Complexity

The New Corporate Challenge

We *Love* Simplicity

- Simplicity in character, in manners, in style; in all things the supreme excellence is simplicity.
  - Henry Wadsworth Longfellow *(1807-1882) U.S. poet.*
- Simplicity is the seal of truth.
  - Proverb
- It is far more difficult to be simple than to be complicated.
  - John Ruskin *(1819-1900) English art critic.*
- Our life is frittered away by detail. Simplify, simplify, simplify!
  - Henry David Thoreau *(1817-1862) American naturalist, poet and philosopher.*
- Complexity slows and saps everything it touches -- except the bureaucracy. Bureaucracy craves it.
  - Jack Welch
- The art of art, the glory of expression and the sunshine of the light of letters, is simplicity.
  - Walt Whitman *(1819-1892) American poet.*
- Occam's razor: of competing explanations, the simplest is the most likely.

Propelled by this sentiment, we see the "one-page business plan", or the insistence on reducing presentations to 3-4 bullet points per slide.

If we have a choice…

Mr. Simplicity
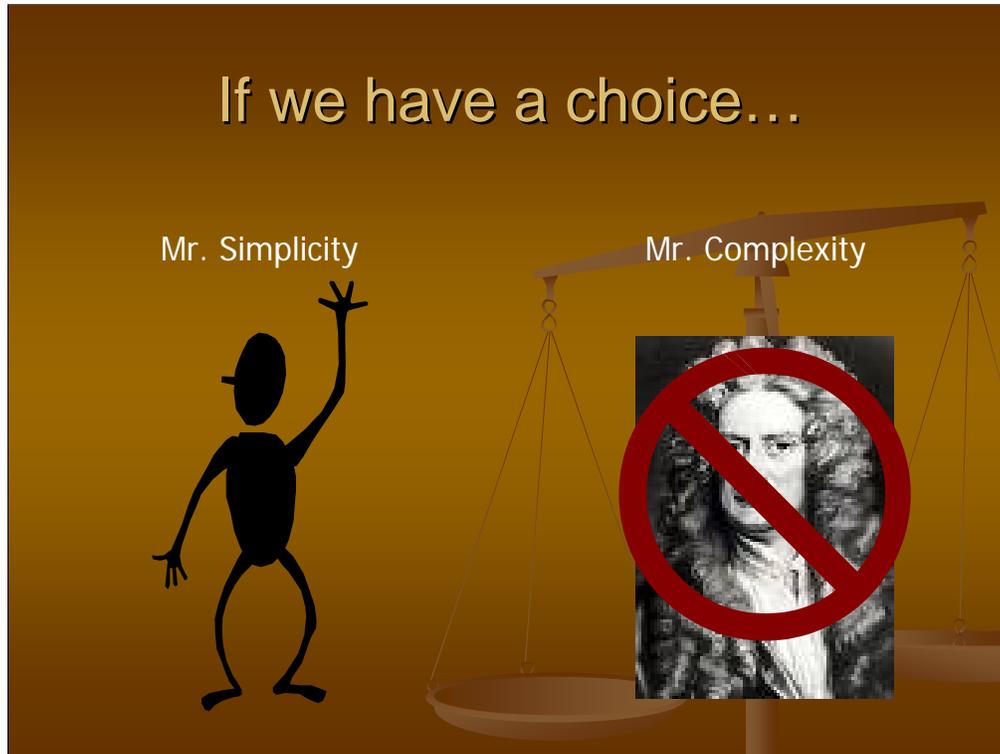
Mr. Complexity

And we should have this preference. Too often sloppy thinking or confusion is justified by claiming that "the situation is really complex". But then it turns out the complexity is only in the muddled mind of the beholder. It is their lack of understanding that makes the situation appear so messy. So we are right to push for greater clarity and for more reflection. Often it is a sign of real insight to identify the few essential factors at play.

And sometimes it is just satisfies our desire to feel in control, to believe that we can "fix things". The situation is more complex than we can comprehend, more complex than we can master. And we are left with our worry, our guilty, our passion … but with no leverage.

But, now we know…

Simple
Complicated
Complex
Chaotic

.. that situations are not all reducible. A recent article in the Harvard Business Review proposed this scaling of situations we face in business.

SIMPLE

    best practices

    right and wrong answers, capable of empirical validation

    possibility of automation

    well bounded

COMPLICATED:

    subtle, less regular

    better and worse answers

    domain of the expert, bring judgment and experience to the situation

    generally containable

In both SIMPLE and COMPLICATED, the situation is defined by the intentions and choices of the players.

COMPLEX: the situation has a life of its own, beyond the actions or preferences of the players.

    unknowable, unpredictable

    undefinable boundaries

    never make a decision and then turn away; requires constant attention

CHAOTIC:

    rules of the game are constantly shifting

    defensive strategies or exiting the situation are often desirable options

First and foremost, decide what type of situation you are considering. Then – and only then – can you explore your options effectively. The consequence of misreading the fundamental nature of the situation are often severe and irreversible.

New Awareness of Complexity

- Organizations larger, more diverse
- Companies often part of long value creation chains
- Speed of business demands dispersed decision making
- Globalization has yanked us out of small, comfortable markets
- New science of complexity is giving us new eyes and new analytical tools
- Smoldering awareness that the traditional, hierarchical model is inadequate

NEW TOOLS: Network analysis, strange attractors

What Is Complexity?

- Dramatic increase in the number of variables
- Inherent invisibility of key elements
- Preponderance of circular, delayed, reciprocal, and other strange types of causality
- The actions and thoughts of the analysts are *part* of the problem; there is no "outside"
- Extremely sensitive to experimentation
- Evolutionary drift outside of executive control
- Emergent properties unpredictable from inputs

Complexity is not always a reflection of sloppy thinking; sometimes it is the insightful recognition of the essential nature of the situation.

VARIABLES: More actors, issues, constraints, markets

INHERENT INVISIBILITY: The thousands of conversations, glances, and jokes that create a corporate culture

CAUSALITY: In such an environment, planning can be surprisingly impotent

SENSITIVE: Can't back out of a failed experiment; the system is irretrievably changed. Consequences may be much greater than the scale of the initial action

EVOLUTIONARY DRIFT: Executives are *part of the system*, not operating on the system

EMERGENT PROPERTIES: In complex systems there are properties of the system that are unpredictable from the parts.

The classic example is human **consciousness**. There is nothing about the brain that would suggest it would give rise to the mind.

Birds **flocking** is another example. It looks like must be a Lieutenant bird leading the pack, but each bird is following a few simple rules and the net result is the flock turns together, flows around trees and buildings, and lands in formation. In the business environment, **markets** are the result of a huge number of buyers and sellers. **Corporate cultures** are the net result of innumerable conversations, eye rolls, glances, gestures, and stories shared among employees.

Hierarchical Response

- Impose simplicity
- Increase visibility
  - More use of metrics
  - Proliferation of Balanced Scorecards
- Increase controls
  - Pay and bonus linked to measureable results
  - Ease of measurement leads to shorter time frames (monthly, quarterly)
- Increase accountability
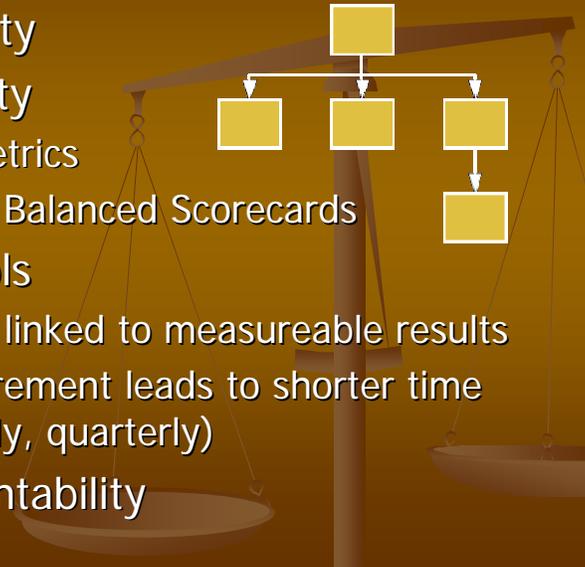
SIMPLICITY:

    the executive summary

    constrained to 3 bullet points

    talking points

ACCOUNTABILITY:

    creating drill-downs on business metrics, as if any part/level/person could take action to influence the situation.

For example, look at how we approach **performance management**.

    - individual focus

    - SLA's

    - rewards and bonuses to constrain behavior externally

We could make similar comments about project management or new product launch.

All attempts to increase predictability, to focus or constrain the situation; all feed a sense of driving our own destiny.

Complex Response

- Embrace the complexity and uncertainty
- Focus on learning more than driving
- Look for leverage points rather than total control
- Expect (and leverage) emergence
    - Learn to "seed" events
    - Favor conversations over announcements
- Learn to respect the incidental and the trivial
- Acknowledge your own subtle role in the mess

LEARNING: Curiosity is more important than will

LEVERAGE POINTS:

YOUR ROLE:

Executives don't want to believe that they way they **think** about something could be influencing it. But their frame of minds distorts their perceptions and shapes their expectations. And it is contagious, limiting the creative thinking of everyone they come in contact with; a wise executive will learn to contradict themselves, or pull for other perspectives. Or ask for an empirical test rather than treat their opinion as if it were fact.

Three Vulnerabilities
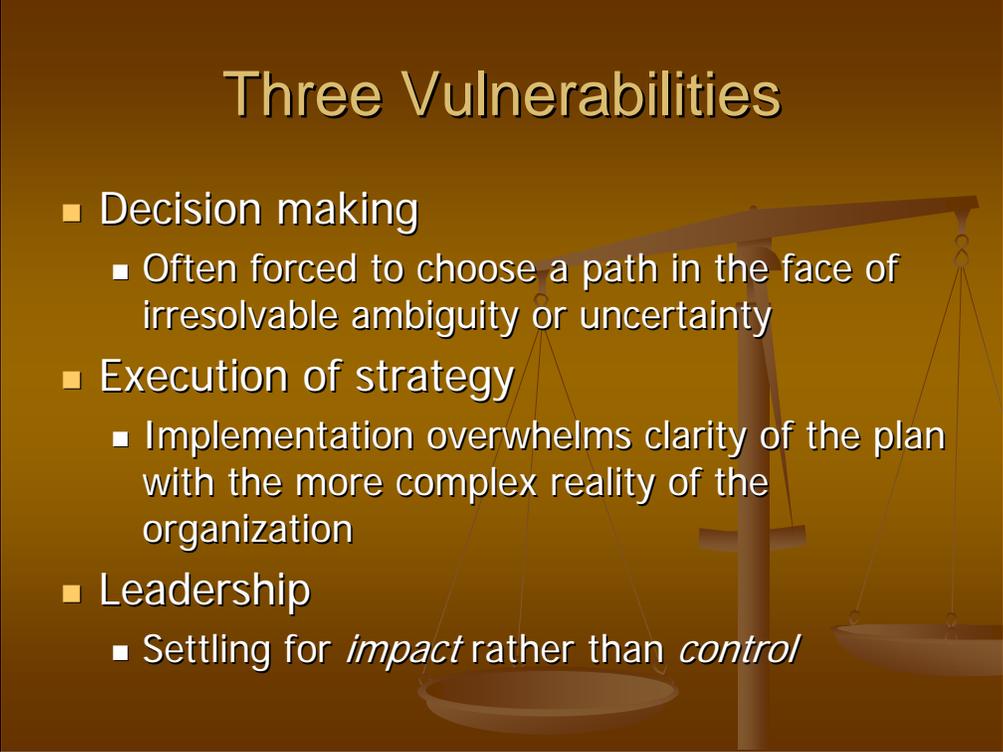
- Decision making
  - Often forced to choose a path in the face of irresolvable ambiguity or uncertainty
- Execution of strategy
  - Implementation overwhelms clarity of the plan with the more complex reality of the organization
- Leadership
 - Settling for *impact* rather than *control*

Let's take this discussion from the more abstract to the more concrete. Where are we most likely to stumble over complexity? Where are we most likely to decide ourselves about our ability to control and contain? When is the assumption of simplicity most likely to lead us to dangerous ground?

Decision Making

- Decision Forums
  - Individual
  - Group of Equals
  - Boss → Subordinate
  - Collectives
  - Inter-Organizational
- www.DecisionMaking2.com for more details

Collectives are of special interest since they typically arise when the problem itself is complex rather than simple or even complicated.

Collectives
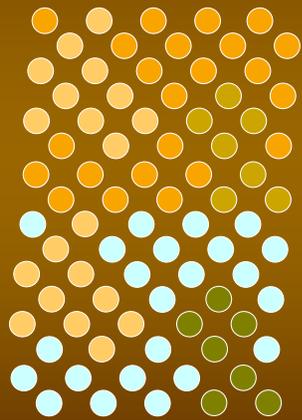
The problem

- Typically invoked to address inordinately complex problems
- Conflicting interests and perspectives
- Lack common culture
- Ambiguous decision-making rights
- Process is fragile

Large group of decision makers

Diverse org'l levels and functions

Different sites and time zones

COMPLEX PROBLEMS

But our concern is with the complexity of the decision forum itself. The complexity of the problem just ensures we'll never be bored.

AMBIGUITY:

People with expertise may not have authority

People whose cooperation is necessary may have "de facto" decision rights

Often no clear decision-making process

FRAGILE PROCESS:

Anyone can escalate decisions to different authorities;

the membership constantly shifts, which inhibits the development of trust and understanding.

Decision Making in Collectives
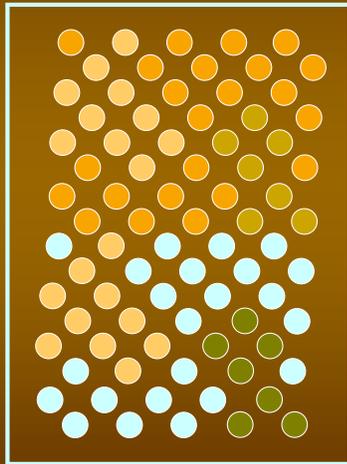
Some solutions
- Make the collective aware of itself
- Focus on criteria for good choice
- Leverage technology to enhance communication
- Decision principles
- Use default decisions
- Delphi processes

SELF AWARE:

    members, shifting membership,

    role = DM | information | representative of a constituency,

    function = mindset, (Engineering VS. Marketing VS. Tech Support)

    perspectives, interests,

    any common ground

TECHNOLOGY:

    video conferencing (assuming there are relationships in place)

   blogging

    (virtual meeting rooms)

DECISION PRINCIPLES:

    No one has veto power

    Alignment with strategic direction is required

DELPHI PROCESS

    Members contribute their opinion anonymously

    The distribution of opinion is fed back to the group

   The process iterates until a consensus emerges

How We Execute

Overall Strategic Objectives

Marketing Objectives

New Product Development Objectives

Manufacturing Objectives

Hierarchical decomposition of goals; foundation of budgeting, measurement and control structures
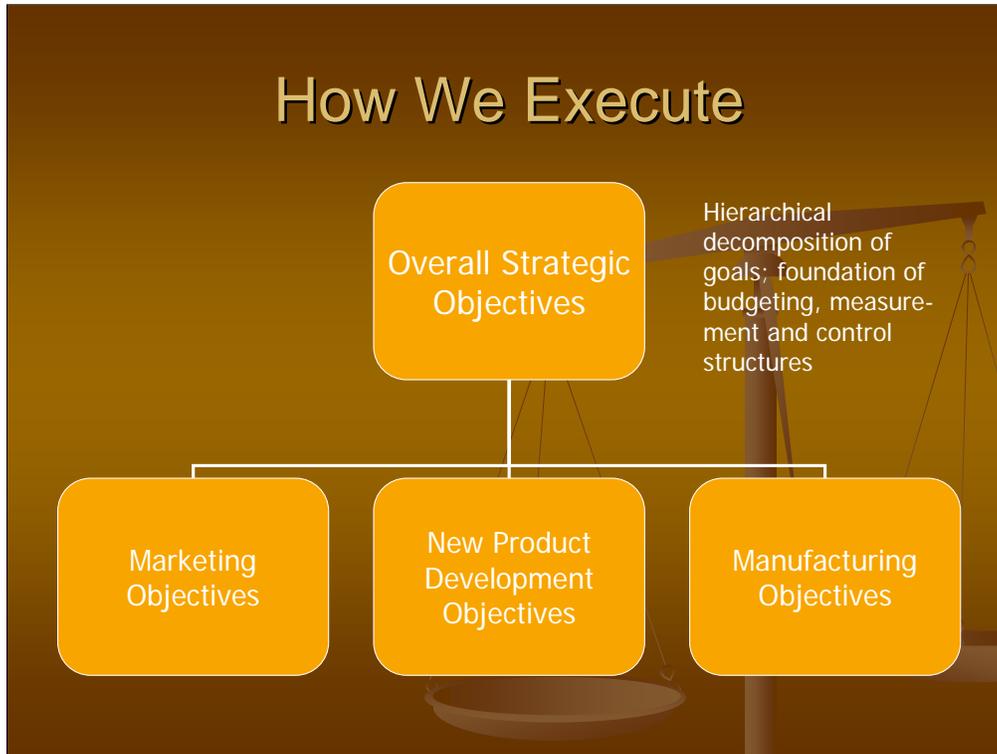
It's the same model we use to organize people, to structure budgets. It's based on the assumption that the whole is just equal to the sum of the parts, and it's predictable from the parts. So it's OK to segment the effort into the organizational silos with which we're comfortable.

The complexity perspective warns us that the whole is often much more than the sum of the parts, and that it's often something different than we predicted or expected … or wanted. But most of all, complexity tells us that once the whole is cut, it is lost.

Execution of Strategy

- Provide a clear definition of "life and death"
- Infuse organization with meaningful feedback from the environment
  - Some feedback should be rich, unstructured

- Attend to "thinking with the plan"
  - Back away from our obsession with "results"
  - Ask for cases on the fringe
  - Treat error as a resource
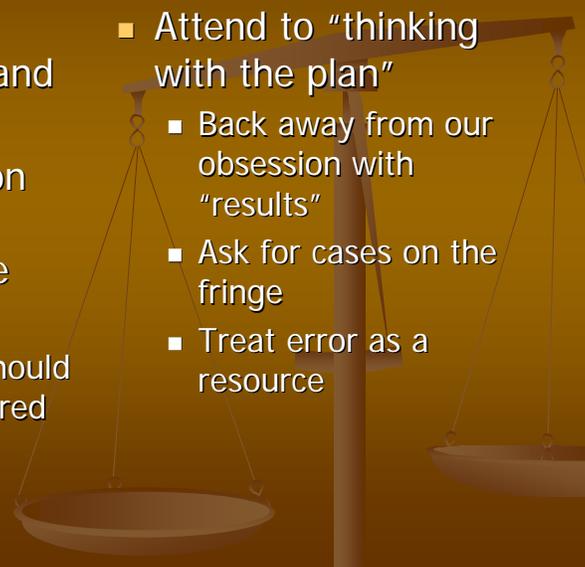
THINKING with the PLAN

    Stop "selling the plan" and start listening

CASES on the FRINGE:

    When did our strategic plan fail to provide clear direction?

    How do you decide what to do then? (Look for the unarticulated plan)

    Encourage thinking rather than compliance

ERROR

Shortfalls between what we expected or wanted and what we actually got are to be expected. Rather than assume someone made a mistake and needs to be coached, counseled, or replaced, treat the shortfall as an opportunity. The clients you failed to land are more revealing about the shifting marketplace than any other. Conversations about "mistakes" are the life blood of the organization, because they are the opportunity to better understand the environment and consider alternative responses. They are the chance for the complex system to adapt and adjust. That is more valuable in a complex situation than merely doing what was predicted or expected.

Leadership

- Moving from the "machine model" to the "organic model"
  - Leverage points rather than control
  - Acknowledge being "in the system" rather than pretending to "run the system"
- Own up to the power of culture
  - Listen for it (talk to newest employees)
  - Stories rather than directives
  - Symbols rather than words
  - Modeling rather than directing

In the machine model, directives and orders flow down the organizational chart; information on compliance and results flows back up. When change is needed, it is debated at the top and distributed out to the troops.

The real power of leadership is not their expertise or their experience. It is their ability to **frame the issues, to take a lead in "sense making".** The daily actions of even a few hundred employees is beyond the reach of even the most energetic executive.

LEVERAGE PONTS: Don't believe in the organizational chart. It isn't the territory; it's only a map … and a poor one at that. Look for communities of practice instead. Look for the social networks of influence and association that people live in. Remember that the legal boundary of the organization doesn't stop people from communicating and being influenced by people outside the company. When I ask people to tell me who helps them set priorities, or who helps them understand what's going on in the company, less than half will name their boss.

IN THE SYSTEM: I often tell executives that you don't **control** the organization, you **ride** it.

THE POWER OF CULTURE: Culture is the soup of symbols and meanings within which people make sense of their situation. It is self-organizing. It is the limit of the organization. The culture decides whether you will have

       innovation or just loss of focus,

       collaboration or collusion,

       accountability or just narrow-minded thinking

       real alignment or just compliance

Unfortunately culture is invisible to most executives. They are blinded by their proximity to the organization, and sometimes by their refusal to admit that something else is greater than their will and direction.

Questions?

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I have tried to suggest three areas where our assumption of simplicity is likely to confound our attempts to manage an organization. And I have suggested how a response based on the assumption of complexity would take you in different directions.

I'm well aware that I've raised more questions than I've answered, but that is the appropriate stopping point for a consideration of complexity. Organizations are internally more compex than we realize, and they are increasingly attempting to play in more complex arenas.

I hope this presentation has been provocative and confusing, and that it spawns more reflection and conversation. I'm glad to be a player in those conversations; it is the crux of my practice and my own personal passion. Please feel to call and chat.