



Trying to Improve the Best in the World!
A story from Bentley Motors

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Background – Bentley Motors

The New Continental GTC



4,000 people world-wide

1 Factory in UK

Bodies produced in Germany

212 Dealers

- 1919 – W O Bentley sets out “To build a good car, a fast car, **the best in class**”
- 1924 – 30 Bentley wins the Le Mans 24 hour race 5 times
- 1931 – acquired by Rolls Royce
- 1998 – acquired by Volkswagen AG – selling about 1,000 cars per year £500m investment in facilities and to support product development
- 2003 – Wins the Le Mans 24 hour race for a 6th time
- 2007 – The company sells 10,114 cars for £941m – making a profit of £131m – their best commercial year ever
- 2009 – They sell only 4,616 cars – losing **£162m**

Our story starts in August 2006 – Round 1

- Our first contact with the Director of Engineering (German) – appointed 2003
- His challenge – new car development takes 48 months – too long and too costly – it follows the VW model
- His question – can Critical Chain Project Management (CCPM) reduce the development lead time?
- His dilemma – force people (who think they are the “best in the world”) to use CCPM or allow them to choose
- So he becomes the “champion” – trying to influence
- We start to learn that it takes a long time to accomplish anything in this environment
 - March 2007 – data gathering and interviews
 - June 2007 – proposal presented
 - November 2007 – CCPM program for a select group of people held
 - NO GO! End of Round 1!

Round 2

- 2008 is a “quiet year” as regards CCPM – the champion working behind the scenes, positioning people and building “his team”.
- But 2008 is also crisis time in the world economy and even luxury products are hit, with the outlook for 2009 even worse
- Eli Goldratt presents a one day seminar in the UK – May 2009. The champion attends and by arrangement has personal meeting with Eli
- Eli proposes a collaboration based on 3 changes of paradigm:
 - Expand and accelerate Throughput
 - Significantly reduce the Production Lead Time
 - Dramatically reduce the Development Lead Time
- The Champion is bought in to the Direction

Essence of Eli's Throughput Solution

- The Reality
 - Any customer who orders a bespoke vehicle (millions of options) has to wait 5 months for delivery. It was 5 months in the “boom” year 2007 and it is still 5 months in 2009 the “bust” year!
 - Any customer who is not prepared to wait takes a stock car the dealer has available and gets a heavy discount on the options he doesn't really want – Bentley support the discounts
- Eli suggests that there is a market segment that would be willing to pay a higher price for early delivery of a bespoke car – this would be more Throughput and would convert some lost sales
 - It can be tested in one geographic region
 - Production can handle a limited test like this

Round 2 - continued

- The Challenges for the Champion
 - The CEO (German) – who only has 2 years to retirement
 - Not pushing the solution – create a pull
 - Getting consensus from all the Directors to work with Goldratt
 - Getting all of them to a 5 day workshop with Eli in Israel
- June 2009 – meetings with key players:
 - With the Champion and Director of Finance – he is totally supportive
 - We coach them to have meetings with other Directors
 - Opinions divided – CEO says that if all the others agree he will support the Champion's proposal to work with Goldratt
- July 2009 – Consensus reached with other players – BUT CEO now says “I want this guy Eli Goldratt to come to meet me before I agree!”
- October 2009 – Eli comes to UK and meets CEO
 - Doesn't go well – NO GO! End of Round 2!

Round 3

- The Message to the Champion from the CEO – Nov 2009
 - Leave the Strategy alone
 - Deliver two new models by 2012! – concentrate on this
- The reaction:
 - from the Champions “people” – let’s work on rejected direction in secret
 - The Champion says “No” we do the Product Development part using CCPM (CEO will not personally block this)
- January 2010 – We take the Champion to Israel to meet Eli
 - The Champion states that he must achieve a 27 month lead time, whereas 36 is the best so far
 - Eli says the biggest issue is “constant changes” but if you combine more synchronisation into the design and communication with CCPM for execution management it can be achieved
 - A direction for introducing multi-project CCPM into Development is agreed – the key step is a Goldratt facilitated Management Workshop

Round 3 - continued

- The Champion wants to pre-empt some perceived obstacles that his people have – before we hold the workshop:
 - We are different – it won't work here! [Best in the World again!]
 - A car is too complex to do a CCPM project plan
 - The durations are already extremely short [Best in World!]
 - There are many who will not collaborate [Best in Company!]
 - There are policies (VW Group) that cannot be overcome
 - These Goldratt people do not understand our environment
- His solution is to use a “Learning Project”:
 - A small project but with complexity – plan and manage with CCPM
 - February 2010 - we start on a project to change from a seat mounted seat belt to a column mounting
 - CCPM Project plan built and execution managed with Buffer Management

Round 3 – “Learning Project” – what was learned

- Bentley has some very prescriptive processes that are interpreted as being there in order to protect the quality and image of the brand
- Some people can use the prescriptive nature of the processes as a reason not to be more rapid
- Some of the people are very frustrated by other departments processes and attitude to them
- Some people do not necessarily understand the processes of others and why they exist
- There are underlying conflicts between departments
- The business is organised in definite silos – and yet the work flow is cross functional
- Synchronisation and co-ordination take a huge amount of communication – face-to-face meetings etc and escalation over someone to their boss
- Some people are very collaborative and willing to explore being quicker
- There is huge multi-tasking across and within projects
- There is a paradigm of planning by week number (many weeks in advance) – which is more to do with resource management rather than flow
- We need to create robust templates that have been validated by senior people from different departments

Round 3 – “Learning Project” – Obstacles

- Getting enough time from those needed (at all levels) to implement CCPM fully
 - Not just lip service
- Reducing the multi-tasking
 - Freezing projects that have already been committed to a date will need to be sold to many people
- Getting top management to accept earlier evaluation of partially complete concepts/styling/designs/prototypes
 - In order to reduce the durations related to late management changes to specification will mean transitioning the current meetings culture to a single priority system for decision making
- Getting people to accept a balance in the project plans between very high level flow and very low level detailed actions
 - Task granularity
- Getting some of the styling/design type resources to provide/accept estimated durations
- Some people’s very strong belief in their own experience and traditional project management thinking

Round 3 – “Learning Project” Critical successes

- High level of collaboration from those involved
 - Especially a few who could be good champions
- Most of the people we needed in the room came together at short notice
- The first plan of critical chain for the long lead time items was produced very quickly
- Most people contributed well to identify possible ways to shorten durations – based on their experience
- Very little resistance to the concept of taking safety from tasks and placing in strategic buffers
- Several people went out of sessions with a greater understanding of what was needed to synchronise for success
- The project was delivered on time despite initial duration perceived as impossible!

Round 3 – Further delays

- The Champion experienced difficulty in getting his senior people to agree to a Goldratt Management Workshop – in May 2010 it was agreed for September
- In July & August we prepare with Eli Goldratt, however, the Champion has his own view of the agenda – and is only prepared to go ahead if we adapt and focus on a single project – one of the new models – BY6xx
- September 2010 - We compromise – and the workshop focuses on agreeing the actions to shorten the lead time, rather than agreeing that CCPM is the way forward.
 - For the Champion, he gets a win in that his people agree 27 months can be achieved, and the major steps to do that
 - For us, we lose in that his people do not buy in to using CCPM to actually achieve it
 - NO GO! End of Round 3!

Round 4 – Another approach by Champion

- The Champion has the same dilemma as in 2006
- He suggests that what is needed is some proper expertise in CCPM internally as his people do not want to be directed by “outsiders” [Best in the World!]
- January 2011 - We agree to create the expertise based on a small number of (learning) sub-projects within the main BY6xx project
 - Train the champions
 - Create CCPM templates
 - Adapt to actual sub-projects and produce buffered plans
 - Manage execution with Buffer Management
- Further delays in trying to get some priority for the initiative – eventually we agree to start in May

Round 4 – Another approach

- May 2011 – having waited for availability of people, we commence
 - Training goes well
 - Get bogged down in what seem like endless rounds of meetings on templates – so many people needed to gain consensus
 - Blocked on durations by VW policies over body parts
 - Hindered by VW policies on procurement:
 - For example – Cost per part
 - Do we make this part in plastic or metal?
 - In plastic – each part will be £1.50 - need a tool for £20,000 - will take 20 weeks
 - In metal – can machine each part for £5 each – no tool – will take 1 week
 - Estimated number of parts - 1000 per annum for 4 years
- September 2011 – progressing very slowly

Martin Powell FCA

- Originally qualified as a Chartered Accountant in the UK
- 17 years experience in teaching TOC; implementing and auditing TOC projects
- Visited over 30 countries since 2001 on his TOC journey
- Director of Goldratt Solutions Ltd and The Goldratt Centre Ltd in the UK
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