A Maturity Model for Intelligence Training and Education

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Recent criticisms of intelligence support to US national decision-making raise questions regarding the identification and characterization of necessary competencies for intelligence analysts. The characterization of competencies provided by Becker, et. al., for the field of human relations provides a novel framework for considering categories of competencies within the field of intelligence analysis. This article includes perspectives on historical approaches and offers a maturity model that is used to explain why the historical approaches to intelligence education are not aligned to address underlying causes of recent intelligence failures. It proposes a specific approach to innovation in the modalities and content of delivering intelligence training, education, and mentoring. A maturity model approach to education and training of intelligence analysts based on this framework suggests analysts require a broad spectrum of educational and professional experiences, if the results of US intelligence efforts are to improve.

Critiques of US Intelligence Analysis

Following the events of 9/11, a spate of books and studies of intelligence proliferated, creating a not insignificant cottage industry nearly overnight. Multiple academic tomes, government studies, and numerous popular works appeared, as well, and shared a common theme—how to make intelligence better. These all followed on the heels of fourteen major, official studies concerning intelligence reform in the U.S. over the past sixty years.[1] Most of the historical changes continued the move toward centralizing power and authority in the Director of Central Intelligence, and now, the Director of National Intelligence. More recent critiques have also addressed shortfalls in the analysis process and the management of the intelligence agencies.

Academic and Technical Prescriptions. A number of detailed analyses have critiqued the performance of U.S. intelligence.

In a Rand Study, Barger contrasted the arguments of the incrementalists with those advocating a "Revolution in Intelligence Affairs."[2] The revolutionary process would bring together people with diverse backgrounds--technologists, cultural anthropologists, theologians, chaos theorists, lawyers, and analysts--to contemplate a wide range of solutions, free from normal bureaucratic constraints. Advocates of a more evolutionary approach argue that a revolution is not necessary, since the challenges we face today are not fundamentally different from those we have faced in the past, including terrorism and weapons of mass destruction. In addition, they argue we do not

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[1] Warner, Michael and MacDonald, Kenneth J. US Intelligence Community Reform Studies Since 1947. Center for the Study of Intelligence, Washington, D.C., 2005.
[2] Barger, Deborah G. Toward a Revolution in Intelligence Affairs. Rand Technical Report http://www.rand.org/pubs/technical_reports/2005/RAND_TR242.pdf.

have the time, energy, people, or dollars available to experiment with innovations when the Intelligence Community must constantly support military conflicts or brewing crises.

Others, like Cooper, have taken a more technical approach in their scrutiny of the state of intelligence analysis, itself. Their critiques have highlighted that analysis techniques continue unchanged from the Cold War, against a very different opponent; scientific approaches to self-correcting are lacking; and that intelligence analysis remains a 'craft culture' that relies on an unsustainable apprenticeship model.[3]

Shaughnessy and Moore prod professors and educators to encourage tactics, techniques and strategies for fostering independent thinking as well as reflective thinking, in addition to mastery of the subject matter.[4] Recommendations in this vein continue the work of Heuer in the late 1990's, in which he developed strategies for analytical judgment and approaches to structuring analytical problems, developed analysis of competing hypotheses, and examined cognitive biases.[5] Although there has been progress in development of intelligence theory along these lines, it has been noted that such advances have not been implemented to any significant extent in the intelligence agencies.[6]

Marrin has written extensively on the analytic process as it is currently practiced in several of the sixteen Intelligence Community agencies. His analysis underscores that the effectiveness of the multiple analytic methods in use by the agencies has not been rigorously tested or proven effective in controlled circumstances. As a result, neither analysts nor policy makers know if any particular method is better than any other. In many cases the dominant mode of analysis is based on little more than intuition based on length of exposure to the subject, rather than any rigorous methodology.[7]

Johnson took a different tack in his benchmark work on the culture of the Intelligence Community. His analysis probed team-building methodologies, ethnocentrism in intelligence analysis, instructional technology, and organizational socialization for sources of improvement to intelligence analysis. His recommendations focus on infrastructure requirements, research, and access to data.[8]

<u>Popular and Political Commentaries</u>. Popular press publications have most vociferously taken the Intelligence Community to task. Bill Gertz pointed to "weak leadership" of the intelligence

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[3] Cooper, Jeffrey R. During Analytic Pathologies: Pathways to Improved Intelligence Analysis. Center for the Study of Intelligence, Central Intelligence Agency, 2005.

[4] Shaughnessy, Michael F. and Moore, Tammy Lynne. The Encouragement of Thinking. The Korean Journal of Thinking & Problem Solving, 2006, 16(2), 45-52.

[5] Heuer, Richards J., Jr. Psychology of Intelligence Analysis. Center for the Study of Intelligence, Central Intelligence Agency, 1999.

[6] Marrin, Stephen. Analytic Techniques: To structure, or not to structure. Adapted from presentation at the Eighth Annual Mercyhurst College International Colloquium on Intelligence, June 2006. September 16, 2006.

[7] Marrin, Stephen. Analytic Techniques: To structure, or not to structure. Adapted from presentation at the Eighth Annual Mercyhurst College International Colloquium on Intelligence, June 2006. September 16, 2006.

[8] Johnston, Rob. Analytic Culture in the U.S. Intelligence Community: An Ethnographic Study. Center for the Study of Intelligence, Central Intelligence Agency, Washington, D.C., 2005.

apparatus and lack of information sharing.[9] Richard Posner argued that the reasoning of the 9/11 Commission and the resultant Intelligence Reform and Terrorism Prevention Act of 2004 was superficial and its organizational proposals unsound. "The Commission offered a structural solution to what appeared from its own narrative to be a managerial problem."[10]

The 9/11 Commission came center-stage in the national, political debate that followed the terrorist attacks in 2001. While it made a number of recommendations for national strategy and policy, it also provided recommendations for the Intelligence Community. It recommended greater unity of effort by managers in the Intelligence Community through greater teamwork and shared priorities, and improved sharing of information through incentives for sharing and deployment of a "trusted information network" across agencies.[11]

The HPSCI analysis of August 2006 included recommendations that, "Intelligent Community managers and analysts must provide their best analytic judgments about Iranian WMD programs and not shy away from provocative conclusions, or bury disagreements in consensus assessments."[12] The report also recommends that, "analysts must evaluate all contingencies and consider out-of-the box assessments that challenge conventional wisdom."

Such public and academic criticisms are far ranging and have not been easy to remedy. They range from deficiencies in national policy, cultural norms within the intelligence organizations, analytic techniques, and tools and infrastructure. The diversity of these criticisms have caused frustration on the part of some, with regard to the nature of the core issues and how to respond. This prompted one leading academic to reply, "**how does one go about teaching these analytical techniques, if that is what they are?**"[13] To characterize the basis of this growing frustration and to suggest some practical approaches to this significant question to national security is the objective of this analysis.

Based on his extensive analysis of the Intelligence Community agencies, Marrin has suggested looking in other professions to see if alternative techniques proven in other fields might provide some improvement in current intelligence analytic processes. "What you might discover is a better way to do intelligence analysis."[14] He has followed his own advice and has written on the professionalization of medicine as a model for certification and official recognition in the intelligence field. The analysis in this paper follows a similar approach, but takes his search in other professions in another direction.

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[9] Gertz, Bill. Breakdown: The Failure of American Intelligence to Defeat Global Terror. New York: Penguin Group, 2003.

[10] Posner, Richard A. Preventing Surprise Attacks: Intelligence Reform in the Wake of 9/11. New York: Rowman & Littlefield Publishers, Inc., 2005, p. 9.

[11] The 9/11 Commission Report—Final Report of the National Commission on Terrorist Attacks Upon the United States. W.W. Norton and Company, New York, 2004.

[12] Recognizing Iran as a Strategic Threat: An Intelligence Challenge for the United States. Staff Report of the House Permanent Select Committee on Intelligence Subcommittee on Intelligence Policy. August 23, 2006, p. 15.

[13] Giza, Jim. Coordinator, Analysis Programs, Johns Hopkins University. Email, Thursday, August 24, 2006.

[14] Marrin, Stephen. Analytic Techniques: To structure, or not to structure. Adapted from presentation at the Eighth Annual Mercyhurst College International Colloquium on Intelligence, June 2006. September 16, 2006, p. 9.

Connecting the Unconnected

Studies of innovation include the approach suggested by Marrin. Combining information in new and unexpected ways and bringing in ideas from other domains are relatively standard approaches to innovation. "By taking signals from the periphery, examining them from different angles, and interpreting them in fresh ways we are able to amplify them into something useful."[15] Similarly, Gamache and Kuhn write about the power of rearranging known information;[16] and Von Krogh, Ichijo, and Nonaka describe 'boundary breaking' as a means of innovation and value-added change.[17] Michalko describes this methodology to generating new approaches as 'forcing relationships'—

> If one particular style of thought stands out for creative geniuses, it is the ability to make juxtapositions that elude mere mortals. Call it a facility to connect the unconnected by forcing relationships that enable them to see things to which others are blind. Leonardo da Vinci forced a relationship between the sound of a bell and a stone hitting water. This enabled him to make the connection that sound travels in waves.[18]

In this analysis, the approach is to seek a framework for intelligence analysis competency in a seemingly unrelated field—in this specific instance—human resources (HR). The objective is to 'see new things' and 'interpret known facts in fresh ways,' in order to generate new insights and understanding. In 2001, Becker, Huseldid, and Ulrich published what has rapidly become a standard reference in the field of human relations, The HR Scorecard.[19]

In that work, Becker, et. al., define functional competence as "an individual's knowledge, skills, abilities, or personality characteristics that directly influence his or her job performance."[20] Becker draws substantially on the most extensive study of competencies within the human relations field, which was done by the Ross School of Business at the University of Michigan during 1988 to 1998. It involved over 20,000 personnel and line professionals and identified human resource competencies across HR functional specialties, industries, firms, and time.

The template of competencies from this extensive study provides an illustrative framework for considering competencies within the field of analytic intelligence. The HR competencies

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[15] Gryskiewicz, John S. Positive Turbulence: Developing Climate for Creativity, Innovation, and Renewal. San Francisco, CA: Jossey-Bass Publishers Wiley & Sons 1999, p. 24.

[16] Gamache, R. Donald and Kuhn, Robert Lawrence. The Creativity Infusion: How Managers Can Start and Sustain Creativity and Innovation. Grand Rapids, MI: Harper and Row Publishers, 1989.

[17] Von Krogh, George; Ichijo, Kazuo; and Nonaka, Ikujiro. Enable Knowledge Creation: How to Unlock Mystery of Tacit Knowledge and Release the Power of Innovation. Oxford: Oxford Univ. Press, 2000, p. 4.

[18] Michalko, Michael. Cracking Creativity: The Secrets of Genius. Berkeley, CA: Ten Speed Press, 2004, p. 11.

[19] Ulrich, D., Huselid, M.A., and Becker, B. E. The HR Scorecard : Linking People, Strategy, and Performance. Boston: Harvard Business School, 2001.

[20] Becker, Brian E.; Huseldid, Mark A.; Ulrich, Dave. The HR Scorecard: Linking People, Strategy, and Performance. Boston: Harvard Business School Press, 2001, p. 156.

identified by this extensive field study include: knowledge of the business, delivery of human resource practices; ability to manage culture; ability to manage change; and personal credibility. By adapting these findings from the Becker model of HR competencies, the following definitions may apply to the field of intelligence analysis.[21]

Delivery of Functional Practices. Professionals must be experts in their specialty. "Knowing and being able to deliver state of the art, innovative…practices builds these professionals' credibility and earns them respect from the rest of the organization."[22] As this professional expertise shifts to new capabilities and practices over time, they must build on their mastery of the underlying theory of their profession and adapt that theory to their unique situations. This may also require the acquisition of new or updated skills. '*Intelligence professionals must have an expert grasp of the fundamentals and theory underlying their practice and maintain an updated edge to be able to practically manage changing circumstances in their profession.*'

Understanding of the Business. Professionals add value to a business when they understand how it operates. This understanding allows them to adapt their functional and organizational activities to changing conditions. "Only by knowing the financial, strategic, technological, and organizational capabilities of your organization can you play a valuable role in any strategic discussion."[23] Employees may have extensive knowledge of their functional specialty or discipline, but may not have insight into the dynamics of the line of business in which their organization competes. So while they may have the basics mastered of various tools and techniques, they may not have sufficient breadth of understanding of their overall business to permit them to adapt such techniques or technologies to changing conditions. To paraphrase Becker in the intelligence context, '*Intelligence acumen requires knowledge, if not direct experience, in functional areas such as research and development, operations, planning, and policy making, in addition to intelligence activities…In short, to be valuable business partners, intelligence professionals need to know much more about the business than other managers need to know about intelligence.*'

Management of Culture. Professionals tend to embody the values of their organization, as well as promulgate and lead the further development of those values.
- They assist the organization in aligning personal and organizational values. "The degree to which the strategy, work, people, structure, and culture are smoothly aligned will determine the organization's ability to compete and succeed."[24]
- They work effectively in a team environment composed of experts from disparate fields and backgrounds. As Lowenthal notes, intelligence is a 'team sport,' not a solo performance.[25]
- They also enable others to act by sharing power and discretion to make decisions with others. They create a spirit of community by showing appreciation for individual excellence and celebrating victories.[26]

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[21] The unmodified definitions of HR competencies are reproduced in Appendix A, for reference.
[22] Ibid., p. 159.
[23] Ibid., p. 158-159.
[24] Nadler, David A. and Tushman, Michael L. Competing by Design. New York: Oxford University Press, 1997, p. 34.
[25] Lowenthal, Mark M. Intelligence: From Secrets to Policy. Washington, D.C.: CQ Press, 2003.
[26] Kouzes, James M. and Posner, Barry Z. Leadership Practices Inventory (LPI). Second Edition. San Francisco, CA: Jossey-Bass/Pfeiffer Publishers, 1997.

- They assess and proactively maintain their organization's environment to ensure that it remains

aligned with stated objectives, and check to see if the results expected are actually occurring.[27]
'*Intelligence professionals actively model and develop cultures that support organizational objectives and team approaches to success.*'

Management of Change. Most senior leaders face the need to refocus their organizations in response to new strategic developments. Intelligence professions are well-situated to be key players in such change, if they are prepared to orchestrate change processes. "This capability involves knowledge (of change processes), skills (as change agents), and abilities (to deliver change) essential for moving the 'people' side of the organization."[28]
- They help establish an organizational climate in which creativity and innovation are valued and assessed.
- They challenge the process and take risks to improve the organization, its processes, and relationships with users of intelligence.
'*Intelligence professionals must be able to anticipate problems, foster proactive adaptation to emerging change, and build relationships with users of intelligence in ways which assist in achieving their mutual goals, in spite of a rapidly changing environment.*'

Personal Credibility. Successful professionals are viewed as personally credible both inside and outside their specific functional domains.
- They live are consistent with the stated values of their organizations.
- Their relationships with colleagues are founded on trust.
- They bring a point of view on how their organization can achieve its objectives, to include bringing unsolicited ideas and solutions and encouraging debate about key issues.
'*Intelligence professionals demonstrate characteristics which validate their personal role and the value of intelligence in organizational strategy development and implementation.*'

The research findings of the University of Michigan also assessed the relative importance of these competencies on the overall effectiveness of the professionals. They ranked these competencies in perceived contribution to the effectiveness of the HR professionals. All were considered important competencies, but from least to most important were: understanding of the business, delivery of functional practices, ability to manage culture, ability to manage change, and personal credibility. The researchers determined this ranking across industries, levels of the HR professional, and specialty area. These results are consistent with data from other companies that developed their own competency models, including General Electric and other Fortune 500 companies.[29] Figure 1 displays these results, as modified for intelligence.

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[27] Boone, L. and Hollingsworth A. Creative Thinking in Business Organizations. Review of Business. Volume: 12. Issue: 2. St. John's University, College of Business Administration, 1990.

[28] Ibid., p. 161.

[29] Becker, Brian E.; Huseldid, Mark A.; Ulrich, Dave. The HR Scorecard: Linking People, Strategy, and Performance. Boston: Harvard Business School Press, 2001, p. 161-163.

Competency Domain	Level 5 = Highest	Specific Competencies (in order of importance)
Personal Credibility	5	Has track record of success. Has earned trust. Instills confidence in others. Has 'chemistry' with key constituents. Demonstrates high integrity. Asks important questions. Frames complex ideas in useful ways. Takes appropriate risks. Provides candid observations. Provides alternative insights on business issues.
Ability to Manage Change	4	Establishes trust and credibility in relating to others. Is visionary. Takes a proactive role in bringing about change. Builds supportive relationships with others. Encourages others to be creative. Puts specific problems in context of the larger system. Identifies problems central to business success.
Ability to Manage Culture	3	Shares knowledge across organizational boundaries. Champions culture-transformation process. Translates desired culture into specific behaviors. Challenges the status quo. Identifies the culture required to meet the firm's business strategy and frames culture in a way that excites employees. Encourages executives to behave consistently with the desired culture. Focuses the internal culture on meeting the needs of external customers.
Understanding of the Business	2	Understands the following-- - Functional practices of intel and US Government. - Intel organizational structure. - Allied and coalition intel and analytic approaches. - Financial programming and planning. - Budgeting and customer relations. - Information systems and advanced analytic tools.
Delivery of Functional Practices	1	Thinking and Critical Thinking Literacy Computer Literacy Expression Communicating Foreign Language Proficiency Research Information gathering & manipulation Knowledge of analytic resources

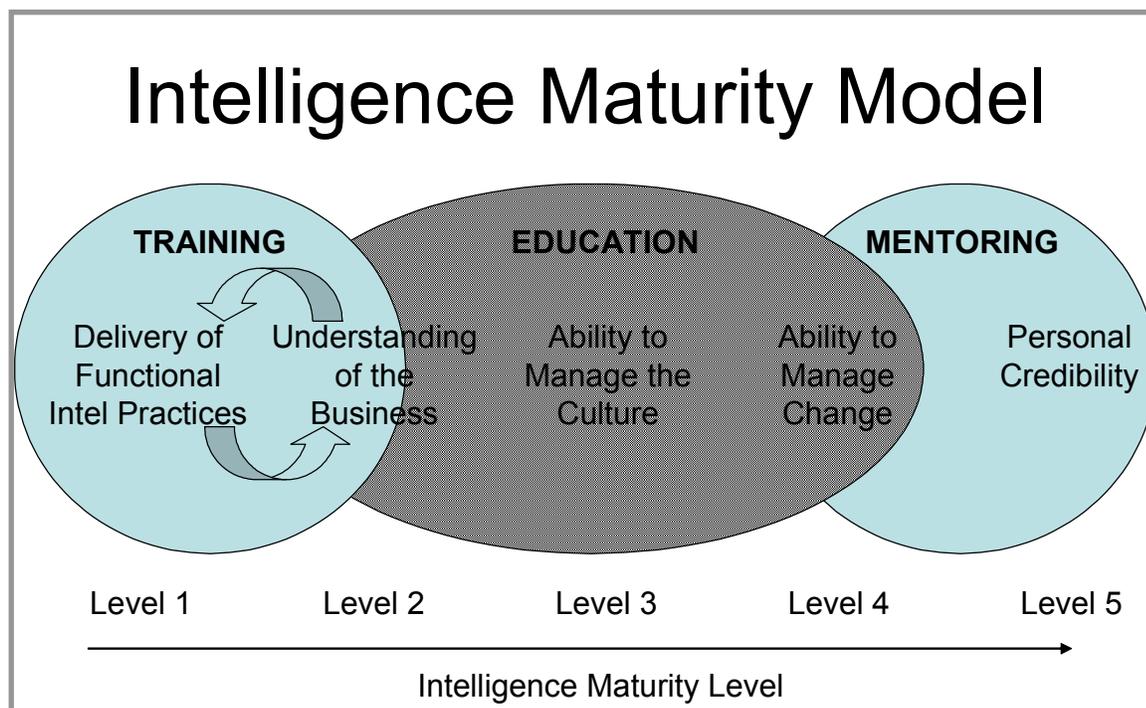Figure 1. Intel Competency Domains and Exemplar Skills and Abilities

Intelligence Maturity Model

TRAINING	EDUCATION		MENTORING
Delivery of Functional Intel Practices Understanding of the Business	Ability to Manage the Culture	Ability to Manage Change	Personal Credibility

| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |

Intelligence Maturity Level

Figure 2 Intelligence Maturity Model (Adapted from Huselid and Becker)

Intelligence Maturity Model

Based on this analysis, Figure 2 portrays a maturity model of analytic intelligence capabilities. Capability maturity model broadly refers to a process improvement approach to quality. The first maturity model was developed by the Software Engineering Institute (SEI) in the mid-1980s. A process model is a structured collection of practices that describe the characteristics of processes proven effective by experience.[30]

A maturity model may be used to assess an organization or its processes against a scale of process maturity levels. Each level ranks the organization according to its processes or capabilities in the subject area being assessed. Areas for evaluation may be as diverse as creativity permits. Industry and academic associations have formally approved maturity scales for software engineering, systems engineering, project management, risk management, system acquisition, information technology (IT) services, and personnel management. This paper suggests an extension of the maturity approach to include a five-level model for intelligence analysis training and education, as shown in Figure 2.

It is worthy of note that Level 1 Delivery of Intelligence Practices and Level 2 Understanding of the Business are particularly interactive. Some might argue that understanding of the intelligence business is a prerequisite for fully being able to deliver functional intelligence practices. While

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[30] Capability Maturity Model®Integration (CMMI®) Version 1.2 Overview. SEI (2006).

this may be true in a theoretical sense, it is clearly possible to perform limited functional practices while only having limited or no understanding of the larger intelligence process or organizational structures. It is on this basis that this model suggests placing Delivery of Functional Intelligence Practices at the initial level of intelligence maturity. The arrows in Figure 2 that link Levels 1 and 2 are intended to portray the interactive nature of these two levels. For example, having some insight into the relationship and processes between the National Security Agency and one's own organization would likely make a substantial difference in the effectiveness of an analyst attempting to submit specific SIGINT requirements into the National SIGINT Requirements process. Likewise, an in-depth understanding of the functionality of the IMINT Requirements Management System (RMS) and how to obtain imagery from the National Geo-spatial Intelligence Agency would provide insights into the way in which the Intelligence Community develops and manages imagery intelligence.

Illustrative Intel Education Programs

The question of competencies required to support US national security has understandably become a relatively hot topic in certain academic and government circles. Reflecting this interest, undergraduate and Master's degree programs are growing in number and doing so very rapidly. This may be in response to a number of factors, to include the market demand for intelligence analysts, heightened cultural interest in the intelligence business, and shortfalls in current intelligence capabilities noted earlier.

For purposes of illustrative analysis, Figure 3 portrays seven undergraduate intelligence training programs. These are composed of instruction at three major Federal government organizations; the standards developed by the Office of the Director of National Intelligence; two civilian undergraduate intelligence programs; and one medium-sized industry participant in the national security intelligence business. The course work is uniformly three semester hours for each entry and is intended to represent the relative content and emphasis of the programs. These programs were selected to represent the best-of-bred intelligence instructional programs currently available.

The program at this Major Federal Agency was established within the past two years. It was based on an extensive benchmarking effort of the intelligence training and education programs at the Central Intelligence Agency (CIA), Defense Intelligence Agency (DIA), National Security Agency (NSA), and the Drug Enforcement Agency (DEA). The training regimen was designed for entry-level analysts.

The program at the Major Department of Defense (DOD) Intelligence Agency reflects an agency-wide emphasis on improving intelligence. The major impetus for its attempts at revitalizing analytic training were the events of 9/11, but this particular agency has an extended history of investing in education for its people. The educational content reflected in Figure 3 is the result of a modernization effort which is circa 2003.

The program at the Major Department of Defense (DOD) school was also designed for undergraduate and graduate instruction. The content in Figure 3 reflects its undergraduate

program, which is targeted to increase the skill and expertise of its students to produce accurate intelligence analysis.

Functional Intel Competencies Maturity Model				
LEVEL 1 **Delivery of Functional Intel Practices**	**LEVEL 2** **Understanding of the Business**	**LEVEL 3** **Ability to Manage the Culture**	**LEVEL 4** **Ability to Manage Change**	**LEVEL 5** **Personal Credibility**
Major Federal Agency Information Gathering Conceptual Thinking Conduct Research Dealing with Ambiguity Information Briefing Written Communication Analytical Thinking Problem Solving Communication		Teamwork		
Major DOD Intel Agency Thinking and Critical Thinking Literacy Computer Literacy Expression Foreign Language Proficiency Research Information gathering & manipulation Knowledge of analytic resources Communicating	Knowledge of Intel Community Knowledge of customers Government plans and policy Project/process management	Teaming and Collaboration		
Major DOD School Analysis and Production Basic Intelligence Collection Communicating Intell Effectively	Nat'l Foreign Intel Community Counterintel Practice			
ODNI (Standards Dec 2005) Critical thinking Information gathering and assessing Analytic methods and techniques Collaboration Communications Personal & organizational productivity	National Intel system awareness Customer focus	Ethics, corporateness, integrity Continuous learning		
Undergrad Intel -- College 1 Intro to Research & Analysis Advanced Resrch & Analysis Financial Investig & Analysis Writing for Intelligence	History of U.S. Intel or Intel and National Security Intro to Law Enforcement Intel Terrorism Strategic Intelligence Business Intelligence	[Liberal Arts Core]		Internship/Co-Op
Undergrad Intel -- College 2 Intelligence Research and Analysis Research & Writing Modern Foreign Language*	History of American Intelligence Counter-Intelligence Principles of Criminal Justice The Presidency Comparative Politics Foreign Policy: Theory & Practice	Intelligence, Law Enforce, & Civil Liberties [Liberal Arts Core]		Research and Analysis – Internships Research and Analysis -- Special Projects
Industry Program 1 * Optional MS Office (Excel; Outlook; PPT; Word) Presentation Skills for Technical Professionals Using TOTAL Communication Advanced MS Office * Technical Writing I, II *	Company Overview and Processes Company Culture and Business Company Operating Financials Company Stock Options Workshop Buying and Selling Company Stock Employee Stock Purchase Plan Basics of Company Retirement Plans Orientation to Contract/PM Policies Project Management I, II, III Technical Expertise Database Training *	Team Building Understanding Customer Needs Systems Engineering for Everyone Capability Maturity Model for Sys Eng	Leadership Effectiveness and Development	

Figure 3. Illustrative Undergraduate Intelligence Programs Mapped to Competency Model

The Office of the Director of National Intelligence performed an extensive study of analytic core competencies in 2004-2005. As a result it defined common standards for general analysis training, education, and career development, which are reflected in Figure 3. These criteria included knowledge, skills and abilities for the entry level, for mid-career, and senior level intelligence analysts. The objective of the multi-agency group that developed this list of competencies was to meet goals defined by Intelligence Community policy and the Intelligence Reform Act of 2005.

For comparison purposes, the course work from two private colleges and one privately held company complete the illustrative sample of intelligence education programs, listed in Figure 3. These undergraduate programs at private colleges offering intelligence degrees reflect current programs at a number of colleges and universities, both currently offered and several that are in development.

Analysis of Illustrative Intel Education Programs

Using the Functional Intelligence Competencies Maturity Model permits several observations that are relatively apparent as a result of using the segmentation of the model (See Figure 3).

First, the majority of instruction is focused on the lowest levels of the competency model. The categories for Deliver of Functional Practices and Understanding of the Business are dealt with extensively. It is an exception that the Major Federal Agency program includes nothing addressing the understanding of their business. This may reflect that this information is provided through other means of training.

Second, the relatively new ODNI criteria place additional emphasis on efforts to improve Abilities to Manage the Culture, relative to current Federal or DOD efforts. The illustrative programs from colleges and industry provide some encouragement that approaches to managing culture are feasible and may already be available at some level of acceptable development.

The work of Earley and Mosakowski has legitimized the concept of Cultural Intelligence (CQ)— the ability to "tease out of a person's or group's behavior those features that would be true of all people and all groups, those peculiar to this person or this group, and those that are neither universal nor idiosyncratic."[31] They are also positive in their assertions that leaders and managers can be trained to improve their Cultural Intelligence and formulated a six-step training process. Their findings support the view that cultural intelligence can be developed in motivated, professional people.

Third, very little or no coverage of Abilities to Manage Change or Personal Credibility is present in Federal or DOD formal intelligence training and education activities. This is particularly significant, as major elements of the public and political criticism of the intelligence performance has centered on just those areas (see Figure 4). The need for mentoring within the intelligence agencies has been recognized, but has not yet been incorporated into formal training and education programs, at least as reflected in these sample programs.

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[31] Earley, P. Christopher and Mosakowski, Elaine. 2004. Cultural Intelligence. Harvard Business Review; 82 (Oct): 139-146, 140.
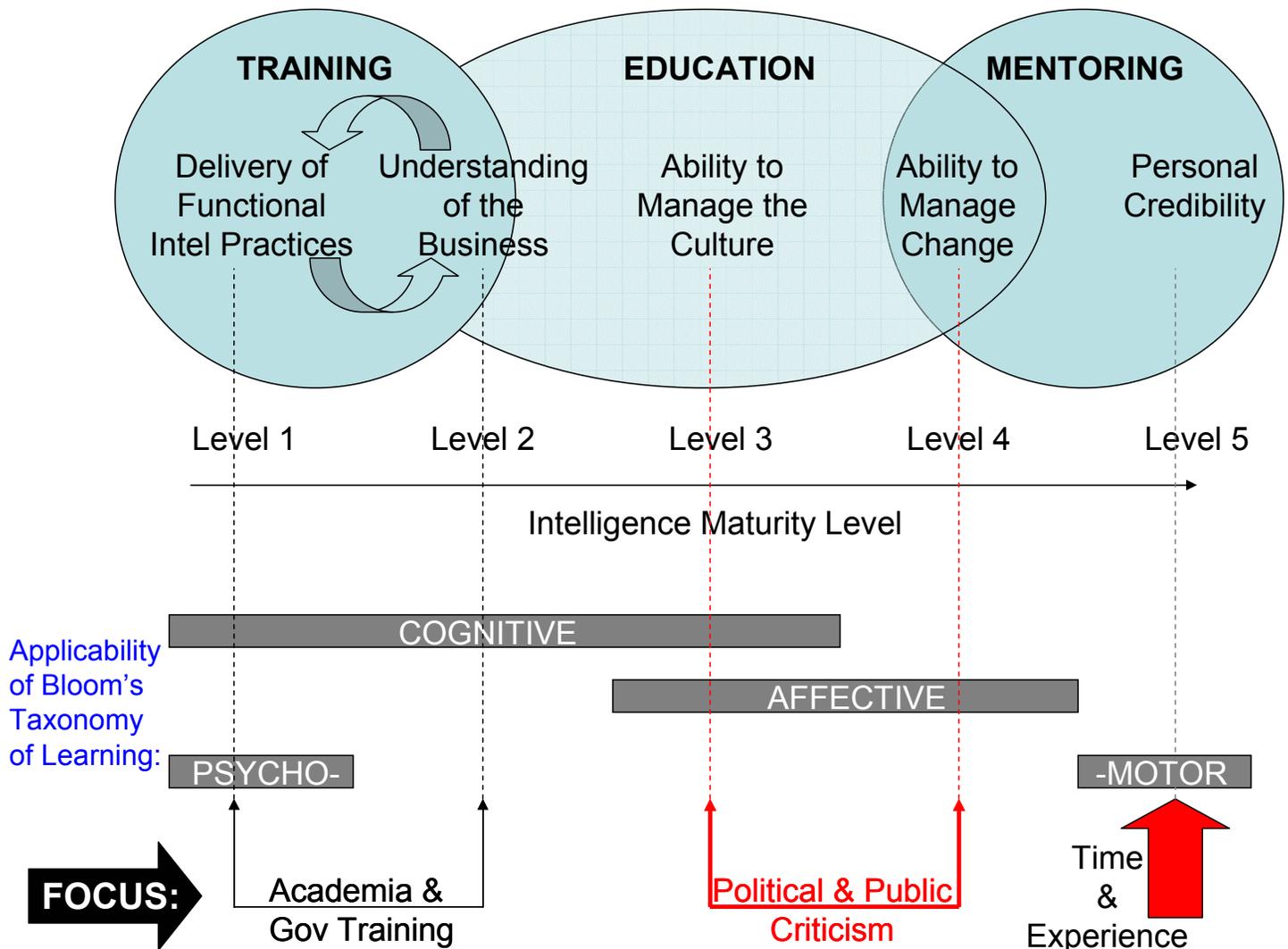
Figure 4. Learning Domains and Criticisms of Intelligence Performance

Bloom's Taxonomy of Learning

Benjamin Bloom led a group of academic institutions in categorizing learning development in the 1950's.[32] They identified three categories of learning: the Cognitive, Affective, and Psychomotor domains. This taxonomy of learning categories is often considered "the goal of the training process"[33] and may be used to represent progressive levels of achievement in the

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[32] Bloom, Benjamin. S. 1956. Taxonomy of Educational Objectives, Handbook I: The Cognitive Domain. New York: David McKay Co Inc.

[33] Clark, Donald. Learning Domains: Bloom's Taxonomy. May 21, 2000. Internet. Available from http://www.nwlink.com/~donclark/hrd/bloom.html; accessed 19 July 2006, p. 1.

learning process.[34] Bloom elucidated on the elements of the Cognitive domain, while the Affective domain was developed by Krathwohl, et. al.[35] Simpson advanced the definition of the elements in the Psychomotor domain.[36]

Cognitive. The cognitive learning modality involves knowledge and rational skills. This includes the remembrance of specific data, procedural models, and ideas that attend the development of intellectual capacity. There are six major categories, arrayed from simple to complex behavior. The categories represent levels of complexity. They are: Knowledge; Comprehension of Meaning; Application; Analysis; Synthesis; and Evaluation.

Affective. The affective learning modality includes the emotions, feelings, values, pleasures, eagerness, motivations, and attitudes. The five sub-categories are: Receiving; Responding; Valuing; Organizing; and Internalizing.

Psychomotor. The psychomotor learning modality includes physical motion, synchronization, and dexterity of motor-skills. Development of this mode requires exercise and is calculated in terms of speed, accurateness, range, or methodology of performance. The seven sub-categories are: Perception; Mindset; Imitation; Mechanism; Skillful Performance; Adaptation; and Origination.

These different modes of learning may be more effective across the five levels of intelligence maturity. As portrayed in Figure 4, the Cognitive is likely associated with Functional Practices and Understanding the Business (Levels 1 and 2) as well as factual aspects of Managing Culture (Level 3); the Affective modality is hypothesized to be most effective in the areas involving culture and change (Levels 3 and 4). The Psychomotor learning modality will likely be proven to play significantly in Delivery of Functional Practices (Level 1) and in Personal Credibility (Level 5).

Implications for Intelligence Training, Education, and Mentoring

Since these findings are based on an illustrative sample of training and education programs in select intelligence organizations, they are by their nature not conclusive. They are based on a sufficient cross-section of current programs in the Intelligence Community to support tentative conclusions which may be subjected to further scrutiny and evaluation for their accuracy and completeness.

First, additional training and educational emphasis on culture is warranted. The analysis of the 9/11 Commission made two important points regarding intelligence capabilities and culture:

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[34] Regent University, School of Leadership Studies. 2004. DSL Writing Guidelines. Internet. Available from http://www.regent.edu/acad/sls/academics/dsl/dslwriting.html; accessed 20 July 2006.

[35] Krathwohl, D. R., Bloom, B. S., & Bertram, B. M. 1973. Taxonomy of Educational Objectives, the Classification of Educational Goals. Handbook II: Affective Domain. New York: David McKay Co., Inc.

[36] Simpson E. J. 1972. The Classification of Educational Objectives in the Psychomotor Domain. Washington, DC: Gryphon House.

It is important to understand the culture of our opponents; and it is likewise important to understand the cultures of our own bureaucratic organizations, particularly if we are going to attempt substantial changes in them to respond to our rapidly changing national security environment. Neither of these conclusions should come as any great revelation. Sun Tzu's wisdom of several millennia past, as well as more recent students of conflict and terrorism, have enjoined us to "know thine enemy" as a necessary element in the war on radical Islamic terrorism.[37, 38]

Current organizational analysis of military organizations concludes that their culture is an important element in their effectiveness.[39] This author has concluded elsewhere, that just as military culture is important to military effectiveness, so the culture of the Intelligence Community members is important in their effectiveness.

> Does Intelligence Community culture matter? Students of either intelligence history or current Intelligence Community institutions have devoted little attention to it, yet it may be the most important factor not only in intelligence effectiveness during wartime, but in the processes of innovation during times of peace.[40]

Second, additional training and educational emphasis is needed within intelligence organizations to equip its people with understanding and skills to manage change. Future Shock provided an early warning concerning the span and depth of rapidly changing social, political, and economic factors in our times.[41] More recently, Friedman sounded an additional alarm with regard to the 'flattening of the globe,' which requires organizations and nations to run faster just to stay in place.[42] In the national security context, there is no indication the rate of change will decrease.

If we needed an 'in-your-face' demonstration of the challenges of making major change in response to the evolving needs of national security, the on-going dynamics within the so-called Department of Homeland Security provide a sobering case study. It also illustrates how difficult large-scale change can be and how ill-prepared we are culturally to deal with it. The paradox is that the inertia that results from alignment of strategy, structures, systems, people, and culture— the holy grail of our organizational theory—may actually ensure the conditions for long-term failure.[43] The operational flexibility afforded the terrorists by their loose network of confederates around the globe demands a similar level of creativity and innovation in our methods and

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[37] Barkawi, Tarak. On the Pedagogy of 'Small Wars'. International Affairs, Jan2004, Vol. 80 Issue 1, pi9-37.

[38] Gammell, Martin P.; lan C.W. Hardy. Contest Duration: Sizing up the Opposition? Trends in Ecology & Evolution, Vol. 18 Issue 10, p491, Oct2003.

[39] Murray, Williamson. Military Culture Does Matter. FPRI Wire, Volume 7, Number 2, January 1999. Available from http://www.fpri.org/fpriwire/0702.199901 .murray.militaryculturedoesrnatter.html. Internet; accessed 17 March 2006.

[40] Middleton, Gordon R. Intelligence Community Culture: A Study in Tribal Differentiation. Virginia Beach, VA: Regent University, April 2006.

[41] Toffler, Alvin. Future Shock. New York: Bantam Books, 1970.

[42] Friedman, Thomas L. The World Is Flat: A Brief History of the Twenty-First Century. New York: Farrar, Straus and Giroux, 2005.

[43] Tuschman, Michael L. and O'Reilly Charles A.Winning Through Innovation: A Practical Guide to Leading Organizational Change and Renewal. Boston: Harvard Business School Press, 2002.

approach. This should be viewed as good news, as it is consistent with our historical American values.[44]

Third, additional attention should be given to the strengths of the apprenticeship model at the entry level and to mentoring at the intermediate and senior levels. Cooper has criticized the intelligence agencies for their dependence on the 'craft' approach—and to the extent they attempt to make the delivery of Functional Intelligence Practices predominantly an affective process, they are on a track that misses the nature of the learning tasks in the intelligence process (See Figure 4).

However based on his use of the 'scientific' analogy, if Cooper's intent is to make the analytic process an entirely cognitive exercise, he may take us further from the mark than where we've been. The analytic process is much more than the arrangement and linking of sterile facts. If the analysis is important, it will always exist in a complex, often messy, socio-political context where uncertainties are immense. The most significant criticisms of US intelligence are exactly because it has not been stronger in areas demanding affective and psycho-motor dimensions of learning.

In addition, to assert as he does that we do not have enough people in the ranks "to properly instruct and mentor the new apprentices in either practice or values"[45] reflects a mistaken set of priorities for leadership, particularly with regard to values. With the pace of change outdating almost everything so quickly, inculcating core values in followers may be the most important thing senior leaders can do.

In an era of rapid change in business processes and technology, the business community is coming back to mentorship, particularly for its rising executives[46]—under updated terms such as executive coaches, leader-in-coach, certified personal coach, and other such names. The Intelligence Community might take a page from their book in this regard, for exactly the same reasons.

Fourth, training and education that utilizes techniques broader than just cognitive approaches may be required to address some of the recent shortfalls in intelligence.

The Psychomotor domain has been shown to be important in learning and behavior. It exerts a substantial force on culture and needs to be a substantial consideration in successful cross-cultural communications, particularly for certain cultures (e.g., Chinese, Japanese, and non-Western cultures, in general).

Cross-cultural training will have the best outcomes when it utilizes all three modalities of learning—Cognitive, Affective, and Psychomotor. These three learning modalities should be

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[44] Beck, Hanno T. American Values. http://www.progress.org/2003/america1.htm (25FEb07)

[45] Cooper, Jeffrey R. During Analytic Pathologies: Pathways to Improved Intelligence Analysis. Center for the Study of Intelligence, Central Intelligence Agency, 2005, p. 17.

[46] Michelman, Paul. What an Executive Coach Can Do for You. From "Methodology: Do You Need an Executive Coach?" Harvard Management Update, Vol. 9, No. 12, December 2004. http://hbswk.hbs.edu/archive/4853.html (25Feb07).

utilized in a complementary manner, in order to maximize cultural understandings. "Cultural intelligence resides in the body and the heart, as well as the head."[47] These elements directly relate to the cognitive, physical, and the emotional or motivational aspects of human behavior. These areas of Cultural Intelligence (CQ) defined by Earley and Mosakowski[48] are in perfect congruence with Bloom's learning taxonomy and reinforce the view that cross-cultural learning must leverage all three areas for maximum affect. Earley and Mosakowski are also positive in their assertions that leaders and managers can be trained to improve their Cultural Intelligence.[49]

A reasonable person might ask, "Why is the Psychomotor area so significant in cross-culture situations?" There is some basis in research to support the view that the key ingredient in cross-cultural understanding is inter-personal trust. "By adopting people's habits and mannerisms, you eventually come to understand in the most elemental way what it is like to be them. They, in turn, become more trusting and open."[50] Research on cultural barriers in business by Sanchez-Burks lends support to the view that visual portrayal of commonly understood customs and mores has an impact at 'the most elemental' level to leap over issues of language and logic, to generate its own feelings and emotions.[51]

Summary

When viewed through the framework of competencies required for human relations specialists, the competencies for intelligence analysts may be seen to arrange themselves into a similar maturity model of competencies. When viewed against this maturity model, illustrative intelligence training and education programs underscore areas in which they focus and others in which they nearly ignore. That a number of the criticisms of the intelligence failures align with these neglected areas provides the basis for identifying important future improvements in training, education, and mentoring for intelligence professionals.

This analysis suggests that intelligence analysts require a broad spectrum of cognitive, affective, and psychomotor educational and professional experiences, if the results of US intelligence efforts are to serve the interests of the national security better in the future than they have in the recent past.

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[47] Earley, P. Christopher and Mosakowski, Elaine. 2004. Cultural Intelligence. Harvard Business Review; 82 (Oct): 139-146, 142.

[48] Earley and Mosakowski defined Cultural Intelligence (CQ) as the ability to "tease out of a person's or group's behavior those features that would be true of all people and all groups, those peculiar to this person or this group, and those that are neither universal nor idiosyncratic." Ibid., 140.

[49] Earley, P. Christopher and Mosakowski, Elaine. 2004. Cultural Intelligence. Harvard Business Review; 82 (Oct): 139-146.

[50] Ibid., p. 142.

[51] Ibid.

Appendix A: Unmodified Definitions of HR Competencies

KNOWLEDGE OF THE BUSINESS
HR professionals add value to an organization when they understand how the business operates. Why? Because that understanding allows them to adapt HR and organizational activities to changing business conditions. Only by knowing the financial, strategic, technological, and organizational capabilities of your organization can you play a valuable role in any strategic discussion. HR professionals who have mastered industrial, employee, or human relations may be fully competent in their discipline but still fail to grasp the essentials of the business in which their firms compete. For example, some HR professionals know how to use human resource technology such as multiple rater performance appraisal systems but not how to adapt that technology to specific, changing business conditions. Some firms are now doing performance appraisal over the Web and include customers and suppliers as well as supervisors, peers, and subordinates in the appraisal process. Business acumen requires knowledge, if not direct operational experience, in functional areas such as marketing, finance, strategy, technology, and sales, in addition to human resources. By "knowledge of the business" we don't mean the ability to manage all these business functions, but the ability to understand them. To implement the model we described in chapter 2, HR professionals need to comprehend both sides of the nexus between HR deliverables and business/strategic problems. In short, to be valuable business partners, HR professionals need to know much more about the business than line managers need to know about HR.

DELIVERY OF HR PRACTICES
Like any other staff members, HR professionals at the very least must be experts in their specialty. Knowing and being able to deliver state-of-the-art, innovative HR practices builds these professionals' credibility and earns them respect from the rest of the organization. It is the sine qua non for cultivating a professional "brand" for HR. However, as we've discussed in earlier chapters of this book, the dimensions of this professional expertise are shifting rapidly over time. Therefore, HR professionals must be dedicated enough to continually master the underlying theory of HR and agile enough to adapt that theory to their unique situation. For example, we spoke at a chief learning officer conference recently and spent some time talking about how some of the foundational concepts by Chris Argyris helped organizations build learning disciplines. At the end of our session, some chief learning officers from large firms approached us and asked how to spell "Argyris." Their questions indicated little understanding of Argyris's seminal work—a bit surprising given that these were the people tasked with helping to transform their firms into learning organizations. To the extent such questions demonstrate a lack of knowledge about the theories behind learning, and how to build on those theories, HR professionals may have some work to do.

MANAGEMENT OF CHANGE
This competency is another example of the increasing role of HR as business partner. Perhaps the most compelling challenge facing most CEOs is the need to refocus the organization in response to new strategic directions. Human resource professionals are well positioned to drive that change—if they are prepared. An HR professional who can orchestrate change processes demonstrates the following abilities: the ability to diagnose problems, build relationships with

clients, articulate a vision, set a leadership agenda, solve problems, and implement goals. This competency involves knowledge (of change processes), skills (as change agents), and abilities (to deliver change) essential for moving the "people" side of the organization.

MANAGEMENT OF CULTURE

Management researchers John Kotter and James Heskett found that firms with "stronger" cultures (as measured by the extent to which employees share the values of the firm) tend to achieve higher performance. We have described the strategic role of HR architecture and emphasized the role of systems. Ultimately, the employee behaviors produced by these systems become woven into the culture of the company. In that sense, a high-performance HR strategy is a leading indicator of a high-performance culture. HR professionals need to understand that they are the "keepers of the culture" and that their impact reaches well beyond their functional boundaries.

PERSONAL CREDIBILITY

If the other four domains can be thought of as the pillars of HR competence, personal credibility might be described as the foundation on which those pillars rest. The Michigan research project found that successful HR professionals were seen as personally credible both inside and outside their function. But what does credibility mean? We believe that it comprises three dimensions. First, it requires that human resource professionals "live" the firm's values. This, of course, goes hand in hand with being the "keepers of the culture." We once visited a firm where the head of HR was being sued for sexual harassment based on compelling evidence against him. In this case, no matter how much this executive knew about business, HR, culture, and change, he utterly lacked personal credibility. Organizational values that often trip up HR executives are openness, candor, ability to be a team player, capacity to treat individuals with respect, concern for due process, and insistence on the highest performance for HR executives themselves and their staff. If the HR professionals do not live these values in their work, they can hardly expect others to give them much credibility.

Second, HR professionals build credibility when their relationships with colleagues are founded on trust. Trusting relationships emerge when HR professionals serve as valued partners on management teams, when they have "chemistry" with the management team and are able to work well as team members and exert influence without authority, and when they skillfully support business objectives.

Third, HR professionals earn the respect of their colleagues when they act "with an attitude." What we mean by "with an attitude" is having a point of view about how the business can win, backing up that opinion with evidence (a primary purpose of this book), presenting innovative and unsolicited ideas and solutions, and encouraging debate about key issues. Human resource leaders especially need that attitude when engaging in Step 2 of our model in chapter 2—building a business case for why and how HR matters in strategy implementation.