Decision Decision

The Essential Steps between Problems and Solutions

March 04 2005

The Decision before the Decision

Before we start the process of making a major decision, there's something we do, whether implicitly or explicitly: Make a decision about how to make *the* decision. At its most fundamental, this *decision decision* means choosing between winging it and using a structured decision making procedure. If we opt for the latter, we will then face the second decision decision: Precisely *how* should we structure the decision making process – both to avoid disasters and to discover winning choices?

You and your fellow senior executives are smart people. Surely you don't need to follow a plan for your deliberations? Why, that's a cheat sheet, a crutch. Perhaps you might grant the wisdom of structure when considering a multi-billion dollar corporate investment? Or before committing to a major merger or acquisition? Or to a pronounced shift in strategic direction? Even if you would consider structuring your executive discussions for such matters, if you're like most businesspeople, you will improvise when it comes to settling on a new hiring policy, selecting an advertising agency, shaping a compensation policy, or even entering a new market.

Most companies apparently don't structure even the biggest of their decisions. Companies with long histories, sophisticated structures, and seasoned leaders can still wander into disaster. Royal Dutch/Shell's recent misadventure with its estimates of oil reserves illustrates that. Merck's (and the FDA's) relatively slow recognition of problems with Vioxx compares unfavorably with Kaiser Permanente's early detection of problems. The difference? Kaiser used adverse reaction epidemiology, whereas the other two organizations lacked a structured early warning process.

Yes, yes, many companies make stupid decisions, most executives will readily grant. But *we're* different, they will continue. *Those* people were smart, but we're even smarter! And we've learned from their mistakes. Keep your slow, structured decision processes, I hear them say. We don't need them.

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That response coming from an executive team convinces me completely. Not of the claim being made, but of the piles of research showing our tendency to be overly optimistic – to assume an exaggerated level of cognitive competence for ourselves and our team. Cognitive psychologists, social psychologists, neuroscientists, and behavioral economists would predict just such dangerously intoxicating confidence. When decision makers assemble, additional flaws, as well as strengths, are common.

Groups often do better than individuals at recognizing an answer when one emerges. When group input is structured and filtered correctly, the group often comes up with an answer more accurate than any of its members. More typically, inadequate or poorly conceived structuring of collective cognition generates distortions from groupthink, organizational politics, dispersal of information, and charismatic or hierarchical suppression of disagreement. The overall effect is usually to produce more extreme decisions. For complex decisions, the solution is to structure, not abandon, group processes.

Why Not Wing It?

As one of the most innovative, challenging, and independent management thinkers, Henry Mintzberg's views on decision making deserve to be considered. Mintzberg has advocated an emergent approach to strategy that involves more intuitive or action-oriented forms of decision making. In a 2001 article, Mintzberg and Frances Westley claimed that a "thinking first" approach to strategy can interfere with a deep understanding of the issues. They recommended complementing this structured, formal approach with two other methods: "seeing first" and "doing first".

According to their view, "seeing first" – creating a picture with others – works best when many elements must be combined into creative solutions, and commitment to the solutions and communication across boundaries are essential. This approach does better than analysis at surfacing differences and in establishing a true consensus. They recommend "doing first" — going ahead with an action in order to learn –when a situation is novel and confusing.

Parts of this recommendation could lead to trouble. Companies face novel and confusing choices when confronted with disruptive

technologies. Should they then throw out formal planning and act first? On some level, perhaps, but formal planning can make the most difference precisely when organizations confront large changes, high uncertainty, and shifts in the competitive environment. On the whole, seeing first and acting first *can* have benefits, but they are usually *not* alternatives to structured decision making. They are *part* of it.

Structuring the decision making process does not imply forcing every step into a linear, 'rational' mode. It implies using whichever mode has been shown most effective at each stage. "Seeing first" should form part of the way we identify the problem, as well as how we generate alternatives. "Doing first" has a stronger claim to be a genuine alternative. But there's no reason why a structured procedure can't make deliberate use of planned experiments to test assumptions and to create and explore options.

By integrating these "doing first" experiments into a structured process, we can figure out the likely costs, as well as the option value and learning value, of experiments. Furthermore, small versions of "doing first", when located on the front lines and deployed as rapid responses to perceived opportunities and problems, may be exactly what you want managers to do within the broader boundary conditions of the overall plan.

Won't It Take Too Long?

Following a structured decision making procedure may seem like a lot of trouble. When we expect a decision to have profound consequences yet lack urgency, we will have little trouble seeing the sense in structure. But, for other decisions, won't structured decision making be terribly time-consuming?

For major decisions made by groups of any kind, using a structured method will probably *save* time, not consume it. Structuring the decision making process helps us more effectively recognize and resolve differences between members of the group regarding objectives and assumptions. The process will focus members of the decision making team on the central issues, cutting out pointless discussion of irrelevant or peripheral issues. The structure of the discussion will also improve communication and collaboration. If we structure the process *wisely*, we will reduce errors and therefore save the time required in future to revisit decisions, repair the damage done, and recoup the losses sustained.

Is it always necessary to use a systematic procedure for making decisions? Of course not. Faced with a choice that's simple, minor, and expected, you can wing it. Even in some situations where your choice will have major consequences, unaided judgment can produce excellent results. These are urgent situations where you *must* decide *now*, and where you possess deep expertise that enables you to recognize the state of affairs as relevantly similar to others in your experience. (Gary Klein detailed this type of problem solving in *Sources of Power* several years before Malcolm Gladwell's popularization in *Blink*.)

For all other choice situations, we face a conundrum: How can we know that we can safely rely on intuition or rules of thumb unless we've worked through a systematic procedure to determine whether or not we need to use a systematic procedure? Except for the most trivial of decisions, you should run through the main steps of the decision process and consider whether you could apply one or two of the tools. You might quickly check your assumptions, consider your biases, or generate more alternatives by sketching a mind map, reflecting on metaphors, or by free associating.

If you're worried that following only part of the procedure might make things worse, don't. Each stage of the process yields benefits independent of the others. Even if you don't use leading practices to analyze consequences, you can't go wrong by clarifying the problem. You'll catch problems quicker if you monitor the implementation of your decision, even if you failed to consider more than a couple of alternatives.

Those who manage only limited applications of structure should be heartened by reviews of the literature on strategic planning. Meta-analysis found that very few organizations structured all aspects of the planning process (setting objectives, generating strategies, evaluating strategies, monitoring results, and securing commitment). Still, these partial uses of structured planning were accompanied by higher profitability in almost three-quarters of the companies.

Benefits of Structuring Decisions

In recommending structured decision making, I don't want to leave the impression that I'm recommending following "best practices." Adopting a structured method of the kind I'm talking about means adopting and developing *leading practices*. Best practices reflect the reported methods shared by successful companies; leading practices reflect methods based

in our soundest knowledge of what works. Best practices represent the vicissitudes of success; leading practices represent the evolution of social scientific knowledge. You can't expect to apply just *any* structured procedure and produce good results.

Despite the popularity of SWOT analysis, especially in business schools, it cannot be considered a valid, leading practice. To put it bluntly: Do NOT use SWOT! This approach violates one of the strongest points made by Mintzberg and Westley, by failing to separate idea generation from evaluation. If planners using SWOT believe they have done their job, they may fail to engage in crucial steps such as clarifying objectives, calculating consequences, or monitoring outcomes. According to Armstrong (2004), despite the great popularity of this method among marketing students, he was unable to find any evidence to support the use of SWOT, but did uncover recent research showing that SWOT harmed performance for marketing strategies.

Structuring the decision process according to the soundest knowledge embodied in leading practices leads to a range of benefits:

- Reduces bias and strengthens objectivity by controlling unstructured judgment and unfounded inputs with a systematic framework.
- Enhances convergent, analytical capabilities and improves focus by imposing limits.
- Enhances divergent thinking, creativity and free flowing generation of alternatives.
- Reduces risk by discovering more threats and evaluating their seriousness.
- Improves each step of the decision process by drawing systematically on the best available knowledge.
- Minimizes both excessively risky and excessively conservative judgments by integrating perspectives.
- Improves organizational transparency (especially when the procedure is communicated), and facilitates performance reviews and audits.
- Improves understanding of directives and strengthens commitment to decisions.

- Clarifies complex, uncertain problems, accelerating decisions while improving accuracy and confidence.

Seven Steps to Structure

Structuring can be applied to the composition of the decision group itself. To reduce the danger of groupthink – cognitive conformity, premature consensus, and charismatic control – organizations have options even before taking the first structured step in the decision procedure. One possibility would be to restrict the size of the group to no more than three individuals, while maximizing the number of people giving input to these decision makers.

If reasons exist for involving more people in the decision group, the organization can encourage a healthy diversity of views by using "dialectical inquiry." This technique simply introduces a subgroup format into group interaction in order to enhance cognitive conflict. An equally effective option is to use the devil's advocate procedure, in which the group temporarily assigns one or more decision makers the task of challenging assumptions, inferences, or forecasts.

We can improve our odds of making good decisions if we separate the various stages of the process. For simple decisions, we might run through the stages in one sitting. For complex decisions, we might devote one or more sessions to each stage, and the people involved in each session might vary, expanding and contracting around a core. Hammond, Keeney, and Raiffa set out five main steps in their 1998 book, *Smart Choices*. Their "PrOACT" formula reminds us to focus on the Problem, Objectives, Alternatives, Consequences, and Tradeoffs.

We can chop up the decision making process in other ways, highlighting more or fewer steps. Some experts suggest a first step of "Environmental or Situation Analysis". My own seven preferred steps assume that you already know that you face *some* kind of problem. Whether you're considering making a fundamental change in your business model, trying to figure out how to modify an existing product or a compensation scheme, or evaluating an investment, you should distinguish these seven stages of the decision process:

- Identify Problem
- Determine Objectives

- Generate Alternatives
- Consider Consequences
- Choose
- Implement
- Monitor, Test, and Revisit

Identify Problem: As we start to consider a problem that we've noticed or that has been brought to our attention, we run into the first danger. We will be tempted to immediately try to solve the problem *as we perceive it*. A brilliant solution to the wrong problem, or a complete solution to only part of the full problem, will guarantee that satisfaction soon decays into frustration. Resist the urge to declare, "The problem is obvious, let's get on with solving it."

The crucial first step in making a decision is to identify and clarify the full nature of the problem or choice, taking into account its context, and to check your assumptions. When Royal Dutch/Shell sued Greenpeace for occupying the Brent Spar, an oil-storage platform that it wanted to sink into the North Atlantic, it may have assumed that its problem was: How do we stop these pests as quickly as possible? As the disastrous publicity that followed suggests, the company would have done better to enlarge their framing of the problem beyond technical and legal factors to include factors of emotion and public reaction.

Assumptions and cognitive frames can powerfully influence our thinking, making it crucial to be aware of these constraints. (For the taxonomically inclined, frames are more personal than paradigms, and narrower than mental models.) Nobel laureate Daniel Kahneman has detailed the dangers of framing traps. Here's a simple example of a framing trap: You have to choose between option A and option B, both of which lead to painful outcomes. Decision makers who frame option A as cutting production and losing 3,000 jobs out of a total of 5,000, may be much more inclined to choose option B than if they had framed the choice (equally accurately) as saving 2,000 jobs out of 5,000.

To arrive at a clearer view of the real problem, you can use tools such as problem restatement, the causal flow diagram, the fishbone diagram or the why-why diagram. These methods push decision makers to ask "why?" at multiple levels, encouraging them to burrow down to the core issue. These methods form the first part of the "squeeze and stretch" method. To stretch a problem in a way that puts it into a broader context,

ask *what* the problem is about, then ask the same question again about the answer you came up with.

To avoid the framing trap, you can conduct what Paul Schoemaker and Edward Russo call a "frame audit." This involves surfacing your frames by representing them visually. It also means understanding the frames of other parties. In the Shell case, that would have included environmental groups and the public, but it could include customers, competitors, alliance partners, and suppliers – a form of stakeholder analysis. Other ways to check your assumptions and check your framing of the problem include actively seeking out new frames, examining the apparent problem through multiple frames, and switching your current metaphor with a fresh one.

Determine Objectives: Many of the same considerations apply when it comes to clarifying your objectives. Just as you need to be sure to solve the right problem, you need to be lucid about your objectives since they will determine what counts as a good decision. The why-why method comes in handy here. You can also use the five-step process suggested by Hammond, Keeney, and Raiffa [1998]: 1. Write down all of the concerns you hope to address through your decision. 2. Convert your concerns into succinct objectives. 3. Separate ends from means to establish your fundamental objectives. 4. Clarify what you mean by each objective. 5. Test your objectives to see if they capture your interests.

Generate Alternatives: One of the most damaging defects in the way most organizations go about making decisions is the failure to consider an adequate range of alternatives. Our minds naturally tend to grab onto answers and cling to them, without fully considering alternatives. It can take a heroic effort to keep the mind open. Structuring the decision process can help by mandating methods to force open our cognitive portals at the right times.

The critical principle here – one almost universally ignored – is to strictly separate critical evaluation from creative exploration. The analytical, convergent forms of cognition involved in criticism and judgment are utterly *crucial* to our ability to survive and thrive. Without them, executives would be sitting in their meeting rooms with cardboard pyramids on their heads, listing for answers to their problems in the "vibrational energy" of the cosmos. But a hammer is not the only tool, and it's not what you use to hold items in place or to paint walls. To discover the best path to take,

you need to hold back on the powerful chisel of critical reason until you have enough material to work with. That means reserving an inviolable space for divergent, creative thinking.

The decision you finally settle on can be no better than the best of the alternatives you have considered. By expanding your option space to an optimal (not maximal) size, you raise the expected value of your eventual decision. If your decision makers can make full use of this stage of the structured process, not only can you expect to uncover more valuable choices, you will enhance organizational adaptability: better options lead to stronger future states, and recognizing more options enables faster and fitter responses to changes in competitive conditions.

One set of guidelines for generating more effective alternatives is provided by Hammond, Keeney, and Raiffa: 1. Use your objectives – ask "How." 2. Challenge constraints. 3. Set high expectations. 4. Do your own thinking. 5. Learn from experience. 6. Ask others for suggestions.

You'll find no shortage of methods for generating strategies that can stake a claim to being leading practices. Some of the most promising to try out are synectics [Bouchard, 1972], brainstorming, mind mapping, rolling in the grass of ideas, analogies and metaphors, association, direct analogies, nominal group conferencing, brainstorming, lotus blossom, storyboarding, excursion, and morphological analysis. (A good source is Higgins (1991).) A more technically advanced (and expensive) tool which is also useful for forecasting in certain conditions, is agent-based simulation.

Consider Consequences: This step includes forecasting outcomes and considering tradeoffs. You can apply the standard tools of decision analysis and risk assessment, as well as real options analysis, and many other methods. Hammond, Keeney, and Raiffa show how to construct a consequence table, which helps to compare expected outcomes once you have determined what you expect them to be. Their swap method structures the task of comparing the consequences of alternatives when tradeoffs are involved.

Choose: Once you have clarified and compared the consequences of the alternatives you generated, you can consider them in light of your objectives, then select one. Some useful tools here are the decision-event tree, the utility tree and utility matrix, the screening matrix, and dot-voting.

[Higgins (1991), Jones (1998)] A more elaborate approach, when time allows, is the Delphi method. Before settling on a choice, it would be wise to reapply devil's advocacy.

Implement: The business literature is well stocked with pointers on implementation. One of the less publicized findings is that scenario planning is especially effective at gaining acceptance of forecasts involved in a decision. Some other useful methods for preparing for this step include the how-how diagram and force-field analysis. [Higgins (1991)]

Monitor, Test, and Revisit: Warning: It's too easy to skimp on this step. Daniel Kahneman has remarked that, although executives show much interest in the need for mechanisms to review how they make decisions, they also strongly resist learning from their mistakes by keeping track of decisions. When it comes to setting up a system to evaluate a record of biases, errors, and off-base forecasts to create a more rational process, "they won't want to do it". What evidence exists, suggests that very few companies use a systematic procedure for monitoring the success or failure of their strategic plans.

All those sensible points made by advocates of the "learning organization" apply here. It's important to set up a process for codifying your mistakes and learning from them systematically. If monitoring is to provide useful information, it should include actions taken by the organization and by competitors and the subsequent outcomes, as well as changes in capabilities and the environment. The monitoring system should include clear performance standards, metrics, and milestones. Failure of outcomes to track these markers should trigger alerts and activate corrective action and previously identified alternative options.

Although you should be guarding against biases, framing traps, groupthink, and other cognitive and organizational biases throughout this process, it's helpful to test your process again when you've reached the end. Here are eight common psychological traps that affect business decisions:

- The anchoring trap (affects forecasts)
- The status-quo trap (restricts consideration of alternatives)
- The sunk-cost trap (distorts thinking about costs and benefits)
- The confirming-evidence trap (damages objectivity)

- The framing trap (distorts the way the problem is defined)
- The Estimating and Forecasting Traps: 1. The overconfidence trap. (Leads to overestimating the accuracy of forecasts involved in the decision.) 2. The prudence trap/risk aversion. (The tendency to be overcautious in uncertain, risky situations.) 3. The recall ability trap. 4. Availability/recency bias. (The tendency to overweight recent and vivid events.)

Customized Structure/Structural Spheres

In large companies, the most determined efforts at structured decision making are found in the strategic planning process. We might expect formal planning to be especially valuable when markets are inefficient (creating exploitable opportunities), changes are large, and uncertainty and complexity are high. At ManyWorlds, we see strategy and decision making as being deeply interconnected, with strategy being "meta-decision" making, that is, a framework to guide subsequent decisions. As we stated in "Decision Making in the Innovation Economy", this means a fusion of strategy, decision-making, and intellectual capital development and management. [ManyWorlds (2002a)]

Companies can structure their strategic planning processes more effectively when they understand the quite distinct forms this can take. ManyWorlds CEO, Steve Flinn, recently mapped out the strategy development space in "What is Strategy?" [Flinn (2004)]

If structuring can benefit a complex process like decision making – including its creative elements – could it be put to good use in other crucial spheres of corporate activity? The answer is: definitely. Some applications come to mind immediately (though the relevant leading practices may take more digging):

- Risk management – including the tasks of scanning effectively for threats, risk identification, integrating information from multiple and diverse sources, qualitative impact analysis, quantitative impact analysis, risk response planning, taking action, monitoring control, and learning from the results. Despite the Nobel Prize winners in Long Term Capital Management, it failed to use leading practices by assuming bell curve distributions rather than power law distributions. [Buchanan (2004)]

- Valuation of projects – Numerous methods are available here. For a promising approach to integrating real options and discounted cash flow, see van Putten (2004).
- Compliance – simple checklists provide a good start.
- Corporate ethics and responsibility processes.
- Governance.

Other crucial areas for businesses that can benefit from structuring according to leading practices include:

- Innovation processes [ManyWorlds (2002b), Flinn (2002a]
- Strengthening organizational growth [Flinn (2002c)]
- Forecasting – this crucial input to the decision process could be vastly improved. The best collection of leading practices is provided in Armstrong (2001).
- Strategic partnerships – A "partnership model" has been proposed to structure decisions about whether and how to partner. [Zadek (2004)]
- Tuning customer and product lifecycle processes [Flinn (2002b)]
- Choosing an advertising agency – Armstrong (1996) suggests empirically supported criteria for strategy in the areas of objectives, target market research, and persuasion research findings, and for tactics in the areas of creativity techniques, copy alternatives, copy testing, media alternatives, media testing, capabilities of the team, and taste, legal, and ethical guidelines.
- Managing conflict. [Weiss and Hughes (2005), Stone (2000)]
- Negotiation – Sample questions for an "audit" of the letter and spirit of your deal are provided in Sebenius (2003).
- Laying off employees – P&G protected its corporate reputation and employee productivity by using four guidelines of Prediction, Understanding, Control and Compassion. [Sutton (2003)]

Structuring can also yield major benefits in these areas:

- Technology and environmental policy making More [(2004b)]

- Evidence-based medicine – requires physicians to examine evidence from clinical research, apply formal rules of evidence to evaluate the clinical literature.
- Nonprofit mission control – nonprofits can wander away from their mission when considering earned-income ventures. Bradach and Foster (2005) set out a procedure to prevent such missteps by imposing rigorous discipline on the evaluation of opportunities.

If you want to explore how to structure your strategic planning and other critical activities according to leading practices, please contact ManyWorlds.

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