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Manufacturing Advisory Service (MAS) Update

From 2003 – 2005 our consulting wing, I & J Munn Ltd, was fortunate to work with the East Midlands MAS initiative based at PERA in a number of projects. We also did one in the Yorkshire and Humberside area but our main focus was in the East Midlands. This work had come about after encouragement from our friends at EEF, based in Barleythorpe.

In that time we carried out 18 projects with a number of companies with an interesting set of results. These companies, all SMEs, were predominately from manufacturing and needed help mainly in the area of operations and occasionally in project and product development. The results captured by the MAS process included the following:

- **Engine Remanufacture:** DBR process installed, lead times reduced, replenish system for wash and strip developed.
- **Bottle Manufacture:** DBR implemented, reduction in overall lead time and improved Due Date Performance: between Dec 03 and June 04 they achieved a 125% increase in output, with DDP consistently above 90% with improved quality, reduced set-up times, increased sales and turnover.
- **Optical Company:** Set-up reduction of over 35% for grinding and 50% for polishing, reduction in lead time, overheads reduced and jobs secured.
- **Pipe Company:** DBR implemented coupled with process flow mapping. Output increased by 18%, lead times cut by half, set-up time reduced and jobs created.

These are just some of the results gained through the implementation of Theory of Constraints (TOC) applications under the MAS initiative. MAS is still very much with us and is keen to develop closer working relationships throughout the East Midlands. We are also keen to develop once more our association with MAS.

This is especially important in these financially difficult times. Using the overall methodology of a MAS project enables SMEs to address core issues and at the same time gain some monetary support from Government through the MAS funding process.

In response to this renewed initiative from MAS, and the current financial problems, we are launching a new programme designed primarily for SMEs but also applicable to much larger companies. The programme consists of four distinct elements:

1. Training in the TOC-Lean application Drum – Buffer – Rope (DBR) for the core team within the business – this comprises a two day course followed by a series of short sessions over 2 days for many of the people within the company so all know the direction being taken.
2. An analysis of the system/IT requirements with the provision of a simple spreadsheet for managing operations using the DBR methodology. This takes six days to complete.
3. Training (4 days) in key Lean tools to support the DBR implementation.
4. Sixteen days of support for four months to ensure the results are obtained and the client is able to maintain the on-going success of the implementation.

This is a thirty day programme at a fixed fee of £ 24,000 (ex VAT and expenses) and qualifying companies can apply to MAS to ensure the project satisfies the requirements for a level of funding support before project start.

Recently we implemented this approach within a leading aerospace components company and they informed us that they had been able to recoup the whole of the investment within two weeks of going live!

If you are interested then contact Ted Hutchin at tedh@toc-lean.com for more information. He can also put you in touch with the right people within MAS to explore the funding issues.



Belbin Team Roles and Developing Your People through the Team Dynamics Approach



Some years ago I was asked to work with the Forensic Science Service and I took the opportunity to link the well known Team Roles analysis approach used by Meredith Belbin with our Team Dynamics thinking process programme. Having researched this area for many years I was keen to know if it was possible to integrate the two approaches and enable people to better understand how they relate to others. I have for many years been of the opinion that if relationships can be improved at work, conflicts addressed and resolved and a greater sense of team spirit achieved, then results follow - and other relationships such as those at home are also improved. This seemed too good an opportunity to miss.

An Overview of the Belbin Team Roles

Are you a Shaper or a Plant? Resource Investigator or a Monitor Evaluator? No idea what I'm talking about? Then you have probably never come across Belbin's Team Roles analysis, one of the most powerful tools around for developing high performance teams. I first came across these descriptions many years ago and have long been a supporter of their use. Whether it was during my time with the Open University MBA programme or working with the EITB in industry or simply trying to understand the dynamics of a team I was a member of, this approach has always delivered.

Using a simple 'self-perception' question sheet that each member of the team fills in it is possible to determine the key team roles we each have, which ones dominate and which ones may be missing. We start to see a profile of ourselves that perhaps we have been conscious of before, yet which will also clarify any misperceptions we may have about ourselves. So you might find a few answers as to why some people find you prickly whilst other see you as supportive!

In addition to the self perception analysis it is also possible to ask each member of the team to assess each other member. In this way it is often discovered that although an individual might know that their preferred role is one thing, everyone else pushes them to a less dominant role, or even as I found in one case, a least preferred role.

A brief overview of the key roles – none of which, it must be stressed, is inherently 'better' or more desirable than the other - is shown below:

- | | |
|---|--|
| <ul style="list-style-type: none">• Plant
Independent
Creative
Original | <ul style="list-style-type: none">• Shaper
Full of drive
Challenging
Decisive |
| <ul style="list-style-type: none">• Monitor Evaluator
Analytical
Critical
Objective | <ul style="list-style-type: none">• Co-Ordinator
Positive
Communicative
Identifies skills |
| <ul style="list-style-type: none">• Implementer
Organised
Practical
Hard-working | <ul style="list-style-type: none">• Team Worker
Sensitive
Sociable
Trusting |
| <ul style="list-style-type: none">• Completer-Finisher
Detail conscious
Consistent
Self-controlled | <ul style="list-style-type: none">• Resource Investigator
Sociable
Lively
Resourceful |

Whilst using the Belbin approach in combination with the TOC Team Dynamics approach I was able to recognise certain matching which did not bode well for the organisation. I had one example of a Shaper whose boss was a Completer Finisher, a recipe for friction. This would be fine the other way around, but in this case a real source of conflict and at times generated high levels of frustration. Over time I was able to use Belbin to anticipate likely troublesome partnerships and advise people that there might be a better structure which avoided such problems.

For more on Meredith Belbin's work see:

- Belbin, R.M. (1983) Management Teams: why they succeed or fail
Heinemann U.K.
- Belbin, R.M. (1996) The Coming Shape of Organisation
Butterworth Heinemann U.K.
- Belbin, R.M. (2004) Beyond the Team
Elsevier UK



Key Aspects of the Team Dynamics Programme

The power of teams is not in doubt. However, many function well below their capability. The common problem with many teams is that they are not teams, simply a collection of people called a team. Some operate only a loosely affiliated work group whilst others, given the title of "team", fail to display even the barest minimum of what constitutes a team. It is no wonder then that many fail to perform. This state of affairs is then compounded by conflicting measurements within the team and between teams throughout the organisation. There is often no coherent direction, each group being allowed to choose which measurement they will achieve today and leave the more difficult ones until they are forced to do something.

Yet there are teams which exceed all expectation, and from them we can learn and use the techniques they use to improve the performance of our own team. This is, of course, a function of leadership and direction. So this programme focuses on both team leadership and the development of highly focused teams that truly perform.

Attention to the following areas is crucial for any successful team:

Obtaining balance within the team: this aspect applies both within the team itself and the relationships the team has with other teams, both inside the organisation and outside. It is about developing closer relationships, and often repairing them first. It is in this crucial sphere that the Belbin Team Roles analysis is particularly helpful.

Making good team choices: the goals and objectives of the team must be properly communicated and the team must understand the importance of the choices presented with respect to the goal and the necessary conditions.

Making good team decisions: having made the right choice from the options available, decisions about how best to implement the choice need to be taken. Good decisions are predicated by the ability to fully understand the assumptions upon which decisions are based.

Measuring team progress: without measurements we have no idea as to whether we are travelling in the right direction or in completely the wrong one. So we need to be able to determine those measures that work, measures that enhance the behaviours we want to see, and avoid those we do not. The measures must be seen to be fair and achievable – tough, perhaps – but still achievable.

Understanding negative consequences: often we make decisions that result in unforeseen and negative outcomes, and often they do not come out of the blue: some people will have had intuition that such consequences might happen. This aspect of the programme is about tapping into that intuition and using it to carry out a powerful risk assessment and modification of the solution in order to achieve the positives and avoid the negatives.

Delegating: we cannot do everything ourselves – we have to learn how to delegate properly. Often team leaders find themselves doing what others within the team should be doing.

Resolving conflicts: conflicts are almost a way of life; often they are resolved in a win-lose manner – which in turn leads to a depressing sequence of ever more conflicts to be resolved. Use of the TOC Thinking Process tools can provide a win-win resolution to conflicts and consequently enhance positive team dynamics.

One final thought, given my recent interest and further research into the whole area of personal focus and coaching: **the ability to use the Thinking Process tools to unblock people must never be underestimated.** To watch people who had given up on their goals and aspirations discover that they can still dream, and often achieve those dreams is a wonderful sight and very moving. There is far too much pain in many of the organisations I work with, pain that can and should be removed or avoided. This does require thinking, however, and does not come easily. But it can be achieved through the focusing power of the TOC Thinking Processes and the support and guidance of a good coach or mentor.



TOCICO Examinations—Summer 2009



The next set of examinations will be held at our training centre in Melton Mowbray on the following dates:

Fundamentals exam.....	8th June	4 hours
Project Management exam.....	8th June	8 hours
Thinking Process exam.....	9th June	8 hours
Supply Chain Logistics exam	9th June	8 hours
Financial Management exam.....	10th June	8 hours

However, please be aware that the examination subjects can be altered within the dates above to suit your individual requirements.

For more information contact Diane Jeary in our training office on +44 (0)1664 502860 or e-mail dianej@toc-lean.com Further information can also be found on our website: www.toc-lean.com/TOCICO_Exams.htm and the TOCICO website: www.tocico.org

Case Study from Europe

This case study comes from one of the leading TOC experts in Central Europe, Milan Zajc. He is also on the lookout for a sales director for a leading manufacturing company working in the top end of the boating market.



The Company Bobič YI is a family company with a long tradition in joinery, specializing in marine wood interiors. The company was founded in 1960 and it is located in Southern part of the Slovenia in Novo Mesto city. At the start they primarily manufactured furniture for a known buyer and they have equipped many buildings representing their skill and wide range of application, e.g. banks and hotels.

Founder of the company, Jože Bobič

Their markets at the time were mainly in Europe and the USA. In the year 2000 they modernised their business with the latest technology for manufacturing the marine interiors and they expanded their markets as well, especially to Norway, the wider EU and Croatia.



Today they have 4700m² of production area plus 50 members of staff, all experienced joiners, technicians and engineers; they produce high quality marine equipment for motor and sailing yachts. Apart from production they have their own design and development capability, designed to meet any potential buyers' requirements.

However, near the end of 2007 the management of the company realised that they were in a difficult situation due to changes in market pressure and far too many problems in internal business processes. These were now starting to endanger the end of the year results and were clearly creating a series of shifting bottlenecks throughout the operations function. It was during this time, one of great difficulty for the whole of the Slovenian wood manufacturing industry, that many companies were shut down.

So, given this pressure, the management team decided to implement the Process of On-going Improvement based on the Theory of Constraints (TOC). At the beginning of the 2008 a short TOC Business Analysis was carried out which showed a downturn in terms of net profit, long production Lead Time, an on-going increase in the delays of orders to customers and a very high level of WIP, indeed a growing level of WIP.

After a short presentation demonstrating the capability of TOC, the desired Goals of the project were set. These were determined, under the heading of developing a decisive competitive edge for the company, as follows (in no particular order of priority):

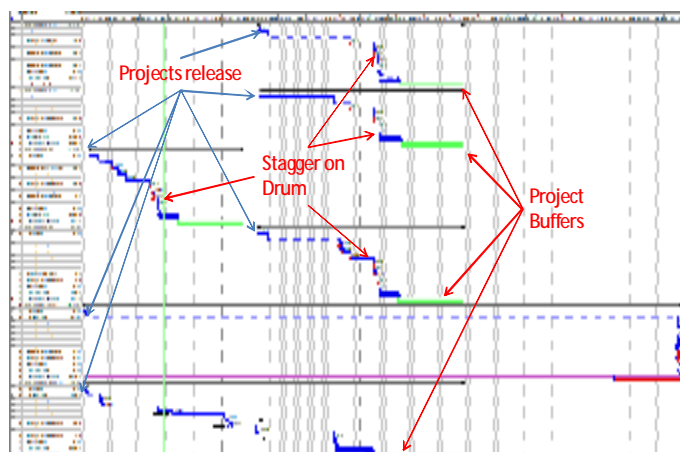
1. Eliminate the delays from taking the order to shipping
2. Increase reliability of committed due date DDP
3. Shorten Order and production Lead time
4. Increase NP
5. Reduce WIP

After confirmation of the objective with the management team the first step was to start with what is known as the 4x4 process and from that prepare a detailed implementations plan and then to implement the necessary changes to the current management processes within the company. In TOC terms these changes are known as injections.

The first step was to choke the release of orders to the shop floor to that required to meet the immediate demand. The over-releasing of orders to the shop masks priorities and promotes local optima behavior and therefore prolongs the lead-time, significantly disrupting due-date-performance (DDP). Orders are now released to the floor only within a clearly defined period time before their committed due-date. This is an early step in the process known as Drum – Buffer – Rope, the TOC application for operations, but at this stage only the choking of orders was initiated. The other aspects of DBR and the planning mechanism are not yet in place.

After three months the level of WIP in the operational process was almost half the previous amount!

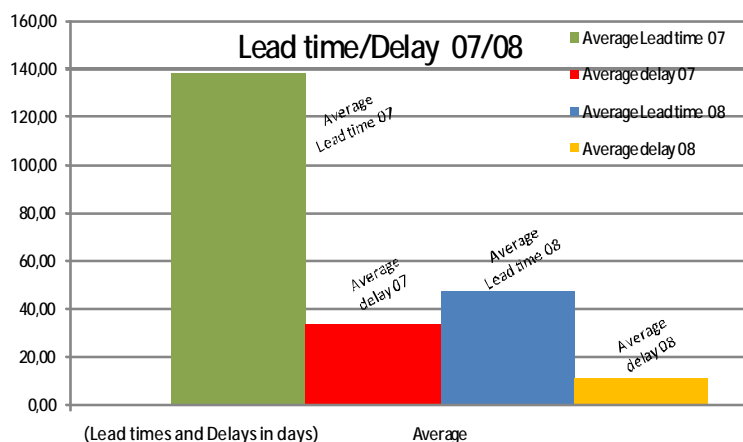
The second major change was to set the on-going Strategy of the business. Flow is the number one consideration. As a result of this decision what followed was a shift from operations as a planning mechanism to projects, as each order moving through the whole business was in effect a project and needed to be scheduled as such. For all projects over next three months proper PERT networks were built and validated using TOC rules and procedures under the Critical Chain approach.



All time estimates were reduced in collaboration with the team and then all project and feeding buffers were inserted according to the CCPM methodology (see the network diagram to the left).

Due to the nature of the multi-project environment of the business and the impact this has on production, the shop floor machine known as COSTA was identified as the Capacity Constrained Resource (CCR) and therefore this was used as the DRUM. Having identified the CCR machine as the drum enabled the company to focus all their effort on making sure that it was properly fed with the right projects. Managing the Drum has helped the company in managing a multi-project environment to the extent that today all projects are loaded in line with the capacity of the CCR through staggering the release of the projects into the business using the project planning system. As a result, production functions at the actual pace of the CCR and this enables the development of reliable and acceptable due date commitments for all new projects.

After six months the results are excellent. The lead time has been shortened and delays in delivery reduced. The diagram shown above demonstrates the partial results after six month of implementing TOC. Critical Chain Buffer Management is the ONLY system used to provide priorities and due to this Projects are actively managed to ensure their successful, rapid completion and guarantee Reliability.



Intermediate Summary

After six months from the start of implementing TOC in the company, Bobič YI have achieved their short time objectives in reducing WIP in process for 50%, shortening lead time to just 34% of the previous level and reducing delays by up to more than 60% and trend is going to zero! A substantial level of hidden capacity has been released; releasing newly found capacity to production, which they now want to use for opening up new clients throughout their markets around the world. They feel they can now offer their design and build capability to any yachts company looking for bespoke interiors made to the highest quality by excellent craftsmen – and be On Time, In Full, and to the specification – and all to budget! It was not an easy path, but the power of the initial analysis using the 4x4 process, and the subsequent work in implementing key changes driven by TOC applications has delivered to the bottom-line. If you want to succeed in the highly competitive markets of today this is the kind of work and analysis you have to commit to.



This is the Client list for the company:

Soraya Yachts; Seaway Group: Shipman – European Yacht of the Year; Windy Boats AS; Elan Marine d.o.o.; Pičuljan Marine; Seaco Boats AS; Ibiza Boats AS; Brioni Yachts; Luxury Buses; Luxury Homes; Luxury Offices; Luxury Hotels: Embassy Suites Hotels; Banks

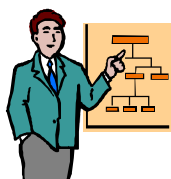
For further information, please contact:

Milan Zajc, TOCICO Certified Practitioner
SCEPTER d.o.o
Mladinska ulica 36
2367 VUZENICA
SLOVENIA

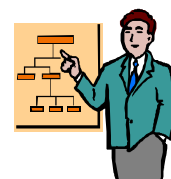
Email: scepter@siol.net

Tel.: +386 2 8764659

Mobile: +386 41 757004



Speaker Programme Engagements



As part of our Speaker Programme we have been delighted to accept invitations from a number of professional bodies recently. These include the Chartered Management Institute (CMI), the Chartered Institute of Management Accountants (CIMA), the Chartered Institute of Building (CIOB) and Robert Half International. Topics have covered issues such as Change Management, Coaching & Developing Leaders and Throughput Accounting.

Coming up: On 25th February, Ted will be speaking on the topic of 'Developing People - Coaching the Individual' for the Luton branch of CIOB, and in the next few months he is booked to present to branches of CMI, CIMA and CIPD (Chartered Institute of Personnel & Development) on a range of topics including Project Management and Supply Chain Logistics.

In March (date tbc) Tony Lumb will be conducting the first of a series of lectures for the Institute of Civil Engineers Student & Graduate Committee, at Birmingham University. The first lecture, which is a joint ICE, IMechE, IET and Institution of Structural Engineers event, will provide an introduction to TOC-Lean Principles and explain why managing constraints is crucial in any organisation.

If you are interested in attending future events, or wish to book Ted or Tony to speak at one of your own events, please email Diane Jeary at dianej@toc-lean.com, Tel. 01664 520860. Visit our website for more details: www.toc-lean.com/Evening_Presentations.htm

Introductory Seminars

The dates for our next set of seminars are as follows:

The Goal Breakfast Briefing.....	20th April, 7.30am – 9.30am
Critical Chain Project Management	20th April, 1.30pm – 4.30pm
Operations Management.....	21st April, 9.00am – 12.30pm
Financial Management.....	21st April, 1.30pm – 4.30pm
Thinking for Change—Organisational Focus	22nd April, 9.00am – 12.30pm
Thinking for Change—Team Focus	22nd April, 1.30pm – 4.30pm
Sales & Marketing.....	23rd April, 9.00am – 12.30pm
Supply Chain Management.....	23rd April, 1.30pm – 4.30pm

For more information please email or telephone Diane Jeary - details as above, or visit www.constraintmanagement.co.uk/Seminars.htm

Lean-Flow News from I & J Munn Ltd

Academy Group, one of the car bodyshops that implemented our LEAN-FLOW BODYSHOP SOLUTION, has been short-listed in major categories for the industry's AM Awards:

Courtesy of the ABP (Association of Bodyshop Professionals) On-line Newsletter
Dated : 30/01/09

Subject: **Manchester's Academy Group Short-listed for Award**

The awards trail continues in 2009 at Academy Group based in Whitefield Manchester. This year Academy has been short-listed in all the categories entered for the AM Awards and against major companies within the industry.

They will compete for AM's Bodyshop of The Year, Repairer of The Year and Excellence in Customer Service, for the latter of which they were Highly Commended in 2008.

Martyn Edwards, Academy's Sales and Marketing Manager, said: "It is amazing to think of us up against the biggest companies in the Motor Industry and in the major categories. It just goes to show that if you do things right then it is recognised no matter how big you are".

Academy's accident repair centre implemented the Lean-Flow system in 2008 and this has helped to vastly reduce down time for customers' vehicles. The success of Lean-Flow has aided over 95% of vehicles being returned on time.

Jason Mawdsley, MD of Academy, commented: "Customer service is what I built the business on and I am delighted that we have been short listed for several awards yet again. It is a testament to the hard work carried out by each and every member of the team".

For further information on the Lean-Flow Bodyshop Solution, please contact Paul Wilson on 07762 164 977, email paul.wilson@constraintmanagement.co.uk or visit www.constraintmanagement.co.uk/Body_shop.htm