

Evidence-Based Decision Making in Civilian Agencies: An Analysis of Three Cases

Suzanne L. GEIGLE
MITRE Corporation

ABSTRACT

Evidence-based decision making has emerged as an area of needed improvement in government. A brief overview of the research on individual decision making suggests why managers in both the public and private sectors have failed to take advantage of the best available evidence when making decisions. Enter the evidence-based management movement. Borrowing lessons from evidence-based medicine, management scholars and practitioners have formed a community focused on developing methods and tools to help practitioners seek and use the best available evidence in decision making, which in turn will improve decision outcomes. This study contributes to the discussion in that community by offering case studies focused on the current use of evidence in decision making at three civilian agencies. Relevant models that guided data collection and analysis are presented. Findings suggest the main barriers to adoption of evidence-based management practices and how external advisors can play a key role in achieving improvements.

KEYWORDS

Decision Making, Civilian Government, Use of Evidence, Stakeholders, Strategic Advisors

INTRODUCTION

Today, studies of actual decision making have led management scholars to conclude that a theory of decision making based entirely on rational choice is of limited usefulness. In practice, managers' decisions are made without awareness of all alternatives and preferences, without considering all consequences, and often without a clear sense of the goals to be achieved. Decision makers tend to focus on some types of information and ignore others and follow decision rules that vary from one situation to another. These observations support the concept of limited or bounded rationality (March, 1994), which has come to dominate most theories of individual decision making. The concept assumes that individuals try to be rational decision makers, but they are constrained by limited cognitive capabilities and incomplete information. As a result, their actions may be less than rational in spite of their best efforts. March's work on limited rationality and the tactics employed by decision makers to simplify a complex situation or problem highlights how these common and largely automatic simplification activities often lead to errors.

In government organizations, the impact of errors in decision making by government managers and executives can have far-reaching effects on their programs, funding decisions, and ultimately on the citizens they serve. Concerns about the quality of decisions in government have prompted an increased focus on "data-driven" or "evidence-based" decision making practices. For example, in his May 18, 2012 memo to the heads of executive departments and agencies, OMB Acting Director Jeffrey Zients strongly encouraged agencies to "demonstrate the use of evidence throughout their Fiscal Year (FY) 2014 budget submissions" (M-12-14). His specific guidance drew attention to the important role that evidence would play in the evaluation of budget submissions and suggested OMB's awareness that evidence-based decision making in government was the exception rather than the rule.

When decision makers are told to support their decisions with evidence, most are likely to think they already do this. Yet, observations of government and private sector decision makers (Pfeffer & Sutton, 2006) suggest that leaders' decision making practices are driven more by personal experience than by a systematic scan of relevant evidence. The practices in use are more consistent with a search for an action or solution that is good enough, rather than a drive toward the best possible solution (March, 1994). In addition, changing the customary decision making practices of leaders is particularly challenging and likely to trigger strong resistance (Yates, 2003). In summary, government and private sector decision makers tend to be overconfident in their knowledge of relevant facts and often unable to recognize the impact that cognitive biases have on the quality of their decisions. In situations where the problems that leaders face are new or are poorly understood, these cognitive threats to effective decision making are heightened. Enter evidence-based decision making, which is thought to help decision makers counteract the errors that tend to occur when problem simplification activities, i.e., editing, decomposition, heuristics, and framing (March, 1994), are invoked during decision making.

For more than a decade, management educators in the US and abroad have raised concerns about a related problem -- the failure of management science to bridge the research-practice gap (Rousseau, 2006). Their concern about bridging the research-practice gap has helped spawn a movement by scholars, educators, and practitioners, which is intended to overcome managers' unwillingness or inability to leverage the best evidence available and thus mitigate the effects of limited cognition in decision making. This group of scholars and practitioners continues to address the research-practice gap under the umbrella of evidence-based management (<http://www.cebma.org>, Rousseau, 2012). Drawing lessons from the adoption of evidence-based medicine by medical practitioners, advocates of evidence-based management actively seek methods and tools that will help management practitioners adopt decision-making practices that improve the quality of decisions made and actions taken.

This study, when originally conceived, was intended to explore why evidence-based decision making in civilian government organizations is so rare. The choice to focus on civilian agencies was based on the assumption that too little is known about the drivers of decision making outside the military, where formal decision making processes are explicitly documented and taught. If the goal of external advisors is to help agency managers seek and use the right evidence at the right time during decision making, knowledge of when and how they use evidence now (if at all) is essential to tailoring an intervention that would produce better decision outcomes.

Most studies of decision making focus on the steps in decision processes. This study, in contrast, focused primarily on the use of evidence in whatever decision process was underway. We wanted to know the following: when agencies are faced with important decisions, what kinds of evidence do they seek, and how and when do they use evidence to support those decisions?

METHODS

The plan for the study was to conduct an analysis of several decisions, preferably in different civilian agencies. This called for a case study approach, which would allow the researcher to explore in depth the activity in question, gaining perspectives from multiple individuals involved in the activity. Each case is bounded by time and activity (Creswell, 2009). The primary data collection methods used were participant observation and interviews. The researcher also requested documents associated with the decision problem, which were thought to suggest where evidence had been offered.

Three research sites were identified for the case studies. All three were civilian government agencies that were making significant decisions affecting their organizations and the customers they served. The original design called for the researcher to observe how evidence is sought and used during decision making in real time. However, finding willing research sites was a greater challenge than expected, which forced the researcher to study a set of cases that met only some of the original criteria for selection. In the end, none of the cases studied and reported here fit the original longitudinal design. In addition, each case presented a different set of data collection constraints, which are described in the Findings section.

A Model of Evidence Sources and Practices

Data collection and analysis were guided using a model of evidence-based decision making developed by scholars studying and teaching evidence-based management. Their model, adapted by the researcher in Figure 1, posited that evidence-based management would follow from the conscientious, explicit, and judicious use of four sources of information: practitioner expertise and judgment, evidence from the local context, a critical evaluation of the best available research evidence, and the perspectives of those people who might be affected by the decision (Briner, Denyer, & Rousseau, 2009).

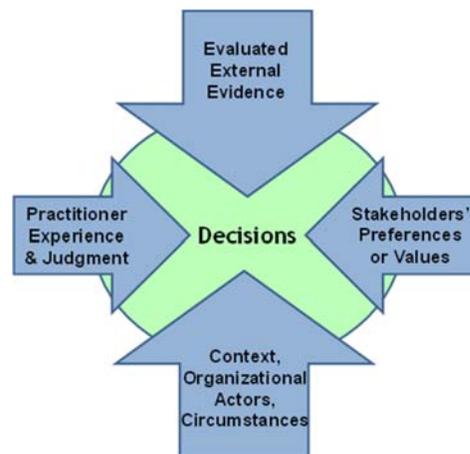


Figure 1: Sources that Support Evidence-based Management (adapted from Briner, et al)

In February 2012, one of the model's authors addressed an audience of systems engineers at MITRE Corporation, where she made explicit the relationship between evidence-based management and decision making. Comments from this speech are reproduced in Figure 2.

“Evidence-based management is the practice of making organizational decisions based upon

- Conscientious use of science-based principles,
- Valid and reliable organizational facts,
- Decision supports and reflective judgment, and
- Ethical considerations, particularly as related to stakeholders.

The result is improved decision quality through more consistent use of practices that work” (Rousseau, 2012a).

Figure 2: Practices that Support Evidence-based Management

The interview protocol was then designed to gather data on 1) types of evidence and 2) practices used, in order to determine when and how evidence played a role in the decision making process. (Interview guide available on request.) Observation notes and interview text were coded using NVivo as part of the analysis.

FINDINGS

This section presents a short description of each case followed by the results of a within-case analysis. In order to illustrate how the model of evidence-based decision making was used for within-in case analysis, the tables generated during analysis of Case 3 data are included (Tables 1 & 2). After presenting the three cases, the section closes with the results of cross-case analysis.

Case One: Customer Service Plan (CSP). The decision studied in the CSP case was triggered by the following events: an agency (Agency One) needed to establish a new customer service capability in response to a new legislative mandate. The capability had to be up and running in less than a year despite competing demands for resources. For the first time in recent memory, Agency One would have to work with another agency (Agency Two) in another Cabinet department to be successful. Managers and executives from different parts of the Agency One saw the challenge differently, each through his or her own frame of reference. Agency One viewed its decision-making process as successful because it met its deadline. The accountable decision makers in Agency One took unusual actions in this case, which were cited as the reasons for success. Data collected in this case came from one key informant, the deputy project manager (DPM) who witnessed the decision making process unfold but who was not a member of the executive decision making group. The researcher conducted two two-hour interviews with the DPM to collect data on the relevant events.

The data available to the researcher on CSP were limited to one person’s perspective and were based on recollections after the fact. Given these limitations, two observations are still worth noting. First, top executives at Agency One allowed the researcher access to the DPM -- despite the heavy work demands -- because this case of decision making was viewed as highly successful. Second, when describing the activities that made this experience successful, the DPM pointed immediately to early engagement with key stakeholders. She was referring to a “road show” conducted by the executive decision makers, which consisted of some education about the challenges faced, provided some opportunities for stakeholders to express concerns and questions, and finally, extended an invitation to participate in developing the solution.

Case Two: Reorganization (REORG). This case followed the activities of an executive team formed to plan and implement a major reorganization of the agency. The researcher analysed documents and observed two all-day working sessions of this executive team, capturing the discussion as close to verbatim as possible. Observation notes were coded to identify what evidence was used and how it was used during those working sessions. A series of follow-up individual interviews with members of the executive team provided insights into members’ thoughts about their decision making process and the drivers of the group’s decisions. In this case, external advisors were contracted to conduct an employee survey; this work was completed prior to the start of this research study. The external advisors were interviewed for this study to ascertain when and how the data they gathered from employees had been used by the REORG team.

The analysis of this case was based on multiple sources of data. A within-case analysis of REORG produced the following findings:

- **Process guidance came from an oversight committee.** A formal process was used to guide activities. This process guidance came from a federal oversight committee’s report, which criticized previous reorganizations at the agency. The REORG team chairperson returned to this report frequently to plan activities and assess progress.
- **The impact of employee (stakeholder) survey results on decisions was unclear.** While the process guide advised the agency to collect employee data, the executive team struggled to determine how to respond to and use the employee feedback from the survey. At the first working session observed by the

researcher, the executive team devoted more than an hour to this topic. Several months had passed since the survey results had been delivered, yet the executive team still had not conducted the promised all-hands meeting to report results. Team members expressed concern that the delay in feeding back the results of the employee survey was undermining the credibility of the REORG process and the team. In addition, the *content* of employee survey results (stakeholder preferences) was never mentioned during the observed working sessions.

- **Organizational facts were presented, but did not move the decision process forward.** Sub-teams of the REORG team worked on specific issues between meetings of the full team. At all-day working sessions, sub-teams presented their findings, which generated extended discussions. In the two sessions observed, these discussions did not lead to any decisions. In one case, a decision agreed to at a previous working session was revisited for discussion and reconsideration. The effect of these infusions of new evidence appeared to divert the group’s attention and work against reaching decisions that would stick.
- **The leader’s experience and decision style dominated discussions.** The leader of the REORG had decades of experience at this agency. His stories about what happened in the past consumed a good bit of air time at the observed working sessions. Other members of the REORG team tolerated these digressions. The researcher did not observe any activities during working sessions that brought discussions to closure and decisions; this appeared to reflect the leader’s meeting management style. In follow-up interviews, team members acknowledged that the leader dominated working sessions and tended to resist final decisions, but did not express concern about its effect on the group’s overall decision process.
- **External evidence rarely used.** Apart from the oversight committee’s report, the REORG team did not seek outside guidance on reorganizations. The external advisors who had conducted the employee survey offered to provide subject matter expert (SME) support, but this was rejected by the REORG team leader. Analysis of observation notes from working sessions found several discussions where an injection of external “best available” evidence could have been used to move the group toward decisions but was not raised. This suggested that either the relevant knowledge did not exist within the team or that team members did not recognize the relevance of such knowledge to the topic at hand. In short, these “teachable moments” passed without the benefit of the evaluated external evidence noted in the model in Figure 1.

Case Three: Strategic Goals. The driver of the Strategic Goals case was the expressed desire by a newly appointed CIO to set a new strategic direction for his agency. He tasked one of his division chiefs to lead a project that would develop a new set of strategic goals for this enterprise-wide IT department. By the time the researcher became aware of the case, the project had already begun; a new set of strategic goals had been developed and approved by relevant governing bodies. Although implementation planning had just started, the process used to set new goals was viewed within the agency as a great success. The researcher started by interviewing the external advisor who had worked with the agency decision makers; this provided a description of the key steps the IT department leaders had followed. Next, the researcher interviewed the division chief who led the process (the key informant). Following the interview protocol, the key informant offered data on what evidence was sought and used at each step. Tables 1 and 2 show the within-case analysis of sources and practices in the Strategic Goals case.

Table 1 shows how the data collected in this case mapped to the sources of evidence described in Figure 1. Table 2 shows the specific practices used in this case, mapped to the evidence-based decision making practices described in Figure 2.

Table 1. Sources of evidence in the Strategic Goals case

Evidence-based DM Sources (Figure 1)	Analysis of Strategic Goals Case Data
Practitioner experience and judgment	<p>CIO’s prior experience led him to focus on three objectives: 1) Pull together a plan to accomplish things; 2) Get the management team functioning more effectively; 3) Foster a sense of community across the enterprise to help make decision making more efficient.</p> <p>CIO adjusted his plans over the year as more data were collected; this showed flexibility and a realistic sense of what could be accomplished and when.</p>
Context, organizational actors, circumstance	<p>CIO’s experience made him sensitive to the decentralized governance structure in this organization; he knew he would need to use a different approach than he had used at other organizations; he already knew who the key actors were in the organization and whose support would be needed to go forward with his plan</p> <p>A review of previous strategy documents revealed little of use -- “a bit of marketing fluff” -- but was an important first step</p> <p>First strategic planning meeting was held with his own staff, which helped him to get a handle on his own shop first and to assess how the resources under his direct control could be used more effectively</p>

Stakeholders' preferences or values	Conducted off-site meetings with execs from all parts of the organization to listen to their views and needs; validated all draft plans with this group Gathered data from his direct reports on current priorities, thus demonstrating that their views are important
Evaluated external evidence	Used a commercial tool, developed more than 10 years earlier and used widely in other organizations, to collect data on each project; this enforced a greater level of consistency in the data for decision making

Table 2. Evidence-based practices in the Strategic Goals case

Evidence-based DM Practices (Figure 2)	Analysis of Strategic Goals Case Data
Conscientious use of science-based principles	Face-to-face meetings used to gather input from stakeholders. [Research has shown that face-to-face communication is the richest medium for information exchange because it is immediate and personal, and includes auditory, visual, and non-verbal behavioral data. Face-to-face communication thus reduces ambiguity and confusion. (Daft & Lengel, 1986)] Standard commercial business case template used to gather complete and consistent data across all projects
Valid and reliable organizational facts	Conducted first-hand research on stakeholder needs; this ensured that the information used to make decisions was current and reduced the chances of misunderstanding stakeholder comments Used FFRDC to ensure that stakeholder data was gathered and managed by an objective third party, which contributes to the credibility of the process and information Representation from all organizational components improves the validity of data collected
Decision supports and reflective judgment	Commercial tool organizes data from different projects in a consistent way, which helps decision makers make comparisons and draw valid conclusions Negotiated solutions were needed in some cases in order to reach agreement among all key stakeholders, aka the "collegiality tax"; this diversity of opinions forced the Strategic Goals team to develop a more innovative approach than their obvious first choice
Ethical considerations, particularly related to stakeholders	The Strategic Goals team recognized the need for socializing new ideas and being open to solutions offered by others. This approach to issue resolution, i.e., giving stakeholders a voice in a decision-making process, is perceived as more fair.

Cross-case Analysis

Potential research sites for decision making studies are most likely to be “success stories.” These three agencies viewed the decision making activities they used as successful. During site selection, *perceived success* was the most important determinant of an organization’s willingness to share what happened in the past and what was occurring in the present. Decision making can be messy and leaders are understandably reluctant to shine a light on less-than-positive features of the organization and its routines. In addition, organizations may be reticent about revealing what usually goes on behind closed doors. In these three cases, the organizations were open to the research because they were proud of the outcomes, or they believed they were using a good process.

Stakeholder outreach was a major factor and unusual. In all three cases, decision makers made a deliberate effort to gather data on stakeholder preferences, needs, concerns, etc. In all three cases, informants expressed how unusual this outreach to stakeholders was in their organizations. Informants in two of the three cases attributed the success of the decision process specifically to stakeholder outreach. This suggests that when the action of engaging stakeholders is unusual, it fosters support for the outcomes by both the decision makers and those affected. In two of the three cases, (CSP and Strategic Goals), the researcher was able to ascertain the positive effect of evidence gathered from stakeholders on final decisions. In the REORG case, it is possible that the decision makers’ inability to make productive use of evidence from stakeholders during deliberations worked against them. During a follow-up discussion with those familiar with the case, the researcher learned that eventual decisions made by this REORG team were never implemented.

External “best available” evidence was rarely sought out. In all three cases, decision makers relied most on personal experience and knowledge of the organizational context to guide their decisions. In only one case (Strategic Goal), the leader brought into the discussion his experiences from previous employers. In this case, the external advisor encouraged outreach to stakeholders and provided intermittent facilitation support to the decision makers. He also suggested bringing in an external SME on at least one occasion. However, the agency did not explicitly contract with the advisor to bring external evidence into these discussions.

DISCUSSION

These findings suggest that civilian government agencies may find it most difficult to overcome the natural cognitive bias associated with personal experience. They also may be reluctant to include outsiders in decision processes that have been traditionally restricted to executives and may have been shrouded in secrecy. However, external advisors could provide a valuable service -- seeking out and injecting relevant external evidence at teachable moments.

The importance of teachable moments during decision making became clear in the analysis of two of the case studies. In the REORG case, because no knowledgeable external SME was permitted into the working sessions, the group relied completely on members' past experience in their own organization -- an "inside-baseball" approach. This inward focus on their own experiences limited their ability to see alternatives. They did not know there was pertinent evidence available that could shed light on the problem they were discussing. In short, they did not know what they did not know. In the Strategic Goals case, the participation of an external advisor during planning and execution of working sessions allowed the decision makers to invite and entertain new ideas. The external advisor was able to suggest bringing in external SMEs when appropriate, which he did on at least one occasion. In this case, the external advisor was not pushing a proprietary methodology -- a criticism of many consultancies -- but instead listened for the group's needs before offering suggestions. In this case, the advisor stood alongside the team, offering guidance when asked and making timely suggestions when an opening for a new idea or new evidence emerged.

CONCLUSION

These findings make no assertions of generalizability. On the contrary, the study is subject to the following limitations: 1) only three cases could be analysed because examples of decision making processes in civilian agencies took months to identify and to negotiate entry; 2) the processes studied could not be followed in real time as the research period was limited; and 3) data collection was constrained by restrictions on access to agency employees. For these reasons, the findings are considered suggestive.

The Role of an FFRDC External Advisor in Evidence-based Decision Making

The most fruitful path to gaining greater adoption of evidence-based decision making practices will be through external advisors, at least in the short-term. External advisors are less constrained by internal organizational politics, so they should be able to provide better quality evidence to decision makers. However, such an advisor's success will depend on having established trusted relationships with decision makers, which would, in turn, permit her to be present at teachable moments when decisions are in development. The success of the advisor also depends on her ability to recognize when and what kind of evidence is needed and her ability to reach out to a network of SMEs (and a relevant body of evidence) when needed. The challenge of serving in this role deserves focused attention by organizations like FFRDCs, which seek to be trusted advisors to their government sponsors.

Evidence-based practices are especially important to organizational practitioners who serve in advisory roles, those who "in many instances are not the key decision makers but, rather, sources of information and advice to managers making the decision" (Briner & Rousseau, 2011, p. 20). FFRDC practitioners, who are often in such roles, are thus well-positioned to work "as facilitators and coaches for managers and management teams seeking to engage in evidence-based management, as well as helping them to collect internal and external evidence they may need" (p.20). However, even the most trusted advisor to decision makers cannot be present for every teachable moment. This reality suggests the need for external advisors to develop more ways of bringing evidence to bear on practice. Two suggestions offered by Briner and Rousseau are the development of practice-oriented evidence and systematic reviews. These are analogous to topic-specific white papers.

In summary, for decision makers in organizations to get the benefits of evidence-based practices, they will often need the active intervention of a skilled external advisor/facilitator/coach. Because evidence-based decision making relies first and foremost on assembling meaningful, reliable internal and external evidence for careful consideration, the primary role is such an external advisor is to offer evidence at teachable moments. This role stands in contrast to that of consultants who prescribe and follow proprietary methodologies, or management gurus, who offer opinions, which may or may not be grounded in solid evidence. External advisors who adhere conscientiously to the practices that guide evidence-based decision making (see Figure 2) and find ways to be present at teachable moments in their customers' decision processes -- *these* are the advisors who will have the greatest impact on the success of their customers.

REFERENCES

- Briner, R. B., Denyer, D., & Rousseau, D. (2009). Evidence-based management: Concept cleanup time? *Academy of Management Perspectives*, 23(4), 19-32.
- Briner, R. B., & Rousseau, D. (2011). Evidence-Based I-O psychology: Not there yet. *Industrial and Organizational Psychology-Perspectives on Science and Practice*, 4(1), 3-22.
- Creswell, J. W. (2009). *Research Design* 3d ed. Thousand Oaks, CA: Sage Publications.
- Daft, R. L., & Lengel, R. H. (1986). Organization information requirements, media richness, and structural design. *Management Science*, 32(5), 554-571.
- March, J. G. (1994). *A Primer on decision making: How decisions happen*. New York: The Free Press.
- Pfeffer, J., & Sutton, R. I. (2006). *Hard facts, dangerous half-truths, and total nonsense*. Boston: Harvard Business School Press.
- Rousseau, D. M. (2006). Is there such a thing as “evidence-based management”? *Academy of Management Review*, 31, 256-269.
- Rousseau, D. M., ed. (2012). *Oxford Handbook of Evidence-based Management*. Oxford University Press.
- Rousseau, D. M. (2012a). Evidence-based Decision Making. *MITRE Technical Exchange Meeting speech delivered on February 16, 2012*. McLean, VA.
- Yates, J. F. (2003). *Decision Management: How to Assure Better Decisions in Your Company*. San Francisco, CA: Jossey-Bass.