Presenting:

Effectively Communicating the Benefits of Decision Analysis to Executives
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Effectively Communicating the Benefits of Decision Analysis to Executives

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The Question…

Why hasn't DA taken the corporate world by storm?

- What are the challenges in communicating DA?
- As practitioners, what are we doing right, doing wrong?
- How can we do a better job?

Getting Some Answers

- Executives from a wide variety of industries were interviewed.
- Every interviewee was familiar with DA; several have been practitioners themselves.

Interviewees Were From the Following Industries

- Venture Capital
- Logistics/Distribution
- Health Care
- Manufacturing
- Web Portal
- Telecommunications
- Software

Interview Questions

1. What is the single biggest stumbling block to communicating DA to a senior executive?
2. What do most DA practitioners do wrong when presenting to senior management?
3. From a senior management perspective, what is DA's greatest asset?
4. What is DA's greatest liability?
5. What would it take to get DA on the corporate "radar" screen in your industry?

Question 1: What Is the Single Biggest Stumbling Block to Communicating DA to a Senior Executive?

- **Executive ego**
- **Executive's internal thought process**
  - Most successful executives intuitively apply options theory
- **Management's lack of understanding of DA and the notion of uncertainty in general**
- **Much of the business world perceives DA as an esoteric, academic exercise or just a buzzword**
- **Concern about time, money, and complexity**

Question 2: What Do Most DA Practitioners Do Wrong When Presenting to Senior Management?

- Excessive quantitative emphasis/black box image
  - Need to keep things simple without being simplistic
- Focusing on process rather than on solutions to business problems
- Ignoring the psychology of decision-making, e.g., assuming that the executive's sole goal is to maximize shareholder value
- Not having sufficient industry knowledge

Question 3: From a Senior Management Perspective, What Is DA's Greatest Asset?

- *Handling Complexity.* DA provides a way to quantify the impacts of complex problems in a structured and efficient manner.

- *Providing Consistency.* Implementing DA in a systematic fashion reduces dependence on key individuals, avoids hunches/ego, and encodes embedded knowledge.

- *Creating Insight.* Value of information/control calculations create insights to make better decisions.

Question 4: What is DA's Greatest Liability?

- Level of detail, time, and money required
  - Fear of paralysis by analysis
- Lack of flexibility in interpreting the results
  - Normative analyses don't always fit nicely into the executive's "big picture"
  - No one wants to feel "locked into" a course of action
- The distinction between outcomes and decisions can work against buy-in to a DA approach

Question 5: What Would It Take to Get DA on the Corporate Radar Screen?

- Find the evangelist, like GE with Six Sigma, and show people the way/create a cult
- Need a "red-hot" person to implement DA successfully in his/her part of the operation and a "top-down" advocate as well
- Demonstrate the benefits of DA with industry-relevant examples
- Make DA part of a broader toolkit
- Demonstrate how DA and Six Sigma can work together efficiently and effectively

Insights from DA Seminars for Executives

- **Demonstrating how to quantify and use the value of information creates the biggest "aha"**
- **Walking through a real, industry-relevant case study is essential to get buy-in**
- **Key elements in the case study should include:**
  - How DA clarified the structure of the decision problem (strategy table, tree, or influence diagram)
  - How sensitivity analysis reduced the size and complexity of the decision
  - How to interpret the probabilistic results in terms of risk and return
  - Results and implications of value of information

Conclusions and Recommendations

Address the "stumbling blocks" and "liabilities"

- **Executive ego and thought processes** - Study the psychology of executive decision-making

- **Lack of understanding of DA and concept of uncertainty** – Educate

- **DA is a buzzword and/or an academic exercise** – Present industry-relevant, solutions-focused case histories demonstrating the value of DA

- **Concern about paralysis by analysis** – Show how DA makes a complex situation _more_ manageable not less.

Conclusions, continued

Address presentation issues

- KISS principle
- Focus on outcomes and solutions to business problems, not process
- Know your industry, use real examples
- Use value of information/control/flexibility to show opportunities

Emphasize the "assets" of DA

- Consistency
- Managing Complexity
- Providing Insight

Detailed Interview Results

Question 1: What Is the Single Biggest Stumbling Block to Communicating DA to a Senior Executive?

Venture Capital
--Biggest Stumbling Block--

- Decision analysis is often perceived as a buzzword, more of an esoteric concept
- The business world in general does not have much understanding of the term
- If there is some understanding, there is often the perception that DA is more of an academic exercise and is not very practical
- It gets down to ego—the executive's perspective is "I'm paid to use my brain and I'm on the line."

Logistics/Distribution
--Biggest Stumbling Block--

- The inherent conflict with senior management's ego: they are getting paid to make the complicated, tough decisions, how could a "packaged" approach help? They view making decisions as a blend of gut feel and deep knowledge of their industry.
- Senior management may lack the knowledge to feel comfortable knowing which decisions are appropriate applications for DA tools
- Concern about the time and money needed to follow a DA approach

Health Care
--Biggest Stumbling Block--

- Traditional DA approaches tend to focus on the uncertainties affecting a current decision rather than on the dynamic nature of downstream decisions

- Most senior executives got to their level because they intuitively understand both the complexity and the importance of keeping their options open

- DA approaches based on options theory tend to have much simpler uncertainty structures but they implicitly have a much richer dynamic structure with respect to the nature and timing of downstream decisions.

Health Care, continued
--Biggest Stumbling Block--

- An options-based approach is much closer to the way most executives think about major decisions.

- Most senior executives are not in the business of maximizing expected subjective utility, although they would not want to admit it.

- Most DA practitioners wrongly presume that executives are in the business of maximizing expected subjective utility and this disconnect causes lots of problems.

Manufacturing
--Biggest Stumbling Block--

- Concerns about the time and resources needed
- Are there demonstrated results applicable to their situation?
- An attitude of "what we do we know well enough—who needs new theories?"

Web Portal
--Biggest Stumbling Block--

- "It's difficult to keep things simple while also communicating the value." This creates a tension between two extreme reactions:
  1. this is too complex, we need to start with something simpler, and
  2. if this is so simple, why can't we do it with the resources we have now?

Telecommunications
--Biggest Stumbling Block--

- **Understand executive motivations**
- **The notion of uncertainty is not well understood and is often not part of the equation -- the push is to minimize defects (e.g., customer trouble reports).**
- **Communicating DA effectively will require**
  - showing management the value of looking at their business through a DA perspective, and
  - educating them about addressing uncertainty as a concept broader and distinct from minimizing defects

Software
--Biggest Stumbling Block--

- Lack of familiarity with, awareness or interest in forward-looking quantitative management methods
- Probably fewer than 25% of software executives have a quantitative background beyond accounting
- Lack of a measurement-based approach to their business
- Inconsistency of DA with current strategic planning approaches
- Perception of DA as creating paralysis by analysis

Question 2: What Do Most DA Practitioners Do Wrong When Presenting to Senior Management?

Venture Capital
--Mistakes in DA Presentations--

- Being too complex and trying to be too precise and/or complete.

- The approach/analysis needs to be pragmatic rather than "perfect"

- Demonstrate the 80/20 rule

Logistics/Distribution
--Mistakes in DA Presentations--

- Giving the impression that utilizing DA involves a huge effort and the creation of a "black box"

- He has been "underwhelmed" at the lack of preparation, industry understanding, and analysis in most presentations

Health Care
--Mistakes in DA Presentations--

- DA practitioners ignore the lessons of psychology at their own risk.

- Practitioners need to learn from descriptive models of decision making to understand how executives think and the implications for their decision making

- A normative recommendation won't necessarily have traction

Manufacturing
--Mistakes in DA Presentations--

- The major problem is not knowing the business

Web Portal
--Mistakes in DA Presentations--

Two common mistakes:

1. bringing in too much mathematics
2. focusing too much on process rather than on solutions to business problems

Telecommunications
--Mistakes in DA Presentations--

- Biggest mistake is not having the relevant industry knowledge
- A "new" technique can appear to be the "flavor of the month". Need to provide evidence of DA's track record over time. Demonstrate how DA has benefited this industry and/or other companies.

Software
--Mistakes in DA Presentations--

- Excessive quantitative emphasis
- The positioning of the concept that good decisions don't necessarily lead to good outcomes
- Process orientation instead of solutions orientation

Question 3: From a Senior Management Perspective, What Is DA's Greatest Asset?

Venture Capital
--DA's Greatest Asset--

- Dealing with complex variables/problems in a structured manner, e.g., how do I quantify the risk of a lawsuit?

- The level of incremental value from DA goes up with the business's complexity

- In a complex case a senior person is less likely to have intuition about all the variables and alternatives

Logistics/Distribution
--DA's Greatest Asset--

- Going through the process yields knowledge and insight

- Implementing a DA software solution for systematic decision-making reduces dependence on key individuals, encodes embedded knowledge, and provides consistent and responsive decision making.

Health Care
--DA's Greatest Asset--

- DA offers a way to organize and communicate a lot of relevant information about a complex decision (e.g., an influence diagram).

- Smart people intuitively recognize the need for this sort of "external memory" when dealing with complex situations.

Manufacturing
--DA's Greatest Asset--

- Like Six Sigma, DA provides a rigorous process to walk through projects in a defined fashion, but would be more suited to upper management decisions as opposed to those at the product/manufacturing level
- Also like SS, DA takes ego out of the decision-making process—avoiding hunches
- Marketplace uncertainty is a big issue, but they don't address it in a formal manner. This is a big opportunity for DA

Web Portal
--DA's Greatest Asset--

- By developing insights about information and alternatives, DA leads you to better decisions

Telecommunications
--DA's Greatest Asset--

- Dealing with complexity: DA can quantify the impacts of alternate scenarios while incorporating a large number of variables.

Software
--DA's Greatest Asset--

- **The greatest potential benefit is the ability to provide decision-makers with a consistent approach to evaluate alternatives**

- **Other key benefits include:**
  - The ability to quantify the value of additional information
  - Understanding risk tolerance and quantifying strategy risk

Question 4: What is DA's Greatest Liability?

Venture Capital
--DA's Greatest Liability--

- Level of detail and precision that seems to be required
- The time and money needed for a complete DA approach
- Concern over paralysis by analysis
- The VC world is all about 80/20 rules

Logistics/Distribution
--DA's Greatest Liability--

- The concern is the amount of time and money that must be invested to get it to work

Health Care
--DA's Greatest Liability--

- Even when it's done well, DA can leave a senior leader politically "locked into" a course of action.

- They are wary about this, and rightfully so.

Manufacturing
--DA's Greatest Liability--

- Compared to Six Sigma, DA is not tailor-made to address manufacturing

- DA could fit into a SS process, or vice versa, but the statistical emphasis of SS really suits manufacturing problems

Web Portal
--DA's Greatest Liability--

- Although it is great in the long-run, probabilistic modeling can have poor outcomes in the short run

Telecommunications
--DA's Greatest Liability--

- The pressure for time/performance
- The potential for internal corporate problems to arise as a result of designating "DA" and "non-DA" employees
  - Conflict
  - Ineffectiveness

Software
--DA's Greatest Liability--

- The perception that DA will lead to paralysis by analysis
- Management's typical lack of familiarity with DA and other quantitative methods

Question 5: What Would It Take to Get DA on the Corporate Radar Screen?

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Venture Capital
--How to Promote DA--

- Find the evangelist – like GE with Six Sigma – create a cult, show people the way

- Find the low-hanging fruit: where can we add value and then go prove it

- People work better with parallels – use examples, show the incremental value

- Go after the larger, one-time decisions—it is easier to rationalize the use of DA in these cases

Logistics/Distribution
--How to Promote DA--

- Figure out what keeps the CEO up at night and solve that problem
- DA is on the radar screen for logistics, but is viewed as a subset of ERP
- Distribution industry-specific issues that DA could really help with include pricing and product mix

Health Care
--How to Promote DA--

- Successfully supporting senior decision making requires a broad "toolkit" of which DA is an important part, but it should not be the only tool

- Specific DA tools that are most useful include decision tables, decision trees, separation of fact and value judgments, and sensitivity analysis

Manufacturing
--How to Promote DA--

- Emphasize the upper management decisions
- Demonstrate how DA can work with SS and can feed into the DMAIC process

Web Portal
--How to Promote DA--

- The focus now is on "corporate dashboards". Every exec wants to see all the metrics of the business
- Just turning data into information has taken a massive investment
- It will take time to evolve to a focus on turning data into actionable insights/decisions

Telecommunications
--How to Promote DA--

- Need a "red-hot" person to take DA and make one part of the organization a test case
- Need a top-down advocate as well
- Need to demonstrate the benefits DA has provided over its history

Software
--How to Promote DA--

- Show demonstrated success stories from an industry leader or from a high growth company employing DA