




Moving from
BEST PRACTICES
to **STANDARD PRACTICES**
in Defense Acquisition

N° 1

N° 2



 **Alex Miller and Joshua L. Ray**

Years of process improvement in defense acquisition have produced many isolated best practices that failed to become widespread standard practices. The authors' research identified six factors critical to seeing best practices adopted as standard practices. Both contextual and managerial in nature, these address the extent to which standardization is pulled, pushed, and practical. They organize the factors in a simple 2x3 framework, explain the nature of each factor, provide examples of each factor, and discuss each factor's implications for defense acquisition.

Keywords: *acquisitions; process improvement; best practices; standardization; innovation*

The military services have invested heavily in process improvement over the past several years, with decidedly mixed results in the field of acquisition (Browning & Sanders, 2012; Fox, 2011; Smith, 2003). While process improvement efforts yielded impressive gains, too often these improvements did not spread throughout the defense acquisition community, remaining isolated best practices rather than becoming widespread standard practices.

For example, in the authors' experience, several efforts to reduce acquisition cycle times produced impressive breakthroughs, often with cycle times reduced 40–60 percent. And yet, we see little evidence that the efforts producing these performance gains are becoming widespread standard practices.

Consider the perspective of members of a defense acquisition program team who had greatly reduced their source-selection time, allowing a badly needed system to be put under contract months earlier than expected. No one on the team could identify a single request to share ideas with other source-selection teams. Furthermore, members of the successful team were not confident that members of this team would apply lessons learned from their effort, even to their own future source-selection work!

This failure to leverage improved processes in pioneering programs and subsequently implement new work standards across similar programs, is greatly limiting the return on investment from process improvement in acquisition. Indeed, such failure can be viewed as a strong causal factor and contributing explanation as to why process improvement has failed to generate the overall performance gains desired by the acquisition community.

Background

In our research, we conducted in-depth field studies on organizations with notable successes and failures at standardizing best practices (Wicht & Crawley, 2012). In compliance with the security requirements of participating organizations, they will be referred to as Defense Contractor, Diversified Corporation, General Hospital, Heavy Equipment, Information Technology (IT) Manufacturer, Mutual Insurance, and Structural Fabrications.

Our field interviews and practical observations from time spent in these companies uncovered six determinants of process standardization that we have organized into a 3x2 matrix (Table 1). The matrix captures three broad types of forces we labeled as pull, practicalities, and push. “Pull” refers to motivations found within individuals (Harris & Lewis, 2012), while “push” forces are those brought to bear by factors outside the individual (Cash, Earl, & Morison, 2008; Edison & Murphy, 2012; Roper, 2011). “Practicalities” deal with the nature of the work and how readily it lends itself to standardization (Cash et al., 2008; Chatterjee, 2013; Thomke & von Hippel, 2002).

TABLE 1. SIX DETERMINANTS OF PROCESS STANDARDIZATION

		Three Types of Forces		
		Pull	Practicalities	Push
Two Origins of Forces	Organizational Context	1. Inherent Stakes	3. Replicability of Work	5. Organizational Alignment
	Managerial Actions	2. Making Advantages Visible	4. Implementing Standard Work	6. Driving Compliance

We found each of these forces could originate and grow out of organizational context and/or managerial actions. “Organizational context” refers to those factors “built into” the workplace or organization independent of any new action taken for the specific purpose of standardizing best practices (Chatterjee, 2013; Szajnfarder, Richards, & Weigel, 2011). As we will discuss, these are factors such as the inherent stakes of the work, the replicability of the work, and facets of the organization structure. “Managerial actions” refers to measures taken for the specific purpose of seeing best practices spread throughout the defense acquisition community to ultimately become standard practices (Garvin, Edmondson, & Gino, 2008; Kehoe, 2010; Pearson, 2002). These include making the advantages of standardization more visible, implementation of standard work, and greater emphasis on compliance.

Collectively, these six organizational and managerial forces have a tremendous impact on the extent to which organizations are able to standardize best practices. In the remainder of this article, we look at these forces in detail and consider their implications for defense acquisition.

Findings

Contextual Forces Creating Pull—Inherent Stakes

Several of the organizations we studied enjoyed considerable success in converting isolated best practices into widely deployed standard practices, but none of them found it easy. Even the most successful could identify areas within their organizations where the benefits of standardization and replication did not warrant the costs. Individuals referred to the “stakes” not being high enough to warrant the effort.

How high must the stakes be? In our research, firms committed to standardizing on best practices when it was literally a matter of life or death (Cash et al., 2008; Pearson, 2002). In other words, this happened when the health or life of individuals, or that of the organization as a whole, was seen as being at stake. A manager at Structural Fabrications (anonymous personal communication, June 2008) explained it this way:

We have always been a production company. It is the heart of how we compete and the key to our success. Selling a commodity, we compete largely on cost and quality, and if we don't get production right, nothing else matters. There are also lots of ways people can be hurt in our production areas, so we are always working on improved safety. Put all of that together, and it just makes sense that we look hard for every opportunity to improve our production process. We're constantly learning from one another across shifts and across production areas. The stakes are just not as high in other parts of our business. For example, in business development you won't find the same effort to standardize processes.

Similarly, Defense Contractor identified standardization of its engineering processes as critical to its survival. The company had suffered through past problems with inconsistent engineering, and those inconsistencies were widely seen as the root cause in the company's loss of many millions of dollars and a damaged reputation in its industry. “Fixing engineering” came to be seen as essential to the firm's continued existence, and several dramatic steps were taken to ensure that best engineering processes were standardized across the firm. But there was little evidence of similar efforts anywhere else in the company.

World-class examples of standardization of best practices exist in many branches of the military. One merely has to look at where the stakes are a matter of life or death. In weapon systems operation, national security, and nuclear-based strategic defense, widespread efforts ensure that process improvements become new standard practices. Operations in these areas are subject to constant scrutiny with ongoing reviews looking for better ways of doing things. Once better ideas are identified, they are captured as standard work and spelled out in procedures, training, checklists, and inspections (Cash et al., 2008). It would be almost unthinkable not to take these measures because the stakes of failing to do so are so obviously high.

We have not observed the same phenomenon in defense acquisition. The situation in defense acquisition is similar to what we observed in Mutual Insurer, where we saw very little evidence of systematically sharing best practices across operating centers or sales districts, even though the work done in each Mutual Insurer location was virtually identical to that done elsewhere. The most common answer in response to questions about this lack of standardization was very revealing in that it highlighted the importance of perceived high stakes as a driver: “Standardization across organizational boundaries is hard. Why do it if we can get satisfactory performance working on our own?”

In summary, the perceived stakes inherent in defense acquisition are not sufficiently high to be an important driver of efforts to standardize and replicate processes. Note the emphasis on perceived stakes; the actual stakes are really quite high, suggesting the need for managers to make the stakes more visible (Edison & Murphy, 2012; Kehoe, 2010; Roper, 2011).



Managerial Forces Creating Pull—Making Advantages Visible

In this research, we found repeated examples of the importance of an organization recognizing the advantages that standardizing a best practice can offer, both to the organization and to the organization's workforce (Edison & Murphy, 2012; Harris & Lewis, 2012; Wicht & Crawley, 2012). Without managerial intervention to make payoffs more visible, there was often nothing to attract, or "pull," the workforce toward adopting best practices.

At IT Manufacturer, a struggling unit had come up with a radically different way of contracting for reverse logistics services. These were outsourced services involving either reselling, recycling, or scrapping returned computer equipment. The innovation was a clear winner, producing significant financial payoffs in its first application. In a nutshell, it expanded the conceptualization of reverse logistics to being a revenue generator rather than simply a cost center.

This shift in thinking and in contracting generated clear wins for both IT Manufacturer and its vendor. The vendor grew revenues and profits, and IT Manufacturer recognized higher revenues from new ways of reselling returned items. However, these gains were not at all visible to those doing the work in the two organizations involved. Instead, the vendor's workforce saw only that they were doing more work as they pursued new ways of generating revenue from returned items. Inside IT Manufacturer, the production division saw only that its charges for reverse logistics went up as the service provider was paid a higher processing fee per returned

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item. IT Manufacturer recorded increased revenues and profits, but the revenues were assigned to the sales division, and the increased profits accrued only at the firm level.

While leadership advocated greater use of the new contracting arrangement, employees on both sides saw no advantages and resisted, resulting in no movement toward spreading this better way of contracting to other parts of the organization. To remedy the situation, leaders at IT Manufacturer and its vendor agreed to participate in a highly visible ceremony at which they exchanged “Big Checks” documenting the financial gains from the first year of using the new contracting arrangement. Once employees saw the amounts on the checks and realized the impact of the new contracting, they became converts. Today, the new contracting arrangement is seen as a key competitive advantage for both IT Manufacturer and its vendor.

At Defense Contractor, engineers resisted the implementation of standardized engineering practices, arguing that it would restrict their creativity and ability to do good engineering. It took a concerted effort by leadership to show examples of how, in fact, by adhering to agreed-upon engineering practices, engineers’ lives were simplified, and time was freed up for doing more and better engineering.

Note in the Defense Contractor example, the firm only benefitted from standardization after the individuals came to see it was in their personal best interest (Edison & Murphy, 2012; Wicht & Crawley, 2012). The benefits were not necessarily monetary, and we observed the same thing at Structural Fabrications, as explained in this quote from a senior operations leader in the firm (anonymous personal communication, June 2008):

Management saw improvements in key performance metrics tracked by the company just as soon as we started rolling out the new production management process. The results were good enough to get managers to enforce adherence to the new processes for awhile. But as long as the guys on the line didn’t see an advantage to themselves, the only way they adhered to the new procedures was by being forced to do so by their supervisors. Where the new process spread, it was because someone took the time to help the operators see their WIIFM—their “What’s in It for Me?” It turned out there

were plenty of advantages for individual workers—less rework, more predictable work schedules, safer workplaces, etc.—but leaders had to help the workforce see them. Once they did this, there was no turning back. Now the new process is locked in as the way we do things around here. But, where people never made the connection between the new process and what matters to them, implementation eventually became token and faded. Company ROI [Return on Investment] will only take you so far—eventually, you have to help people see what is in it for them. It is this one-two punch that gets the job done.

This one-two punch is seldom present in the defense acquisition community. Perhaps senior leadership is generally aware of the advantages of improved acquisition processes, but do members of specific program-management teams or functionals see personal advantages?

Often, they do not. For example, in a decade of work with military acquisition, we found few individuals who could articulate how they would personally benefit from reducing throughput time on a given program. As well, few could clearly show how they personally benefitted from best practices becoming standard. And very few individuals in defense acquisition felt their careers would be advanced because of their adoption of a best practice first developed elsewhere.

Contextual Practicalities— Replicability of Work

Some types of work and organizational structures lend themselves to replication of best practices more readily than do others (Cash et al., 2008; Chatterjee, 2013; Szajnfarter et al., 2011; Thomke & von Hippel, 2002).



Franchise restaurants are a classic example. When an individual Subway sandwich shop discovered that promoting “\$5 Foot-Longs” generated tremendous volumes and improved profits, it was only a matter of weeks until 39,000 franchised stores followed suit. Consider the contextual practicalities making this possible. Each store offers virtually identical sandwiches prepared and sold in virtually identical ways, and all stores are connected with a strong and efficient communications network. These practical considerations make it relatively easy for a franchise operation such as Subway to spread a good idea across the organization quickly.

This should not imply that these practical contextual forces are sufficient in themselves to spread best practices. Mutual Insurance shares many of the characteristics inherent in a franchise; virtually identical products and procedures can be found across thousands of agents’ offices and scores of operating centers. Yet, Mutual Insurance has failed to see best practices spread to become standard practices for reasons related to several of the other five forces in our model.

Within defense acquisition, we find very little standardization across processes. In this arena, emphasis is often placed on identifying differences between programs rather than stressing similarities. While literally thousands of pages prescribe acquisition procedures, many programs still find it essential to operate with virtually unlimited use of the so-called “county option” to create exceptions and new procedures. To an outsider, defense acquisition appears to be like Mutual Insurance in failing to capitalize on the similarities inherent across its varying operating units.

Still, it stands to reason that the closer products, users, and procedures are virtually identical across a large number of “franchise-like” units, the more likely processes can be standardized (Cash et al., 2008). For example, the military services have been able to standardize many administrative procedures related to flight operations, including training techniques, “hot wash” after-action reviews, and maintaining pilot currency. While every flight is different in its details, in many ways flights are similar, and a flight team’s inventing its own operations process based on the argument of its need for a “county option” seems ludicrous. Where commonalities exist across acquisition programs, the same opportunities exist, but too many acquisition personnel are more interested in showing how programs differ than recognizing fundamental commonalities (cf. Pearson, 2002).

Managerial Practicalities—Implementing Standard Work

“Standard work” refers to the means by which an organization defines and documents its best practices to maintain dependable processes (Browning & Sanders, 2012; Smith, 2003). Standard work spells out the currently accepted best means of accomplishing a given task to the individual performing the work. Without standard work, individuals lack any practical means of implementing standardized processes.

In the organizations getting the most from standard work, managers invest heavily in its implementation. At Heavy Equipment, hundreds of formally designated “owners” are responsible for continuously improving their assigned processes. Owners are selected because of their experience and expertise with a given process and their demonstrated commitment to continuous improvement. Process ownership entails regularly meet-

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ing with those that carry out the process, with downstream users of the process output, and with those working in related processes. Out of these meetings, the process owners generate improvements that are captured in user-friendly source documents, training materials, and inspection standards. Efforts related to improving, documenting, and training on standard work often consume one-third of a process owner’s time at Heavy Equipment.

At Defense Contractor, heavy emphasis is placed on standard work as it applies to engineering. Standard work was deployed at Defense Contractor in the early 2000s with the advent of computerized tools to support the capture and dispersal of standard work. Until then, small-scale attempts at improved engineering processes had occurred

in pockets throughout the organization for many years. Eventually, a concerted corporate initiative to implement standard work provided the most benefit to the organization. Senior leadership not only directed personnel toward the use of standard work, they demanded it. The most senior leaders at Defense Contractor ordered their engineers to engage in the standard work by insisting: “Put your pencils down, and don’t continue until you create and use engineering standard work.” One employee recalled the sentiment and conversation (anonymous personal communication, June 2008) of that time as follows:

We can’t operate like this anymore. This is a call to arms. We’re gonna stop, we’re gonna put people on reducing our cost of poor quality and understanding what’s driving that, and we’re not going to allow anybody to start designing until we get our standard work nailed down.

The results were dramatic; engineering issues, both trivial and more substantive, dropped from thousands a year to dozens a year. Today, senior leadership feels that engineering standard work is essential to the firm’s success.

Process improvement efforts of the past decade have produced important pockets of standard work in defense acquisition, but these are not becoming standard work across the larger enterprise like they have in the best organizations we studied. The opportunity is there for defense acquisition to take standard work to the next level and see isolated best practices become organizational standards.

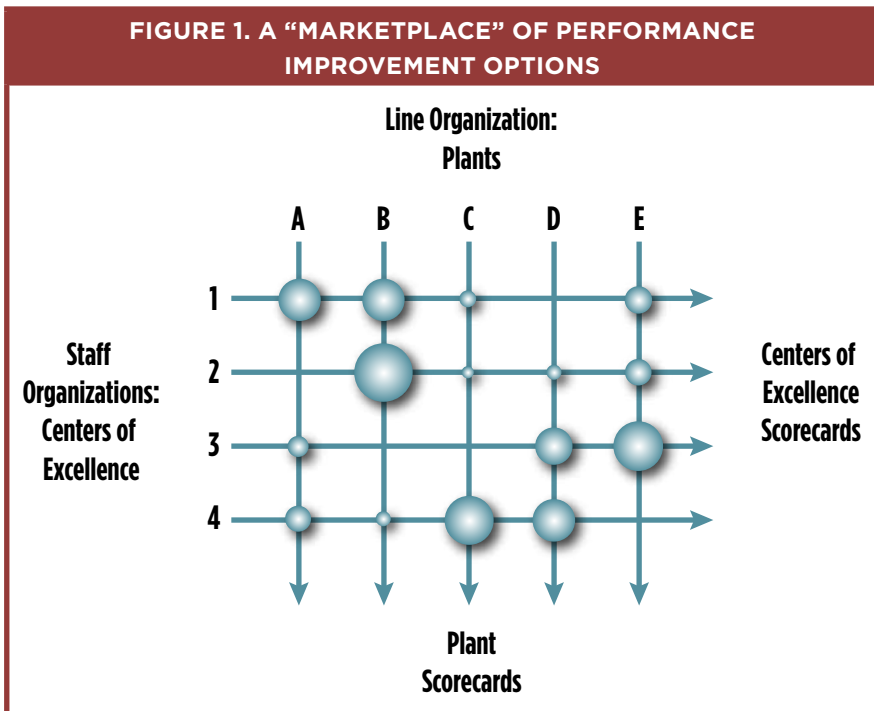
Contextual Forces Contributing to Push—Organizational Alignment

Of the organizations we studied, those most successful with standardization of best practices went to great lengths to “bake it in” to their larger strategy and structure (Cash et al., 2008; Chatterjee, 2013; Szajnfarter et al., 2011). Strategy, structure, and standardization were all consciously aligned and reinforced one another. One of the most powerful types of alignment we observed was that between line and staff organizations.

For example, at Structural Fabrications, production improvements were priorities, each backed up with a centralized, company-wide, staff-supported initiative. These included initiatives such as those to improve safety, reduce waste, increase employee engagement, etc. Staff groups

variously described as “Centers of Excellence,” “brain trusts,” “corporate ninjas,” or “subject matter experts” supported each corporate initiative. The primary role of these groups was to identify best practices and assist plants in deploying them.

These staff groups operated with a scorecard, tracking success in using their expertise to help the line organization improve its performance. For example, the group responsible for driving best practices in reduction of waste tracked operating cost reductions due to reduced scrap, improved yields, and lowered inventories, etc., as key elements of its scorecard. This was in alignment with priorities in the line organization, where each plant was evaluated on overall performance metrics that could be improved by deploying the proven solutions available from the waste reduction group and other staff support groups. This arrangement is reflected in Figure 1.



In this simplified and hypothetical depiction, plants are each responsible for delivering gains in specific improvement targets captured in a scorecard—say 4% reduction in cost per unit, 6% reduction in inventory, 5% increase in production volumes, etc. Meanwhile, the Centers of Excellence are held accountable for their own, initiative-specific targets

that could be reached only if their expertise is successfully employed by the various plants—say \$10 million of cost reduction through reduced scrap, 5% improvement in company-wide plant uptime, or 3% reduction in corporate-wide days lost to accidents. To hit their annual performance targets, the plants depend on the expertise resident in the support groups. Conversely, to hit their performance targets, the support staff requires application of best practices in the plants in order to generate real dollar impacts.

Corporate leadership did not seek to control or specify which plants employed which initiatives. Rather, they created a system that encouraged local leaders to sort out where their greatest gains could be found. Plant managers had targets to hit, and they had help to draw upon in hitting these targets, but which help they chose to employ was left largely to them. Meanwhile, Centers of Excellence were accountable for having a given cumulative impact on plant operations, but there was no blanket expectation that every plant would employ the same blend of initiatives in hitting its targets. So in the hypothetical example we have here, Plant B is relying heavily upon Initiatives 1 and 2 to deliver its performance gains, and Center of Excellence 3 was seeing its greatest impact in Plants C and D.

In our research, we came to describe this arrangement as a free-market approach to fostering standardization of best practices. Rather than centrally dictating solutions, the organization identified several potential areas of improvement and invested resources in developing centralized expertise in these areas. The decision on how they could best engage with one another to hit their complementary performance targets was then left up to local leaders in the plants and the Centers of Excellence.

We saw very similar line-staff alignment in Defense Contractor, Diversified Corporation, and Heavy Equipment, and in every case, managers were quick to point to this line-staff alignment as an important driver. In our work in defense acquisition, we did not encounter such alignment. Instead, we observed much greater emphasis placed on program management (the line organization in this case) than on functionals (the staff organization). Certainly, holding program managers accountable for cost, schedule, and performance is appropriate. But, this is only the starting point if the goal is to see best practices grow into standard practices. In most cases, the functionals, such as contracting,

financial management, engineering, etc., “own” the processes. The program managers simply employ that process in execution of a single program, but the functionals see their processes used over and over.

Given these realities, many of the greatest opportunities to motivate process standardization rest with the functionals. It does make sense to evaluate a single program on its cost, schedule, and performance. But, doesn't it also make sense to evaluate a functional on the aggregated performance of all programs using its processes? For example, if a single medium-size, sole-source acquisition program takes 2 years to place under contract, that is an indictment of program management for that specific program. But, if the average time required for the last 50 medium-size, sole-source contracts to be executed is 2 years, this implies there is a systemic process issue that should be addressed by the functional process owners involved. For the most part, functionals are not under nearly as much pressure as program managers when it comes to improved cost, schedule, and performance, and this misalignment appears to be an important cause of limited success in seeing processes standardized on best practices.

Managerial Forces Creating Push—Driving Compliance

Of the organizations we studied, those successful in standardizing best practices all had leaders who relentlessly pushed compliance to make it happen (Edison & Murphy, 2012; Garvin et al., 2008; Roper, 2011). We observed two strategies for driving compliance—one bureaucratic, and the other behavioral.

In most organizations we studied, bureaucratic controls were clearly used to ensure compliance to standardized best practices (Cash et al., 2008; Chatterjee, 2013; Edison & Murphy, 2012). Sometimes, these controls might be used for specific functions and/or organizational levels. For example, at Defense Contractor, each engineer was approved only for actions specified in four different levels ranging from Level 1 (execute standard work under a supervisor) to Level 4 (authority to set new engineering standards and approve deviation from them). Other times, the bureaucratic controls were applied in a way that cut across functions and levels. For example, the product development process at Heavy Equipment entails a tightly controlled set of hurdles with standard work informing the appropriate next steps at every turn. Changes in this process must receive approval at levels as high as the senior vice president in order to ensure thought has been given to potential cross-organization ripple effects.

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In the best organizations we studied, these examples of bureaucratic control often complemented the use of what we have termed behavioral controls. While bureaucratic controls rely on explicitly codified organizational rules developed and enforced by management, behavioral controls entail unwritten norms enforced by a broader range of organizational members. For example, managers at General Hospital found it very difficult to dictate standard processes to the doctors using its operating rooms. The operating room is considered the sanctum sanctorum of healthcare—the place where only doctors decide how medicine will be practiced and managers are held outside. However, many operating procedures are replicated hundreds of times each day, and it is entirely reasonable for hospital management to clearly identify any procedures that consistently work better than alternative procedures surgeons may persist in using as a matter of personal preference.

In a situation like this, General Hospital found it very useful to employ behavioral controls to drive compliance through peer pressure. They simply posted data comparing different orthopedic surgery groups on the same operation in the doctors' scrub room, without revealing the identities of the different surgery groups. For example, they posted the average costs and typical percentages of cases with complications for the seven surgery groups putting in artificial knees, simply listing the surgery groups as Group A through Group G. The data revealed that the best group was 40 percent less expensive than the worst group and had 30 percent fewer postoperative complications. Naturally, each surgery group wanted to know which line of data on the table referred to their particular practices. And naturally, surgeons tried to figure out who was doing the best and worst. When the worst performing group saw their

data, and recognized that all the other surgeons were also seeing the same data, they quickly adjusted their procedures to bring them more in line with best practices.

Logically, the strongest levels of compliance rely on both bureaucratic and behavioral controls. Consider this quote about military flight operations (anonymous personal communication, June 2008):

It is drilled in throughout your career that flight operations must take place by the book. There are endless check offs where someone must sign before a particular action is allowed to take place. But, just as important, there is a culture here that is constantly reinforced by leadership. As a result, even if General Buck Rogers tries to climb into a cockpit without the right documentation showing he is checked out for that aircraft, Airman Able will step up to stop him. And rightfully so—we all count on one another to police this.

Such examples make it clear that military organizations know how to combine bureaucratic and behavioral controls to drive adherence to standardized processes. Unfortunately, similar examples in defense acquisition are hard to find.

Conclusions

We have identified six forces that work collectively to influence the extent to which organizations are able to turn their isolated best practices into widespread standard practices. We have also shown how typical defense acquisition organizations are often deficient in each of these. Opportunities exist throughout the defense acquisition community for dramatically increasing the payoff to process improvement efforts in defense acquisition by isolated innovations becoming common

practices. But, this will require a broad perspective on the program, and a willingness to engage in systemic change on a number of fronts. Our hope is that this article provides insights into the challenges faced.

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Author Biographies



Dr. Alex Miller is the William B. Stokely professor of management at the University of Tennessee, Knoxville. He was the founding director of the Aerospace and Defense MBA at the University of Tennessee, and was also the associate dean for executive education at the University of Tennessee. His research is focused on applying business principles to leadership in organizations outside the business sector. Dr. Miller holds a BS from Tennessee Technological University, an MBA from Dartmouth College, and a PhD from University of Washington.

(E-mail address: amiller2@utk.edu)



Dr. Joshua L. Ray is currently an assistant professor of management at Tusculum College and a faculty member with the Consortium for Social Enterprise Effectiveness in the College of Business Administration at the University of Tennessee. He holds a PhD in Business Administration with a concentration in Organizations and Strategy; and a BA in Arts and Sciences with a major in Economics from the University of Tennessee.

(E-mail address: jray@utk.edu)