

REPORT ON
GENERAL COMPETENCIES
FOR THE
FEDERAL ACQUISITION WORKFORCE

Federal Acquisition Institute
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PREFACE

The Federal Acquisition Institute (FAI) initiated a competency-based career development program in 1999 in support of the Federal Procurement Executives Council (PEC) and guided by the Office of Personnel Management. The Acquisition Workforce Subcommittee of the PEC, chaired first by Terrence Tychan of the Department of Health and Human Services and subsequently by David Litman of the Department of Transportation, instilled a new vision and energy to acquisition workforce initiatives. Under their leadership and guidance, the PEC established new career development programs and a new model for an acquisition career path.

The work described in this report is the first step toward a consistent, measurable strategy to manage the acquisition workforce and will be incorporated into the new career model. Individuals at FAI headed up a number of interagency efforts. Marilyn Geldzahler, Ph.D., identified and validated the general competencies, using critical incident methodology to reach experienced contracting specialists in a number of agencies. She also conducted three environmental scans to look at the work environment of the future. Jill Todd assisted her in performing research and analysis. Jeritta Parnell, FAI, headed the interagency team that identified the technical competencies. Deborah O'Neill, former FAI Director, implemented the vision of the PEC and developed important partnerships within the acquisition community, with the Defense Acquisition University and the Department of Defense acquisition community, and with colleges and universities. Janet Springsteen edited the final report.

Federal Management Partners (FMP) validated the technical competencies under a task order with FAI. FMP again used the critical incident methodology to reach experienced contracting specialists in a number of agencies.

The Federal Acquisition Institute thanks the many people who have participated in focus groups, environmental scans, critical incident sessions, brainstorming sessions, and who continue to support the vision of the acquisition professional as business leader. Special thanks to the Office of Federal Procurement Policy's Anthony Baumann who provided substantial support and energy in moving this project forward.

1. INTRODUCTION TO COMPETENCIES

A convergence of need and opportunity is propelling the leadership of the Federal acquisition community to adopt new ways to fit people to the work. The Procurement Executive Council defined a need for an acquisition workforce of business brokers who provide strategic business advice to agency leaders, apply the most effective business practices, join industry in a mission-oriented business partnership, and obtain the best value goods and services for the taxpayer. In addition, acquisition professionals provide responsive, creative, solution-oriented services to support the program mission. The change in expectations in how the acquisition workforce performs contracting services is redefining what it takes to do this work. Performance in a business environment includes interactions with customers, building trust and credibility, and achieving program goals.

Procurement reforms, technology-driven changes in work processes and communication, competition for procurement work, need for mission-relevant outcomes, and the potential for large turn-over in the workforce in the next five years are driving the opportunity to transition to new ways of doing business and managing a career in acquisition. These real changes are forcing a transition to new standards of performance within the acquisition community, which, in turn, require new skills. Defining the value of not only the work, but of the workers themselves is necessary to understand how to implement procurement reforms and other changes.

The PEC developed a vision for change based on a strategic view of the profession that focuses on a governmentwide functional approach to career management, consistent performance and training standards, shared responsibility, and workforce development based on a need for specific capabilities. To support workforce development, the PEC created an approach that integrates workforce shaping, talent supply, performance management, a corporate university, and career management with a model career path. The integrated approach will help civilian agencies to focus on best practices, common goals, and partnering in acquisition workforce management.

At the heart of the career model are nine core capabilities:

- Develop, negotiate and manage business deals
- Communicate effectively
- Manage and lead change
- Solve problems in an ambiguous environment
- Analyze and understand the marketplace
- Build and manage relationships across functions and organizations
- Understand and effectively operate in the customer environment
- Develop and implement outcome oriented solutions
- Execute

To translate these capabilities into a structured way of doing business, the Federal Acquisition Institute (FAI) is developing a competency-based career management program. Competency-based workforce programs have a history of success in private industry, and there is a body of research that supports the use of competencies. In addition, competencies can be used across

industries and adapted to state and local government, which provides opportunities for benchmarking with similar organizations. The competencies identified by FAI provide a framework to guide the acquisition community in all areas of workforce management.

Incorporating Competencies into Career Management

Beginning with the core capabilities, FAI is following the approach established by the Office of Personnel Management to incorporate competencies into career management. Both the financial and the information technology communities are using competencies for their career fields. Although FAI used technical skills as the basis of the Contract Specialist Workbook for years, this approach is being expanded so that agencies can recruit and select high-performing applicants who can function as business managers. To take on this new role, Contract Specialists must also have general competencies, such as effective interpersonal and communication skills, problem solving, and the ability to both lead and participate in teams. The criticality of these general competencies is increasing, as a business-based approach becomes the preferred way to do business in the government.

The competency approach provides an empirically based framework that focuses on the full range of competencies required for success on the job. Then, through various assessment strategies, an applicant's particular mix of competencies, or "profile," can be matched to work requirements. Candidates who know what competencies are desired will be aligned with all aspects of the recruiting and hiring process. Currently, a supervisor focuses on technical skills and has an idea of desired personal traits. Identifying competencies--which are observable, measurable, and easily related to job tasks--for a particular position becomes a useful tool for both the hiring office and the job candidates.

This approach is consistent with the merit system principles of Federal employment, which are centered on:

- Recruit, select, and advance on merit after fair and open competition
- Reward excellent performance
- Maintain high standards of integrity, conduct and concern for the public interest
- Educate and train employees if it will result in better organizational or individual performance
- Retain or separate employees on the basis of their performance

FAI identified and validated general and technical competencies that are specific to the acquisition workforce. Through combining knowledge, skills, and abilities with behavior and other characteristics needed to successfully accomplish assignments to form competencies, we can create a framework to guide the acquisition community in all areas of workforce management. Some competencies may be needed at all levels; others only at the full performance level. Not all acquisition professionals may be required to demonstrate all the competencies. Organizational structure, duties, or tasks assigned can influence which competencies are critical and at what level. Competencies can be differentiated by level or degree of competency that an individual demonstrates. Assessment tools help in screening and selecting candidates and provide a direct and valid link between selection and competencies. The user can choose which competencies best apply to the roles identified for the acquisition

office to perform according to the degree of consistency between jobs (i.e., positions), the particular needs of customers, the program and mission demands, and expected performance and outcomes. Competencies simplify workforce planning and management by providing a framework for building positions, training, and awards.

Competencies common to the acquisition community can be used to identify subsets of competencies common to specific acquisition jobs. By defining competencies, the leadership of the acquisition community will provide consistency across agencies, across acquisition positions, and across performance management efforts. By reinforcing the need for business acumen, customer service, flexibility, leadership, and integrity through competencies, the transition to a business-oriented mission can be more easily accomplished.

Applying Competencies to Human Capital Management

Competencies provide the common language to communicate about job requirements to potential recruits, preferred course content to educational institutions, and performance expectations and career development opportunities to employees. A defined career path may motivate employees to stay and grow in the field.

In recruitment, competencies provide a better description of the job, targeted recruiting, and better marketing. Job counselors will be better informed about the occupation. This results in higher quality applicants from wider, more diverse sources. Colleges and universities can reference the competencies required by the acquisition workforce to develop acquisition and business courses more relevant to the work.

In selection and hiring, competencies provide the basis for human capital planning, job descriptions, selection instruments, crediting plans, structured interviews, situational testing, and a direct link between positions and mission. This results in a better fit between employees and positions, and a more direct link between the work and agency goals and budgets. A benefit to using competency-based career management is the visibility that it provides to employees so that each employee can manage his or her own career.

The use of competencies in determining performance plans, standards, promotions, and awards is a natural extension of their use in hiring, selection and training of an employee. Competencies provide the means to assess technical and personal proficiency and to differentiate between entry, intermediate, and full performance levels of work. Once the links are established between competencies needed to perform an assignment and mission goals, it becomes much easier to develop performance and award criteria. Both supervisor and employee can focus on developing or strengthening competencies and reinforcing organizational productivity and personal development. Furthermore, performance awards can be granted on the basis of consistent criteria.

In the area of education, training and development, competencies form the basis for objectives for coursework and training. Rotation assignments, on-the-job training, and other work-based development opportunities can be structured around learning new competencies. Competencies

also provide a way to develop a consistent methodology for standards and fulfillment of those standards that is accepted across agencies.

Employees and managers can assess how education, training and development opportunities support job competencies. Focused training produces a better fit between employee competencies and job requirements, resulting in more productive workers. The supervisor and employee can together develop a plan to close gaps in competencies. This plan, when combined with all others in an office or organization, becomes the basis for a long-term training strategy linking training to mission goals, a means to identify current and future skills, and the basis for budget requests for investment in training and development. The outcome of training targeted to strengthen specific competencies will be improved productivity and retention of employees. Education, training and development opportunities are great motivators for employees. An environment for continuous learning is a benefit of using competencies.

Using competencies specific to the acquisition workforce focuses the worker and the organization on outcomes that relate to agency mission and program management. Managing the optimum mix of skills ensures that agency goals are met. As a result, the support of agency goals justifies the education, training and development investment in the acquisition workforce. In addition, selecting individuals with the appropriate competencies results in a better-educated acquisition workforce with the technical and interpersonal competencies to perform effectively in a changing environment.

2. COMPETENCIES IDENTIFIED IN ENVIRONMENTAL SCANS

In May 2000, Federal Acquisition Institute conducted three environmental scans to get an understanding of some of the challenges the Federal acquisition workforce faces in the near future and the competencies needed to meet these challenges. The participants, with expertise in a wide range of government and private industry business and information technology areas, were invited to spend an afternoon describing how business and government are expected to change. Based on these changes, they were asked to identify competencies projected to be critical to ensure a high level of performance in the acquisition workforce. The topics discussed included:

- Changes in information technology
- Cutting edge concepts in acquisition and contracting
- Changes in law and regulation regarding acquisition and procurement
- Organizational change
- Innovations in human resources management
- Effects on the acquisition workforce

There is no question that the work done by acquisition professionals is growing increasingly complex. The environmental scan discussions identified two areas in the current work environment that are seen as challenging. Within the government, the acquisition professional is expected to manage acquisitions both as regulator and as customer-oriented advisor. These roles may sometimes conflict, forcing the Contract Specialist to successfully find those solutions that satisfy both the customer's need and comply with pertinent regulations. With procurement decisions disbursed across all functions through the use of purchase cards, the acquisition professional focuses on more complex procurements. The combination of a smaller workforce and more complex work creates a need for highly educated, highly skilled, self-directed professionals.

Near-term changes in the work environment include business processes that will change as the government rethinks its basic functions, how it is structured, and how it can provide integrated products and services to the public. In addition, there is the potential for a deregulated environment if technology continues to move so quickly that the regulatory system cannot keep up with it.

The expectation as expressed in the environmental scan discussions is that over the next few years technology will continue to rapidly expand the ability to collect and disseminate data, drive changes in communication tools, distribute the organization over time and space, provide direct access to people and information, increase the pressure to complete transactions quickly, and force decisions to be made in a virtual environment. The workforce itself is expected to be more mobile, and interested in a variety of work experiences that may include entering and leaving the Federal workforce several times over the course of a career.

Some participants in the environmental scans expressed concern about how the following areas would develop over the next few years and how the acquisition professional would be affected:

- How to audit in the new environment

- Ability of agencies to integrate data and systems across the government to support fast-paced business transactions
- Ability of government to fully use commercial practices such as developing long-term suppliers

With this as a background, the environmental scan discussions resulted in three distinct sets of competencies to allow success for the individual, the supervisor, and the leadership of the organization. Furthermore, the competencies identified for an individual assuming the acquisition function focus on general competencies over technical competencies. The underlying assumption is that the technical aspects of acquisition tasks can be learned if an individual has the basic education, skills, abilities, and other characteristics needed.

The Individual: The competencies that were identified in the environmental scan sessions as most critical to success in a future environment include:

- Extremely strong interpersonal skills, which allow for leading and being a member of cross-functional teams, managing relationships with customers and suppliers, being able to anticipate customers' needs, and taking into account others' needs
- Communication skills, which allow for sharing information in a variety of ways using all the tools available, generating confidence and trust, inspiring collaboration, and influencing outcomes
- Educational background that includes business and finance
- Negotiation skills that allow for securing the best business agreement
- Ethical standards and integrity that facilitate serving the public good and placing the public good above personal gain
- Decision-making skills that facilitate efficient planning and effective project management, as well as the handling multiple priorities and fast-paced business transactions
- Ability to be self-directed, which enables working independently, working virtually, working in teams, and leading teams
- Analytical skills, which allow for evaluating cost and performance, using metrics, anticipating problems, and identifying discrepancies
- Networking skills, which allow for getting work accomplished within the organization, performing more effective market research, and staying current with acquisition initiatives and commercial business processes

The Supervisor: In discussing competencies for an individual in the acquisition workforce, the conversation turned to how these workers are supervised. In addition to the preceding set of competencies for the workforce, the following is a list of competencies thought to be critical for a supervisor:

- Managing people skills, which allow for building trust in the organization, encouraging employees to both initiate improvements to business processes and improvements in how value is provided to customers
- Selection/screening skills, which allow for hiring the best people
- Coaching and mentoring skills, which facilitate producing top performance
- Administrative skills, which allow for managing policies, improving procedures, and managing change

- Story-telling skills, which allow for sharing stories of success and failure, what worked and what didn't
- Knowledge of training and development opportunities, which allows for an environment of continuous learning, brings new ideas to the organization, and provides employees with opportunities to broaden and achieve personal career goals
- A combination of management, communication and interpersonal skills that allow for aligning the work with the mission of the organization and the agency, conveying this to the acquisition workforce, motivating employees to provide successful outcomes, and measuring performance and service provided

The Organizational Leadership: The organization plays a role in how well the supervisor is supported in carrying out his or her work, which, in turn, affects how well the worker is supported. The following are actions needed at the organizational or leadership level:

- Lead the way to influence a results-oriented corporate culture, manage changes, and remove barriers to improve business processes
- Attract high quality talent
- Respect employees and articulate the value that they bring to the organization
- Understand that people bring a set of relationships and networks with them to the job that are of value to the organization
- Recognize team performance and individual performance
- Preserve institutional memory
- Institutionalize continuous learning

In summary, there is a dual role that Contract Specialists play in being both regulator and customer-oriented business broker. If the government can attract people who can accomplish goals within constraints, who are not bound to the process, and who are able to generate breakthroughs to reach solutions, successful outcomes will be achieved. If these conditions are met, it is expected that government will need fewer acquisition professionals. However, each individual will need broader expertise and an adequate view of the big business picture to secure those relationships that will fulfill customers' needs.

3. GENERAL COMPETENCIES

3.1 Development and Ratings of General Competencies

The Federal Acquisition Institute (FAI) initiated a study in 2000 to identify and validate the general competencies Contract Specialists need to properly perform their work. FAI, under guidance from the Office of Personnel Management (OPM) and with the approval of the Procurement Executives Council, used the business-oriented competencies that OPM had already developed for the Chief Financial Officers Council. (See Appendix 1 for a description of OPM's methodology.)

FAI did a critical incident analysis to determine which general competencies Contract Specialists considered important to their work and the extent to which they actually made a difference in the outcome of a particular procurement activity (See Table 3-1). Twenty-one departments and agencies participated (See Appendix 2). Respondents described over one thousand incidents in the procurement process that did or did not have the desired outcome. Participants rated the importance of each competency and the extent to which they observed each competency during the incidents.

We asked agencies to help FAI set up sessions with their acquisition professionals, who filled out the questionnaire in Appendix 3. It asked them to report three incidents of effective contracting behavior and three incidents of ineffective contracting behavior. Each of the competencies was rated on its importance and the degree to which it was exhibited in each incident. Ratings of importance were made on a five point scale, with one representing "not important" to five representing "very important." Ratings of the extent to which competencies were exhibited during an incident were also made on a five point scale, with one representing "not at all" to five representing "to a great extent."

FAI made an effort to collect data from field offices outside the Washington, D.C. area by teleconferencing with these sites to convey instructions and answer questions. Altogether 264 employees responded, producing about 1200 useable incidents.

The ratings of importance of the competencies are high (See Table 3-3). Given the incidents generated by the respondents, most competencies were rated as important. The lack of any large drops in ratings until the last two competencies indicates that the general competencies can be viewed as a coherent whole. The relatively low ratings of Arithmetic and Math Reasoning are surprising. One might postulate that these functions are performed automatically by software, and therefore, raters consider them less important. Additionally, as the nature of the Contract Specialist's role migrates to larger and more complex acquisitions in the future, the importance of these two competencies could increase or decrease.

It is also interesting to note that Contracting/Procurement, which arguably includes most of the technical competencies, is in the middle of the list. Nine general competencies are rated higher than Contracting/Procurement.

Although respondents were told that they could add other competencies, few respondents did so. "Business savvy" or some variant of that concept was used twelve times. Nine incidents were

rated on a "can-do attitude." "Perseverance" was mentioned five times. "Deal with criticism" was mentioned twice. Five other phrases were mentioned one time each.

Furthermore, these general competencies, while instrumental to performing Contract Specialist functions effectively, do not capture specific, technical requirements unique to the Contract Specialist role. The Federal Acquisition Institute (FAI) maintains the Contract Specialist Workbook, a document that identifies those technical procurement duties in which a procurement professional must be proficient. In 2001, FAI led an interagency team to review the technical tasks identified in the Contract Specialist Workbook and to identify technical competencies (See Table 3-2) for each phase in the acquisition process. In 2002, a study was performed to evaluate the importance of 14 technical competencies for successful Contract Specialist performance. Please refer to the report titled "Validation of Technical Competencies for the Federal Acquisition Workforce" for a full discussion of the technical competencies.

Table 3-1: General Competencies for the Contract Specialist Series

Oral Communication: Expresses information to individuals or groups effectively, taking into account the audience and nature of the information; makes clear and convincing presentations, listens to others; attends to nonverbal cues.

Decision-Making: Makes sound, well informed, and objective decisions; perceives the impact and implications of decisions; commits to action, even in uncertain situations, to accomplish organizational goals; causes change.

Interpersonal Skills: Shows understanding, courtesy, tact, empathy; develops and maintains relationships; deals with difficult people; relates well to people from varied backgrounds; is sensitive to individual differences.

Problem Solving: Identifies problems; determines accuracy and relevance of information; uses sound judgment to generate and evaluate alternatives, and make recommendations.

Teamwork: Encourages and facilitates cooperation, pride, trust; fosters commitment; works with others to achieve goals.

Reasoning: Identifies rules, principles, or relationships that explain facts, data or other information; analyzes information and makes correct inferences or accurate conclusions.

Customer Service: Works with customers to assess needs, provide assistance, resolve problems, satisfy expectations; knows products and services.

Reading: Understands and interprets written material including technical material, rules, regulations, instructions, reports; applies what is learned from written material.

Attention to Detail: Is thorough when performing work and conscientious about attending to detail.

Contracting/Procurement: Has knowledge of various types of contracts, techniques for contracting or procurement, and contract negotiation and administration.

Influencing/Negotiating: Persuades others to accept recommendations, cooperate, or change their behavior; work with others towards an agreement; negotiates to find mutually acceptable solutions.

Integrity/Honesty: Contributes to maintaining the integrity of the organization; displays high standards of ethical conduct and understands the impact of violating these standards on an organization, self, and others; is trustworthy.

Planning and Evaluating: Organizes work, sets priorities, determines resource requirements, determines goals and strategies; coordinates with other organizations, monitors progress; evaluates outcomes.

Flexibility: Is open to change and new information; adapt behavior or work methods in response to new information, changing conditions, or unexpected obstacle; effectively deal with ambiguity.

Self-Management/Initiative: Sets well-defined and realistic personal goals; displays a high level of initiative, effort, and commitment towards completing assignments in a timely manner; works with minimal supervision; is motivated to achieve; demonstrate responsible behavior.

Stress Tolerance: Deals calmly and effectively with high stress situations (for example, tight deadlines, hostile individuals, emergency situations, and dangerous situations).

Writing: Recognizes or uses correct English grammar, punctuation, and spelling; communicates information in a succinct and organized manner, produces written information that is appropriate for the intended audience.

Creative Thinking: Uses imagination to develop new insights into situations and applies innovative solutions to problems; design new methods where established methods and procedures are not applicable or are unavailable.

Learning: Uses efficient learning techniques to acquire and apply new knowledge and skills, uses training, feedback, etc., for self-learning and development.

Self-Esteem: Believes in own self-worth; maintains a positive view of self and displays a professional image.

Information Management: Identifies a need for and knows where or how to gather information; organizes and maintains information or information management systems.

Memory: Recalls information that has been presented previously.

Arithmetic: Performs computations using whole numbers, fractions, decimals, and percentages.

Math Reasoning: Solves practical problems by choosing appropriately from a variety of mathematical and statistical techniques.

Table 3-2: Technical Competencies for the Contract Specialist Series

Strategic Planning: Advise customers on their acquisition-related roles as well as the development and implementation of strategies needed to assure that supplies and services are available when needed to meet mission requirements.

Understanding the Marketplace: Collect and analyze relevant market information from Government and non-government source; analyze and provide business advice on the procurement request; review and provide business advice in the preparation of requirements documents and related elements of the procurement request.

Understanding Sourcing (Commercial/Government Practices): Identify possible sources for the acquisition through effective market analysis and knowledge of suppliers. Limit competition when it is appropriate to the acquisition situation based on business strategies and market environments. Determine whether to limit competition to socioeconomic programs.

Defining Government Requirements in Commercial and Non-Commercial Terms: Select appropriate offer evaluation factors for incorporation into the solicitation; determine the method of acquisition.

Defining Business Relationships: Select the most appropriate pricing arrangement(s) to solicit. Determine whether and how to provide for recurring requirements. Prepare unpriced orders and contracts. Determine whether to provide for Government financing and where necessary the method of financing. Determine bonding requirements for the solicitation and contract. Determine the method of payment. Determine whether a written source selection plan is necessary or desirable.

Effective Communication: Select and implement a method or methods of publicizing the proposed procurements. Establish appropriate subcontracting and make-or-buy requirements. Conduct oral solicitations. Prepare a written solicitation that includes the appropriate provisions and clauses tailored to the requirement and assembled in a format appropriate to the acquisition method and market for the required supply or service. Respond to an inquiry about the solicitation received prior to contract award or a request for information under the Freedom of Information Act. Conduct a pre-quote, pre-bid, pre-proposal conference when appropriate. Amend or cancel a solicitation.

Detailed Evaluation Skills: Receive bids including the safeguarding, opening, reading, recording, and abstracting of each bid. Evaluate offered bid acceptance periods and take appropriate action. Determine whether a bid is late, and if late, whether it can be considered for contract award. Identify and resolve mistakes in bids. Calculate the evaluated price for each bid and determine whether the lowest price is reasonable. Determine responsiveness for the invitation for bids (IFB).

Effective Negotiation Skills and Effective Analytical Skills: Receive quotations/proposals including the safeguarding, opening, tracking, assessing compliance with minimum solicitation requirements, and identifying of quotations/proposals that will not receive further consideration. Apply non-price factors in evaluating quotations, proposals, and past performance. Determine what pricing information (if any) to require from offerors. Consider the adequacy of a firm's accounting and estimating systems in making contracting decisions. Assure that a firm properly discloses its accounting practices when required by Government cost accounting standards (CAS) and that the disclosed practices comply with CAS requirements. Obtain any necessary audit support. Establish pre-negotiation positions on price including: the need to cancel and re-solicit for price related reasons; the need for communications; the need for cost information; and the need to negotiate. Establish pre-negotiation positions related to cost reasonableness and cost realism by analyzing cost and technical data from the offeror and other sources. Develop pre-negotiation positions on terms and conditions other than price. Determine whether to award without discussions. Conduct communications to enhance Government understanding of proposals; allow reasonable interpretation of a proposal; or facilitate the Government's evaluation process. Select offerors/quoters for discussions (i.e., establish the competitive range under FAR Part 15). Prepare negotiation strategy. Conduct a negotiation session and document in the contract file the principal elements of the negotiated agreement.

Effective Award Resolution: Determine and document the responsibility or non-responsibility of a prospective contractor. Prepare purchase orders/contract and document the award recommendation. Make the contract award and related notifications. Debrief offerors at their request. Act to resolve acquisition complaints and concerns.

Effective Communication of Contract Requirements for Administration: Plan for contract administration. Conduct a post-award orientation. Monitor contractor subcontract management in accordance with prime contract requirements. Modify or adjust a contract when needed. Determine whether or not to exercise an available option. Utilize task order contracts, delivery order contracts, and basic ordering agreements.

Effective Performance Management: Monitor contract performance and take any necessary action related to delays in contract performance or the need to stop work under the contract. Apply remedies to protect the rights of the Government under commercial item contracts and simplified acquisitions. Apply remedies to protect the rights of the Government under noncommercial item contracts. Document past performance information.

Effective Financial Management: Approve or disapprove the request for an assignment of claims. Require the contractor to provide a bond or other securities to apply toward completing the contract in case the contract is terminated for cause or default. Assure that the contractor receives the appropriate contract financing in accordance with contract financing requirements and relate contract performance. Make decisions related to allowability of contract costs. Adjust the price or fee. Determine if cost or pricing data were defective (i.e., not current, accurate, and complete) and appropriate remedies. Determine whether to authorize payment against an invoice in full, in part, or not at all. Refer indications of fraud or other civil or criminal offenses to responsible officials. Determine and recover debts from contractors. Enforce Government and

contractor compliance with special contract terms and conditions.

Make Decisions Related to Allowability of Contract Costs: Adjust the price or fee. Determine if cost or pricing data were defective (i.e., not current, accurate, and complete) and appropriate remedies. Determine whether to authorize payment against an invoice in full, in part, or not at all. Refer indications of fraud or other civil or criminal offenses to responsible officials. Determine and recover debts from contractors. Enforce Government and contractor compliance with special contract terms and conditions.

Effective Resolution of Contract Termination and /or Closeout: Analyze and negotiate and prepare a Contracting Officer's decisions. Terminate contracts when it is in the best interest of the Government. Perform contract closeout.

Table 3-3: Importance Ratings of the General Competencies

Competencies displayed in rank order showing their average ratings on a five point scale with “1” representing “Not Important” to “5” representing “Very Important”.

Competencies	Average of All Incidents	Standard Deviation ¹	Number of Incidents
Oral Communication	4.34	1.02	1195
Decision Making	4.31	0.99	1193
Interpersonal Skills	4.31	1.05	1193
Problem Solving	4.29	1.01	1189
Teamwork	4.29	1.10	1192
Reasoning	4.27	0.99	1193
Customer Service	4.26	1.11	1189
Reading	4.24	1.10	1195
Attention to Detail	4.22	1.25	1190
Contracting/Procurement	4.20	1.11	1184
Influencing/Negotiation	4.16	1.16	1178
Integrity/Honesty	4.11	1.19	1183
Planning and Evaluating	4.01	1.20	1183
Flexibility	3.99	1.14	1184
Self-Management	3.90	1.20	1183
Stress Tolerance	3.89	1.23	1185
Writing	3.87	1.25	1197
Creative Thinking	3.85	1.25	1184
Learning	3.65	1.29	1179
Self-Esteem	3.63	1.26	1176
Information Management	3.61	1.34	1184
Memory	3.56	1.32	1148
Arithmetic	2.97	1.49	1184
Math Reasoning	2.67	1.45	1169

Although verifying that the OPM competencies were relevant to acquisition work was an important reason for doing this study, the critical incident analysis also served another purpose.

¹ The standard deviation is the most commonly used measure of the spread of the data (the variation in individual responses). It is also used in the calculation of other statistics. It is not the standard error. The standard error for these means was less than 0.05.

Mr. Terrence Tychan, former Deputy Assistant Secretary for Grants and Acquisition Management and Chair of the Acquisition Workforce Steering Committee of the PEC, expressed an interest in studying star performers. By understanding what makes someone a star performer, we can emphasize those elements that would more likely enable a good performance. FAI used the critical incident analysis methodology to draw conclusions about performance without needing to examine specific performers.

The general competencies listed in Table 3-1 have *face validity* — they seem like they should be relevant to the work Contract Specialists perform. The ratings of importance in Table 3-3 demonstrate that these competencies have *content validity* in the sense that they are important to the specific work done by Contract Specialists. A useful application of competencies is to assist in distinguishing between good and poor performers. If individuals involved in effective incidents of contracting exhibit certain competencies to a greater extent than those involved in ineffective incidents, further support will exist for using those competencies to select employees for Contract Specialist positions.

The results in Table 3-4 are quite remarkable. Competencies were exhibited to a much greater extent in effective incidents of contracting than in ineffective incidents of contracting. This means that demonstration of these general competencies seems to have been a factor in the success of the incident.

A discriminant analysis² was also performed to determine if the extent to which competencies were exhibited could predict whether the outcome would be considered effective or ineffective. In other words, if you had the scores on all the competencies for an incident you could predict with a high degree of accuracy whether it was an example of effective or ineffective contracting. In fact, in 84.6% of the incidents, the exhibited scores on the general competencies predicted whether an incident would be considered effective or ineffective contracting. For effective incidents the exhibited scores on the competencies predicted an effective outcome correctly for 91.6% of the effective incidents. For ineffective incidents the exhibited scores predicted an ineffective outcome correctly for 74.6% of the ineffective incidents. Although these are highly significant results, they do make one wonder what other factors are contributing to ineffective contracting.

Given these results we can also assume that people exhibiting these competencies to a high degree would be more likely to produce effective contracting results.

The competencies in Table 3-4 are listed in their order of importance (See Table 3-3 for corresponding ratings of importance). Differences in extent exhibited between effective and ineffective incidents more or less follow this ranking with differences falling off as we get to the end of the list. Arithmetic and math reasoning showed the smallest differences although they did contribute significantly to the prediction of whether an incident was effective or ineffective in the discriminant analysis.

² SPSS (Statistical Package for the Social Sciences) Release 6.1.2, May 1995, Department of Data Theory, University of Leiden, Netherlands.

Table 3-4: Extent Competencies Are Exhibited in Effective and Ineffective Incidents

Competencies displayed in rank order of importance. Extent exhibited was rated on a five point scale with “1” representing “Not At All” to “5” representing “To A Great Extent”.

Competencies In order of Importance	Average Rating of Extent Exhibited ³		
	Effective Incidents	Ineffective Incidents	Differences
Oral Communication	4.40	2.80	1.60
Decision Making	4.23	2.63	1.59
Interpersonal Skills	4.36	2.90	1.46
Problem Solving	4.25	2.72	1.53
Teamwork	4.33	2.58	1.75
Reasoning	4.20	2.74	1.47
Customer Service	4.28	2.68	1.59
Reading	4.20	2.96	1.25
Attention to Detail	4.12	2.71	1.41
Contracting/Procurement	4.14	2.93	1.21
Influencing/Negotiation	4.19	2.73	1.46
Integrity/Honesty	4.20	3.10	1.11
Planning and Evaluating	3.93	2.57	1.36
Flexibility	4.00	2.69	1.32
Self-Management	3.99	2.69	1.30
Stress Tolerance	3.89	2.93	0.96
Writing	3.95	2.95	0.99
Creative Thinking	3.91	2.56	1.35
Learning	3.62	2.61	1.02
Self-Esteem	3.77	2.81	0.97
Information Management	3.57	2.52	1.05
Memory	3.55	2.64	0.91
Arithmetic	2.99	2.35	0.63
Math Reasoning	2.63	2.16	0.47

³ 1186 incidents were rated on some of the competencies. There were 1121 to 1180 rated incidents for each exhibited competency. 664 effective incidents were rated on some of the competencies. There were 632 to 661 effective incidents for each exhibited competency. 522 ineffective incidents were rated on some of the competencies. There were 484 to 518 ineffective incidents for each exhibited competency.

3.2 Relating General Competencies to the Procurement Process

General competencies can be a critical component in the recruitment, selection, training and development of Contract Specialists. In some positions a Contract Specialist will perform many tasks. In other positions the Contract Specialist will primarily perform only a few, focused tasks. If one is hiring or training for several of these specialized positions, it would be useful to know which competencies were especially critical in performing those functions (See Table 3-5 and Appendix 4).

After comparing results on a sample of incidents with three seasoned acquisition professionals and receiving training from an experienced Contract Specialist⁴ FAI's research assistant categorized the incidents. Some of the incidents included several Contract Specialist tasks and were counted for each task described in the incident.

Of those incidents that could be categorized, 745 included only one major task, 281 included two tasks, 57 included three tasks, 15 included four tasks, 3 included five tasks, and 1 included eleven of the fourteen major tasks. A total of 1152 incidents were categorized.

To explore the presence of trends in the importance ratings, the average importance ratings of each competency for that step were compared to the average of all other steps combined. The *special terms* step was eliminated in this table because only eight incidents were reported. Of the other 312 comparisons made (See Appendix 5) only 23 averages were significantly different from the average of the other steps. Since this is only a little better than one would expect by chance (i.e., 16), one might conclude that the importance ratings are about the same across the various steps of the acquisition process.

⁴ Thanks to Karen Haus, Julia Wise, and especially Bettie Feit.

Table 3-5: Steps in the Procurement Process

PHASE I. ACQUISITION PLANNING

Determination of Need: Forecasting requirements, acquisition planning, purchase requests, funding, market research.

Analysis of Requirement: Requirements documents, use of Government property and supply sources, services.

Extent of Competition: Sources, competition requirements and unsolicited proposals, set-asides, 8(a) procurements.

Source Selection Planning: Lease vs. purchase.

Solicitation of Terms and Conditions: Contract types-pricing arrangements, recurring requirements, unpriced contracts, contract financing, need for bonds, method of payment, procurement planning.

PHASE II. CONTRACT FORMATION

Solicitation of Offers: Publicizing proposed procurements, oral solicitation, solicitation preparation, pre-award inquiries, pre-bid/pre-quote/pre-proposal conferences, amending/canceling solicitations.

Bid Evaluation: Processing bids, bid acceptance periods, late offers, bid prices, responsiveness.

Proposal Evaluation and Negotiation: Processing proposals, applying non-price factors, price analysis, pricing information from offerors, audits, cost analysis, evaluating other offered terms and conditions, award without discussions, communications/fact-finding, competitive range, negotiation strategy, conducting negotiations.

Contract Award: Mistakes in offers, responsibility, subcontracting requirements, prepare awards, issue awards and notices, debriefing, protests.

PHASE III. CONTRACT ADMINISTRATION

Initiation of Work and Modification: Contract administration planning, post-award orientation, consent to subcontracts, subcontracting requirements, contract modifications, options, task and delivery order contracting.

Quality Assurance: Monitoring, inspection, and acceptance, delays, stop work, commercial/simplified acquisition remedies, noncommercial remedies, documenting past performance.

Payment and Accounting: Invoices, assignment of claims, administering securities, administering financing terms, unallowable costs, payment of indirect costs, limitation of costs, price and fee adjustments, collecting contractor debts, accounting and estimating systems, cost accounting standards, defective pricing.

Special Terms: Property administration, intellectual property, socio-economic, etc.
Contract Closeout or Termination - claims, terminations, closeout, fraud and exclusions.

In *solicitation of offers* Attention to Detail was deemed significantly more important for this task than for the other steps in the procurement process. The competency called Planning and Evaluating was rated significantly higher for *proposal evaluation*. *Initiation of work and modification* scored more highly on Math Reasoning than the other tasks. *Source selection planning* is often considered the heart of the procurement process so it was heartening to see that it scored significantly higher than other steps on five of the competencies: Planning and Evaluation, Self management, Stress Tolerance, Creative Thinking, and Self-Esteem. In each of these steps many of the other competencies scored higher than the competencies listed here; however, these were the competencies that showed significant differences from the average of other steps in the process. Thus, these competencies were more important to these particular steps than they might be to other steps.

Similarly, some steps scored lower on some of the competencies when compared to the other steps. Since the scores were still above three on the five-point scale of importance, it is not recommended that any of these competencies be eliminated on this basis. *Quality Assurance* averaged significantly lower in Oral Communication than most of the other steps, although the competency was still rated highly, at about four on the five-point scale. *Contract Award* had lower ratings for Oral Communication, Decision-Making, Reasoning, and Flexibility, although the first three were still rated above four on the five-point scale. *Analysis of Requirements* had lower average ratings on Decision Making and Reasoning, although these averages were still well above four. *Solicitation of Terms and Conditions* had significantly lower importance ratings for Decision Making, Teamwork, Integrity/Honesty, Flexibility, Self-management/Initiative, Learning, Self-esteem, Information Management, and Arithmetic, although Decision Making and Teamwork were still rated above four. This is understandable because for many contracts this is a rather routine task.

3.3 Conclusions

The analysis of the importance ratings supports the validity of the general competencies defined by OPM for the Contract Specialist and shows that the competencies are considered important to the work done by Contract Specialists. Contracting specialists must possess certain competencies to effectively perform their professional acquisition duties.

The analysis of critical incidents demonstrates that when the general competencies were exhibited to a high degree, the contracting was more likely to be judged effective; whereas, low levels of competencies were associated with ineffective contracting. It is, therefore, a reasonable conclusion that people possessing these competencies to a high degree are more likely to facilitate effective contracting. This gives support to the use of these competencies in selection of new Contract Specialists and the performance management of existing Contract Specialists. In addition, integrating these competencies into technical coursework and career development programs to increase their prevalence in the workforce so that effective contracting will be supported.

The analyses also hint at other factors that may precipitate ineffective contracting, such as legislative, regulatory, organizational, managerial, and other factors.

The ratings of the importance of each competency vary from task to task in the procurement process. Ratings of importance dip below a rating of three, the middle rating on the importance scale, only for Arithmetic and Mathematical Reasoning, however. This supports the use of all the other competencies for human resource functions affecting positions encompassing any or all of the major procurement tasks.

Appendix 1: Development of Competencies at OPM

The U.S. Office of Personnel Management (OPM) began working over a decade ago to establish an empirical foundation for the use of competencies by Federal managers, human resource professionals, and other stakeholders in the Federal employment process.

Concerned that use of qualification standards did not provide the necessary information that would lead to a pool of well-qualified candidates, OPM made the transition to the competency approach, identifying the knowledge, skills, and abilities required of employees that would build and maintain a high-quality Federal workforce.

{Previously, OPM's approach to qualification standards was to set-forth the minimum amount of education or experience required to perform work at an acceptable level. This approach did not provide the necessary information that would lead to a pool of well-qualified candidates who could perform at an optimal level. OPM made the transition to the competency approach to identify the knowledge, skills, and abilities required of employees that would build and maintain a high-quality Federal work force.}

The OPM competency-based approach to qualification standards is based on a solid foundation of job analysis data collected over the past nine years through a series of government-wide surveys of employees and supervisors in major clerical, technical, administrative, and professional occupations. The methodology used for the job analysis is known as Multipurpose Occupational Systems Analysis Inventory (MOSAIC). This approach makes it possible to analyze data and cluster the occupations with task/competency similarities into occupational groups and ensures that decisions are founded on technically sound and empirically based information.

OPM developed competency-based job profiles under the four broad headings: planning, data gathering and reporting, action and implementation, and project evaluation. Planning involved identifying occupations and stakeholders, and establishing the project plan and parameters. Data gathering and reporting consisted of conducting an occupational literature review and subject-matter expert sessions. In the action and implementation step, the job profile and technical report were drafted. Stakeholders provided feedback on the job profile before implementation. The final step of project evaluation involves collecting outcome data such as work force quality, process data, and employee performance data.

Appendix 2: Critical Incidents for General Competencies

Administration

Thirty-one agencies opted to participate in the critical incident questionnaire for the general competencies. Arrangements were made for sessions to take place at the participating agencies and also via teleconferencing. A proctor gave detailed instructions on how to complete the questionnaire and encouraged participants to ask questions. Participants were asked to describe and rate three incidents of effective behavior in contracting, and three incidents of ineffective behavior in contracting. The sessions lasted one and a half hours, based on an allotted average of fifteen minutes per incident. A page at the end of the questionnaire asked participants to evaluate the effectiveness of the critical incident questionnaire.

Sampling

The goal of data collection in the present study was to obtain a representative sample of incidents, as opposed to a representative sample of individuals. The incidents crossed agencies and reflect the type of incidents that Contract Specialists face throughout government. This method captures the broad array of competencies needed to perform the work of a Contract Specialist.

Agencies chose the participants. Some agencies chose the employees that they wanted to participate, often to represent all aspects of contracting or levels of expertise. Some agencies chose their best and most thoughtful representatives. Some asked for volunteers. The only restriction FAI placed on the selection of participants was that they be competent contracting professionals.

A total of nine critical incident questionnaires were not used. Also, 11.6% of the total incidents collected were not used in the analysis. This represents a small percentage for this methodology. To be considered useable, incidents had to be rated on most of the competencies by the participant. Also, some incidents could not be categorized as one or more of the steps in the procurement process.

Table A2-1. Agency Participation in Validation of General Competencies

Department	Participating Agencies	Participants	Total Sessions	Sessions via Telecon	Useable Incidents
Agency Outreach Committee			1	0	39
	Defense Nuclear Facilities Safety Building (Small Agency Council representative)	1			
	Department of Health & Human Services	1			
	Environmental Protection Agency	1			
	General Services Administration	1			
	Treasury-Internal Revenue Service	1			
	Social Security Administration	2			
	State Department	1			
Department of Agriculture			2	0	133
	Not Specified	1			
	Agriculture Research Services	10			
	Food and Nutrition Service	3			
	Food Stamp Administration	2			
	Forest Service	2			
	Procurement Operations Division	2			
	Procurement & Property Division	2			
	Rural Development	2			
Department of Commerce			2	0	79
	National Oceanic & Atmospheric Administration	11			
	Patent & Trademark Office	13			
Department of Education			1	0	66
	Headquarters	14			
Department of Energy		15	2	1	113
	Multiple Sites	8			
Department of Health & Human Services			1	0	51
	Not Specified	3			
	National Institute of Health	6			
	National Institute of Child Health and Human Development	1			

Table A2-1. Agency Participation in Validation of General Competencies (Continued)

Department of Transportation			2	1	56
	Headquarters	4			
	Regional Center	12			
Department of the Interior			2	0	42
	Headquarters	2			
	Fish & Wildlife Services	8			
Department of Justice			2	0	97
	Headquarters	15			
	Bureau of Prisons	6			
Department of the State			1	0	28
	Headquarters	5			
Department of the Treasury			2	1	53
	Not Specified	2			
	Bureau of Alcohol, Tobacco & Firearms	1			
	Bureau of Public Debt	4			
	Federal Law Enforcement Training Center	1			
	Departmental Offices	2			
	Financial Management Service	1			
	US Customs	1			
Environmental Protection Agency			1	1	6
	Headquarters	2			
General Services Administration			2	1	127
	Federal Supply Service	11			
	Public Buildings Service	24			
Housing and Urban Development			1	1	88
	Headquarters	16			
NASA			2	0	74
	Goddard Space Flight Center	13			
Social Security Administration			2	0	51
	Headquarters	12			
Veteran Affairs			3	3	117
	Not Specified	16			
	National Acquisition Center	8			

Appendix 3: Critical Incident Analysis Questionnaire for General Competencies

Only the first incident is shown on the following pages. The actual questionnaire included six incidents. Incidents 1, 2, and 3 were effective incidents and Incidents 4, 5, and 6 were ineffective incidents. The Debriefing was the final page given to each participant.

Critical Incident Analysis

The Federal Acquisition Institute is working with the Procurement Executives' Council's Steering Committee on the Acquisition Workforce on a study to compare high performance and low performance in the acquisition arena. This effort will be used to develop and expand competencies⁵ used in the selection of Contract Specialists. We appreciate your participation.

Agency:

Occupational Series:

Are you a Contracting Officer? Yes No

Number of Years of Contracting Experience:

Directions: There are two parts to critical incident analysis.

Part I asks you to tell about 3 incidents⁶ that exemplified effective behavior in contracting. Describe the incident; what happened; what policy, managerial, budgetary, organizational, regulatory supports and constraints affected the outcome; and what tasks were done. You will also be asked to rate the importance of each competency and the extent to which each competency was evident during the incident. Write additional competencies relevant to the specific incident at the bottom of the page and rate them also.

Part II asks you to tell about 3 incidents that exemplified ineffective behavior in contracting. Describe the incident; what happened; what policy, managerial, budgetary, organizational, regulatory supports and constraints affected the outcome; and what tasks were done. You will also be asked to rate the importance of each competency and the extent to which each competency was evident during the incident. Write additional competencies relevant to the specific incident at the bottom of the page and rate them also. If you have an example of ineffective contracting behavior that was rectified, please fill out the competencies for the period of time before improvement. Then, if you have time to fill out another sheet of competencies for the period of time after improvement, please do so. Make sure to put your code and incident number on the additional sheet.

Debriefing: Please write your comments on the last sheet. Thank you for participating.

⁵ Competencies are observable, measurable patterns of skills, knowledge, abilities, behaviors, and other characteristics that an individual needs to perform occupational functions.

⁶ An incident is any human activity that is sufficiently complete in itself to permit inferences and predictions to be made about the person performing the act.

Incident 1 - Effective behavior

Write an incident that exemplified effective behavior in contracting. Describe the incident; what happened; what policy, managerial, budgetary, organizational, regulatory supports and constraints affected the outcome; and what tasks were done. Please rate the importance of each competency and the extent to which each competency was evident during the incident. Write additional competencies relevant to the specific incident at the bottom of the page and rate them also.

Incident 1

Competencies	How important is each competency in this incident? (not important.....very important)					To what extent is each competency exhibited in this incident? (not at all.....to a great extent)				
Reading - understands and interprets written material including technical material, rules, regulations, instructions, reports; applies what is learned from written material										
Writing - recognizes or uses correct English grammar, punctuation, and spelling; communicates information in a succinct and organized manner, produces written information, that is appropriate for the intended audience.										
Arithmetic - performs computations using whole numbers, fractions, decimals, percentages										
Learning - uses efficient learning techniques to acquire and apply new knowledge and skills, uses training, feedback, etc., for self-learning and development										
Memory - recalls information that has been presented previously										
Oral Communication - expresses information to individuals or groups effectively, taking into account the audience and nature of the information; makes clear and convincing presentations, listens to others; attends to nonverbal cues										
Interpersonal Skills - shows understanding, courtesy, tact, empathy; develops and maintains relationships; deals with difficult people; relates well to people from varied backgrounds; is sensitive to individual differences.										
Customer Service - works with customers to assess needs, provide assistance, resolve problems, satisfy expectations; knows products and services										
Teamwork - encourages and facilitates cooperation, pride, trust; fosters commitment; works with others to achieve goals										
Reasoning - identifies rules, principles, or relationships that explain facts, data or other information; analyzes information and makes correct inferences or accurate conclusions										
Problem Solving - identifies problems; determines accuracy and relevance of information; uses sound judgment to generate and evaluate alternatives, and make recommendations										
Attention to Detail -is thorough when performing work and conscientious about attending to detail										
Decision-Making - make sound, well informed, and objective decisions; perceives the impact and implications of decisions; commits to action, even in uncertain situations, to accomplish organizational goals; causes change.										
Math Reasoning - solves practical problems by choosing appropriately from a variety of mathematical and statistical techniques										

Competencies continued	How important is each competency in this incident? (not important.....very important)					To what extent is each competency exhibited in this incident? (not at all.....to a great extent)				
Planning and Evaluating - organizes work, sets priorities, determines resource requirements, determines goals and strategies; coordinates with other organizations, monitors progress; evaluates outcomes										
Self-Esteem - believe in own self-worth; maintains a positive view of self and displays a professional image.										
Integrity/Honesty - contributes to maintaining the integrity of the organization; displays high standards of ethical conduct and understands the impact of violating these standards on an organization, self, and others; is trustworthy.										
Self-Management/Initiative - sets well-defined and realistic personal goals; displays a high level of initiative, effort, and commitment towards completing assignments in a timely manner; works with minimal supervision; is motivated to achieve; demonstrate responsible behavior.										
Stress Tolerance - deals calmly and effectively with high stress situations(for example, tight deadlines , hostile individuals, emergency situations, dangerous situations.										
Flexibility - is open to change and new information; adapt behavior or work methods in response to new information, changing conditions, or unexpected obstacle; effectively deal with ambiguity.										
Creative Thinking - uses imagination to develop new insights into situations and applies innovative solutions to problems; design new methods where established methods and procedures are not applicable or are unavailable.										
Information Management - identifies a need for and knows where or how to gather information; organizes and maintains information or information management systems.										
Contracting/Procurement - knowledge of various types of contracts, techniques for contracting or procurement, and contract negotiation and administration.										
Influencing/Negotiating - persuades others to accept recommendations, cooperate, or change their behavior; work with others towards an agreement; negotiates to find mutually acceptable solutions.										

DEBRIEFING

1. Were the instructions for writing the incidents clear and understandable?
2. Were the instructions for the competency ratings clear and understandable?
3. Are the competencies relevant to the work done in contracting? To the incidents?

We may use some of the critical incidents in situational judgment tests for employee selection. If you are willing to elaborate on the critical incidents that you related in this questionnaire please give us your name, phone number, address, and e-mail.

Name:

Phone Number:

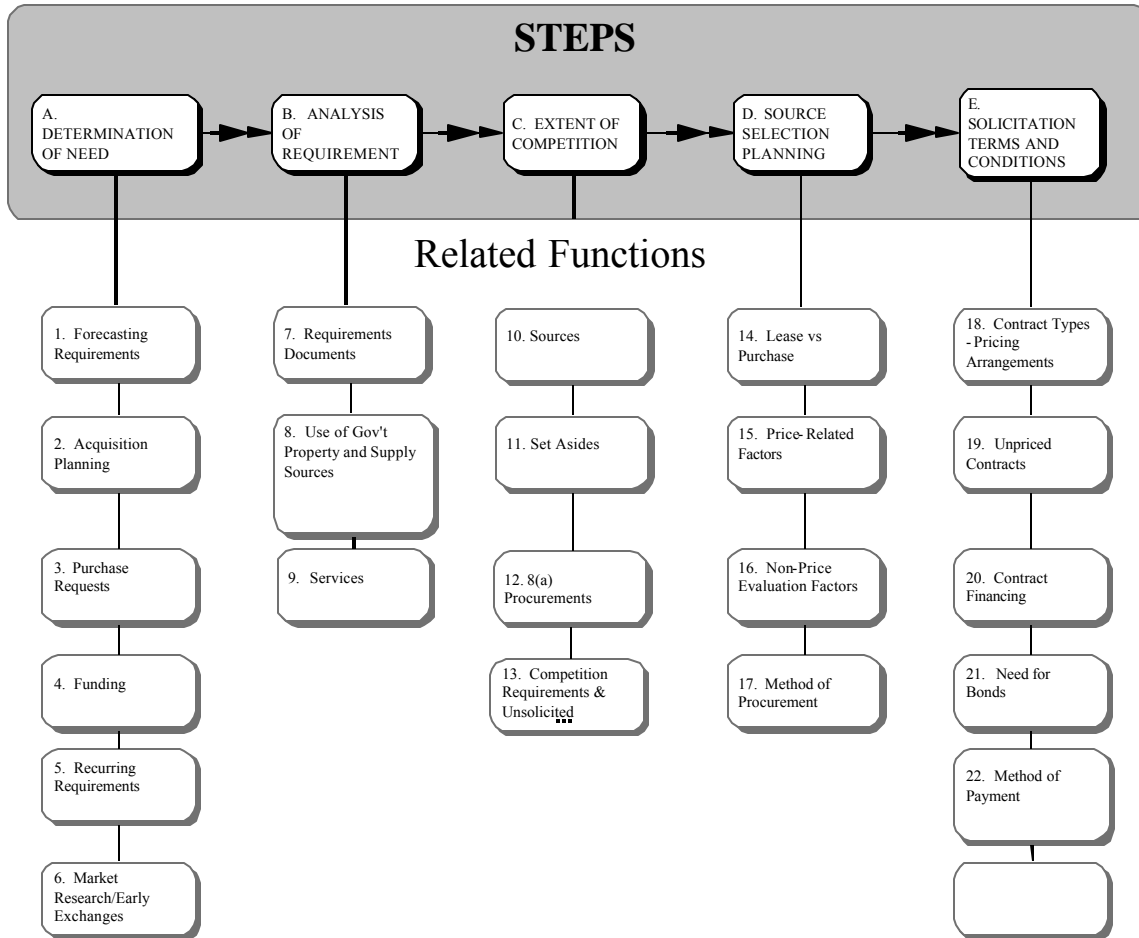
Address:

E-mail:

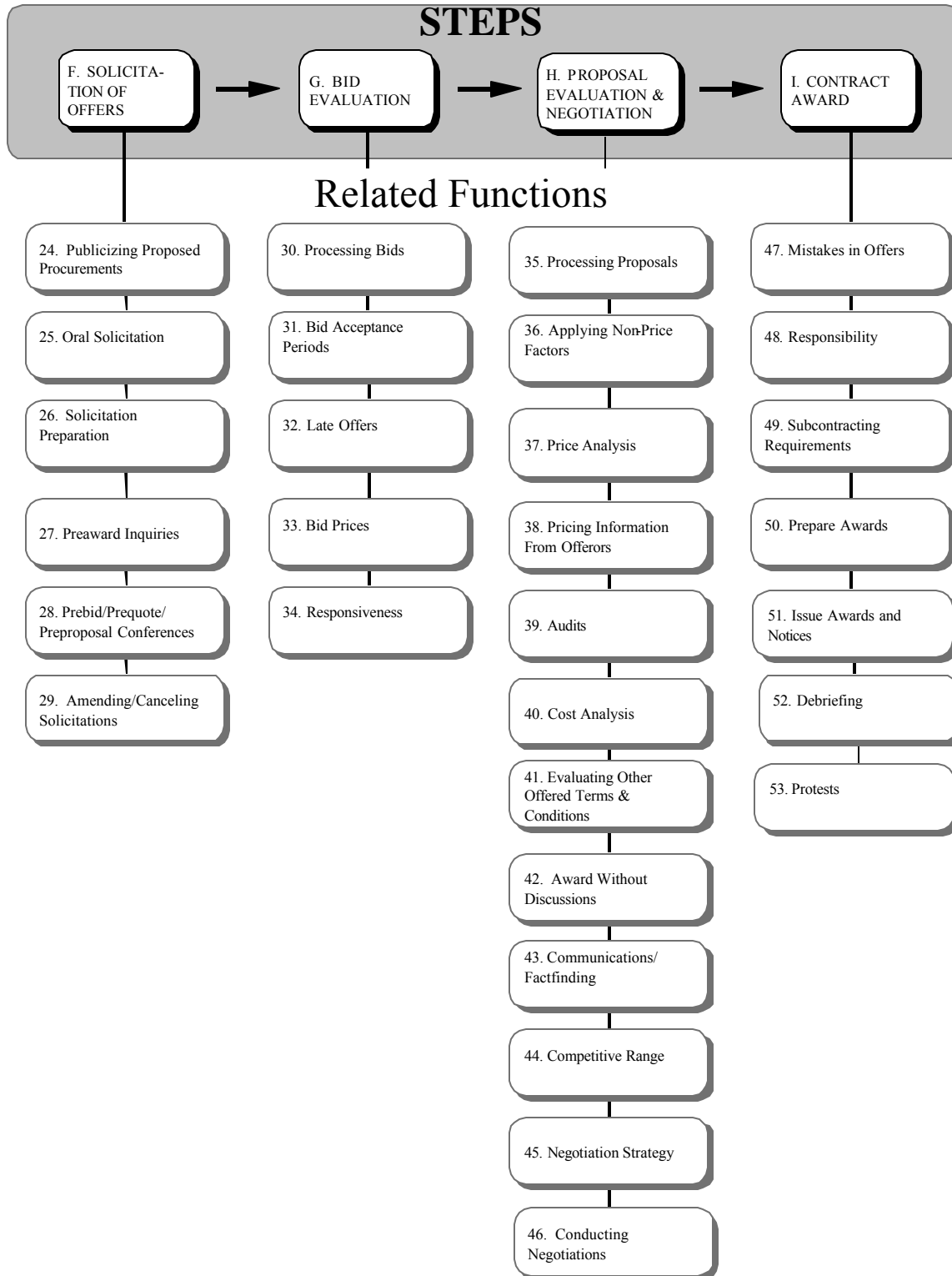
THANK YOU FOR PARTICIPATING!

Appendix 4: The Procurement Process

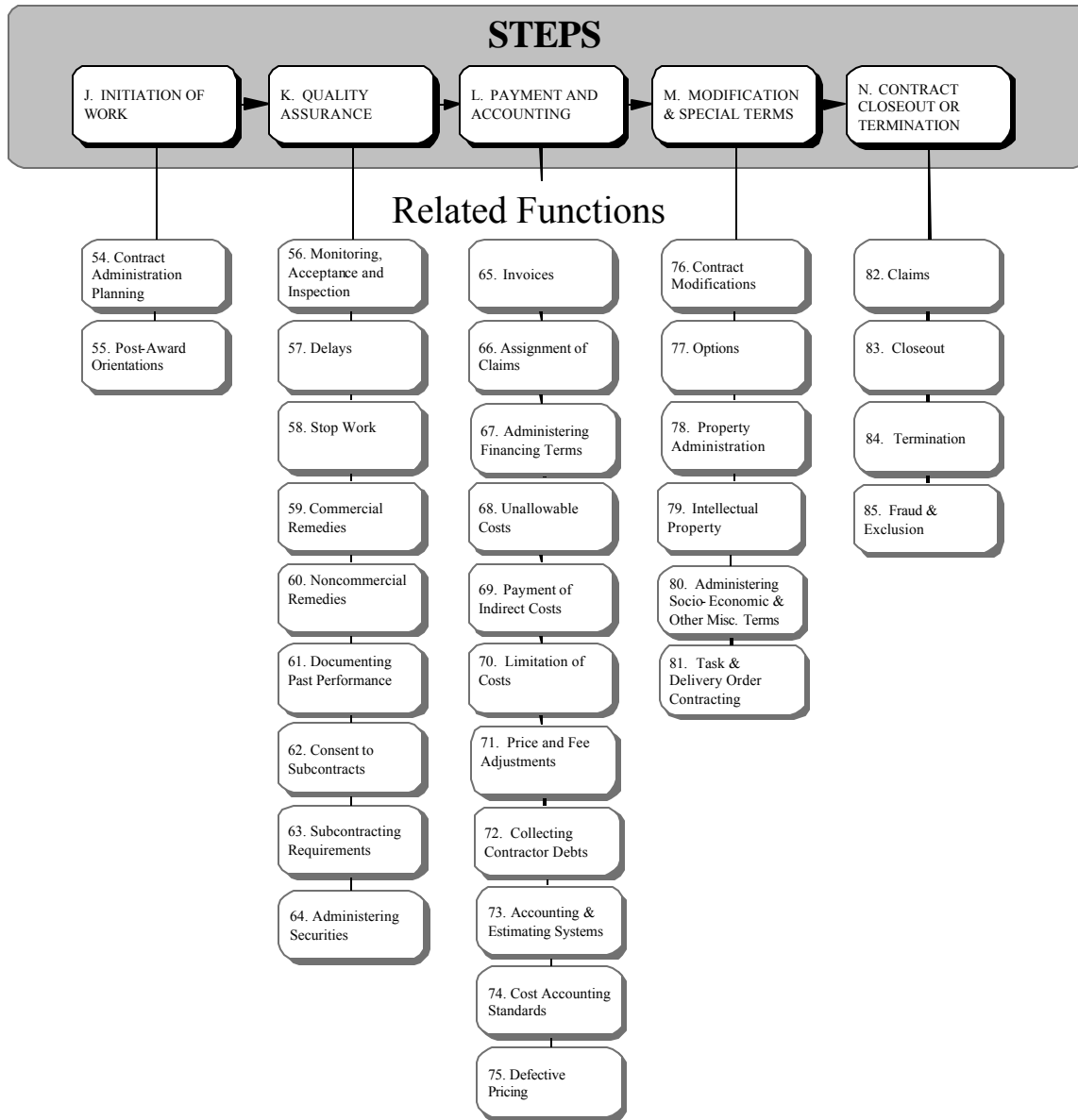
I. ACQUISITION PLANNING



II. CONTRACT FORMATION



III. CONTRACT ADMINISTRATION



Appendix 5: Average Importance Ratings of Competencies by Steps in the Procurement Process

(Bold indicates the competency was rated significantly higher on the given step as compared to the other steps; gray shading indicates the competency was rated significantly lower.)

Competencies	All Incidents	Need Determination	Requirements Analysis	Extent of Competition	Source Selection Planning	Solicitation Terms	Solicit Offers	Bid Evaluation
Oral Communication	4.34	4.32	4.40	4.26	4.36	4.26	4.48	4.37
Decision Making	4.31	4.36	4.12	4.37	4.40	4.14	4.45	4.34
Interpersonal Skills	4.30	4.24	4.26	4.14	4.49	4.25	4.45	4.45
Problem Solving	4.29	4.39	4.18	4.36	4.45	4.25	4.48	4.34
Reasoning	4.27	4.26	4.07	4.38	4.40	4.31	4.44	4.27
Teamwork	4.29	4.24	4.18	4.36	4.46	4.03	4.34	4.32
Customer Service	4.26	4.38	4.16	4.36	4.49	4.11	4.35	4.34
Reading	4.25	4.20	4.34	4.24	4.37	4.16	4.18	4.36
Attention to Detail	4.22	4.19	4.23	4.14	4.31	4.16	4.51	4.11
Contracting/Procurement	4.20	4.12	4.03	4.29	4.21	4.15	4.29	4.09
Influencing/Negotiation	4.15	4.12	4.14	4.25	4.25	4.15	4.20	4.16
Integrity/Honesty	4.10	4.02	4.04	4.21	4.25	3.83	4.29	4.14
Planning and Evaluating	4.01	3.85	4.02	4.16	4.28	3.92	4.21	4.12
Flexibility	3.98	4.02	3.92	3.98	4.19	3.80	4.14	3.77
Self-Management/ Initiative	3.89	3.85	3.78	3.77	4.19	3.69	3.98	4.02
Stress Tolerance	3.89	3.76	3.93	3.89	4.17	3.76	4.08	4.02
Writing	3.87	3.71	3.95	4.00	4.12	3.75	3.90	4.07
Creative Thinking	3.84	3.94	3.87	3.96	4.19	3.66	3.84	3.76
Learning	3.64	3.67	3.44	3.69	3.86	3.42	4.65	3.60
Self Esteem	3.63	3.52	3.48	3.63	4.01	3.40	4.70	3.65
Information Management	3.61	3.56	3.48	3.50	3.81	3.30	3.67	3.70
Memory	3.56	3.44	3.42	3.70	3.49	3.39	3.63	3.81
Arithmetic	2.97	2.95	2.94	2.98	3.11	2.69	3.06	3.95
Math Reasoning	2.66	2.80	2.70	2.53	2.86	2.34	2.64	2.64

Appendix 5: Average Importance Ratings of Competencies by Steps in the Procurement Process (continued)

(Bold indicates the competency was rated significantly higher on the given step as compared to the other steps; gray shading indicates the competency was rated significantly lower.)

Competencies	All Incidents	Proposal Evaluation	Award	Work	Quality Assurance	Payment & Accounting	Special Terms ⁷	Close
Oral Communication	4.34	4.38	4.18	4.32	4.11	4.29	4.56	4.46
Decision Making	4.31	4.32	4.17	4.34	4.28	4.39	4.33	4.44
Interpersonal Skills	4.30	4.39	4.24	4.30	4.36	4.20	4.33	4.58
Problem Solving	4.29	4.28	4.26	4.28	4.26	4.11	3.56	4.40
Reasoning	4.27	4.35	4.13	4.27	4.20	4.25	4.00	4.39
Teamwork	4.29	4.33	4.27	4.31	4.20	4.23	4.78	4.27
Customer Service	4.26	4.30	4.26	4.29	4.33	4.15	4.78	4.35
Reading	4.25	4.31	4.29	4.23	4.26	4.31	4.00	4.42
Attention to Detail	4.22	4.26	4.18	4.32	4.01	4.23	3.67	4.27
Contracting/Procurement	4.20	4.26	4.32	4.23	4.23	4.22	4.33	4.00
Influencing/Negotiation	4.15	4.29	4.08	4.13	4.21	4.14	3.25	4.14
Integrity/Honesty	4.10	4.12	4.03	4.10	4.03	4.09	4.33	4.10
Planning and Evaluating	4.01	4.17	4.02	3.99	3.93	3.99	4.44	4.02
Flexibility	3.98	4.03	3.85	4.04	4.03	4.04	3.33	4.22
Self-Management/ Initiative	3.89	3.97	3.88	3.89	3.80	3.86	3.78	4.00
Stress Tolerance	3.89	4.03	3.83	3.87	3.76	3.85	3.00	3.84
Writing	3.87	3.86	3.76	3.91	3.89	3.80	3.67	3.73
Creative Thinking	3.84	3.85	3.68	3.82	3.86	3.79	4.00	3.96
Learning	3.64	3.62	3.54	3.72	3.79	3.60	3.38	3.96
Self Esteem	3.63	3.69	3.57	3.60	3.53	3.69	3.22	3.71
Information Management	3.61	3.64	3.63	3.67	3.80	3.51	3.78	3.59
Memory	3.56	3.63	3.40	3.57	3.64	3.61	3.11	3.88
Arithmetic	2.97	2.95	2.98	3.16	3.03	2.77	3.00	3.10
Math Reasoning	2.66	2.69	2.65	2.88	3.26	2.56	3.00	2.80

⁷ Since only nine incidents fit in this category, there were too few for an adequate comparison.

