

REAL BUSINESS GROWTH IN TODAY'S OILFIELD ENVIRONMENT

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The ideas I want to share

- Ride the wave or true growth?
- Understand real value delivery and differentiation
- Look at alternative futures
- Systems and behavior for project management
- Lean manufacturing is a must

Ride the wave or true growth?

- **Cyclic industry / volatility**
 - Up cycle adds competitors
 - Down cycle erodes market share
- **Hydrocarbon delivery is an extended supply chain**
 - Unstable characteristics
- **Pricing pressures**
 - Customer to supplier, supplier to customer
- **Now - oil companies are impacted at high oil prices**
 - BP, Shell, ExxonMobil – “higher operating costs”
 - Major project overruns

Understand how to drive real value delivery and differentiation

- **Customer value ultimately drives the business**
 - It is why they pay you
- **Differentiation is through competitive advantage**
 - It can and will be eroded
- **Competencies underlie delivering both**
 - Competitive advantage
 - Customer value
- **Distinctive competencies**
 - Invest in them
 - Develop into a strength

Essential values for oil companies

- **Functionality and quality of product or service**
 - Drives throughput and up time = revenues
- **Capex and Opex costs**
 - Cost to produce and operate
- **Cycle time from cost to revenues**
 - Speed of delivery

Look at alternative futures

- “Only thing oil price forecast have in common”
 - “they are all wrong!”
- Surprises happen
 - Competitor mergers,
 - Regional downturn (e.g. Canada) & contagion
 - Political shifts – nationalization, taxes,
- Create different stories about the future
 - Test your business against these stories
 - Strengthen weak areas
 - Develop counter measures
 - Seize opportunities

Managing the speed and cost of delivery is critical

Areas of significant opportunity:

- **Project Management**
- **Lean Manufacturing**

Systems and behavior drive success in project management

- **Differentiate “ongoing work” from “projects”**
 - Require different management methods
 - Gray zone is customized products
- **Work breakdown structure (WBS) in systems**
 - Delivery of components of the work
 - Architecture of Project organization
- **Risk & Uncertainty management**
 - Qualitative and quantitative methods
 - SPE 97269 – Best practices / misapplications
- **Scheduling**
 - Planning / scheduling is a discipline
- **Strong management**
 - Disciplined approach

A short history on Lean Manufacturing

Toyota Production System

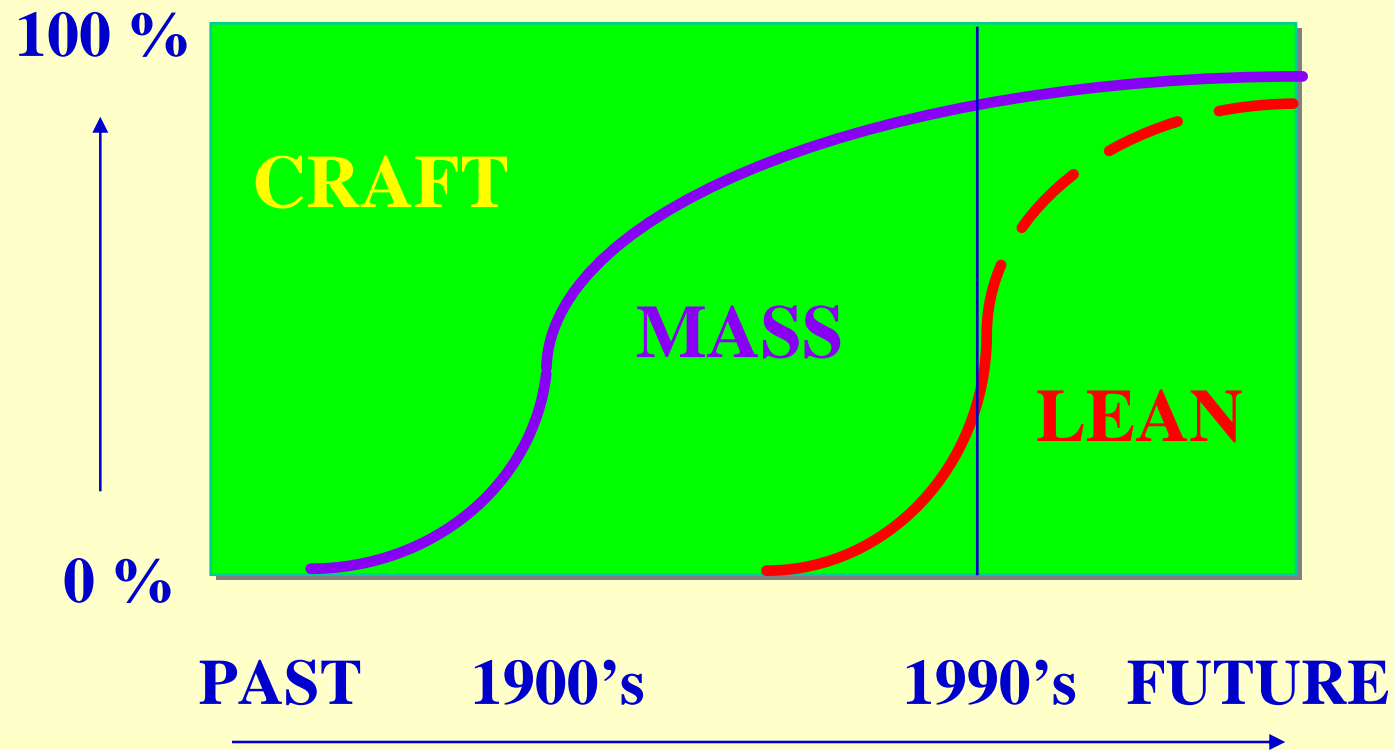
Taichi Ohno

SMED

Cells

MIT study

Industry has entered a new era of organizing and managing businesses



Lean manufacturing is the driver to world class performance

- **Work center (Cells) optimization**
 - Added 10 points to margin
- **Design to build**
 - 27% reduction lead time in very large customized product
- **Sub assembly flow**
 - Final assembly time cut in half
- **Facility flow**
 - Massive impact that is often unrealized
 - Lead time reduction from 5 days to 1 day

Some key observations

- **Low percentage welding time**
 - Increase low percentage increases throughput
 - Poor work center organization
- **Welding on Paint**
 - Process needs fixing
- **Large number of fork lifts**
 - Usually want more!
 - Poor work flow
- **Rework – number one wasted effort**
 - Sometimes it is everywhere
 - Who is taking care to fix it?

Some key observations

- **Bottlenecks – visible and invisible**
 - Blast and paint is typical
 - Engineering drawings
- **Materials management**
 - Parts and materials are often late
- **Client specification decisions**
 - Delays are typical (some are change orders)
- **Work flow improvement on the drill floor**
 - Lost opportunity
 - Design to build well components
 - Work flow

Benefits from Lean manufacturing surpass standard measurements

- **Lead time reduction**
 - Significant impact from Lean Manufacturing
 - Significant impact to flexibility and delivery
- **Throughput increases are significant**
 - Increased revenues for the investment

New entrant's leverage from Lean

GE impacts Vetco Gray

Purchase January 07

Riser production from 38 to 10 days by September 07

Gaining advantage for real business growth

- Understand your customer's value and how you drive it
- Know how you (will) compete to deliver that value
- Improve your performance through the best techniques
- Test your business against uncertain futures

Thank You

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