
**GENERAL BACKGROUND ON DEVELOPING
AND USING INFORMATION ABOUT
“BEST COMMERCIAL PRACTICES”**

Over the past few years, we have interviewed more than 40 specially-selected commercial buyers and providers of services to identify the best purchasing and supply management practices in the private sector. In this appendix, we describe the philosophy underlying this research and our general methodology.

1. **Broadly speaking, what is your basic analytic approach?** We monitor new purchasing and supply management practices of selected commercial firms to identify opportunities for innovation in Air Force purchasing and supply management. We define “commercial” firms to be those that operate primarily outside the traditional defense-industrial base. We select firms recognized by their peers as excelling in particular activities relevant to purchasing and supply management.
2. **Why is this approach relevant to the Air Force?** Best commercial practices and policies relevant to the Air Force appear to benefit the companies involved. The Air Force should understand these practices and policies for two reasons:
 - Many of the practices and policies may offer useful lessons for the Air Force itself. They may suggest practices or policies that the Air Force could successfully adapt to its own setting.

- If the Air Force wants to do business with the commercial firms using these new practices, it must understand what those firms expect from a buyer. Best commercial practice can help the Air Force understand how it needs to change its service acquisition policies and practices to participate in the new commercial approach to purchasing and supply management.

Note that if the Air Force uses new purchasing and supply management practices to get better access to good providers, this access offers a natural window that the Air Force can use to learn about a broader range of commercial innovations at these same firms.

3. **Why focus only on best *commercial* practice?** Best government practice is useful to monitor as well. The Air Force already has a strong tradition of monitoring best government practice; other organizations are helping it do this now. The Air Force is less familiar with commercial practices outside the traditional defense-industrial base. Our work emphasizes this potential new source of insight. Further, as noted above, to the extent that the Air Force wants to reach beyond the traditional defense-industrial base for goods and services, it must understand what is happening in the commercial mainstream.

The commercial sector of the economy is over 20 times larger than the traditional defense sector. If innovations are equally likely to occur anywhere in the economy, they are 20 times more likely to occur in the mainstream commercial sector than in the traditional defense-industrial base. And where the commercial sector is more innovative than the defense sector, the odds go even higher. The commercial sector is likely to be more innovative in activities of core competence that lie primarily outside the defense-industrial sector. These include many support services that the Air Force buys from outside sources, such as facility management, generic business services, personal services, and much of logistics.

4. **What exactly is a “best commercial practice”?** The trade literature and trade conferences relevant to particular industries or professional communities routinely identify exemplar activities that firms in those industries or with these functions recognize

as exceptional. These activities are typically concrete examples of efforts to implement broader management principles that these industries and professions value. They demonstrate, potentially in great detail, how to apply these principles in particular circumstances. For example, Caterpillar has been broadly recognized for its exceptional level of global supply effectiveness in materiel support activities. L.L.Bean has been broadly recognized for the satisfaction of its retail customers. Chrysler has been broadly recognized for its effective management of suppliers. Xerox has been broadly recognized for its efforts to design equipment that simplify recycling at end of life. Examination of these firms can provide a great deal of practical detail about how they do what they do well.

A common characteristic of many firms recognized as best in class for a particular activity has been their use of the principles of total quality management (TQM) to solve business problems.¹ TQM in effect identifies a firm’s key customers and their needs, maps the processes the firm uses to serve these customers, and then continuously improves the firm’s knowledge of its customers and the processes it uses to serve them. TQM explicitly recognizes the importance of motivating people to change their behavior on the job to execute these tasks and involving all of the people relevant to each task. Broadly stated in these terms, TQM sounds like common sense. Examples of “best commercial practices” often provide practical information about how firms have successfully applied these broad quality principles in specific circumstances.

Firms value information about “best commercial practices” first as a kind of existence proof; they demonstrate that certain ideas they may be thinking about can in fact work in practice. Specific examples of these practices then provide concrete information that can help these firms think about how to adapt these practices for application in their own organizations. Firms differ

¹TQM is more pervasive in corporate suites than it might first appear to be. In many firms, TQM has become such an integral part of day-to-day business that it may not be recognized as a distinct program. Others maintain specific quality-oriented initiatives but do not identify them as TQM. Motorola, General Electric, and Honeywell, for example, all continue to run Six Sigma programs that draw heavily on the principles of quality.

significantly in the ways that they implement particular “best practices,” like shortening process cycles or making measures of cost more inclusive. Firms viewing information about “best commercial practice” know that they can rarely simply transfer a practice from another organization to their own, but viewing a practice in another setting helps them think about how they might emulate such a practice in their own setting.

The best commercial firms do not all use the same “best commercial practices.” In a market with active innovation, it is common to observe many experiments in progress at the same time. In effect, the marketplace is testing alternative practices all the time. As particular practices stand out in this competition, they become the “best commercial practices” of the moment. As innovation and competition persist, these “best” practices may mutate or be displaced by other practices that survive the ongoing competition more successfully. “Best” practices that succeed in one setting may not do so well elsewhere, allowing many different “best” practices to co-exist. Each organization seeks the practices that give it the best performance possible. An important element of assessing “best commercial practices” is to understand enough about the context in which they operate to understand why they succeed there and whether they could succeed elsewhere.

5. **How does assessment of “best commercial practices” relate to benchmarking?** As described above, assessment of “best commercial practices” is one important form of benchmarking. Such “high-level” benchmarking is often the first step toward a more thorough understanding of practices in another organization. The second step of “quantitative” benchmarking identifies performance metrics relevant to the activities in question and collects information across organizations on these metrics. Such information sharpens the nature of observed differences in performance and helps the observing organization understand where it should focus its attention as it prepares to adapt practices, policies, or other lessons learned from an observed organization. Such assessment prepares the way for a third step of “practitioner” benchmarking in which relevant personnel from the observing organization spend time with their counterparts in the observed organization to gather more detailed informa-

tion—much of it often latent—on sources of observed differences in the application and performance of observed practices.

In sum, the information we develop on “best commercial practices” can prepare the way for more quantitative, detailed, and in-depth benchmarking efforts. As the efforts proceed, the Air Force must be prepared to play an increasingly important role in the development and assessment of relevant data. The Air Force can then apply these data to make design decisions about changes in Air Force practice or policy.

6. **How important is the Air Force’s ability to adapt and transfer a best practice?** Very important. It is one thing to identify a potentially useful practice and another to adapt and transfer it successfully to a new setting. New practices are more interesting, other things equal, if they are likely to be easier to adapt and transfer.

This raises a profound challenge with regard to the Air Force. (1) In many ways, the Air Force is unlike the commercial firms that currently benefit most from monitoring “best commercial practices.” It does not use TQM as a routine, operational part of its management activities in the same way that these firms do. (2) By opening itself to “best commercial practices,” it can become more like them and hence, over time, benefit. Each additional best practice contributes to an institutional base or infrastructure that values operational TQM in the Air Force; as this base grows, each additional step gets easier. (3) But for now, the Air Force is not likely to benefit as much from understanding a new practice as a commercial firm already familiar with seeking out and adapting new ideas. Quality begets quality; an inherent aspect of operational TQM is an outward perspective throughout an organization that supports emulation of best practices observed elsewhere.

The Air Force faces a chicken-and-egg problem. Until it becomes more familiar with how the commercial sector works, it will have difficulty contacting that sector and learning from it. One response is to conclude that best practices closer to home are easier to adapt and hence more appropriate to monitor. That is how some justify a focus on best government practice. This approach permanently excludes the Air Force from the

large commercial sector where so much innovation is occurring. Only by observing that sector, despite the current difficulties of adapting the practices observed, can the Air Force begin to reduce isolation and improve its ability to adapt and transfer these practices in the future.

7. **TQM is qualitatively different from traditional management. How can incremental changes help the Air Force introduce TQM-based innovation?** Analysts have long understood that successful implementation of operational TQM requires coordinated changes on many fronts.² Making only a few incremental changes relevant to TQM can make things worse, rather than providing a smooth transition toward full implementation. For success, new performance metrics must be linked to new incentive systems. New information flows, often supported by formal new management systems and structures, must replace old formal and informal information flows. The leadership must hold the coalition of all affected parties together as it seeks the new optimum or pattern of work. All affected parties must ultimately change their behavior on the job in a coordinated fashion; some of this change must be worked out along the way. And so on. Failure to go all the way causes confusion and misdirection that allow the inertia that is natural in most organizations to overwhelm any attempted change; the confusion degrades current performance and feeds longer-term cynicism about productive change. Conclusion: Small changes won't do; the Air Force must commit itself to massive cultural change.

This observation has two implications for our work:

- It is critical to understand all of the different things that must change for a TQM-related change to succeed. Studies suggest that 50–70 percent of recent major change efforts in corporations have failed (Mauer, 1996, p. 18). Many problems with reengineering in the commercial sector can

²Technically speaking, TQM creates basic nonconvexities or complementarities in a production function that in turn yield a nonconvex profit function. In this setting, small departures from a non-TQM optimum degrade performance; large departures are required to reach a section of the profit function where incremental adjustments finally lead to a better TQM-related optimum.

probably be traced to failures to recognize a fairly short list of factors relevant to implementing significant changes of any kind.³ Careful assessments of difficulties with acquisition reform in DoD would probably reveal a similar pattern.⁴ In our analysis, we seek to identify all of the things that must change for a particular practice or policy change to succeed. We seek to understand what is necessary for success, even if we cannot identify factors that guarantee success.

- Any implementation effort must proceed in steps to remain manageable. The concerns about nonconvexities tell us that each step must be complete enough to allow all of the changes relevant to its success. A pilot study illustrates the challenge of significant organizational change. Each pilot must be complete enough to be self-sustaining. It must include not only the change at hand but all the relevant supporting institutional factors, from leadership to incentives to training, and so on. Pilots can make it easier to do this by providing a well-defined arena in which to apply waivers to current policies and to apply other qualitative changes. Of course, such a pilot study does not simply happen; it must be carefully planned and executed.⁵ More difficult is moving from one pilot to total institutionalization—removing the “scaffolding” from the site of the pilot itself and transferring its lessons learned to other parts of the organization.

8. How do you know “best commercial practice” is helping the companies involved? This question can be addressed on two levels: (1) Why should we think that TQM-related practices and

³These factors are discussed in Moore et al.’s 1999 briefing (see Chapter Three, footnote 13).

⁴For an example of such an assessment, see Dertouzos et al. (1998).

⁵For example, General Motors initiated its move toward global adoption of the ISO-14001 environmental quality management standard by proving the concept in pilots at five qualitatively different kinds of manufacturing plants. Each pilot incorporated all the changes required to sustain ISO 14001 at that site. An external certification process helped verify this. Once this proof of concept was complete, General Motors used lessons learned in the pilots to rapidly complete implementation of ISO 14001 at its manufacturing plants worldwide.

policies are successful? (2) Why should we think that any particular practice or policy observed is successful?

Four arguments can be made in favor of TQM-derived practices and policies:

- They appeal to common sense. The basic tenets of TQM link each activity in an organization to a final purpose and then seek to tighten that linkage. They formally recognize the role of people in these linkages and the importance of motivating these people to do the right thing. The ideas appeal to basic logic. They are formally compatible with the basic tenets of the microeconomic theories of the firm, of the behavior of individuals within a firm, and of transactions between organizations. They are formally compatible with the basic tenets of industrial engineering approaches to designing and managing processes. They are formally compatible with the findings of organization science on designing organizations and motivating the people in them.
- Organizations that practice operational TQM appear to benefit from it. Exactly “what TQM is” has always been an issue of contention. One broadly accepted definition links it to the Deming and Baldrige Awards given to a select few organizations in Japan and the United States. The criteria used to make these awards offer attractive, operational definitions of TQM. Empirical evidence suggests that firms that apply for the Baldrige Award tend to perform better financially than firms that do not. Firms that win the Baldrige Award tend to perform better financially than those that simply apply. Do good firms pursue the award, or does choosing to pursue the award improve performance? Opinions differ; organizations that have pursued the award agree that doing so improved their performance and offer examples that support their beliefs.
- The use of a TQM-based management standard, the ISO 9000 series, has expanded rapidly since its introduction in 1987, as a key criterion in the qualification of suppliers. In many industries, firms without an appropriate ISO 9000 certification can no longer compete as mainstream pro-

viders. The American automobile industry recently used ISO 9000 as the basis for a new supply qualification system; the American aerospace industry is in the process of doing the same thing. This broad voluntary acceptance of a TQM-derived management standard speaks to the confidence that buyers in the markets affected have in the practices that this standard certifies.

- Many point to recent macroeconomic trends as evidence of the value of TQM in the American economy. For example, they point to a recent marked reduction in inventories relative to economic activity. TQM practices systematically reduce the optimal level of inventories; observers take the recent reduction as a proxy for the broad acceptance of and effect of TQM practices that could reduce inventory levels. Similarly, they point to the ongoing period of economic expansion, the longest in U.S. history. Many factors contribute to this, but systematic productivity gains are a key part of it. Effective investments in information technology did their part; according to this perspective, they both facilitated application of a TQM emphasis on integration and data sharing, and benefited from TQM perspectives that qualitatively changed the way U.S. industry applies information technologies.

These broad statements all have their detractors. But they underlie a growing consensus in corporate America that operational TQM policies and practices add value. Skeptics can argue that the principles of TQM are so broad that the real test of what works depends on the particulars of a specific innovation. Does the innovation produce results or not?

This brings us to the second level of inquiry. Why should we think that any particular practice or policy observed is successful? Developing an unequivocal, quantitative answer to this question is difficult for several reasons:

- The changes that interest us are all recent. Not enough time has elapsed to reveal the long-term effects of individual changes.

- Individual changes rarely occur in isolation. In an increasingly turbulent marketplace, change is the norm. Simultaneous initiatives within one firm affect one another, and the effects are hard to sort out formally. Often, one change sets the stage for realizing the full benefits of another change.⁶
- Even if these problems could be solved, changes are specific to individual locations and tailored to individual cultures, strategies, priorities, and capabilities. These characteristics complicate efforts to conduct cross-sectional statistical tests of the effects of initiatives started either in formal experiments or in the normal course of business.
- These changes lie at the cutting edge of the strategies of the firms involved. Although firms have been generous in their willingness to provide access to personnel and many documents associated with these changes, they have not provided access to proprietary data that might be used to test all public statements about these changes.

What is an appropriate analytic response to these circumstances? Keep in mind that, in the majority of our work, we focus on the first stage of benchmarking—the identification of high-level targets of opportunity that deserve further quantitative and participant benchmarking. To do this, we

- Use a number of analytic paradigms that help us predict the effects of changes in policies and practices, including microeconomics, industrial engineering, organization science, and the management consulting literature on operational TQM and change management, to develop formal data collection instruments.

⁶For example, direct vendor delivery (DVD) agreements can improve final mission performance and cut total ownership costs by aligning the materiel management process more effectively. The improvements will likely be even larger if a buyer first rationalizes its supply base and focuses its DVD agreements on a small set of providers. The size of net benefits from using DVD agreements appears to depend significantly on the extent of supply base rationalization.

- Use these instruments to structure data searches and, in particular, elite interviews with multiple participants in a relationship. We gather as many empirical data, qualitative and quantitative, as buyer and seller in a particular relationship will provide.
- Seek to use these data and qualitative research methods, like triangulation,⁷ to construct a story of the relationship relevant to each purchasing and supply management change we examine. We seek an internally consistent story that is consistent with all the facts that we can collect. We seek a story that is consistent with microeconomics, industrial engineering, organization science, and the management consulting literature on operational TQM and change management. These paradigms help ensure that the internally consistent story we have constructed makes sense in a broader context; it is “robust” across different disciplinary perspectives, and it is consistent with our understanding of cause and effect for changes of this kind.
- Use the resulting story to ask whether a particular change is likely to yield net benefits. Is it structured in a way that is likely to yield net benefits? Is it compatible with the organization’s broader strategy? Is the institutional support being provided for the change likely to support continuing success?⁸

⁷Triangulation is a formal method for (1) seeking evidence for the hypotheses that form a story from multiple, independent sources, and (2) piecing this evidence together into a coherent story that draws on all these sources. The journalistic standard of seeking two independent sources for factual statements before publishing is a well-known variation on this approach. Triangulation uses several points of reference to nail down a single “fact.” It involves an active process of comparing data about a specific point, identifying additional data that would help clarify that point, seeking those data, and continuing, until a useful story emerges. For more information, see Yin (1994).

⁸The Air Force increasingly addresses this question by asking if the Air Force “culture” is compatible with a change. We capture cultural factors in our description of the context of a change. We do this by asking specific questions about metrics, incentives, information flow, training, roles and responsibilities, oversight, and so on, to spotlight what aspects of a corporate culture are important to success in a particular circumstance.

This last step sets the stage for asking if an analogous change could benefit the Air Force. The questions above extract points from our story that are directly relevant to the potential that a particular change offers the Air Force. Is it compatible with the Air Force's basic strategy to improve military capability, safety of flight, quality of life, and the level of total ownership costs, while complying with administrative law? Can it be structured in a way that is likely to yield such net benefits in the Air Force setting? What institutional support must the Air Force provide to adapt and transfer such a change?

9. **If “best commercial practice” is such a good thing, why aren’t more firms using it?** Or, more bluntly, from an economist’s point of view, how can any but best commercial practices survive in the marketplace? Isn’t the simple survival of any practice or policy in a competitive marketplace evidence of its efficacy? The survivor principle is central to an economist’s understanding of how to compare alternatives in a competitive marketplace. Our work suggests that two factors help explain why only a few firms use the practices that interest us.
 - Different organizations operate in different environments and hence have different strategies for success. Strategies suited to a quiet environment, in which technology and organizational forms are quiescent and production and market patterns are well established, are not well suited to a dynamic environment, in which technology and organizational forms are in flux and players are competing aggressively to exploit this flux. The Air Force is now experiencing two profound changes in its environment. It is moving from a Cold War environment in which the threat was fairly stable to a “boiling peace” environment in which the threat is in continuous flux. Simultaneously, it is moving from an economic environment in which arrangements in potential commercial support markets such as logistics and facility management were quiet, to a qualitatively different, quality-driven environment in which potential commercial support markets are roiling with technological and organization experimentation and change. Taken together, these changes call for basic changes in Air Force strategies relevant to its mission and the support of its mission. To reflect

this situation, we have focused on best commercial practices relevant to a dynamic environment. These differ from practices Air Force personnel may have observed in Air Force support markets in the past and certainly differ from practices in quieter commercial markets today.

- We observe rapid diffusion of many of the ideas we examine. Trend data in logistics, facility management, and information services show that over time a growing number of firms are adapting comparable practices. They increasingly participate in quantitative benchmarking networks to compare notes. They explicitly identify exemplar firms that they are emulating. They explicitly target personnel in exemplar firms to hire away. Such diffusion takes time. It takes time for people in firms to identify the importance of changing to ensure their future survival. It takes time to convince senior leadership and initiate change. And it takes time to implement and institutionalize change. From this perspective, we understand much of the diversity we observe in business practices in dynamic markets as evidence that diffusion is not complete. When it is, only firms using these new best commercial practices will remain in these dynamic markets. That said, change is endemic in dynamic markets; diversity will persist as waves of diffused innovation wash through the population of surviving firms in these markets. In fact, this is probably the situation we observe today.

10. **Why focus on best practices? What about poor practices that should be avoided?** This question can actually be phrased in two different ways, both relevant here.

- Not all prescribed innovations work as expected. For example, as noted above, many recent corporate efforts to make major changes have failed. Objective observers generally agree that acquisition reform in DoD is not achieving all of the benefits expected of it. Apparently worthwhile initiatives sometimes succeed and sometimes fail. This perspective asks why we do not structure analysis around experiments, either formal or natural, which examine a number of organizations that initiate a single, well-defined change, and ask (a) how often the change succeeds and (b)

what factors contribute to its success. As noted above, we have not taken this approach because we could not develop a large enough matched set of changes and track it long enough to develop statistically significant measures of efficacy. The specificity of individual changes and their relationships to the contexts in which they occur, the turmoil in the markets that currently interest us, and the range of changes under way in individual organizations do not lend themselves to such analysis.

- As much can be learned from failure as from success; in fact, it is always preferable to learn from another's failures rather than your own. Why restrict the inquiry to success? We favor successes for two reasons.
 - a. To be blunt, private organizations are more likely to share information about successes than failures. As we have constructed stories about these organizations, we have learned a great deal about their difficulties along the way. As we have worked with them over time, enough trust has developed for us to learn more about such difficulties; we hope to continue learning about problems as the work and our relationships mature. Pursuit of success has opened doors for us; trying to understand success has led us to many interim failures and the strategies these successful firms used to overcome these problems. Ultimately, these are the lessons about failure that interest the Air Force most—what works in the end? That brings us to our second reason for favoring successes.
 - b. Much of our work is effectively the first step in a longer-term benchmarking activity that the Air Force must ultimately take up itself to succeed. Activities most appropriate to such benchmarking are successes, not failures. We are seeking potential that the Air Force can exploit in its own setting. The Air Force needs to understand when such potential is likely to work and when it might fail. For reasons explained above, we have not sought to track the good and bad outcomes of specific changes made in different places. Instead, we have used instances that resulted in success to understand

how that success occurred. The story we develop for each relationship invariably identifies “do’s and don’ts” relevant to any change in the relationship.

We do not claim that success in one setting guarantees success elsewhere. Quite the contrary; we seek the factors that appear to support success so that we can increase its likelihood in an Air Force setting.

11. **TQM focuses on internal processes. How can it inform purchasing and supply management practices and policies?** TQM initially focused on internal processes. The idea of identifying customers and the processes that serve them, and then improving the understanding of these customers and the processes that serve them is easiest to apply when all of these factors can be addressed in one organization. That is true whether the organization is one site location in a corporation, one function in a corporation, a single corporation, or a set of partners in a supply chain. Over time, organizations have learned to apply the basic principles of TQM in broader and broader contexts. Speaking broadly, most of the efforts under way today to integrate value chains that involve many organizations can simply be seen as practical applications of basic TQM principles across contractual boundaries.

Seen in this way, operational TQM informs our understanding of purchasing and supply management in at least three ways.

- It provides useful insights about how to improve the performance of the function traditionally responsible for most purchasing and supply management in the Air Force—acquisition and, more specifically, contracting. It suggests fundamental changes in metrics, incentives, training, and the like relevant in this setting.
- It provides useful insights about how to improve the joint performance of all the functions relevant to purchasing and supply management and coordinate these functions in a strategic manner. It suggests fundamental changes in the leadership of purchasing and supply management, career management, decision-making and oversight, and so on.

- Most important, it provides useful insights about how to improve the management of suppliers themselves and a buyer's relationship with them. It suggests fundamental changes in source selection criteria, performance metrics, contract types, and the like. These changes are integrally linked to changes within acquisition and across the Air Force as a whole.

12. **Will the “best commercial practices” you identify fit the Air Force?** As we seek potential opportunities in commercial practice, we are ever cognizant of what might benefit the Air Force, in a number of dimensions.

- We have focused our examination on activities of immediate interest to the Air Force—logistics and facility management in particular.
- We continue to ask how important operational TQM is to the success of new practices. The Air Force is not a TQM-based organization. Many believe that the Air Force tested TQM and it failed in the 1990s. That is not true, but the perception complicates any effort to adapt and transfer quality-based innovations to an Air Force setting. If we were to go back 25 years, the management bureaucracies then present in the commercial organizations we study today looked very much like those in the Air Force then. Today, these commercial organizations have changed a great deal more than the Air Force has. How did they become TQM-based organizations? What does that tell us about how the Air Force might change? These questions are ever present in our studies of individual changes and the relationships relevant to them.
- The Air Force is a functionally oriented organization. The commercial firms we have studied are moving away from this orientation. The wartime mission of the Air Force, its rotation policy, and its determination to minimize lateral entry into its labor force make it hard to follow the lead of the commercial exemplars. Given that it must retain a strong functional structure, can the Air Force move toward the process focus that so many commercial practices use today? That remains an open question. We seek to under-

stand the importance of cross-functional arrangements in new commercial process-oriented innovations and how the Air Force might adapt its functional arrangements to emulate them.

- We continually compare the Air Force with the commercial organizations we study to help understand how in particular the Air Force differs from those organizations, and hence to which dimensions we need to give special attention when thinking about transferability. For example, their metrics and incentives differ, but the implications of these differences are not the same for metrics and incentives. Most of the metrics we have seen can be transferred to the Air Force (the exceptions are externally determined values of outputs); it is not realistic to say that cash-based incentives can be as easily transferred. Could different promotion criteria, awards, and other incentives take the place of commercial cash payments? We attempt to highlight the importance of finding effective incentives in the Air Force.

To summarize, we seek to identify what factors are most important to successful adaptation and transfer of new practices to the Air Force. We try to identify changes that will be easier to make, but we do not restrict our attention to them. We also seek changes likely to yield net benefits so large that the Air Force should be willing to stretch to achieve them. Without such changes, the Air Force would never look beyond best government practices. We cannot guarantee that all of these changes will succeed in an Air Force setting. In the end, quite certainly some will fail. We want to avoid that but, when it occurs, we also want to learn from the best commercial firms how they have mitigated the effects of such failures and learned from them.

13. **In a few words, then, please summarize your basic analytic approach.** We seek opportunities to improve purchasing and supply management practices and policies in the Air Force. We look for them in the commercial sector because the Air Force has not, and we believe great opportunities exist there, even though it will be hard to adapt and transfer them successfully to an Air Force setting. We also look for commercial practices to help the Air Force learn how to change its approach to acquisition in

ways likely to increase its access to the best commercial providers.

We do not expect to identify quantitatively precise estimates of the net benefits that new practices and policies might offer the Air Force. That is demanding more than the available data allow and fails to recognize the importance of adapting a practice observed in the commercial sector before transferring it to the Air Force. We focus rather on understanding the context for an observed change and its basic logic in that setting. Drawing on several relevant analytic paradigms, we ask if the change should yield net benefits. We ask what institutional support is required to realize these net benefits and what factors are relevant to bringing this change to the Air Force.

If we succeed, we will identify changes that offer enough potential for net benefits to justify further and more detailed study. Commercial experience suggests that the Air Force must ultimately employ its own practitioners to gather the data and make the decisions required to design changes in Air Force practices and policies. Our work here is a prelude to that effort.