Assessing the Return for Investment of a New Executive Selection Program

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Assessing the Return on INS' Investment

- **The Program**
  - » The Executive Assessment System

- **The Return for Investment Model**
  - » A generic guide for evaluating R&D initiatives

- The **Protocol** for the Executive Assessment System
  - » The evaluation plan

- The **Results**
  - » Utility
  - » Intangible Benefits

Executive Assessment System

- *Commissioner's Objective* ➡ *Program Goals:*

  - » Improve professionalism in the INS

  - » Improve executive performance through objective assessment

  - » Assess job-related competencies

  - » Identify top-quality candidates

  - » Be fair and objective

  - » Provide developmental feedback

  - » Produce high return on investment in workforce effectiveness

Executive Assessment System
Background and Status

- System applies to GS-15 District Director and all Senior Executive Service (SES) appointments

- Assessments have been reviewed and endorsed by the Director and Senior Faculty of the Federal Executive Institute

- Thus far, the system has been used in selecting two Senior Executives

Executive Assessment System
The Executive Competencies

- **Leadership Skills**
  - » Vision
  - » External Awareness
  - » Flexibility
  - » Responsiveness
  - » Accountability
  - » Leading Others
  - » Conflict Management
  - » Team Building
  - » Cultural Awareness
  - » Integrity/Honesty

- **Management Skills**
  - » Developing & Executing Plans
  - » Financial Management
  - » Technology Management

- **Communication Skills**
  - » Oral Communication
  - » Influencing/Negotiating
  - » Partnering
  - » Political Savvy
  - » Interpersonal Skills

- **Thinking Skills**
  - » Decision Making/Problem Solving
  - » Creativity & Innovation
  - » Strategic Thinking

Executive Assessment System
The Assessments

- **Competency-Based Reference Check**
  - » Assesses all four competency areas from perspective of others who have worked with the candidate

- **Executive Thinking Skills Exercise**
  - » Written assessment of Thinking Skills

- **Executive Judgment Exercise**
  - » Oral job simulation exercise
  - » Measures all four skills areas

- **Competency-Based Structured Interview**
  - » Panel interview
  - » Measures all four skills areas

Executive Assessment System
The Assessment Process

- The **Executive Resources Coordinator** reviews candidates' qualifications

  » Screens candidates on "core competencies" and "technical qualifications"

  » Conducts reference check

- The **R&D Staff** assesses candidates

  » Candidates take Executive Thinking Skills Exercise

  » Candidates complete Executive Judgment Exercise

- The **Executive Resources Board** conducts Competency-Based Structured Interview

Executive Assessment System
The Assessment Process(Continued)

- **R&D Staff** prepares feedback reports
  - » Results summary for the Executive Resources Board
  - » Detailed developmental feedback provided to each candidate

- The **Executive Resources Board** and R&D representative review assessment results

- The **Commissioner** makes a selection

Executive Assessment System
Return for Investment

- **Study Goals**
  - » Demonstrate "value added"
  - » Analyze the staffing requirements for the program

- **Study Challenges**
  - » Establishing an executive's worth
  - » Determining the appropriate time frame
  - » Using incomplete data
  - » Making conservative estimates.

The Return for Investment Model

Investment

- Costs
  - » Basic Research and Design
  - » System Development
  - » Program Management
  - » Program Operation
  - » Evaluation

Return for Investment

- Monetary Returns
  - » Utility
  - » Organizational Economies

- Intangibles
  - » Customer Satisfaction
  - » Goal Achievement

Investment Costs
Cost Analysis

- ● **Assumptions**

  - » Staff requirements projected for 5 years

  - » Staff year valued at average of project members' salary + benefits for that year

  - » Salary adjusted for year in which work was performed

  - » 1 staff year = 1850 hours (excludes holiday, annual and sick leave)

Investment Costs
Cost Analysis

Projected Vacancies	1999	2000	2001	2002	Total
SES	6	8	8	8	30
DD	6	6	6	6	24
Total	**12**	**14**	**14**	**14**	**54**

Note: Assuming an average of 6 candidates per vacancy, approximately 324 candidates will be assessed during the next 4 years.

Investment Costs
Basic Research and Design

	1998	1999	2000	2001	2002	Total
SY	.562	.112	.112	.112	.112	**1.010**
$$	$47,234	$9,680	$9,985	$10,299	$10,623	**$87,821**

- **Costed Project Activities: Basic Research and Design**
  - » Review of the literature and best practices
  - » Job analysis
  - » Development of assessment strategy
  - » Development of item prototypes

Investment Costs
System Development

	1998	1999	2000	2001	2002	Total
SY	1.088	.584	1.059	1.059	1.059	**4.849**
$$	$92,943	$50,473	$94,408	$97,381	$100,448	**$435,653**

- **Costed Project Activities: System Development**
  - » Development of assessments
  - » Development of administration and scoring procedures
  - » Documentation of validity
  - » System maintenance
    - – Develop/Revise assessments & procedures

  Note: 1998 $ figure includes $1,500 for R&D staff travel expenses.

Investment Costs
Program Management

	1998	1999	2000	2001	2002	Total
SY	.303	.303	.303	.303	.303	**1.515**
$$	$25,466	$26,187	$27,012	$27,863	$28,740	**$135,268**

● **Costed Project Activities: Program Management**

» Management briefings

» Presentations at professional conferences

» Policy development

» Project management and oversight

Investment Costs
Program Operation

	1998	1999	2000	2001	2002	Total
SY	--	1.174	1.370	1.370	1.370	**5.284**
$$	$ 0	$101,464	$122,133	$125,980	$129,947	**$479,524**

- **Costed Project Activities: Program Operation**
  - » Preparation for assessment process
  - » Administration/scoring of assessments
  - » Preparation of feedback reports

Investment Costs
Evaluation

	1998	1999	2000	2001	2002	Total
SY	--	.234	.056	.056	.056	**.402**
$$	$ 0	$20,224	$4,992	$5,150	$5,312	**$35,678**

- **Costed Project Activities: Evaluation**
  - » Questionnaire design, analysis, and reporting
  - » Cost analysis
  - » Utility estimation and documentation
  - » Supplemental data collection

Investment Costs
Staff Requirements

Staff Years

	1998	1999	2000	2001	2002	Total
Basic Research	.562	.112	.112	.112	.112	**1.010**
Development	1.088	.584	1.059	1.059	1.059	**4.849**
Management	.303	.303	.303	.303	.303	**1.515**
Operations		1.174	1.370	1.370	1.370	**5.284**
Evaluation		.234	.056	.056	.056	**0.402**
Total Staff Years	**1.953**	**2.407**	**2.900**	**2.900**	**2.900**	**13.060**

Investment Costs
Cost Analysis

Cost Category	Total Cost
Basic Research and Design	$ 87,821
System Development	$ 435,653
Program Management	$ 135,268
Program Operation	$ 479,524
Evaluation	$ 35,678
Total Cost Over 5 Years	**$1,173,944**

Cost per Vacancy	$21,740
Cost per Candidate	$ 3,623

Note: Per candidate cost assumes 54 vacancies and 6 candidates assessed per vacancy

Investment Costs
Cost Analysis

	Cost	
	Per Vacancy	Per Cand.
Prior Assessment Systems		
Unstructured Interview (SES)	$6,492	$1,082
T & E Rating (GS-15 DDs)	$2,902	$ 484
Executive Assessment System		
R&D Generated Costs	$21,740	$3,623
Structured ERB Interview	$ 6,492	$1,082
Total Cost	$28,232	$4,705

Return for Investment
Utility Analysis

$$\Delta U = [TN_s (r_1 - r_2) SD_y \bar{z}] - [N_s (C_1 - C_2) / p]$$

Gains in Productivity

ΔU = the gain in productivity in dollars over one year

T = the tenure in years of the average selectee

N_s = the number selected per year

r_1 = the validity of the Executive Assessment System

r_2 = the validity of the prior selection procedure

SD_y = the dollar value of performance

z = the mean score of those who were selected

Program costs

C_1 = the cost of the Executive Assessment System

C_2 = the cost of the prior selection procedure

p = the selection ratio

Return for Investment
Utility Analysis

● Meta-analyses used to estimate validity of pre-existing and new assessment systems

Assessment	Validity Estimate	
	Mean r	Corrected r*
T & E Rating (GS-15)	.11	.14
Unstructured Interview (SES)	.18	.33
PROM		
Decision Making	.40	.51
Assessment Center	.29	.37
Combined Validity	—	.53

* r corrected for criterion unreliability only

Return for Investment
Utility Analysis

$$\Delta U = [TN_s(r_1 - r_2)\, SD_y\, z] - [N_s(C_1 - C_2)\, /\, p]$$

Gains in Productivity

T = 1 year; 3 years; 5 years

N_s = 6 Senior Executives
6 non-SES District Directors
(the 12 vacancies anticipated in 1999)

r_1 = .53

r_2 = .33 for Senior Executives
.14 for non-SES District Directors

SD_y = 40% of salary or
$ 55,360.80 for Senior Executives
$ 45,342.40 non-SES District Directors

z = 1.0[1]

Program costs

C_1 = $ 4,705 per candidate

C_2 = $ 1,082 for Senior Executives
$ 483 per applicant for non-SES District Directors

p = .167

[1]Estimate of "z" is based on average scores of candidates in "highly recommended" group and assumption that selection will be made from that group.

Return for Investment
Utility Analysis

Senior Executives.

	Year 1	Year 2	Year 3	Year 4	Year 5
Utility Earned for Year	$11,072	$11,072	$11,072	$11,072	$11,072
Cost to Fill Vacancy	($21,740)	$ 0	$ 0	$ 0	$ 0
Utility from Past Years	$ 0	($10,666)	$ 406	$11,478	$22,550
Total Accrued Utility	($10,666)	$ 406	$11,478	$22,550	$33,622

District Directors

	Year 1	Year 2	Year 3	Year 4	Year 5
Utility Earned for Year	$17,684	$17,684	$17,684	$17,684	$17,684
Cost to Fill Vacancy	($25,330)	$ 0	$ 0	$ 0	$ 0
Utility from Past Years	$ 0	($7,646)	$10,038	$27,722	$45,406
Total Accrued Utility	($7,646)	$10,038	$27,722	$45,406	$63,090

Note: The utility equation subtracts cost of filling the vacancy under the prior system from the cost under the new system.

Return for Investment
Utility Analysis

Senior Executives
(Class of 1999, N=6)

	1 year	3 years	5 years
Overall Utility	($63,995)	$68,868	$201,732
Utility per Selectee	($10,666)	$11,478	$33,622

District Directors
(Class of 1999, N=6)

	1 year	3 years	5 years
Overall Utility	($45,876)	$166,332	$378,540
Utility per Selectee	($7,646)	$27,722	$63,090

Non-Monetary Returns
Intangibles: Customer Satisfaction

- Candidates (Interview, N=9)
  - » Satisfaction with process
  - » Satisfaction with assessments
  - » Satisfaction with developmental feedback

- Executive Resources Board (Survey, N=4)
  - » Satisfaction with candidates
  - » Satisfaction with procedures

- Executive Resources Coordinator (Individual Interview)
  - » Satisfaction with R&D staff
  - » Satisfaction with process

Non-Monetary Returns
Intangibles: Customer Satisfaction

- ● The Executive Resources Board
    - » Quality of new executives
    - » Ownership of process
    - » Flexibility of system and R&D Staff
    - » Value-added information

- ● The Executive Resources Coordinator
    - » Objectivity of process
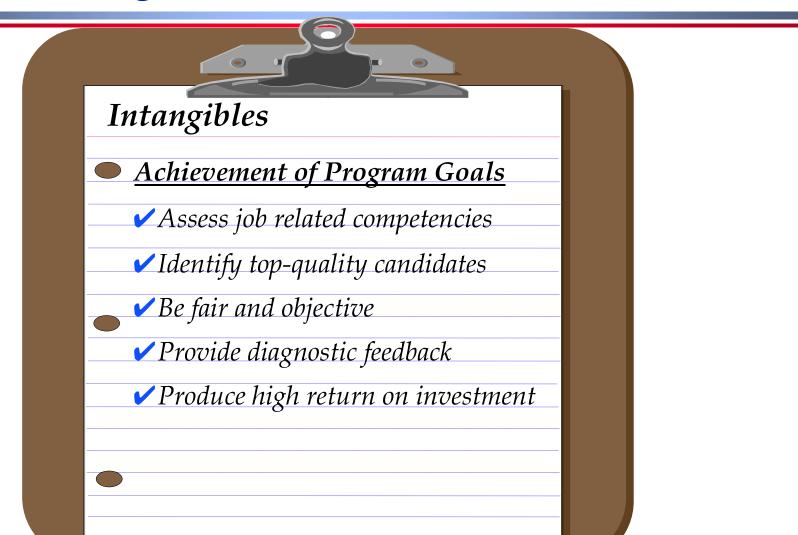   - » Support provided by R&D Staff

Non-Monetary Returns
Intangibles: Customer Satisfaction

The Candidates

- High Points
  - » The objectivity and professionalism of the process
  - » The comprehensiveness of the process
  - » Opportunity for self-learning and/or confirmation of their abilities

- Areas for Improvement
  - » More information about the process
  - » No behavioral change as a result of feedback

Non-Monetary Returns
Intangibles: Goal Achievement

Intangibles

- **Achievement of Program Goals**
  - ✔ *Assess job related competencies*
  - ✔ *Identify top-quality candidates*
  - ✔ *Be fair and objective*
  - ✔ *Provide diagnostic feedback*
  - ✔ *Produce high return on investment*

Return for Investment
The Future

- Examine Organizational Economies
  - » Complaints against selecting officials
  - » Value of high-visibility mistakes

- Provide candidates with more information about the assessment process

- Examine/improve Candidate Feedback Report

- Re-adjust projections based on experience

Return for Investment
References

Boudreau, J.W. (1991). Utility analysis for decisions in human resource management. In M.D. Dunnette & L.M. Hough (Eds.), *Handbook of industrial and organizational psychology* (2nd ed., Vol. 2). Palo Alto, CA: Consulting Psychologists Press.

Cascio, W. F. (1993). Assessing the utility of Selection Decisions: Theoretical and Practical Considerations. In Schmitt, N, Borman, WC., & Associates (Eds.), *Personnel Selection in Organizations*. San Francisco: Jossey-Bass Publishers.

Gaugler, B.B., Rosenthal,D.B., Thornton, G.C., & Benson, C. (1987). Meta-analysis of assessment center validity. *Journal of Applied Psychology*, *72*, 493-511.

McDaniel, M.E., Schmidt, F.L., & Hunter, J.E. (1988) A meta-analysis of the validity of methods for rating training and experience in personnel selection. *Personnel Psychology, 41,* 283-314.

McDaniel, M.E., Whittle, D. L, Schmidt, F.L., & Mauer, S.D. (1994). *Journal of Applied Psychology*, *79*, 599-616.

Schmidt, F.L., Mack, M.J., & Hunter, J.E. (1984). Selection utility in the occupation of U.S. Park Ranger for three models of test use. *Journal of Applied Psychology*, *69*, 490-497.

Schmidt, F.L., & Hunter, J.E. (1998). The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings. *Psychological Bulletin*, *124*, 262-274.

INS Competency-Based Executive Selection Project
Competencies

1. Vision - Takes a long-term view and acts as a catalyst for organizational change; builds a shared vision with others; influences others to translate vision into action

2. External Awareness - Identifies and keeps current on key policies/priorities and economic, political, and social trends that affect INS; understands near-term and long range plans and determines how to best run the program to achieve organizational goals

3. Creativity and Innovation - Develops insights into situations and applies innovative solutions to make organizational improvements; creates a work environment that encourages thinking and innovation; designs and implements new or cutting-edge programs and processes

4. Strategic Thinking - Formulates effective strategies consistent with the priorities of INS; examines policy issues and strategic planning from an organizational viewpoint; determines objectives and sets priorities; anticipates and takes advantage of opportunities for improvement

5. Continual Learning - Quickly and effectively understands new information; masters new technical and business knowledge; recognizes own strengths and weaknesses; pursues self-development; seeks feedback from others and opportunities to master new knowledge

6. Resilience - Deals effectively with pressure; maintains focus and intensity and remains persistent, even under adversity; recovers quickly from setbacks

7. Flexibility - Is open to change and new information; adapts behavior and work methods in response to new information, changing conditions, or unexpected obstacles; adjusts rapidly to new situations warranting attention and resolution

8. Leadership - Inspires, motivates, and guides others toward goal accomplishment; shares power and authority, as appropriate; develops others through coaching and mentoring; ensures that staff are appropriately selected, utilized, appraised, and developed, and that they are treated in a fair and equitable manner

9. Conflict Management - Identifies and takes steps to prevent potential situations that could result in unpleasant confrontations; manages and resolves conflicts and disagreements in a positive and constructive manner

10. Cultural Awareness - Values cultural diversity and other individual differences in the workforce; initiates and manages cultural change within INS to improve organizational effectiveness

11. Team Building - Consistently develops and sustains cooperative working relationships in all aspects of the job; encourages and facilitates cooperation between INS and its customers; fosters commitment, pride, trust, and group identity

12. Integrity/Honesty - Instills mutual trust and confidence; creates a culture that fosters high standards of ethics; behaves in a fair and ethical manner toward others and demonstrates a sense of responsibility to INS

13. Oral Communication - Makes clear and convincing oral presentations to individuals or groups; listens effectively and clarifies information as needed; facilitates an open exchange of ideas

14. Written Communication - Expresses facts and ideas in writing in a clear, convincing, and organized manner

15. Influencing/Negotiating - Persuades others effectively; builds consensus through give and take; gains cooperation from others to accomplish goals; facilitates Awin-win@ situations

16. Partnering - Develops networks and builds alliances; engages in cross-functional activities; collaborates across boundaries and finds common ground with a wide range of stakeholders; utilizes contacts to build and strengthen support for area of responsibility

17. Political Savvy - Identifies the internal and external politics that impact INS; approaches each situation with a clear perception of organizational and political reality

18. Interpersonal Skills - Considers and responds appropriately to the needs, feelings, and capabilities of different people in different situations; is tactful and treats others with respect.

19. Accountability - Assures that effective controls are in place; holds self and others accountable for meeting expectations; monitors and evaluates plans; focuses on results and on measuring attainment of outcomes

20. Problem Solving - Identifies and analyzes problems; distinguishes between relevant and irrelevant information and makes logical judgments; provides solutions to individual and organizational problems

21. Decision Making - Draws correct inferences from available information; makes sound and well-informed decisions, even when data are limited or when solutions produce unpleasant personal or interpersonal consequences

22. Achievement Orientation - Readily adjusts priorities to respond to pressing and changing demands; achieves quality end products; is committed to continuous improvement of services

23. Risk Taking - Is willing to take risks; initiates actions that involve a deliberate risk to achieve a recognized benefit or advantage

24. Technical Credibility - Understands and appropriately applies procedures, policies, and regulations related to technical area of expertise; keeps current on issues, practices, and procedures in technical area

25. Financial Management - Demonstrates a broad understanding of principles of financial management; prepares, justifies, and administers the budget for program area; monitors expenditures in support of program; identifies cost-effective approaches to carrying out work

26. Technology Management - Uses efficient and cost-effective approaches to integrate technology into the workplace and improve program effectiveness; develops strategies using new technology to enhance decision making

R & D Report

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THE USE OF COMPETENCY-BASED
EXECUTIVE ASSESSMENTS AT INS

Introduction

In August 1998, the U.S. Immigration and Naturalization Service (INS) implemented competency-based assessments to select individuals for Senior Executive Service positions. The assessments measure skills in four broad competency areas identified as important for performing in SES positions by the Office of Personnel Management and the Research and Development Division in INS's Office of Human Resources and Development. The competency areas are Leadership Skills, Communication Skills, Management Skills, and Thinking Skills.

Overview of the Process

The INS Executive Assessment consists of three parts. Initially, all candidates for SES positions at INS complete two exercises. In the *Executive Thinking Skills Exercise*, candidates are presented eight passages of information drawn from sources that any executive in the Government would be expected to read. For each passage, candidates are asked to evaluate five statements based on the information presented in the passage. In the *Executive Judgment Exercise*, candidates are asked to play the role of an executive in a fictitious organization in either the public or private sector. Candidates review a series of documents and then make presentations on an issue or issues relevant to the fictitious organization.

After completing the assessments, all candidates participate in a structured, competency-based interview process that is administered by the INS Executive Resources Board. In addition to the assessments and the interview, a competency-based reference check is conducted on the candidates in order to obtain information about their past performance.

Each of these procedures systematically elicits information about the extent to which candidates possess the competencies that are necessary for effective performance at the executive level.

Return on Investment

The Research and Development Division undertook a return-for-investment analysis that compares the expected gains to the expected costs of the program. The assessment process produces value for INS and taxpayers in excess of its developmental and operational costs. The return-for-investment study will be published in the third quarter of FY99. A copy can be obtained from the Research and Development Division at the number listed below.

Diagnostic Feedback

In addition to its high return-for-investment, another positive feature of the system is that candidates receive feedback on their strengths and weaknesses in each of the

competencies. Candidates also receive a Developmental Resource Guide which they can use to address training in areas of developmental need.

For further information about the Executive Assessments, contact David Pollack at the Research and Development Division on (202) 305-0600.