Six Hats - Getting to the Root of the Problem

CONOCO

Decision and Risk Analysis

Broader Thinking, Better Decisions, Superior Results

Abstract

A Business Unit of Conoco Inc. was evaluating the development of a new business. After a complete Framing Exercise a Decision Board meeting was held. In that meeting, the Decision Board defined the three objectives that must be met by the design team to proceed with a Business Start-up Plan. After the evaluation was completed it became clear that two of the three objectives had been met, but there was no agreement or clarity on the third. An analysis of the Tornado Diagram showed that Technical Viability of the process was **the** critical issue. Unfortunately, the Decision Board and development team did not agree on the assessment of Technical Viability. The range that the development team was comfortable with yielded too much downside for the Decision Board. They wanted the team to collect more information and reduce the range of downside.

Our assessment was intended to find out what this information was that was needed and if it truly refined the range. Since most of the Design Team reported directly to various members of the Decision Board, there were personnel intricacies that had to be dealt with. We solved this problem by the use of questions derived from Edward deBono's Six Hats Theory. The presentation will show the questions used, show how we tracked what was achieved and highlight what follow up information was needed to make the decision.

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“Six Thinking Hats”- A Tool for the Facilitator’s Toolbox

- Using questions to expand creative thinking (Team A)
- Using the sequence of questions and the process of asking them to reduce barriers to creativity (Team B)
- “Six Thinking Hats” - Edward DeBono

Team A

- Y2K planning process gaps
  - Strategic decisions
  - “Policy” vs. cost/benefit
  - Linkages
- Objectives
  - Reconstruct the strategic decisions behind the plans
  - Assure wise investments
  - Identify linkages and clarify accountability

Team A

- Meeting Process (watch what happens)
  - No training on “Six Hats”
  - Asked questions in order
- Decision Heiarchy/Decision Criteria
  - Safety, Environmental stewardship
  - Revenue impact of downtime
  - “No glitches”?

Team A

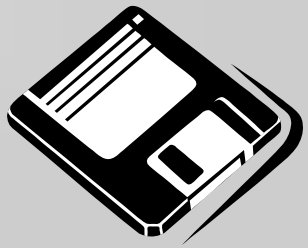
- The Frame
  - Issue Raising - used Six Hats questions to access wider range of understanding and assumptions
  - Strategy Table - used Six Hats questions to access wider range of ideas and creative solutions
  - Decision & Risk Timeline

Team A STRATEGY TABLE

	Request Info	Verification	Process Status	Other Action
"Trust 'em all"	YES	Letter	Shutdown 24 hrs	Replace Equipment
"Build the Bunker"		Discussion	Keep operating	
	NO	Audit		
		Onsite Test		

Questions to access information…..

- **What information do we have about the vulnerability of this equipment?**
- **What do we know about this equipment and the underlying technology?**
- **What documentation would we like to have?**
- **How are we going to get the documentation?**
- **Have we demonstrated that this section works?**
- **If so, how and when? What documentation exists?**

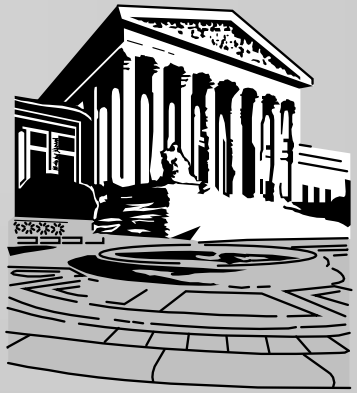


Questions to access intuition…..

- Are we confident about the continued functioning of this equipment?
- How do you feel about the company supplying this equipment?
- What's your confidence in the documentation they provided?
- Who is accountable for this section?

Questions to access pitfalls…..

- **Do we have any safety concerns in this section? Environmental? Revenue?**
- **Is there something in this section that could cause the entire enterprise to fail?**
- **What problems in this section could have the worst impact?**



Questions to access feasibility…..

- **What are the benefits of handling this equipment issue the way we are doing it?**
- **Does it create any competitive advantages?**
- **Is this something that we already do or can easily do?**
- **Can we add to processes we already have? (ie. Emergency Response)**

Questions to access creative new ideas…..

- **Are there any other ways of doing this?**
- **Could we rely on something that someone else has already done?**
- **How do changes in this section impact other sections?**

Questions for “wrapping up the process”…..

- **Is there anything in this section that is in the critical GO DO path?**
- **Do we have any necessary data to collect?**
- **Tests to conduct?**
- **How are we going to measure?**
- **When we know we have succeeded?**

Team A

- What worked:
  - Easy and fast
  - Changed paradigms
  - Multiple alternatives
  - Improved buy-in
- What might not have worked:
  - “The Ego Effect”

Team B

- Team B worked and re-worked for 1 year
  - Technical complexity
  - Management not convinced
  - Organizational complexity
  - “The boss is always right”
- Objectives of the facilitation
  - Break down manufacturing process to components
  - Really get everyone’s ideas
  - Gain commitment to act

Team B

- Process (Lisa & Theresa)
  - Training on Six Hats
  - "Putting on the hat" to focus thinking
  - "Switching hats" to redirect thinking

"Playing comedy is not playing tragedy. When you are wearing the clown's costume then play the clown. When you wear the villain's hat, play the villain. Take pride in playing the different parts."- de Bono

Ego is now focussed on how well I'm playing the role

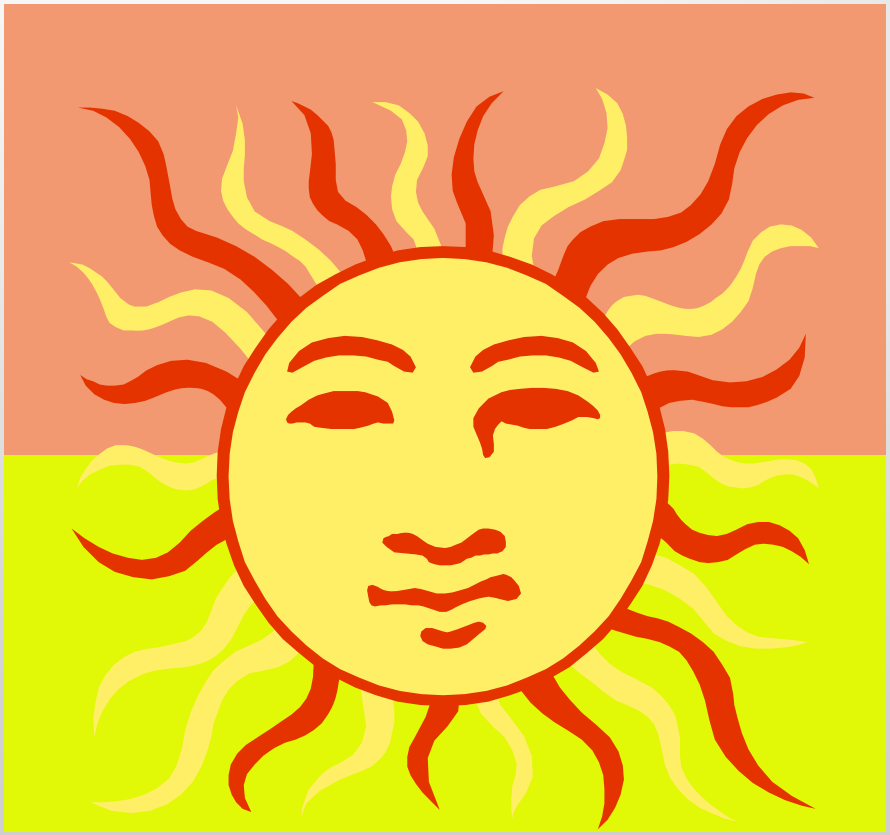
Six Thinking Hats

- Green Hat
- Think of vegetation and lush growth
- Additional alternatives
- New ideas
- Use for putting forth possibilities & hypotheses

Putting on the Green Hat to access creative new ideas…..

- Are there any other ways of doing this?
- Can we optimize?
- Could we rely on something that someone else has already done?
- Could there be another explanation?
- What could it be?
- Does how we design this section change what we can do?
- Does it limit the range of what we can produce? How do changes in this section impact other sections?

Six Thinking Hats



- Yellow Hat
- Sunshine!
- Optimism
- Logical positive view
- Looks for feasibility
- Use purposefully!

Putting on the Yellow Hat to access feasibility…..

- **What are the benefits of doing this process the way we are doing it?**
- **What are our competitive advantages?**
- **Is this something that someone outside our company already does or can easily do?**
- **Is this something that we already do or can easily do?**
- **Is there flexibility to make what the customers want?**
- **If the market requires frequent changes to specifications, what is the impact?**

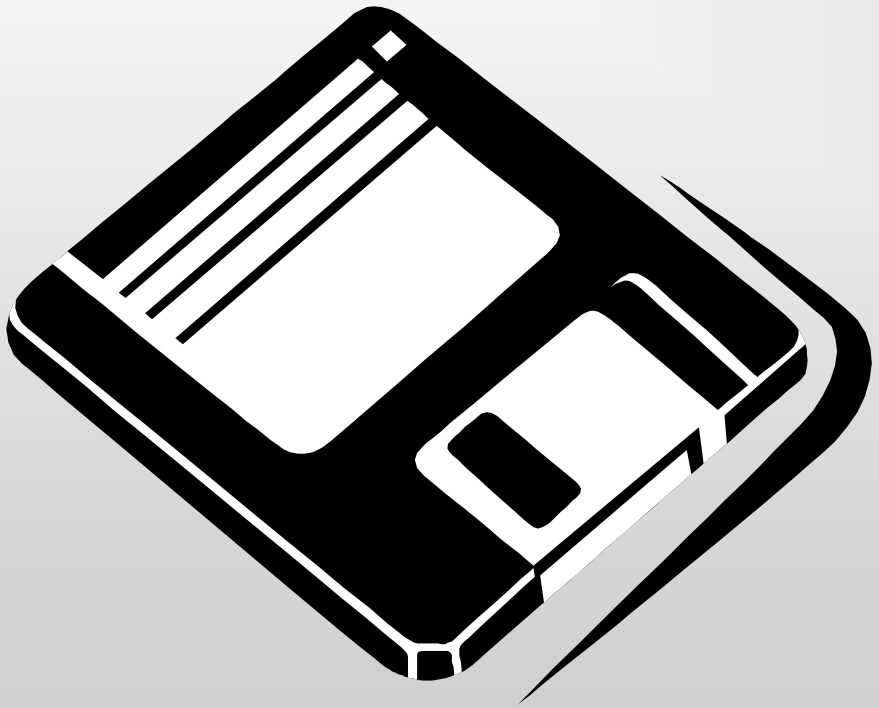
Six Thinking Hats

- Red Hat
- “Red & Fire & Warm”
- Signals
  - Feelings
  - Intuition
  - Hunches
  - Emotions

Putting on the red hat to access intuition…..

- **Are we confident that we can design, build, operate this part?**
- **Is my credibility on the line because of this section of the plant?**
- **Do I/we need to demonstrate that this part of the plant works?**

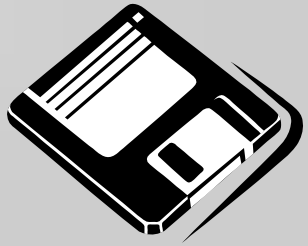
Six Thinking Hats



- White Hat
- Think of White Paper
  - Neutral
  - Carries Information
  - Data

Putting on the White Hat to access information…..

- **What information do we have here?**
- **What do we know about this section and the underlying technology?**
- **What information is missing?**
- **What information would we like to have?**
- **How are we going to get the information?**
- **Have we demonstrated that this section works?**
- **If so, how and when?**
- **How will we QC the product from this section?**

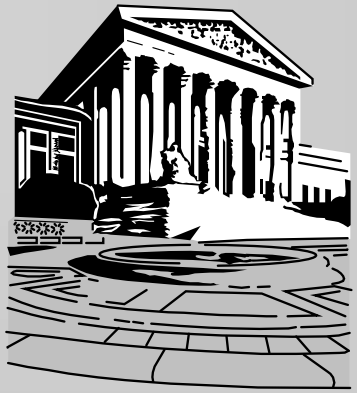


Six Thinking Hats

- Black Hat
- Think of :
  - The “stern judge wearing black robes who comes down heavily on wrongdoers”
- “CAUTION” Hat
  - prevents mistakes
  - use for critical judgement
  - Don’t overuse!
  - Team B’s talent!

Putting on the black hat to access pitfalls…..

- **Do we have any killer concerns in this section?**
- **Is there something in this section that could cause the entire enterprise to fail?**
- **What possible mistakes have/could we make in this section?**

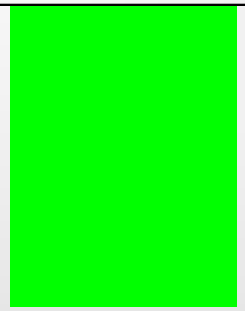
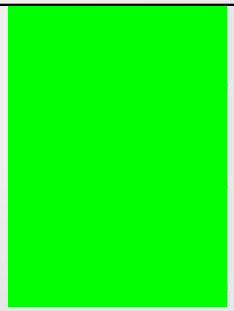
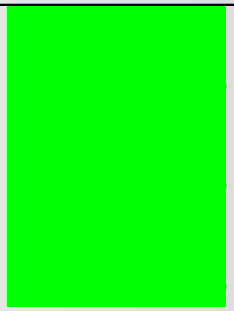
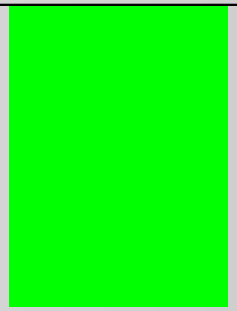
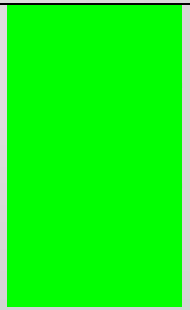


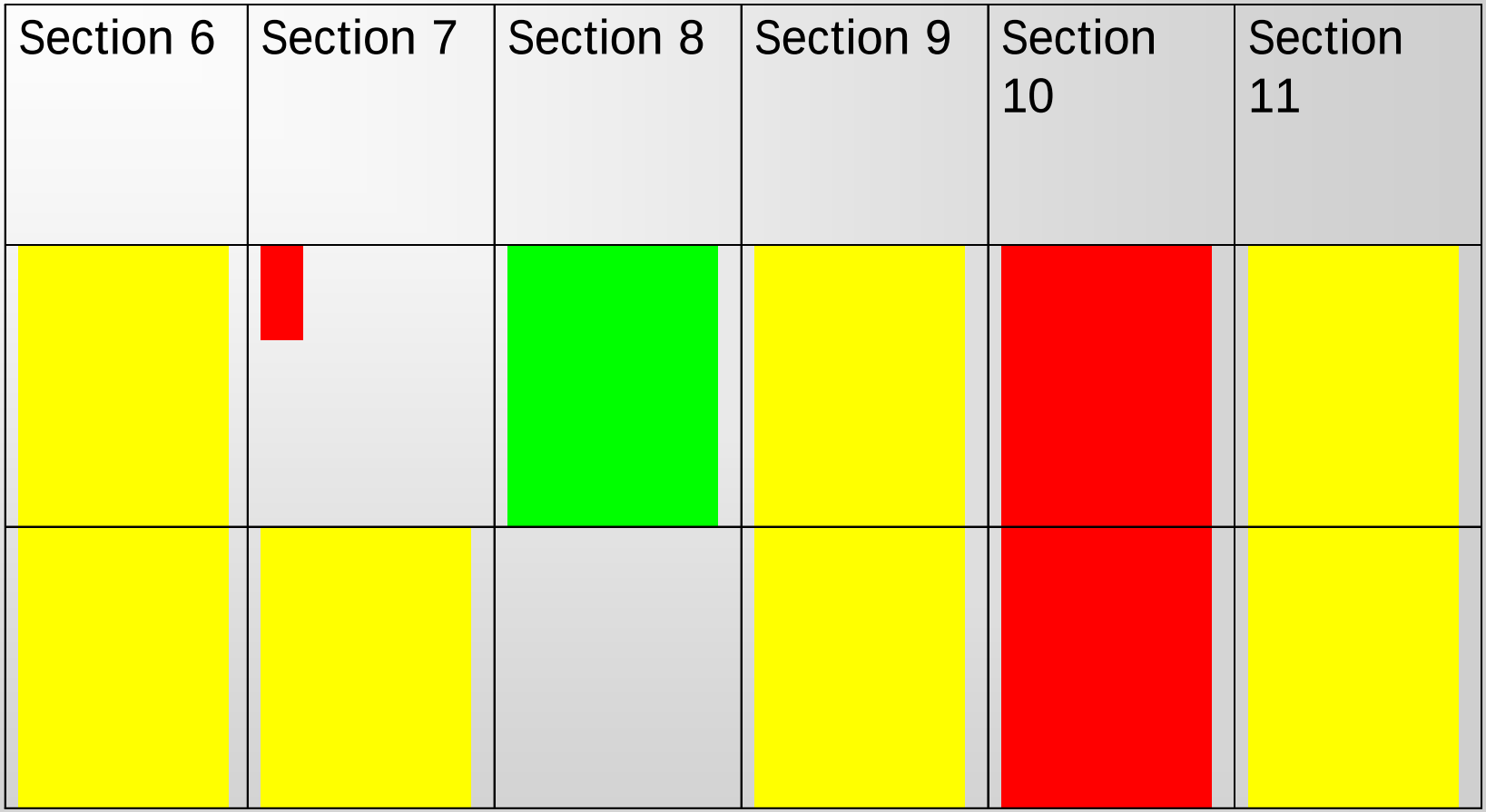
Six Thinking Hats

- Blue Hat
- Think of the sky and an overview
- Use for process control
- Think about the thinking!
- Sets the agenda, next steps, and can ask for other hats.

Putting on the blue hat for “wrapping up the process”…..

- **Is there anything in this section that is in the critical GO DO path?**
- **Do we have any necessary data to collect?**
- **Experiments to conduct?**
- **When could we expect that to happen?**
- **How are we going to measure?**
- **When we know we have succeeded?**

	Section 1	Section 2	Section 3	Section 4	Section 5
Are we confident that we can design, build, and operate this part?					
Can we easily get this done? Is this something that someone outside Conoco already does or can easily do? Does Conoco already do this or can easily do?					


Section 6
Section 7
Section 8
Section 9
Section 10
Section 11

Team B

- What worked
  - Surfaced the underlying issue
  - Preserved egos
  - Clear path forward of work needed to resolve Decision Board's remaining issues and proceed to action