ORGANIZATION, MANAGEMENT, AND CULTURE

Organizations vary considerably to the degree their leaders (a) understand the human systems integration (HSI) concept, (b) are capable and willing to introduce HSI principles and methods into the organization's systems acquisition processes, and (c) create and sustain a culture where the HSI principles and methods thrive. Chapters 2 to 5 primarily focus on those aspects that can help the reader better understand the complex nature of creating and sustaining HSI in a systems acquisition culture.

Chapter 2, by Harris, Hart, and Shields, points out that while most organizational environments are not currently favorable to successful application of HSI, it is possible to transform them, provided senior leaders are willing to articulate the need for organizational change and build a structure to achieve an organizational culture favorable to HSI. To help leaders and HSI proponents better understand the transformation changes needed to achieve such a culture, Harris, Hart, and Shields first introduce the transformation changes process; then for the largest portion of the chapter they describe a four-stage implementation model (decide, guide, support, and sustain) accompanied with specific recommended tasks required at each stage; and finally they wrap up their effort by identifying barriers to change with strategies for overcoming them.

In Chapter 3 Hewitt and Piccione discuss the systems acquisition culture and HSI interactions from four perspectives. First is the broad perspective that addresses other surrounding cultures such as political and research environments that affect the systems acquisition culture that in turn affects HSI. Second is the historical view of those roles HSI has played in the past, and third is how systems acquisition organizations view themselves. Together these latter two views have the most influence currently in defining roles and responsibilities for HSI in systems acquisition. The fourth perspective is from the HSI culture itself, considering changes and trends within HSI, which can have ramifications for new expanded roles in the future. These four perspectives help provide a basis for understanding the distinction between the primary roles HSI players do have in government and commercial environments and the roles they perhaps should have. Hewitt and Piccione provide considerable detail on specific responsibilities, tasks, decisions, and interfaces for various HSI roles in systems acquisition, with particular emphasis on those

roles considered critical system design roles that can positively influence systems performance and effectiveness. Such critical roles map the systems acquisition process starting with system concepts and requirements, running through design and development stages, and culminating in test and evaluations of those systems organizations wish to acquire.

Smootz in Chapter 4 describes the *defense acquisition management framework*, using it as a general model to show how and when human systems considerations should be integrated into the life-cycle process of any complex system. He emphasizes that it is only when key issues associated with variables such as manpower, personnel, training, and the objectives of the interface are addressed early, before fundamental decisions about requirements, investment strategy, and design approach are made, that HSI can have the impact that it needs to have to ensure that human performance contributes to, rather than detracts from, the cost and operational effectiveness of the total system. The acquisition framework will be important to remember and refer to when reading most of the other chapters in Parts II, III, and IV.

In Chapter 5, Kleiner and Booher present HSI for three types of reader. First are the HSI professionals who work on the seven domains of HSI. The education and training needs for the HSI practitioner are discussed in terms of what are the knowledge and skill requirements to perform quality HSI, what academic and other institutions provide relevant portions of these needs, and what is the vision for careers in HSI. Second are teachers and developers of programs and curricula for teaching advanced courses in HSI. Suggested topics and curricula for HSI education and training are presented, including a review of currently available academic programs. Third, is everyone associated with the systems acquisition process; from top-level decision makers, to program managers, to all those non-HSI individuals making input to the systems acquisition process. All three of these readers will play important roles in achieving and sustaining HSI in the various systems acquisition organizational structures and cultures described in Chapters 2, 3, and 4. This is the one chapter in the *Handbook* devoted primarily to principle 10 (education and training) and provides information for career paths in HSI adding to principle 9 (highly qualified practitioners) as well.