why so many major transformations fail, identified the importance of employee engagement to the successful transaction of major change, as well as providing and validating a method of actually measuring employee engagement. The series has defined employee engagement and demonstrated how the employee engagement score can be improved. The literature review has adapted Lewin’s (1951) definition of behaviour to define employee engagement (EE) as a function of the person (P) and the environment (E). This leads us to the intriguing possibility of being able to predict whether a major change will be successful, be sustained and deliver the projected benefits before the change is commenced. If this was possible, perhaps the poor success rate of major change could be vastly improved and the massive costs associated with the high failure rates could be saved.

The ability to implement a major change quickly, realise all the benefits and sustain all the improvements would be an attractive proposition for most organisations. The failure rate for major lean transformations is difficult to measure, as the vast majority of failures will probably go unrecorded as companies are understandably reluctant to share their failures with the outside world and their competitors.

This being the case, we have to rely on researchers and consultants who have...
been closely involved with major organisational change. Ernst and Young (1992) state that 75% of all major change transitions fail and over the period 1982 to 1992, approximately 84% of US companies underwent at least one major business transformation. Kotter (1995) states that over the last decade he has witnessed more than one hundred companies try to implement organisational change. A few of the changes have been very successful, a few have been utter failures and the others fell somewhere in between.

Boonstra (2002) makes the point that in the United States (US) the vast majority of attempts to redesign business fail.

Grint (1997) observes that if 75% of change programmes seem to fail, the world may be a more complicated and ‘fuzzy’ place than we first thought. In reviewing management in the 1990s, he observes that three things stand out. Firstly, the colossal efforts made to change the way organisations operate, secondly, the astonishing degree of failure that accompanied all but a handful of attempts and, thirdly, the radical aversion to risk taking that appears to typify most organisations. The associated cost of failure is very high and Kotter recognises this fact when he states: “In too many situations the improvements have been disappointing and the carnage has been appalling, with wasted resources and burnt-out, scared, or frustrated employees.” (Kotter, 1996, p168).

While accepting that there is a downside to major change, Kotter feels a significant amount of the waste and anguish experienced over the last decade could have been avoided. At the same time, it is also accepted that the pace and magnitude of change is increasing and this fact is supported by comments from both academics and businessmen alike. Duck, talking about the skills required to transact change, says: “The COO at a large corporation told him that when it comes to handling the most complex operational problem, he has all the skills he needs. But when it comes to managing change, the model he uses for operational issues doesn’t work.” (Duck, 1993, p109).

Hirschhorn, talking about major change, states: “As a researcher and consultant he has been involved in many change initiatives at scores of companies over the past 15 years, and he has come to believe that the low rate of success has more to do with execution than fundamental conception.” (Hirschhorn, 2002, p98).

**Over estimating**
The failure rates of major change transformations are very high and the costs associated with the failure can be considerable but these are not generally calculated or disclosed. There is little evidence to suggest that organisations who embark on a major change programme know if it will be successful. Indeed, research by Menzias and Starbuck (2003) indicates that managers are nearly always optimistic in their perceptions regarding their staff.

It is tempting to pose the premise: what if there is always an over estimation factor of x% by managers of the level of employee engagement of their own staff? When a major lean transformation is being considered it is the management who ultimately make the decision to proceed. If that decision is based upon a perceived level of employee engagement which is significantly over optimistic then this could be a major contributory factor to the transformation failing. It might even go some way to explain the tremendously high levels of failure that have been reported in this research. If a company has a regular employee engagement survey in place, then the level of engagement does not have to be estimated or guessed. There is very little research on the topic of the accuracy of managerial perceptions and this would seem to be a very fruitful subject for additional research.

Menzias and Starbuck (2003) helped to organise a symposia at the annual meetings of the Academy of Management and the British Academy of Management. In their earlier work, Menzias and Starbuck (2003) reviewed the research on this topic and identified eleven variables that affect manager’s perceptions:

- Perception depends on the subject matter and people are more likely to notice more recent events, larger changes and more dramatic events. They are also better equipped to perceive sounds, symbols or objects than abstract concepts.
- Human perceptual systems vary significantly across people. Some people hear, see or remember more accurately.
- Increased experience makes people both more likely to notice some stimuli and less likely to notice other stimuli.
- Training and job assignments increase experience in one domain, even as they withhold experience in other domains, eg, a career marketing person and a career production person.
- To understand incoming
“The failure rate for major lean transformations is difficult to measure, as the vast majority of failures will probably go unrecorded as companies are understandably reluctant to share their failures with the outside world and their competitors”

data; people place them in the context of experience. Memory is important for the perceptions of variables as they are observed over time.

• A manager’s interpersonal skills and demeanour may encourage colleagues and subordinates to be either more honest or to conceal the truth. Some managers want to find out what is wrong, while others want to attribute blame.

• Organisational information systems collect and disseminate some kinds of information while ignoring or obscuring other information.

• Certain cultures will focus attention on certain phenomena and ignore others.

• Senior managers at the tops of hierarchies perceive different organisational phenomena than middle or junior managers.

• Some businesses operate in a ‘closed’ environment where published

information has little relevance, while others, such as trade associations and government, publish lots of information.

• Some business environments are much more volatile than others which means that data becomes obsolete more quickly. (Menzias and Starbuck, 2003, p4).

In this research, managers were asked to estimate the level of the employee engagement for their staff prior to it being measured and it was interesting to note that for two managers who responded, the perceived level of employee engagement for each section and overall was substantially higher (22%) than that recorded by the staff. Overall, the difference in perceptions are quite large and may result in managers making decisions they would not make if they knew the actual level of employee engagement in their factory. This would be a very interesting area for further research.

The lean sustainability zone
What if there was a way in which managers could assess if the major change they are contemplating would be successful? This research has concentrated on the ‘soft people side’ of lean manufacturing, as it may be an important component to the successful implementation and sustainability of major lean transformations.

The literature review indicated that the ‘people side’ of lean is an area that is under researched. This is acknowledged by Halbesleben (2003) who states: “The literature on engagement is largely under developed. To date, I know of only a handful of empirical studies that have examined the construct of engagement of employees relative to their work, there is a general need for more research on the concept of engagement in organizations.” (Halbesleben, 2003, p13).

Vidal (2007) comments that many argue that increased employee involvement in manufacturing is central to the success of lean manufacturing, yet there is surprisingly little qualitative research directly addressing the relationship between participatory work arrangements and job satisfaction and the quantitative evidence is much less clear than often presented.

This view is supported by Robinson et al in their study of the drivers of employee engagement: “For such a well-used and popular term, engagement has surprisingly little associated research. In fact, a trawl of the literature revealed only a handful of studies, although several references were uncovered relating to models and methods of analysis promoted by consultancies and survey houses and their use by large companies.” (Robinson et al, 2004, p1-2)

Developing a lean sustainability zone
The employee engagement scores for the three main case departments for the period 2002 to 2005 have been analysed in an attempt to predict ‘the lean sustainability zone’. The employee engagement scores and the standard deviations (SDs) for this period are detailed in Table 1.

It is important to appreciate that there is a difference between the employee engagement score required to commence a major lean transition and the score required to sustain it. As has been witnessed in the

Table 1. Employee engagement scores (EES) & SDs for the main case firm

<table>
<thead>
<tr>
<th>Department</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toiletries - EES</td>
<td>3.75</td>
<td>3.98</td>
<td>4.10</td>
<td>4.21</td>
</tr>
<tr>
<td>- SD</td>
<td>1.56</td>
<td>1.59</td>
<td>1.57</td>
<td>1.48</td>
</tr>
<tr>
<td>Powders - EES</td>
<td>3.91</td>
<td>4.15</td>
<td>4.15</td>
<td>4.35</td>
</tr>
<tr>
<td>- SD</td>
<td>1.25</td>
<td>1.57</td>
<td>1.38</td>
<td>1.38</td>
</tr>
<tr>
<td>Blow -EES</td>
<td>3.44</td>
<td>3.74</td>
<td>4.40</td>
<td>4.40</td>
</tr>
<tr>
<td>Moulding - SD</td>
<td>1.60</td>
<td>1.54</td>
<td>1.35</td>
<td>1.35</td>
</tr>
</tbody>
</table>
The employee engagement score can increase following a well managed improvement project, such as a 5S exercise. The more that staff are involved, the more likely they are to increase their level of engagement.

All three departments in Table 1 increased their engagement scores, reached the sustainability zone and sustained it. The main objective of this phase was to explore if the research data was sufficient to identify ‘the lean sustainability zone’.

Defining the lean sustainability zone

The attempt to predict the limits of the ‘lean sustainability zone’, based on the research to date, has produced the limits detailed in Figure 1. The Blow Moulding department has maintained its high score and remain in what Lucey et al (2004) suggest may be ‘the sustainability zone’. This result, together with the results of the action based research in the Powders/ LVC, strongly indicates that employee engagement is a reliable and robust method to establish if a major change can be successfully undertaken and that the results can be sustained.

The employee engagement survey in Powders/LVC in August 2003 recorded a score of 4.15 which has taken the Powders department into what Lucey et al (2004) suggest may be the ‘lean sustainability zone’. Once a department has attained a score inside the sustainability zone, its confidence improves noticeably which has the benefit of making subsequent change much easier to transact.

This fact is confirmed by Robinson et al (2004) who found that as staff feel valued, involved and listened to, they become more engaged. For low and unexplainable results, the use of focus groups to probe the underlying issues was very successful. From the data from the main case firm it would appear that the base employee engagement score required to successfully commence a major lean transformation is higher than 3.44 and lower than or equal to 3.75.

Figure 1 is a diagrammatical presentation of the employee engagement scores for the main case firm and an estimation of the lean sustainability zone. Seven scores are inside the lean sustainability zone, two are almost there and are on or lower than the threshold level of 3.75. Giving due consideration to the employee engagement scores for the main case firm, it is considered that a score of at least 3.75 is required to commence a major change and a score thereafter of 4.00 or over is required to transact the change quickly and sustain it.

The literature review indicated that there was a relationship between employee engagement and improved performance. In all three departments the average unit labour costs have reduced as the employee engagement levels have increased. It would be easy to totally credit the reduction in costs to the increasing level of employee engagement but this would be too easy a conclusion to arrive at.

The improvement in the employee engagement scores will have contributed to the success of the lean implementation in D10 and the achievement of the reduction in unit labour costs. The key factor here is that all three departments have

"For a company to have a real chance of transacting and sustaining a major lean transformation, it is recommended that they measure the level of employee engagement before they decide to proceed with a major transformation"
reached and remained in the sustainability zone.

While they remain in the sustainability zone, they will continue to take change in their stride and each subsequent major change becomes less of a challenge because they are becoming used to accepting change as an integral part of their job, rather than something that comes along now and then. In essence, they are becoming ‘change hardened’. This state of ‘change readiness’ should be recognised as a major source of competitive advantage by companies and nurtured.

**Refining the ‘lean sustainability zone’**

Is it possible to determine when staff are engaged enough to sustain major change? This is an interesting question and is perhaps the real prize for change practitioners.

The possibility of determining a ‘lean sustainability zone’, which indicates the employee engagement score required to successfully commence, transact and sustain a major transformation, was considered after the scores for the main case firm were analysed.

It was further considered following the external validation of the measurement of employee engagement which was undertaken in three external companies in 2005 and 2006. This was also an attempt to identify the threshold level of employee engagement that would achieve sustainability. While the results from the main case firm were encouraging, the data was still from one company, albeit in three quite large departments.

As the employee engagement was measured in three external companies, the data from the main case firm and the three external companies were combined to test the concept of ‘a lean sustainability zone’ and these are detailed in Figure 2.

Figure 2 depicts the 31 employee engagement scores from the main case firm and the external validation. Eleven scores are lower than the threshold level of 3.75. Five scores are between the threshold level of 3.75 and the start of the lean sustainability and 15 scores are over 4.00 and within the lean sustainability zone.

The four scores for FBN, the four scores for Unipart/D42, one score for the Four Square drinks factory, the first score for the Toiletries department and the first two scores for Blow Moulding are below the threshold level of 3.75. One score for the drinks factory, one score for the machine factory, one score for the Toiletries department and one score for the Powders/LVC are between the threshold level of 3.75 and 4.00 which is the start of the lean sustainability zone. Four scores for the drinks factory, four scores for the machine factory, two scores for the Toiletries department, three scores for the Powders/LVC and two scores for Blow Moulding are within the lean sustainability zone.

The two Four Square companies have had seven years experience of lean and are predominantly inside the...
lean sustainability zone, as are the scores for the main case firm which followed the focus groups/5S exercises.

Conclusion
In conclusion, it is felt that the lean sustainability zone exists between the employee engagement score of 4.0 to 6.0. In addition, it is felt that a score of less than 3.75 prior to lean training would not be sufficient to successfully complete a major lean transformation.

For a company to have a real chance of transacting and sustaining a major lean transformation, it is recommended that they measure the level of employee engagement before they decide to proceed with the transformation. If managers rely on their perception of the level of employee engagement and do not actually measure it, they are likely to be over optimistic and the transformation may well fail.

While this research concentrated on companies who were using lean manufacturing as their vehicle for continuous improvement, it is felt that the conclusions from this research would be equally applicable to other sectors of the economy and it would be very interesting to undertake a similar study in a public sector area, such as education or the NHS, which have been undergoing major change for some time. These are areas which employ a large number of staff and it is felt that the concept of measuring employee engagement would greatly assist the success of their change programmes and help improve the sustainability.

In conclusion, the research indicates that it would be possible to use the employee engagement index to predict if a major change is likely to be successful and, as such, would be of great benefit to senior managers. It has also been recommended that the concept of ‘a lean sustainability zone’ be the topic of further research.

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Dr John J Lucey
John started in Work Study with an engineering company and moved to a subsidiary of British Leyland before becoming Work Study Manager with an international armaments manufacturer. He was promoted to the position of Contracts Manager and in 1977 he gave up his job to do an MSc in Industrial Management at Loughborough University, where he won the award for best student.
He spent two years working as Manufacturing Manager in a military optics company in Singapore, before joining the Boots Company in 1984 as Industrial Engineering Manager. It was at this time that John joined the IMS Council and has served continuously since. He was Chairman from 2003 until 2008.
In 1989, he was appointed a Factory Manager with Boots Contracting, until his retirement in 2004. In 2002, John commenced part time research into the sustainability of Lean Manufacturing with Cardiff Business School and has published many papers. He was awarded his PhD in April 2008, while he was still Chairman of the Institute.

“OL can be promoted by recognising the tacit dimension and how communities can benefit by using their own language, story telling and sharing knowledge (Brown & Duguid, 1999)”

REM
Our research sought perceptions, views and opinions of all staff with respect to the quality management system, learning climate and sub cultures and communities.

Quality management system
The survey suggested there was a good level of awareness across the company of the basic systems and tools used for process measurement and improvement. There was, however, less awareness amongst production and maintenance departments of the measuring and reporting mechanisms in the management process. In other words, people know that data and information are obtained through the measurement system, but many do not know what happens to the data. The survey revealed that respondents thought that procedures and controls restrict or hinder the development of new ideas and arguably inhibit learning opportunities. A surprising and perhaps concerning result is the difference of opinion between senior managers with regard to the QMS; its purpose and the role it plays dictating the way the business is run.

The learning climate
The six learning characteristics (Pedler et al, 1999) we selected and investigated are: a learning approach to strategy; informatting; internal exchange; enabling structures; a learning climate; and self development opportunities. The survey offers a snap-shot of views and perceptions of the extent to which the company has attributes of each learning characteristic and further analysis enables a measure of dissatisfaction relative to each characteristic. While the results of the learning climate survey can be interpreted that Rockwood is perceived to be a learning company relative to the six characteristics, further analysis of dissatisfaction levels highlights important differences between sub groups or departments within the organisation. Based on the highest and lowest areas of dissatisfaction, we select and present some key issues from our analysis.

Senior managers have a low dissatisfaction of internal exchange (communications between departments) compared with maintenance and process staff who show much higher levels of dissatisfaction. The belief of senior management that departments communicate and understand the needs and wants of each other does suggest they are somewhat removed from other staff groups or departments within the organisation. Based on the highest and lowest areas of dissatisfaction, we select and present some key issues from our analysis.

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Production workers and longer serving and older staff were most dissatisfied with informatting (use of IT to make information available to front-line staff). Senior management were most satisfied with this characteristic. We don’t speculate on the reasons for
organisational learning:

these differences here but return to this point later.
Self development opportunities have the highest mean dissatisfaction score of all, but a key point is the difference between senior management and most other staff groups on this characteristic. Training is a subject of complaint at Rockwood, as reflected in the survey questionnaire responses. There appears to be a positive attitude amongst personnel in wanting to learn (i.e. 75% of staff would attend courses in their own time). Improved training and personal development opportunities would be needed to reflect the ideal espoused by Pedler (1997).

The levels of dissatisfaction (internal exchange, informatting and self development opportunities) and the frequent differences of opinion between senior management and other staff groups suggests greater need for information and understanding between them. The survey indicates there are clear differences of opinion between departments that affect OL and if the company is to improve learning opportunities, the levels of dissatisfaction between staff groups have to be understood by senior and departmental management.

Over the past five years Rockwood Electronic Materials (USA), the parent company, has grown, mainly through acquisition. The knowledge in each operation is significant but a current lack of mechanisms prevent knowledge becoming explicit to each SBU and potential advantages through global learning.

Sub-cultures and communities
The research suggests evidence of sub-cultures and communities within REM. The executive culture (Schein, 1996) was the most evident from survey results. This was highlighted and discussed earlier when investigating the QMS and learning climate. The correlation of results with senior and departmental managers reflects their different views, opinions and assumptions from other staff groups. With regard to engineering and operator sub-cultures, the results were not consistent enough to suggest that individual cultures exist at non-management levels. Results indicated that engineers and production personnel do share opinions and thus share some assumptions.

According to Schein (1996), most organisations have enough alignment between the three cultures to meet current needs of the business. However, if new situations arise, necessitating major change (new technologies, change in environmental conditions), the three cultures collide and ‘we see frustration, low productivity and the failure of innovations to survive and diffuse’ (Schein, 1996:16). Our research suggests that the misalignment between senior management and production and other staff groups will impact on the level of OL.

One important outcome from the research was “Without more empirical evidence that focuses on individual learning and the organisational level outcomes, the prescriptive perspective is based on an idealisation of real organisational life”
the dissemination of our findings and the opportunity to offer direction and recommendations to LCUK and REM. A summary of these is appended.

**Discussion and future research**

Two key research aims of our study were to identify the learning climate and capability, and the impact of organisational learning (OL) on performance. Shipton (2006) categorises such a focus as a prescriptive/normative perspective of OL. Much of the research and the scholars aligned to this perspective (Argyris and Schon, 1978; Garvin, 1993; Pedler et al, 1999; Senge, 1990) “argue that through implementing systems, processes and mechanisms designed to promote learning, organisations will become more effective, anticipating and pre-empting the competitive environment” (Shipton 2006: 239).

The purpose of this perspective, argues Shipton, is to prescribe practice that improves learning. Thus learning organisations (LO) are visionary ideals promoting systems in which learning behaviour improves as a result of proactive and empowering interventions by senior management (Sicilia & Lytras, 2005).

The language and rhetoric often used by those advocating this perspective has, perhaps, glossed over the problems and difficulties associated with collective learning. It assumes that OL will occur when individuals are encouraged to share knowledge. This process of transferring learning to the organisational level is complicated though, by politics, structures, conflict, and many other organisational characteristics. Recognition of these inhibiting factors is not that obvious in the literature and the work from this perspective is often uncritical, apolitical and acontextual in explaining the relationship between and benefits to individuals, the organisations and organisational performance.

While it is difficult to generalise from two case studies, the findings from our research (ie, the existence of political and cultural factors, difficulties in the transfer of knowledge, a lack of clarity between learning and performance, a paucity of generative or double loop learning and an absence of global learning opportunities) lead us to conclude that the prescriptive stance of much of the literature on collective learning is problematic. Without more empirical evidence that focuses on individual learning and the organisational level outcomes, the prescriptive perspective is based on an idealisation of real organisational life.

Future research needs to highlight what outcomes organisations can expect to find where learning is working well, and measures that identify organisational practices designed to promote learning that are associated with an increased effectiveness and performance. The research to date, including our study, has not identified the causal links within the ‘black box’ linking individual-level learning with organisation-level outcomes.

There is evidence from our study of adaptive or incremental learning practices but we were unable to easily identify innovation or generative learning, especially at the organisational level. Researching generative or ‘radical learning’ appears to be a difficult and contentious task according to Miner and Mezias (1996), and presents a real challenge for scholars.

The dysfunctional aspect of an organisation’s sub-cultures on learning that we identify (misalignment of executive and production cultures) presents a fruitful area for research into the measures that might lessen this aspect. While Schein’s ideas and our focus on the subcultures at REM explored some of the negative influences on OL, our research was not able to capture other aspects of the social environment that might inhibit or foster individual learning and their communities.

Our study examined more formalised processes of learning that occur at the individual, group or function level. Advocates of learning and knowledge transfer by informal communities of networks (eg, Snowden, 2005) suggest that the trusted nature of informal communities and the transfer of knowledge cannot be conscripted only volunteered. Studying the evolution of social networks and mutual interaction over time would offer different insights on OL.

Related to the informal nature of learning, mentioned above, the way in which tacit versus explicit knowledge is used by organisations appears to have received little attention in the literature. OL can be promoted by recognising the tacit dimension and how communities can benefit by using their own language, story telling and sharing knowledge (Brown & Duguid, 1999).

Much of the prescriptive literature on OL is underpinned by the notion of explicit knowledge and how such knowledge is embedded with organisational activity (Crosson et al, 1999). An important research objective here could be to further explore the nature
of tacit knowledge and the conditions where it may not be appropriate to codify and make tacit knowledge explicit.

References

### Appendix 1: Organisational Learning Processes and Facilitating Factors-key constructs from the literature

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<td>8 Knowledge transfer, storage and assimilation</td>
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<td>18 Application of learning mechanisms and systems</td>
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Appendix 2: Summary of Key Recommendations – REM

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<tr>
<th>Research Focus</th>
<th>Actions &amp; Recommendations</th>
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<tr>
<td>QMS</td>
<td>Increase awareness of the QMS and associated systems. Communicate the ethos in a positive way. Training and development on QMS. Induction and training for new recruits to embed. Support existing Quality Policy with resources.</td>
</tr>
<tr>
<td>Learning Climate</td>
<td>Formulate strategies to improve learning climate and learning, ie, resource and promote self development opportunities. Staff retention programmes to retain knowledge in process and maintenance. Improve communications and understanding between all staff groups.</td>
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<tr>
<td>Executive Culture</td>
<td>Strategy for realignment, ie, dedicated time for senior managers in process areas. Improve team activities and ensure professional relationships to stimulate new ideas.</td>
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<tr>
<td>Global Learning</td>
<td>Develop networks across REM parent and SBUs to improve global learning opportunities.</td>
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LCUK

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<th>Research Focus</th>
<th>Actions &amp; Recommendations</th>
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<tr>
<td>General</td>
<td>Research undertaken (using research tool – App1) on other sample groups across LCUK sites and Lafarge SA overseas. Use critical incident techniques to focus on legislative changes/central directives/RCA to understand how learning impacts on performance.</td>
</tr>
<tr>
<td>Knowledge Transfer &amp; Dissemination</td>
<td>Appoint champions for each function to lead incident/project and learning. Measure and monitor knowledge dissemination for personal, local, business unit and national targets. Site visits, workshops/conferences – central champion role. Further temporary secondments.</td>
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<tr>
<td>Problem Solving</td>
<td>Consider external consultants. Extend RCA to beyond existing process areas.</td>
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</table>

Organisational Learning

“Thus learning organisations (LO) are visionary ideals promoting systems in which learning behaviour improves as a result of proactive and empowering interventions by senior management.”


This paper also appears in The International Journal of Knowledge, Culture and Change Management, Volume 8, Number 5.

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Status
The Charity is a company limited by guarantee governed by the Companies Act 1985 and the Statement of Recommended Practice (SORP) “Accounting and Reporting by Charities” 2005. The Institute’s objectives are regulated by the Company’s Memorandum and Articles dated 2 December 1964, and under these Memoranda, the Institute is constituted as an incorporated body.

The members of the company are the directors and the trustees. In the event of the charity being wound up, the liability in respect of the guarantee is limited to £1 per member of the charity.

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D Blanchflower JP, FMS (Chairman)
J Cutler FMS
H Downes Hon FMS
J P Heap Hon FMS
D A Whitmore Hon FMS (Resigned 16/06/08)
R Bridges FMS
G P Mansfield FMS
A P Muir FMS (Co-opted 10/10/08)

Secretary
H Downes Hon FMS

Company number
832132

Charity number
288877

Registered office
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Auditors
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Bankers
The Royal Bank of Scotland Plc, 30-32 London Road, Enfield, Middlesex EN2 6DT

Chairman’s Statement 2008

It is pleasing to report that 2008 has been a very satisfying year for the Institute. As in recent years, we continue to reap the benefits of outsourcing both our administration function and the production of our journal. The journal continues to be the leading UK publication dispensing knowledge relating to all aspects of productivity improvement. During 2008 a detailed review of the Journal content was undertaken by the Editorial Panel. This has resulted in a more modern, academic and visually appealing Journal that focuses more closely on the Institute’s core subject area of productivity improvement. During 2008, the Journal featured a series of articles on the application of LEAN techniques. The production and distribution format of four quarterly journals continues to meet the needs of the IMS membership. The journal continues to be made available to all members with hard copies being mailed to UK based members and overseas members having access to the journal via the Internet. Postal costs increased drastically in 2008 but we intend to continue mailing UK based members with the journal. Past editions of the journal are also available on the website.

During 2008 we undertook further enhancements to our website, following the launching of the new and upgraded website in 2007. It is planned to carry out further upgrades to the website as and when necessary as the website is the Institute’s face to the world and tells the world at large what we are about.

Our three national education providers, accredited to provide training courses leading to the award of the Institute’s Certificate qualification, continue to provide a valuable service. These education providers, who all have a very long association with the Institute, provide a valuable service and also bring new members into the Institute.

You will note from our accounts that the year-end financial statement for 2008 once again illustrates the extremely healthy financial position of the Institute. Our total reserves stand at £529,387. Reserves are at a lower level than 2007, mainly due to the global economic climate that saw a large fall in the value of equities, which resulted in a fall of almost £50,000 in the equities held by the Institute. As these equities will increase in value as the economic climate improves, it is not a worry to the Institute, as the bulk of our reserves are held in readily accessible saving accounts. We continue to be one of the most financially sound professional Institutes in the UK.

Finally, may I thank my fellow members of Council and the region officers who all do so much to ensure that the Institute of Management Services remains a progressive professional body that fully meets its declared objective of spreading the concept of productivity improvement across the world.

David Blanchflower, Chairman
The trustees present their report and the financial statements for the year ended 31 December 2008. The trustees, who are also directors for the purposes of company law and who served during the year and up to the date of this report, are set out on page 2.

Charitable objects
The Institute has as its main objective the promotion of the science, technology, practice and profession of Management Services, which results in the advancement of the efficiency, productivity and satisfaction of human work.

Organisational and structure
The Institute has seven Trustees who are elected by the membership. Elections are held prior to the Annual General Meeting, where the results of the ballot are counted. Elections are held in alternative years with the elections having taken place in 2007 and the next elections taking place in 2009. The Board of Trustees meet three times a year in addition to the Annual General Meeting.

Achievements and performance
The Institute’s main activity is the dissemination of knowledge and information on productivity improvement, both to its members and the public in general, in order to improve the financial viability of both companies and countries across the world. The increasing realisation of the role that productivity improvement can play in ensuring the economic wellbeing of all, is an indicator of the success of the Institute over the past 64 years.

In 2005, the vast majority of existing Institute members availed themselves of the opportunity to take out life membership of the Institute. The additional income generated by the introduction of life membership has been invested and will serve to meet the Institute’s financial needs into the future. In 2008, we saw the continuation of the steady increase in membership that had been evident in previous years. The move towards life membership has greatly reduced the administrative burden on the Institute.

January 2005 saw the outsourcing of the Institute’s Journal ‘Management Services’ and the Institute continues to benefit from reduced journal production costs. The membership continues to support the publication of a quarterly journal. The journal continues to be provided to overseas members via the internet. Past issues of the journal are available on the Institute’s website, with the current issue only being available to Institute members via the use of a password.

In 2007, the Institute commissioned a new set of examination DVDs for use as part of the IMS Certificate Practical Examinations. The IMS training videos that were converted to DVDs in 2006 continue to sell and have been a steady source of income to the Institute since they were first produced in the 1990s.

In 2008, the Institute commissioned a redesigned website that is now fully operational. The website is the Institute’s face to the world and has attracted visits from all around the world. In the present technological age, it is important that the Institute maintains an informative website and continues its role of being a major source of information on productivity improvement.

During 2008, a more detailed review of the Journal content was undertaken by the Editorial Panel and the publishers. This has resulted in a more modern, academic and visually appealing Journal that focuses more closely on the Institute’s core subject area of productivity improvement.

The 2008 AGM was held at the George Hotel, Lichfield and attracted a number of members. The biannual World Productivity Congress (WPC) was also held in 2008 in Sun City, South Africa. Both John Lucy and John Heap represented the Institute Council. The main focus of the WPC was on the continent of Africa and was organised by the government sponsored Productivity SA. A comprehensive report of the WPC was featured in the Journal.

Late in 2008, the Institute Council of Management set up a working party to undertake a Strategic Review of the Institute with the objective of determining the future direction of the Institute and the role it will play in propagating the concept of productivity improvement to the world at large. It is anticipated that the working party will report to the Council with its findings and recommendations in mid 2009.

The three national education providers accredited to provide courses leading to the award of the Institute’s Certificate continue to provide a valuable service and also bring new members into the Institute. Each year student of the year awards are made to students who have attended courses.

Future aims and objectives
It is the intention of the Institute during 2008 and subsequent years to seek to increase membership numbers. Recruitment initiatives will include advertising in the professional journals of other Institutes.

Reserves
The Institute has a policy to maintain its reserves at a level that ensures the future financial viability of the Institute. That level is deemed to be one that equates to a minimum of one year’s expenditure; currently the Institute holds reserves that exceed this target level by fourfold and, as such, is financially very sound. The funds of the charity are all unrestricted.

Investment powers, policy and performance
The Trust Deed authorises the trustees to make and hold investments using the general funds of the charity. The general decline in the value of stocks and shares over the past year has resulted in a reduction in the value of the Institute’s reserves held in this form of investment. This reduction in share values has had minimal impact on the financial viability of the Institute.

Risk review, governance and internal control
Directors are responsible for providing assurance that:

- the charity is operating efficiently and effectively;
- its assets are safeguarded against unauthorised use or disposition;
- proper records are maintained and financial information used within the charity or for publication is reliable;
- the charity complies with relevant laws and regulations.

The systems of internal control are designed to provide reasonable, but not absolute, assurance against material misstatement or loss. They include:

- a strategic plan and annual budget approved by the trustees;
- regular consideration by the trustees of the financial results, variance from budgets, non-financial performance indicators and benchmarking reviews;
- delegation of authority and segregation of duties;
- identification and management of risks.

Statement as to disclosure of information to auditors
In so far as the trustees are aware:

- there is no relevant audit information of which the charity's auditors are unaware; and
- the trustees have taken all steps that they ought to have taken to make themselves aware of any relevant audit information and to establish that the auditors are aware of that information.

Statement of trustees’ responsibilities
The trustees are responsible for preparing the annual report and the financial statements in accordance with applicable law and United Kingdom Generally Accepted Accounting Practice. Company and charity law requires the trustees to prepare financial statements for each financial year which give a true and fair view of the state of affairs of the charity and of the surplus or deficit of the charity for that period. In preparing these financial statements, the trustees are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- state whether applicable accounting standards and statements of recommended practice have been followed subject to any departures disclosed and explained in the financial statements; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charity will continue in operation.

The trustees are responsible for keeping proper accounting records which disclose with reasonable accuracy at any time the financial position of the charity and which enable them to ensure that the financial statements comply with the Companies Act 1985. They are also responsible for safeguarding the assets of the charity and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Auditors
A resolution proposing that Leftley Rowe and Company be reappointed as auditors of the charity will be put to the Annual General Meeting. This report was approved by the trustees and signed on its behalf by D Blanchflower JP FMS (Chairman).
Independent auditor's report to the members of
The Institute of Management Services

We have audited the financial statements of The Institute of Management Services for the year ended 31 December 2008 which comprise the statement of financial activities, the balance sheet and the related notes. These financial statements have been prepared under the accounting policies set out therein.

This report is made solely to the company's members, as a body, in accordance with Section 235 of the Companies Act 1985. Our audit work has been undertaken so that we might state to the company's members, those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members as a body, for our audit work, for this report, or for the opinions we have formed.

Respective responsibilities of the trustees and auditors
The trustees' (who are also directors for the purposes of company law) responsibilities for preparing the trustees' report and the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice) are set out in the statement of trustees' responsibilities.

Our responsibility is to audit the financial statements in accordance with relevant legal and regulatory requirements and International Standards on Auditing (UK and Ireland).

We report to you our opinion as to whether the financial statements give a true and fair view and are properly prepared in accordance with the Companies Act 1985, and whether the information given in the trustees' report is consistent with the financial statements. We also report to you if, in our opinion, the charitable company has not kept proper accounting records, if we have not received all the information and explanations we require for our audit, or if information specified by law regarding trustees' remuneration and other transactions is not disclosed.

We read other information contained in the trustees' report, and consider whether it is consistent with the audited financial statements. We consider the implications for our report if we become aware of any apparent misstatements or material inconsistencies with the financial statements. Our responsibilities do not extend to any other information.

Basis of audit opinion
We conducted our audit in accordance with International Standards on Auditing (UK and Ireland) issued by the Auditing Practices Board. An audit includes examination, on a test basis, of evidence relevant to the amounts and disclosures in the financial statements. It also includes an assessment of the significant estimates and judgements made by the trustees in the preparation of the financial statements, and of whether the accounting policies are appropriate to the charitable company's circumstances, consistently applied and adequately disclosed.

We planned and performed our audit so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or other irregularity or error. In forming our opinion, we also evaluated the overall adequacy of the presentation of information in the financial statements.

Opinion
In our opinion:

- the financial statements give a true and fair view, in accordance with United Kingdom Generally Accepted Accounting Practice of the state of the charitable company's affairs as at 31 December 2008 and of its incoming resources and application of resources, including its income and expenditure, for the year then ended and have been properly prepared in accordance with the Companies Act 1985; and

- the information given in the trustees' report is consistent with the financial statements.

Leftley Rowe and Company
Chartered Accountants and
Registered Auditors

The Heights
59-65 Lowlands Road
Harrow
Middlesex
HA1 3AW
## Statement of financial activities

**(incorporating the income and expenditure account)**

**For the year ended 31 December 2008**

<table>
<thead>
<tr>
<th>Notes</th>
<th>Unrestricted funds</th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>£</td>
<td>£</td>
<td>£</td>
</tr>
</tbody>
</table>

### Incoming resources

Incoming resources from generating funds:

- **Voluntary income**
  - 3
  - £39,897
  - £39,897
  - £42,202

- **Investment income**
  - 4
  - £29,922
  - £29,922
  - £29,063

- **Incoming resources from charitable activities**
  - 5
  - £27,542
  - £27,542
  - £24,650

- **Other incoming resources**
  - 6
  - £2,974
  - £2,974
  - -

**Total incoming resources**

- £100,335
- £100,335
- £95,915

### Resources expended

Charitable activities:

- **Advertising & journal subscription**
  - 2
  - £32,043
  - £32,043
  - £35,070

- **Examination costs**
  - 2
  - £235
  - £235
  - £223

- **Support costs**
  - 8
  - £1,705
  - £1,705
  - (£272)

- **Management and administration**
  - 7
  - £51,941
  - £51,941
  - £42,164

**Total resources expended**

- £85,924
- £85,924
- £77,185

### Net incoming resources for the year

- £14,411
- £14,411
- £18,730

### Other recognised gains and losses

**Losses/gains revaluation of investment assets**

- (£49,642)
- (£49,642)
- £3,219

### Net movement in funds

- (£35,231)
- (£35,231)
- £21,949

**Total funds brought forward**

- £418,974
- £418,974
- £397,025

**Total funds carried forward**

- £383,743
- £383,743
- £418,974

The statement of financial activities includes all gains and losses in the year and therefore a separate statement of total recognised gains and losses has not been prepared.

All of the above amounts relate to continuing activities.

### Balance sheet as at 31 December 2008

<table>
<thead>
<tr>
<th>Notes</th>
<th>Fixed assets</th>
<th>Current assets</th>
<th>Creditors: amounts falling due within one year</th>
<th>Net current assets</th>
<th>Total assets less current liabilities</th>
<th>Creditors: amounts falling due after more than one year</th>
<th>Net assets</th>
<th>Funds</th>
<th>Total Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>£</td>
<td>£</td>
<td></td>
<td>£</td>
<td>£</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>£</td>
<td>£</td>
<td>£</td>
<td>£</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The financial statements are prepared in accordance with the special provisions of Part VII of the Companies Act 1985 relating to small companies.

**D Blanchflower JP FMS (Chairman) Director**

The notes on pages 6 to 8 form an integral part of these financial statements.
Notes to the financial statements for the year ended 31 December 2008

1. Accounting policies
The principal accounting policies are summarised below. The accounting policies have been applied consistently throughout the year and the preceding year.

1.1. Basis of accounting
The financial statements are prepared under the historical cost convention and in accordance with the Statement of Recommended Practice – ‘Accounting and Reporting by Charities: Statement of Recommended Practice’ issued in March 2005 (SORP 2005) and the Companies Act 1985.

1.2. Cashflow
The charity has taken advantage of the exemption in FRS1 from the requirement to produce a cashflow statement because it is a small charity.

1.3. Incoming resources
All incoming resources are included in the statement of financial activities when the charity is entitled to the income and the amount can be quantified with reasonable accuracy. The following specific policies are applied to particular categories of income:
Voluntary income is received by way of membership subscriptions and is included in full in the Statement of Financial Activities when receivable.
Income from activities to further the charity’s objectives and investments are included in the year in which it is receivable.

1.4. Resources expended
Expenditure is recognised on an accrual basis as a liability is incurred. Expenditure includes any VAT which cannot be fully recovered, and is reported as part of the expenditure to which it relates.
Resources expended are recognised in the year in which they are incurred.
Support costs are those costs incurred directly in support of expenditure on the objects of the charity and include project management.
Management and administration costs are those incurred in connection with administration of the charity and compliance with constitutional and statutory requirements.

1.5. Tangible fixed assets and depreciation
Tangible fixed assets are stated at cost less accumulated depreciation. Depreciation is provided at rates calculated to write off the cost less residual value of each asset over its expected useful life, as follows:
Fixtures, fittings and equipment – 33% straight line pa

1.6. Investments
Investments held as fixed assets are revalued at mid-market value at the balance sheet date and the gain or loss taken to the statement of financial activities.

1.7. Irrecoverable VAT
All resources expended are classified under activity headings that aggregate all costs related to the category. Irrecoverable VAT is charged against the category of resources expended for which it was incurred.

2. Costs of activities in furtherance of the objects of the charity

<table>
<thead>
<tr>
<th>Advertising and journal subscription</th>
<th>Examinations</th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examination charges</td>
<td>-</td>
<td>235</td>
<td>235</td>
</tr>
<tr>
<td>Printing, postage and stationery</td>
<td>32,043</td>
<td>-</td>
<td>32,043</td>
</tr>
<tr>
<td></td>
<td>32,043</td>
<td>235</td>
<td>32,278</td>
</tr>
</tbody>
</table>

3. Voluntary income

<table>
<thead>
<tr>
<th>Membership subscriptions</th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>39,897</td>
<td>42,202</td>
</tr>
</tbody>
</table>

4. Investment income

<table>
<thead>
<tr>
<th>Listed investment income</th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>29,922</td>
<td>28,890</td>
</tr>
<tr>
<td>Deposit interest</td>
<td>-</td>
<td>173</td>
</tr>
<tr>
<td></td>
<td>29,922</td>
<td>29,063</td>
</tr>
</tbody>
</table>

5. Incoming resources from charitable activities

<table>
<thead>
<tr>
<th>Advertising revenue and journal subscription</th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15,520</td>
<td>11,646</td>
</tr>
<tr>
<td>Examination entry fees</td>
<td>2,410</td>
<td>2,969</td>
</tr>
<tr>
<td>General</td>
<td>8,112</td>
<td>8,897</td>
</tr>
<tr>
<td>Amounts from groups and branches</td>
<td>1,500</td>
<td>1,138</td>
</tr>
<tr>
<td></td>
<td>27,542</td>
<td>24,650</td>
</tr>
</tbody>
</table>

6. Other incoming resources

<table>
<thead>
<tr>
<th>Reimbursable expenses</th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2,974</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>2,974</td>
<td>-</td>
</tr>
</tbody>
</table>
7. Management and administration

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Committee meeting expenses</td>
<td>£ 9,876</td>
<td>£ 6,920</td>
</tr>
<tr>
<td>VAT irrecoverable</td>
<td>£ 3,005</td>
<td>£ 2,472</td>
</tr>
<tr>
<td>Insurance</td>
<td>£ 1,158</td>
<td>£ 1,113</td>
</tr>
<tr>
<td>Outsourced administration</td>
<td>£ 23,303</td>
<td>£ 22,264</td>
</tr>
<tr>
<td>Cleaning</td>
<td>(£ 34)</td>
<td>( £ 9)</td>
</tr>
<tr>
<td>Printing, postage and stationery</td>
<td>£ 1,195</td>
<td>£ 1,187</td>
</tr>
<tr>
<td>Computer costs</td>
<td>£ 8,202</td>
<td>£ 2,438</td>
</tr>
<tr>
<td>Legal and professional</td>
<td>£ 35</td>
<td>£ 65</td>
</tr>
<tr>
<td>Audit fees</td>
<td>£ 2,779</td>
<td>£ 2,637</td>
</tr>
<tr>
<td>Bad debts</td>
<td>-</td>
<td>( £ 564)</td>
</tr>
<tr>
<td>General expenses</td>
<td>£ 2,181</td>
<td>£ 3,427</td>
</tr>
<tr>
<td>Depreciation and amortisation</td>
<td>£ 122</td>
<td>-</td>
</tr>
<tr>
<td>Interest and charges</td>
<td>£ 119</td>
<td>£ 214</td>
</tr>
<tr>
<td></td>
<td>£ 51,941</td>
<td>£ 42,164</td>
</tr>
</tbody>
</table>

8. Support costs

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Membership expenses</td>
<td>£ 130</td>
<td>£ 278</td>
</tr>
<tr>
<td>Sponsorships and awards</td>
<td>£ 700</td>
<td>( £ 550)</td>
</tr>
<tr>
<td>PR (Literature and brochures)</td>
<td>£ 875</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>£ 1,705</td>
<td>( £ 272)</td>
</tr>
</tbody>
</table>

9. Net incoming resources for the year

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depreciation and other amounts written off tangible fixed assets</td>
<td>- £ 122</td>
<td>-</td>
</tr>
<tr>
<td>Auditors’ remuneration</td>
<td>£ 2,779</td>
<td>£ 2,637</td>
</tr>
</tbody>
</table>

10. Employees

Employment costs
No salaries or wages have been paid to employees (including trustees) during the year

Number of employees
The average monthly number of employees (including trustees) during the year, calculated on the basis of full time equivalents, was as follows:

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

Out of pocket expenses were reimbursed as follows:

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>£</td>
<td>8,664</td>
<td>5,584</td>
</tr>
</tbody>
</table>

11. Taxation

The charity's activities fall within the exemptions afforded by the provisions of the Income and Corporation Taxes Act 1988. Accordingly, there is no taxation charged in these accounts.

12. Tangible fixed assets

Fixtures, fittings and equipment

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>£</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cost

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>At 1 January 2008</td>
<td>£ 9,105</td>
<td>£ 9,105</td>
</tr>
<tr>
<td>Additions</td>
<td>£ 370</td>
<td>£ 370</td>
</tr>
<tr>
<td>At 31 December 2008</td>
<td>£ 9,475</td>
<td>£ 9,475</td>
</tr>
</tbody>
</table>

Depreciation

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>At 1 January 2008</td>
<td>£ 9,105</td>
<td>£ 9,105</td>
</tr>
<tr>
<td>Charge for year</td>
<td>£ 122</td>
<td>£ 122</td>
</tr>
<tr>
<td>At 31 December 2008</td>
<td>£ 9,227</td>
<td>£ 9,227</td>
</tr>
</tbody>
</table>

Net book values

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>At 31 December 2008</td>
<td>£ 248</td>
<td>£ 248</td>
</tr>
<tr>
<td>At 31 December 2007</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13. Fixed asset investments

Listed investments

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>£</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Valuation

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>At 1 January 2008</td>
<td>£ 152,575</td>
<td>£ 152,575</td>
</tr>
<tr>
<td>Disposals</td>
<td>( £ 49,642)</td>
<td>( £ 49,642)</td>
</tr>
<tr>
<td>At 31 December 2008</td>
<td>£ 102,933</td>
<td>£ 102,933</td>
</tr>
<tr>
<td>Historical cost as at 31 December 2008</td>
<td>£ 100,000</td>
<td>£ 100,000</td>
</tr>
</tbody>
</table>

All fixed asset investments are held within the United Kingdom. The listed investments consist of Chariguard UK Equity Fund. All investments are listed on a recognised stock exchange.
14. Debtors  

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade debtors</td>
<td>£1,220</td>
<td>£2,804</td>
</tr>
<tr>
<td>Other debtors</td>
<td>£3,892</td>
<td>£47</td>
</tr>
<tr>
<td>Prepayments</td>
<td>£1,157</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>£6,269</strong></td>
<td><strong>£3,260</strong></td>
</tr>
</tbody>
</table>

15. Creditors: amounts falling due within one year  

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade creditors</td>
<td>£6,710</td>
<td>£4,360</td>
</tr>
<tr>
<td>Accruals and deferred income</td>
<td>£43,497</td>
<td>£44,340</td>
</tr>
<tr>
<td></td>
<td><strong>£50,207</strong></td>
<td><strong>£48,700</strong></td>
</tr>
</tbody>
</table>

16. Creditors: amounts falling due after more than one year  

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deferred income (Note 17)</td>
<td>£145,635</td>
<td>£174,473</td>
</tr>
</tbody>
</table>

13. Deferred income  

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advance subscriptions</td>
<td>£</td>
<td>£</td>
</tr>
<tr>
<td>At 1 January 2008</td>
<td>(174,473)</td>
<td>(203,311)</td>
</tr>
<tr>
<td>Released in year</td>
<td>£28,838</td>
<td>£28,838</td>
</tr>
<tr>
<td>At 31 December 2008</td>
<td>(145,635)</td>
<td>(174,473)</td>
</tr>
</tbody>
</table>

Deferred income is comprised of lifetime-membership subscription receipts. Income will be released to the statement of financial activity over the estimated lifetime of members.

18. Analysis of net assets between funds  

<table>
<thead>
<tr>
<th></th>
<th>Unrestricted funds</th>
<th>Total funds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>£</td>
<td>£</td>
</tr>
<tr>
<td>Fund balances at 31 December 2007 as represented by:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tangible fixed assets</td>
<td>£248</td>
<td>£248</td>
</tr>
<tr>
<td>Investment assets</td>
<td>£102,933</td>
<td>£102,933</td>
</tr>
<tr>
<td>Current assets</td>
<td>£476,404</td>
<td>£476,404</td>
</tr>
<tr>
<td>Current liabilities</td>
<td>(50,207)</td>
<td>(50,207)</td>
</tr>
<tr>
<td>Long-term liabilities</td>
<td>(145,635)</td>
<td>(145,635)</td>
</tr>
<tr>
<td></td>
<td><strong>£383,743</strong></td>
<td><strong>£383,743</strong></td>
</tr>
</tbody>
</table>

19. Unrestricted funds  

<table>
<thead>
<tr>
<th></th>
<th>1 January 2008</th>
<th>Incoming resources</th>
<th>Outgoing resources</th>
<th>Gains and losses</th>
<th>31 Dec 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>£</td>
<td>£</td>
<td>£</td>
<td>£</td>
<td>£</td>
</tr>
<tr>
<td>General fund</td>
<td>£418,974</td>
<td>£100,335</td>
<td>(85,924)</td>
<td>(49,642)</td>
<td>£383,743</td>
</tr>
</tbody>
</table>

**Purpose of unrestricted funds**

The Institute has as its main objective the promotion of the science, technology, practice and profession of Management Services which results in the advancement of the efficiency, productivity and satisfaction of human work.

The purpose of the unrestricted funds is the dissemination of knowledge and information on productivity improvement, both to its members and the public in general, in order to improve the financial viability of both companies and countries across the world. The increasing realisation of the role that productivity improvement can play in ensuring the economic well-being of all is an indicator of the success of the Institute over the past 64 years.
Remove the obstacles that are holding your business back

We can help you identify and address the obstacles

**Experienced productivity specialists**
Use some of our people to undertake a productivity improvement project for you on a project or contract basis - on an hourly or daily rate - for as long as required - as individuals or project teams.

**The MOST® technique**
Creating structured time standards with a highly effective work measurement technique.

**Training courses**
Appreciation courses, Lean Rouenmap, Productivity Toolkit, Rating Clinics, MOST®, Work measurement

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Productivity Solutions
Technical Resourcing
Current Business Improvement Techniques can overlook the precise quantification of work. I am both a Lean Practitioner and a qualified IMS work measurement practitioner and in all industry sectors it can seem that we may have lost sight of the importance of labour productivity.

Many businesses have sought a route to lower costs through the low wage economies, particularly in Eastern Europe and the Far East, indeed anywhere in the world but in the UK. This may be short sighted, as frequently the most productive supply chain strategy is to ‘Make where you sell’. The closer you are to your customers, the shorter the lines of communication, the more flexible your supply chains. Indeed we are seeing many businesses bringing demand back to UK manufacturers. Labour costs, certainly in the manufacturing industry, are reducing as productivity grows and in service environments labour can be a high proportion of the business cash outflows.

The IMS is uniquely placed to aid and drive productivity improvement in these areas, as we are the only qualified body dealing with work quantification as part of our Body of Knowledge (please see www.ims-productivity.com). I have recently come across a work measurement data capture and analysis suite of software which improves the process of setting time standards.

Timedex

Timedex has been developed and marketed by a small company run by Paul Wakeford of Workplace Productivity Services. He has over 25 years experience in productivity improvement and specialises in advising and implementing process improvement programmes that yield immediate results in all business sectors.

Following the proven time study method, as required by the IMS and the British Standards Institute, Timedex has been developed in press shops and sewing environments and tested in many other industries. The data capture is via a pocket PC (see image) that can capture up to 10,000 observations. This can be much less emotive to those being measured when compared to a stopwatch.

The study elements need to be observed and then built up and loaded as job routines into the software. The study is then taken exactly as the IMS prescribes in its Time Study practical examination.

The data is then downloaded to a standard PC or Laptop running Windows Environment software which will allow quick and easy calculation of Basic and Standard Minute Values. Relaxation and Contingency Allowances can be specified as befits the tasks and company policies.

These study results can then be exported as txt or csv files for standards values to be built into synthetic data for use in planning, costing and improvement processes.

Key features of this equipment are:

- Standard job files of work elements are built up and used as the basis of measurement.
- Additional elements can be...
added in real time.
• Interruptions to studies can be accommodated.
• Very good at measuring fast cycle times.
• Time elements are in seconds not centiminutes.
• Up to 350 observations per study.
• Data and studies are never lost.
• The process is fully functional.
• The data captured is supported by statistical analysis measuring the standard deviation of the element times. This gives high confidence in the data and can inform study elapsed times ensuring the data are representative.
• Can re-edit after use if necessary.
• Can build into synthetics through ‘stacking’ of studies. Maximum five stacks per week.
• Makes comparative estimating much easier.

The Route to Market
• The hardware must be purchased privately and a hand held Pocket can be obtained for as low as £50 in the second hand and refurbishment market to around £300 for new equipment.
• Software for the hand held is free and is available from a number of sources within the industrial engineering community.
• The analysis software is also free and can be downloaded from www.paulwakeford.com.
• Support charges will apply to long term ‘evaluation’ users but those becoming familiar with the system can contact Paul and a network of peers. See www.paulwakeford.com for details and blog and FAQs (Frequently asked questions).
• Annual support plan for larger users charged at £1000 per annum. Contact Paul Wakeford.

Future Features – currently in development
• An option to measure in seconds or centiminutes.
• The addition of activity sampling capability.
• Developing to be used in SQL, so open data can be used in all file formats.

Conclusions
This is a useful tool and very flexible. You have nothing to lose in trying the software out and contacting Paul for advice.

Geoff Mansfield
IMS Council Member

Paul Wakeford
mail@paulwakeford.com
www.paulwakeford.com
Tel 01373 303555 or 07773 375449

Experience:
• Manufacturing, including foundry, motor industry, leather products, petro chemical, electronic and electrical.
• Food and retail – including dairy products, large scale retail, welfare food production, pastry and convenience foods.
• Services and Financial – warehousing and distribution, hospitality industry linen services, banking and call centres.

Timedex Pocket PC Time Study and Sampling now free to use
Timedex always was good to use; edit as you go and quick enough to get fast press cycles or individual checkout swipes.

Run other programs during the study (eg Excel) to add further data, dictate voice notes and take photos (if your hand held has a camera). It that wasn’t enough, the loaded job file means you can dump the std sheet.

Until now there wasn’t an reliable standalone analysis tool. Now there is, and it is free to use for up to 350 study and 750 sample observations.

• Programs for the hand held are available free from the user community and the analysis from the website.
• The software runs on Windows Pocket PC. If you haven’t already got the kit, it is available from plenty of sources priced from £50 to £350 per hand held.
• Connection can be wireless or Bluetooth.
• Lost data in crashes? No need: just re-boot, restart and continue...

Try it for yourself:
www.paulwakeford.com

Paul Wakeford – Productivity Project Management
The Search for Leadership: An Organisational Perspective

Introduction
The importance of inspirational leadership has been identified as a very important enabler to the successful implementation of major lean transformation. This is one area of management that is not short of articles and opinions. Grint, (1997), states that:

"Between 1986 and 1996, using the business Periodicals Ondisk system, which covers the vast majority of relevant titles in English, there were 17,800 management journal articles written that concerned leadership. On average, that means about 1780 per year or 148 per month, 37 per week, 7 per working day and one per working hour." (Grint, 1997, p115)

In spite of this vast amount of information, there is not a great deal of agreement. This is a complex area and a few theories cannot possibly cover the whole spectrum of leadership. It seems that Taylor’s (1911) third principle of scientific management sums this topic up nicely:

"Is not the most important problem that of getting the right man at the head of the company?" (Taylor, 1911, p12)

The review
‘The Search for Leadership’ states that most organisations – public, private and third sector – know they need to offer better leadership. But, in trying to do so, they too often look in the wrong place. It is naive to expect much leadership from individual managers acting alone. Only when we start to see leadership as a property of the organisation can we begin to improve it.

William Tate pulls no punches in his examination of leadership in business, politics and institutions like the police and the Health Service. Using forensic analysis, cogent argument and damning case studies, he shows why conventional leadership models and programmes miss the point and waste our money. In their place he presents a proven and practical ‘Systems Thinking’ approach that will transform the way leadership is developed, applied and held accountable for delivering results.

The book is split into two parts – the ‘Thinking Challenge’ addresses the theory of systemic leadership, while the ‘Intervention Challenge’ tackles the practicalities of implementing a systemic approach to leadership and leadership development in any organisation. The book tackles both aspects on a theme-by-theme basis and chapters examine issues such as:

• The difference between managing and leading (check Bennis, W, On Becoming A Leader, 1994, p26);
• What is working and what’s not;
• Why the process of leadership needs to be managed and how to do it;
• Ways of improving leadership, besides development;
• How to balance supply of leadership talent with the organisation’s demand;
• Gaps down which leadership escapes;
• How to stop wasting leadership;
• The importance of the context in development, but why this is not enough;
• Differences between management and organisation development in building leadership;
• The contribution of leadership competencies;
• How to develop a leadership culture;
• How to arrest the natural processes of decline and decay;
• How the learning of leadership is affected;
• How to talk the language of systems and how to think systemically;
• What is below the surface in the organisation’s parallel shadow leadership system;
• A range of processes by which leadership can be properly held to account;
• How to diagnose organisations to discover where the potential lies for releasing leadership and how to achieve that.

Conclusion
This book is a comprehensive look at leadership with some interesting references and examples. I was particularly pleased to see references to Kurt Lewin (1951), whose ground breaking papers on force field analysis are acknowledged. There is a lot to take in and it may prove too much without some guidance.

I believe that, today, the leadership of change is management’s main challenge. As I mentioned in the introduction, there is a massive amount of published material on leadership and this is a credible effort to draw some structured conclusions.

About the author
William Tate is a consultant, writer, researcher, teacher and speaker in leadership, organisation development, change and learning innovation and corporate social responsibility (CSR).

William is the former head of HR Strategy and of Management Training at British Airways and the author of seven books and many magazine and journal articles. He has written papers for The Chartered Institute of Personnel and Development, the Council for Excellence in Management and Leadership, and the Centre for Tomorrow’s Company. He has taught Strategic HRM and Corporate Social Responsibility on Cass Business School’s Executive MBA Programme. He runs the independent consulting practice Prometheus Consulting and is a director of Conduct Becoming, a CSR consultancy.

Reviewed by Dr John Lucey, Chair of the IMS Media Committee
Lean Six Sigma applied to a Customer Services Process within a Commercial Finance Organisation

Abstract
This study explores the use of Lean Six Sigma (L6S) methodologies and tools as applied to supply chains within a services environment. The approach taken was to examine a L6S project as run within a large American financial services conglomerate to understand how this has been applied. The project not only demonstrated the results achievable but also the business thinking presented some compelling findings.

Although there are differences between the Lean and Six Sigma approaches, as well as the difference between a manufacturing and services environment, there were also some key learnings demonstrated. Certainly some of the key issues uncovered are that clear objectives, combined with accurately set parameters and data gathering, aligned with stakeholder buy-in, are key to the success of a project of this nature. The implications and strategy adopted by the services company are borne out with the results as outlined in this study and further supports the deployment of a carefully thought through L6S programme within services supply chains.

1. Introduction
Lean Six Sigma (L6S) has been around in business as a form of quality programme for more than two decades. Established by Motorola in the mid 1980s, Six Sigma has since been adopted by a number of very high profile organisations including Boeing, Kodak and GE. Toyota then adapted this further into the complimentary Lean Six Sigma methodology.

Businesses have sometimes questioned the tangible value that a programme such as L6S delivers. This is particularly true in services where there are many intangible processes and effects that require careful thought so that a true measure may be defined.

Historically, the first firms to grasp L6S were mainly in the manufacturing sector. This was due to the fact that the core Six Sigma methodology revolved around the reduction of defects in a process. As with Aircraft Engines, this might be a defect in the width of a piece of steel for use in the manufacture of a turbo fan engine. This might typically lead to a catastrophic failure, so a solid quantitative methodology lends itself well...
to the prevention of problems in this type of scenario.

Services, by their nature, are very often bound by time in terms of the processes that are run and lead to the delivery of an outcome that then benefits a customer. This is where Lean comes in as a methodology that looks at how waste (in terms of time) may be taken out of a process and allow that process to become more efficient and, in turn, build capacity. This is where the focus of this paper will be, however, to better outline the building blocks of Six Sigma, we need to first look at the methodology behind the paper and its component parts.

2. Research Methodology
2.1 Secondary Research
The authors have performed extensive reading on supply chain management and on the application of Lean Six Sigma methodologies, in order to provide a good theoretical background on the subject being studied. This has included books, academic journals, newspaper and magazine articles, and Internet sources.

Illustrations to support the theories can be found within the text of this paper.

A list of all the literature and sources of information used for the outcome of this work can be found in the reference section at the end of this paper.

2.2 Primary Research
The main thrust of this paper revolves around a project run at GE within its customer services department with the objective of improving a process, eliminating waste and building capacity in the department.

3. A Case Study for Best Practice Deployment of L6S in a Services Environment
The case study that will be used for this paper centres around the National Grid who, as a client of GE Fleet Services in the UK, required renewal prompts for its vehicles to be issued to drivers in a timely and resource efficient manner.

Please note that the case and the associated opinions as outlined in this paper in no way represent the opinions of either GE or the National Grid and are those of the authors of this paper only.

The first step in a L6S project is to define what is being undertaken and what represents success. Identifying the CTQ or what is ‘Critical To Quality’ is the first step and is ultimately what the customer wishes to gain from this exercise. The Big ‘Y’ is the Yield that is expected to result and the little ‘y’ represents a measure of this Big ‘Y’.

In this case, the Voice of the Customer is expressed as: ‘Need to reduce the amount of time taken to issue and manage order prompts. From the point that drivers are identified for a prompt to the point that it is issued by email is using too much resource capacity in terms of time’.

The Big Y is then defined as to: ‘Free up resource capacity when running renewal prompts’. The measure associated with this or the
Lean Six Sigma

little y is then defined as: ‘time spent running prompts’. This process of defining the CTQs is completed with the customer’s approval and buy-in.

As a next step, the Project Charter is then drawn up and populated with relevant details covering the business case, objectives, scope, timelines and team involved in delivering on the customer’s CTQs. The separate sections, as outlined in the charter above, are outlined below in more detail by way of an explanation:

3.1 Business Case (reason to run with this project)
The consistent and timely prompting of renewals, followed by the subsequent placing of orders, is a key service for this customer in the UK National Grid (NG). The process was taking too long to issue prompts, leading to a lack of resource capacity within the NG customer services team.

3.2 Specific Problem Statement (clearly quantify what the problem is)
From 1 January 2006 to 22 March 2006, it was recorded:
• An order prompt number of 80 per month;
• An order prompt process time median of 530 secs; P95 is 606 secs (8 mins 50 secs and 10 mins 6 secs respectively).

This has resulted in less time spent on other growth and value-add customer services activities by the National Grid customer services team.

3.3 Specific Goal Statement
This was defined as, ‘reduce the time taken to process and issue an order prompt so that the P95 drops from 606 secs (10 mins 6 secs) to 240 secs (4 mins) by Q2 2006. This should help to build resource capacity without creating more re-work loops or affecting the Yes/ No ratios at subsequent prompt steps’.

Note that the median is the mid-point of a set of data, not the mean or average. Whether to use the mean or the median is determined by the nature and spread of the data. So, for the numbers, 1, 20, 45, 100, 1000; the median is 45. The average would be all of the numbers added together and divided by 5.

As for the P95 reference, this relates to the percentile of a group of numbers. The P95 relates to the 95th percentile and means that, in this case, 95% of all prompts are issued within the time specified.

So, the target of 240 secs or 4 mins is what we would like 95% of prompts to be processed within.

3.3.1 In Scope (what is the focus of this project)
All NG Renewals that require prompts and follow-up to achieve timely order placement.

3.3.2 Out of Scope (what is not being included in the project)
Any other processes outside of NG Renewals within Customer Services.

3.3.3 Project Team (who are the stakeholders who will work on this project)
• Project Sponsor – typically a senior manager in the business;
• Quality Leader – the head of Lean in the business;
• BB Serve – the Black Belt for Customer Services;
• Customer Services Manager – functional managers for Management Services

“The key to the new flow was in allowing the various applications to operate more effectively by both optimising their performance individually and also in helping them to ‘talk’ more efficiently between each other”
customer services;
- NG Account Manager – relationship manager with GE whose client is NG;
- NG Service Delivery Executives – the team who deliver the service for NG at GE.

3.4 Define Process Map
A high-level process map was drawn up to highlight the areas of focus for the project. In this case:
1. Filter invoked and renewals identified;
2. Check driver details and validate;
3. Mail-merge letter and prepare email for issue;
4. Dispatch email to driver.

These are the areas that this project looked to improve that would, in turn, lead to the achievement of the specific goals as outlined above and in the exhibits.

3.5 Select CTQ (Critical to Quality) Characteristics
The CTQ characteristics are then outlined and this relates back to where the improvement is being made within the business, as previously described.

3.6 Define Performance Standards
This step is one of the most critical, as it outlines very clearly what is being targeted for improvement and how the various processes may be defined to ensure that the desired performance is achieved. Starting with the left hand box and then working down the table to the right.

3.6.1 Voice of Customer
(as previously stated)
Need to reduce the amount of time taken to issue and manage order prompts.

3.6.2 Unit Definition – Processed Order Prompt (what unit are we measuring?).

3.6.3 Output Characteristics – Time Spent to Process Order Prompt.

3.6.4 Output Operational Definition – Order Prompt from the time filter is applied to identify drivers to prompt to the time that the email prompt is issued to the driver.

3.6.5 Customer Specification Limits – USL = 240 seconds (four minutes) – USL stands for the Upper Specification Limit and this is, as you may recall, within the P95 measure.
Target – 180 seconds (3 mins) = LSL – this is the ideal situation for the customer and is regarded as the Lower Specification Limit (LSL).

3.6.6 Defect – This is basically identifying what represents a defect in this process and the definition of a defect is if the time taken is greater than the Upper Spec Limit (> USL).

3.6.7 Defect Opportunity Number per Unit –
This is asking how many opportunities per prompt there are for a defect to occur. As the defect is defined as total time taken for prompt to be identified and then issued, this is 1.

3.7 Measurement System Analysis (MSA)
This step looks to identify how a particular measuring
Lean Six Sigma

Exhibit 5

system may or may not affect the recording of processes or parts under investigation. For example, using a digital stopwatch for a sprint race will record a very accurate time with little bias added from the stopwatch itself in terms of +/- fractions of a second.

However, if a wall clock was used with no second hand, then the only unit that could be measured would be minutes and for a sprint race this would not be sensitive enough. Indeed, even with a second hand, the clock may still not have the accuracy required to record a faithful time.

For this project, the following procedure was outlined and followed:

3.7.1 Operational Definition of the Measurement
Order Prompt from the time the filter is applied to identify drivers to prompt to the time that the email prompt is issued to the driver.

3.7.2 Sampling Plan (what is measured to determine the bias of the gauge)
The figures are based on 20 order renewal prompts, identified during March 2006, as part of the National Grid order prompt process.

3.7.3 Measurement Procedure
The data was recorded by two people timing the prompts process from the point where the Customer Services Operator signalled they were starting the process to the point where they pressed the send button for the prompt to be issued via Outlook. The result being that two people checked the timings of 20 prompts one time each using the second hand on a wrist watch.

A short form gauge R&R (this is simply a statistical tool that allows a user to measure the repeatability – the same measure being made by the same person – and the reproducibility – the same measure being made by two or more people and determine if there are any statistical differences between the measures made) was then run on the 20 observations and it was found that the gauge would not be a bias beyond any reasonable level and that the project could be based around the measures as taken using the second hand of a watch.

3.8 Establishing the Process Capability
This step essentially quantifies where the process sits today. This is achieved, in this case, using a statistical tool to provide a measure. Looking at the bottom right hand table outlines the capability as follows, based on 20 observations:

- \( N = 20 \) (observations) – \( N \) simply stands for Number.
- Median = 530 seconds – median is the midpoint of a group of numbers.
- \( P_{95} = 606 \) seconds – \( P \) stands for Percentile.
- \( DPMO = 1,000,000 \) – This stands for Defects Per Million Opportunities.

The above demonstrated that the process was completely defective and that not one of the prompts issued met with the customer's desired Upper Specification Limit as previously defined.

3.9 Value Added Goals
This step allows a summary of the value added tasks that are key to this process happening. It also outlines the non-value added tasks that can occur within this process. The aim being to maximise the value added tasks and reduce or eliminate the non-value added tasks.
"... a project with a relatively short timeframe (six weeks) was able to achieve such significant improvements and in turn both meet the needs of the external customer and the GE business"
Due to the prompts being issued at a rate of 20 in 180 seconds, this represents a capability of Six Sigma and a defect rate of 0.

5.6 Implement Process Control
The aim of this step is to ensure that the new process does not lapse back to a previous state and the benefits of the new method are lost. The tool used here was a Failure Modes and Effects Analysis (FMEA) that looks at the severity, occurrence and detectability of factors that may arise, such as systems failure or different operators running the prompts that may then have an adverse affect on performance.

6.0 Conclusion
The project conclusions more or less speak for themselves in terms of the impact that a well structured project can have on a business, as follows:

- The time taken to issue National Grid order prompts reduced from a median of 530 seconds for one prompt to a total time of 180 seconds for 20 prompts;
- Capacity generated allowed for a new customer to be assimilated and managed – Rightmove PLC;
- The size of the order prompts issued reduced from 3.5MB per prompt to 2KB as a result of the changes made;
- Making the most of existing technologies that in turn increase capacity is a highly effective way in which to drive growth.

One of the key aspects here is that a project with a relatively short timeframe (six weeks) was able to achieve such significant improvements and in turn both meet the needs of the external customer and the GE business.

This project subsequently received recognition from the business sponsor and quality leader in the form of an award. The citation from the business sponsor included the following: “... We should not overlook the very positive motivational impact this project has had on the customer services employees directly involved in the National Grid account. Also note the future positive impact on the rest of the department given the project solution has universal application on the orders renewal process generally.”

Indeed, this project subsequently led to the building of a bespoke IT solution to manage the order prompts for other customers within the GE Fleet customer base.

Lean Six Sigma has had a great deal of practitioner and academic coverage over the past few years as organisations, such as the NHS (National Health Service), have embraced the methodologies to enhance and refine their processes. However, there has also been a great deal of scepticism shown by the industry at large as to the costs and timescales for delivery of such improvements.

This GE project clearly demonstrates the value of a well-applied L6S method to solve a process problem within a services environment in a timely manner and create capacity in an over-stretched customer services department. There are lessons that can be learned here to benefit both the public and private sectors.

References from Secondary Research and Background Reading
Brook, Q, (2004), Six Sigma and Minitab – A Tool Box Guide for Managers, Black Belts and Green Belts, QSB Consulting Ltd.
The steel manufacturing company Corus focuses on meeting the needs of its worldwide customers and providing innovative solutions. It manufactures, processes and distributes steel and aluminium products worldwide. Corus is a subsidiary of Tata Steel, part of the giant Indian conglomerate. Tata Group includes businesses in many industries – for example, chemicals, automotive, telecommunications, leisure and consumer goods (such as Tetley Tea). Tata Steel acquired Corus in 2007 as part of a strategy of international expansion.

Steel is everywhere in our homes and all around us. Corus Construction & Industrial (CCI), a business unit of Corus, has steel manufacturing facilities in Scunthorpe, Teesside, Scotland and France. The key markets for CCI include construction, energy and renewables, engineering and machinery, mining and earthmoving equipment, shipbuilding, fastenings and rail. The principle manufacturing site at Scunthorpe covers 2,000 acres and employs 5,500 people. The site consumes 6.5 million tonnes of iron ore and 2 million tonnes of coal each year to produce 4.3 million tonnes of steel products.

CCI products go into a range of leading edge developments (see Figure 1). Modern steel production is a large scale operation dealing in huge quantities of materials and products. The process of steel plate production has several stages:

- Receipt of pre-cut steel slabs from the steel plant;
- Reheating of slabs;
- Rolling to achieve required dimension and mechanical properties;
- Initial inspection for surface or quality defects;
- Cutting to order size;
- Marking with unique identities;
- Cold levelling to agreed flatness standard;
- Final inspection;
- Loading and despatch to customer.

Producing large volumes helps to drive down the costs of running a huge and expensive steel plant. Overall, this results in steel being a relatively inexpensive product, typically around 50 pence per kilogram, about the same as a kilogram of potatoes. In a major building project, such as a shopping complex, the cost of the steel can be as little as 5% of the overall cost of the project. Because of these issues, CCI needs to differentiate its business from its competitors in order to continue to grow.

CCI’s business strategy is to produce quality steel to satisfy customer requirements, focusing on delivering products at the right time in order to secure profitable business. A key challenge is to meet the increasing demands for more steel, at increasing levels of quality and to comply with more demanding delivery requirements.
Continuous Improvement

Continuous Improvement is often referred to by the Japanese word ‘Kaizen’. Kaizen means ‘change for the better’ and covers all processes in an organisation. These include engineering, IT, financial, commercial and customer service processes, as well as manufacturing.

CI involves making continual small improvements to a process, rather than big changes at irregular intervals. This requires close monitoring and control, changes to the uses of manpower, machinery, methods, materials and money to improve business efficiency.

Continuous Improvement starts with management and under their leadership works down through the organisation. The underlying theme is that everyone is responsible and has a part to play in making improvements. All employees must work together to identify the steps needed to improve working practices. Planning meetings help teams to focus on satisfying customer needs.

Visual management techniques, such as flow charts and wall charts make clear what resources are necessary and who is responsible for each part in the process. Everyone has the opportunity to eliminate waste. This is any activity or process that does not add value. A key question to define waste is ‘would a customer pay for that process?’ There are seven main areas of waste for any business:

- **Transportation** – moving materials or products about;
- **Inventory** – keeping too much or the wrong stock;
- **Motion** – people moving or travelling excessively;
- **Waiting times** – allowing products to wait for processing;
- **Overproduction** – making too much;
- **Defects** – errors or flaws in the product causing rework or needing to be scrapped.

Production processes that minimise waste are referred to as ‘lean production’. In these processes, the aim is to use less of everything, for example, space, materials or time. CCI in Scunthorpe is looking to reduce waste in its plate manufacturing process. It has adopted the concept of ‘flow’. This means that the products are ‘pulled’ through the process according to customer demand. All parts of the production process, from the supply of raw steel (slab) to the finished steel plate, are carefully planned.

Scheduling for each element of the process ensures that bottlenecks are kept to a minimum. Each process is paced (known as ‘takt’ time) to control the amount of product in each stage of the process. This ensures that processes operate smoothly without overload or delay and keep the desired output and quality.

Tonnage was the traditional key measure of productivity for CCI. For employees to work to a smooth paced process, it needed a significant culture change.

**Implementing a Continuous Improvement culture**

CI needs team work. In Scunthorpe, a CI manager coordinates the process. Forty CI Coaches chosen from the workforce received training to facilitate improvements. CCI has put together a ‘toolbox’ of techniques which the coaches use with managers, employees and operators. These help everyone understand where and how they can improve their work. A CI culture means that everyone can put forward ideas and have a say in how processes can change for the better. This is known as engagement.

An organisation needs to know where it is going in order to be able to put in place the resources it needs to achieve its plans. This is set out in a vision. Scunthorpe plate mill has set out a five-year vision improvement plan which will help in the process of developing a CI culture.
“A CI culture means that everyone can put forward ideas and have a say in how processes can change for the better.”

for the business. Everyone in the organisation has to understand and actively support the plan. Workshops for all employees have taken place to explain the vision and why the change is necessary if CCI is to remain competitive.

Helped by the CI Coaches, workers have drawn maps of their processes. These show the links between the stages of manufacturing, as well as what information flow is needed. The maps show:

- Details of tonnages;
- Number of products;
- Rework cycles;
- Inspection points;
- Stocks;
- Delays;
- Costs.

The first part of this process is a ‘current state value stream map’. This shows what the systems and processes are like now. The next stage considers what the ‘future state map’ would look like. This highlights what CCI needs to do to achieve this state – for example, investing in new processes, equipment or additional staffing.

Scunthorpe plate mill has 16 system maps. These link to each other to give an overview of the whole process. For each of the 16 systems, a number of rules about stock levels and stock rotation have been set up:

- Stock rotation ensures that the plates for one customer do not become buried beneath others and therefore delayed;
- The required amount of slab steel (‘feedstock’) must be in front of the mill by the Tuesday of the week in which the material is to be rolled;
- By rolling plates in the planned week, the mill is properly paced and all ‘downstream’ processes (such as cutting, levelling and inspection) can be scheduled accordingly.

Using the value stream maps has helped CCI to improve process flows and the working environment. It has also reduced unnecessary motion, transport and processing. By taking these small steps and involving everyone in the vision, the delivery of product has increased from 70% of plates on time to 92% on time.

### Target setting

CI working requires everyone to think differently about the way they work. It was recognised that people might be resistant and cling on to old ways of working. The key was getting all workers to see change as their responsibility. The CI coaches support the teams and individuals and promote or ‘champion’ new ways of working. Over time, the team and individuals are empowered to take responsibility and make decisions for themselves.

To help workers accept the changes, the five-year plan established a timeline for the programme of introducing change (see Table 1).

An important part of the Continuous Improvement programme was the creation of Key Performance Indicators (KPIs). Previously, measures at Corus were largely based on tonnes of steel rolled. This did not show whether it met customers’ needs or whether the steel needed rework because it didn’t meet customer requirements.

Corus has set new KPIs which focus on meeting customer deadlines, such as:

- A zero backlog of customer orders – this means customers always get their deliveries on time;
- Meeting targets for rolling steel plate in its allotted week.

Corus monitors and measures how its operations compare with other producers and competitors in the steel industry. This process of benchmarking means that Corus is continually reviewing its activities to achieve best practice. Corus shares relevant information both within and across Corus to drive improvement. It also spreads appropriate technical knowledge and information across the steel industry through international groups, such as the International Iron and Steel Institute.

### The benefits of Continuous Improvement

There are significant costs involved in setting up a Continuous Improvement programme, including:

- Allocating employee time to participate in group work;
- Training coaches;
- Setting up a manual of tools and techniques.

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature of attitudes to change within the organisation</td>
<td>Resistant (workers resist change)</td>
<td>Adaptive (workers begin to adjust to new ideas)</td>
<td>Accepting (workers start to apply new methods)</td>
<td>Embracing (workers recognise the benefits of change)</td>
<td>Performing (new ideas are fully adopted by the workers)</td>
</tr>
<tr>
<td>Expertise and responsibility for CI</td>
<td>CI coaches</td>
<td>Champions and change managers</td>
<td>Manufacturing and process managers</td>
<td>Team leaders</td>
<td>The team</td>
</tr>
</tbody>
</table>

Table 1
However, Corus is already seeing the benefits of CI with:
- Reduced waste through lean production;
- Improved product quality;
- Reduced rework time;
- Faster response times, giving more customers their orders on time;
- Becoming more competitive by driving down costs;
- Retaining/gaining customers through innovative products and services.

KPIs show that the Scunthorpe mill is achieving its targets for rolling steel in planned weeks and is delivering almost 100% of customers’ orders complete and on time. Scunthorpe Plate Mill aimed to have all orders complete and on time by March 2009, while at the same time reducing lead time.

The principles of team working help to create a more flexible workforce. This gives Corus the capacity to increase or change production when necessary. In addition, Corus employees are more likely to be satisfied and motivated when they feel that they are making a contribution. They can see their expertise helps to create a more effective company. By empowering its workers, Corus gains a more committed workforce which helps to drive further improvement.

Conclusion
Corus is transforming production at its Scunthorpe plate mill through Continuous Improvement. This way of working encourages all employees to behave as team members to identify and support work improvement opportunities. Increasingly employees at every level are making improvement their responsibility, which provides employee job satisfaction.

Continuous Improvement helps Corus to provide quality products and services for customers with on time delivery. CI supports Corus’ aim to achieve satisfied customers and secure repeat sales and longer term orders. It is part of a long term strategy based on service to develop the business. It aims to improve operational demands to fulfil customer expectations and out-perform competitors.

www.corusgroup.com
www.thetimes100.co.uk

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"Continuous Improvement helps Corus to provide quality products and services for customers with on time delivery"

"The key was getting all workers to see change as their responsibility"
Customer driven supply chain strategy. By Dr Janet Godsell, Senior Lecturer, Supply Chain Research Centre, Cranfield School of Management.

Table 1 (after Godsell, 2009)

<table>
<thead>
<tr>
<th>Type of alignment</th>
<th>Key attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic</td>
<td>Alignment between the core elements of business strategy – product, marketing and supply chain strategy. The strategies should be mutually reinforcing and have forum in place to proactively manage trade-offs between the functions to optimise the benefit to the business.</td>
</tr>
<tr>
<td>Enterprise-wide (End-to-end)</td>
<td>It seeks to ensure the overall alignment of the supply chain from customers to suppliers and avoid conflict or sub-optimisation between the different elements. Given the difficulty in achieving end-to-end supply chain alignment, it is helpful to consider in terms of its three constituents: customer, internal and supplier alignment.</td>
</tr>
<tr>
<td>Customer</td>
<td>Alignment between the supply chain and its primary customers. It is achieved by identifying the relevant bases of segmentation for the customer base that defines the resultant customer value profiles and provides a link to supply chain strategy.</td>
</tr>
<tr>
<td>Internal</td>
<td>Alignment between the core supply chain processes (Plan, Source, Make, Deliver) and the customer value profiles to deliver the defined differentiated supply chain strategy.</td>
</tr>
<tr>
<td>Supplier</td>
<td>Alignment between the internal differentiated supply chains and the supplier base. It looks beyond traditional approaches to supplier management to identify ways in which the internal supply chains can be extended to suppliers.</td>
</tr>
</tbody>
</table>

The current economic downturn means that many companies are wrestling with the apparently conflicting priorities of reducing costs today whilst building capability for tomorrow. Evidence (Ellis, Meehan and Sequeira, 2008) shows that recession is a prime time to move from industrial laggard to leader. But how is this achieved?

By developing a customer driven approach to their supply chain, strategy companies will not only survive but should thrive in the downturn. This approach, adopted by S A Partners, embraces three powerful concepts.

- The principles of strategic alignment (Gattorna and Walters, 1996).
- The philosophy of Lean – the five Lean principles (Womack and Jones, 1996).
- The output from the Cranfield University Innovative Manufacturing Research Council (IMRC) project (IMRC 40) ‘Aligning and Integrating Marketing and Supply Chain Strategies’, for which S A Partners was the consultancy partner.

Alignment

Alignment is an important part of strategy deployment as it ensures that a company focuses on the right things that support its strategic direction (Dale, 2008). Taking this a step further, alignment in an enterprise-wide or supply chain context has two main constituents: strategic and enterprise-wide alignment as illustrated in Figure 1.

As explained in Table 1, strategic alignment is the alignment between the core elements of business strategy – product, marketing and supply chain strategy without which a business is dead in the water. For instance, Tesco can only deliver an ‘every day low price’ value proposition to its customers because it has an ‘every day low cost’ value or supply chain strategy to support it.

Enterprise-wide alignment, on the other hand, seeks to ensure the overall alignment of the supply chain from customers to suppliers. Enterprise-wide alignment is rare and this presents the opportunity to align and get ahead of the competition. To do so, practically speaking, companies need to improve the alignment with their customers, internally across their core supply chain processes (plan, source, make and deliver) and with their suppliers. By embracing the five Lean principles and considering them in a supply chain context (as illustrated in Table 2) enterprise-wide alignment and competitive advantage becomes a distinct possibility.

Value – customer value profiling

The enterprise-wide supply chain starts with the customer and the crucial first step is to understand what customers actually value. This creates customer alignment. Too often customer segmentation...
Lean

But how do they differ?
They are commonly referred to of value stream have emerged.
operates, three dominant types context in which the company
the industrial and supply chain

...different types of demand.
's pull' is to be achieved cost
strategy. If require different types of
...value profiling is done to create customer segments that are directly relevant to the supply chain and has three elements: the demand, service and product profiles. These are explained in more detail in Table 3.

Value streams – differentiated supply chains
Customer value profiling typically creates a number of different customer segments for which discrete supply chains or value streams could be developed. In practice, companies find it difficult to manage more than three value streams. Whilst the solutions are designed specifically to the industrial and supply chain context in which the company operates, three dominant types of value stream have emerged. They are commonly referred to as lean, agile and innovation. But how do they differ?

Pull – demand profiling
Whilst there are three elements in the customer value profile, the primary driver of supply chain strategy is demand profiling. Different types of demand pattern require different types of supply chain strategy. If ‘pull’ is to be achieved cost effectively, it is crucial to understand and differentiate the different types of demand. As illustrated in Table 4, there are four main types of demand that drive the three different supply chains or value streams.

Flow – tailored practices
Internal alignment is achieved by developing a set of ‘tailored practices’ (Lapide, 2006) for each of the core supply chain processes (plan, source, make and deliver) for each of the different value streams (lean, agile and innovation). This essentially means considering exactly what the differences in demand mean to internal process design. How can flow best be achieved?

As the name suggests, these practices are context specific and cannot be copy-pasted from other companies. The principles may be the same but the solutions are different. Supplier alignment is achieved when the internal principles of flow are extended to the supply base. Table 5 illustrates the emerging tailored practices for a consumer packaged goods company currently implementing a customer driven supply chain strategy.

Perfection – enablers
As with all good strategies, the formulation is much easier than the deployment. Having an organisational design, a performance management system and information systems that support a customer driven and differentiated approach are crucial to success and the pursuit of perfection. Perfection is achieved when

<table>
<thead>
<tr>
<th>Element of customer value profile</th>
<th>Key attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand</td>
<td>• Quantitative, quasi-objective analysis</td>
</tr>
<tr>
<td></td>
<td>• Determined at an individual stock keeping unit (SKU) level</td>
</tr>
<tr>
<td></td>
<td>• Where possible demand for promotional SKUs should be isolated and plotted as different SKUs</td>
</tr>
<tr>
<td></td>
<td>• Analysis primarily based on volume vs variability (coefficient of variation)</td>
</tr>
<tr>
<td></td>
<td>• All SKUs should be plotted and then high, medium and low quadrants identified on both axes based on a scale relevant to the demand</td>
</tr>
<tr>
<td></td>
<td>• Secondary filters can be applied to test the feasibility of SKUs in more marginal quadrants, eg, do individual low volume, high variety SKUs contribute sufficient margin to justify their production?</td>
</tr>
<tr>
<td>Customer service</td>
<td>• Qualitative, quasi-subjective analysis</td>
</tr>
<tr>
<td></td>
<td>• Should be determined for each individual customer at the relevant point in the supply chain</td>
</tr>
<tr>
<td></td>
<td>• Exact dimensions (eg, lead time, frequency of delivery, quality) to be determined through pilot testing</td>
</tr>
<tr>
<td></td>
<td>• Interview based, but should have the ability to capture the data for all customers and update regularly</td>
</tr>
<tr>
<td>Product</td>
<td>• Quantitative analysis</td>
</tr>
<tr>
<td></td>
<td>• Explores the degree of standardisation vs customisation of individual SKUs. Also consider the relevance to customers and opportunities for complexity reduction</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Demand type</th>
<th>Type of supply chain/value stream</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td>Lean</td>
</tr>
<tr>
<td></td>
<td>• Regular or very predictable pattern of demand</td>
</tr>
<tr>
<td>Semi-wave</td>
<td>• Relatively high volume and low variability demand at a Stock Keeping Unit (SKU) level</td>
</tr>
<tr>
<td>Agile</td>
<td>• Unpredictable pattern of demand</td>
</tr>
<tr>
<td>Surge</td>
<td>• Relatively low volume and high variability demand at a SKU level</td>
</tr>
<tr>
<td></td>
<td>• Includes promotions and certain types of new product introduction (eg, limited edition packs)</td>
</tr>
<tr>
<td>Cavitation</td>
<td>Fully flexible (innovation)</td>
</tr>
<tr>
<td></td>
<td>• Extremely unpredictable pattern of demand</td>
</tr>
<tr>
<td></td>
<td>• Includes the introduction of radical new innovations/reaction to unforeseen change in external environment (eg, fire in competitor’s factory)</td>
</tr>
</tbody>
</table>
there is perfect strategic and enterprise-wide alignment. Examples are rare but the opportunities immense as costs can be reduced today and capability built for tomorrow.

**Next steps**
Complete the alignment audit in Table 6 and consider:
- Where are the major alignment gaps?
- The potential for reducing the alignment gaps by embracing the lean principles and adopting a customer driven approach to supply chain strategy.

For further information, email: Janet Godsell at janet.godsell@cranfield.ac.uk or Robin Jaques at robin.jaques@sapartners.co.uk.

**References**

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Session 1
**European Economic Productivity Think Tank**

Will include a keynote presentation from a member of the UK government and a series of presentations from the national productivity organisations of UK, Germany, France, Finland, Slovakia, Turkey, Cyprus, Belgium addressing the problems facing governments, public policy bodies and commercial organisations.

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Sessions 2 & 3
**Enterprising Activity and Organisations**

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October 30th
Session 4
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Please contact Helen Thompson
Tel: 00 44 (0)1472 311222 ext. 187
E-mail: thompsonH@grimsby.ac.uk

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