From Profound Knowledge to InThinking and Enterprise Thinking

Presented by
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30 May 2006
University of Hull, Hull, England
Abstract: The aim of this session is to offer insights on how Dr. W. Edwards Deming’s “new economics” and the underlying system of profound knowledge has been expanded upon by a “thinking network” within Pratt & Whitney Rocketdyne to initiate both “InThinking” and “Enterprise Thinking” networks. The “thinking expansion” includes the “variation management principles” of Dr. Genichi Taguchi and the thinking tools of Dr. Edward de Bono, among others whose thinking has been explored and united with profound knowledge. In doing so, the presentation will offer an introduction to ongoing activities within Pratt & Whitney Rocketdyne to convert the principles of Dr. W. Edwards Deming into practical ways that “reduce losses” to both society and improve corporate profitability.
Agenda

- Aim
- Insights
- Interchangeable Parts
- Better Thinking About Thinking
- Imagine the Possibilities…
Aim

Introduce the *potential energy* of integrating the management theories and thinking of

Dr. Genichi Taguchi

Dr. W. Edwards Deming

Dr. Edward de Bono

Dr. Russell Ackoff

and many others...
Perception & Thinking

“How the world we perceive works depends on how we think. The world we perceive is a world we bring forth through our thinking.”

H. Thomas Johnson
Tank Engines and Rocket Engines
Courage To Imagine...

“The courage to imagine the otherwise is our greatest resource, adding color and suspense to our life.”

Daniel Boorstin
InThinking & Enterprise Thinking

Increase individual awareness on thinking (InThinking)

Evolve the way we behave

Evolve the way we think together (Enterprise Thinking)

Evolve the way we run our organizations
Insights
NEW CUYAMA

Population  562
Ft. above sea level  2150
Established  1951

TOTAL  4663
W. E. Deming on Quality

“A product or a service possesses quality if it helps somebody and enjoys a good and sustainable market”

Philip Crosby on Quality

- “Zero defects is another way of saying ‘do it right the first time’”
- Quality is defined as conformance to requirements

* Source: Let’s Talk Quality, P. Crosby, 1989
Defects

Frequency

Hole Diameter, inches

LOWER SPEC LIMIT

UPPER SPEC LIMIT
Genichi Taguchi on Quality

“Quality is the minimum of loss imparted to the Society by a product after its shipment to a customer”

* Source: Introduction to Quality Engineering, G. Taguchi, 1983
Edward de Bono on Quality

“The quality of our thinking will determine the quality of our future.”

Edward de Bono
Resource Management
The Boeing Company - Vision 2016

- Core Competencies
  - detailed customer knowledge
  - large-scale systems integration
  - lean enterprise

- Values
  - leadership
  - integrity
  - quality
  - customer satisfaction
  - people working together
  - a diverse and involved team
  - good corporate citizenship
  - enhancing shareholder value
Expectation Dynamics

Value

Delight

Satisfaction

Expectation

Disappointment
Assumptions

- A better way to operate an organization is to invest resources with the ability to manage customer delight, satisfaction, and disappointment.
- Better investment results from discovering opportunities to invest.
- The discovery of opportunities for investment is limited by how thinking is conditioned.
What is needed?

Thinking that promotes better discovery
Counting Heads

Are two heads better than one?
Togetherness

- What does it mean to “work together”? 
- What does it mean to “learn together”? 
- What does it mean to “think together”? 

[Image of birds flocking together]
Together

“In or into contact or association”

“In or into harmony or coherence”

Merriam-Webster Dictionary
Counting Straws

Which strain broke the camel's back?
Team?
United We Stand
United We Eat?
Coffee farmers around the world were invited to send us their best beans for our annual coffee competition. Through precision and artistry, we blended and roasted the finest into something extraordinary.

Starbucks’ Special Reserve Blend 2004
Parts or Parts Of?
Systems Perspective

“When we try to pick out anything by itself, we find it hitched to everything else in the universe.”

Thomas Muir
Water Logic
We all live downstream
What’s Old?

- Driving Change
- Reliance on Reforming
- Reducing Variation, Cost, Waste, Inventory, etc
- Talk about “Working Together”
- Striving for “Zero Defects” and “Zero Waste”
- Continuous Improvement
- Using Metrics for Alignment*

*without a thinking transformation
What’s New?

- Leading Transformation
- Use of Reformation and Transformation
- Resource & Relationship Management (Striving for Balance)
- Thinking & Learning Together - Then Working Together
- Continuous Investment
- Using Thinking for Alignment
  - InThinking and Enterprise Thinking
Interchangeable Parts
Interchangeable Parts

Space Shuttle Main Engine
Interchangeable Parts ??
Sorting Circles

Connect the 2 of these 3 circles that are closest to being the same.
Sorting Circles, Part 2

Which 2 of these 3 circles are closest to having the same diameter.
Cutting Wood

Given a piece of wood that will be cut into 2 pieces....

how many lines will be drawn across the top face before the cut is made?
Cutting Wood
Cutting Wood
Decisions Decisions Decisions Decisions

Which 2 of these 3 circles are closest to having the same diameter.
Taguchi’s Quality Loss Function

“Loss to Society”

Lower Specification Limit  TARGET (desired value of parameter)  Upper Specification Limit
A Better View

“The Taguchi Loss Function is a better view of the world.”

W. Edwards Deming

Source: Out of the Crisis, W. Edwards Deming, 1986
Better Thinking About Thinking
InThinking & Enterprise Thinking

Increase individual awareness on thinking (InThinking)

Evolve the way we behave

Evolve the way we think together (Enterprise Thinking)

Evolve the way we run our organizations
Investment Opportunities

Thinking

Technology
“The significant problems we face cannot be solved at the same level of thinking we were at when we created them.”

Albert Einstein
Transformation

Potential Energy
“Better Thinking”

Kinetic Energy
“Better Value”
Visioning

“it’s not what the vision is that is important...

it’s what the vision does...”

Robert Fritz

Source: *The Fifth Discipline*, Peter Senge, 1992
Imagine the Possibilities...

- when operating in an “Enterprise Thinking” environment
- if we could develop a broader appreciation of “continuous and connected learning”
- if we could develop a deeper appreciation of “working together”, “learning together” and “thinking together”
Imagine the Possibilities...

- and the markets we could create

  Working Together
  Investing Together
  Designing Together
  Building Together
  Learning Together
  Thinking Together
  Leading Together
What’s Next?

- Thinking Together
- Rethinking “Working Together”
- Rethinking “Learning Together”
- Rethinking “Management”
- Rethinking “Leadership”
- Rethinking “Ethics”
- Rethinking “Interchangeable parts”
- Rethinking ???
“The greatest discovery of my generation is that human beings can alter their lives by altering their attitudes of mind.”

William James