COMPETENCY MODELING:

MIRROR INTO THE 21st-CENTURY

WORKPLACE—OR JUST SMOKE?

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Presentation at the 26th Annual IPMAAC Conference on Personnel Assessment, New Orleans, July 2, 2002

PRESENTATION OUTLINE

- **THE BROADER CONTEXT: THE CHANGING WORKPLACE**
- **WORK OF THE SIOP TASK FORCE ON COMPETENCY MODELING AND JOB ANALYSIS**
- **MY VIEWS ON COMPETENCY MODELING WORK**
- **LESSONS FOR I/O PRACTICE**

THE BROADER CONTEXT:
THE CHANGING WORKPLACE

- **FUNDAMENTAL CHANGES**
- **"NEW INDUSTRIAL REVOLUTION"**
- **ORGANIZATION CHARTS TURNED UPSIDE DOWN**
- **ACCELERATING PACE OF CHANGE**
- **STRESSES ON BOTH EMPLOYERS AND EMPLOYEES**

"Business strategies are changing faster than workers can respond. Technology is changing faster than the workers who can use it. Work environments are changing faster than the workers who work in them. Organizational cultures and climates are changing faster than the workers can adapt. And management structures and systems are changing faster than workers can accommodate."

- Dick Jeanneret

THE CHANGED WORKPLACE

ECONOMIC INFLUENCES

- **global economy**
- **increased global and domestic competition**
- **global economic interdependence among producers, suppliers, trading partners**
- **continued shift from manufacturing to service economy**
- **unrelenting pressure on companies to improve “bottom line”**

DEMOGRAPHIC CHANGES

- **changing gender/ethnic/cultural composition of the US workforce**
- **increasingly diverse workforce**
- **increasing cultural and gender diversity of the scientific/ engineering/technical workforce**
- **changing age distribution of the workforce**
- **severe skill and knowledge shortages ("skills gaps") in many critical industries**
- **changes in worker lifestyles and attitudes**

IMPACT OF NEW TECHNOLOGY

- **reshaping virtually all aspects of work at all levels in all types of industries**
- **overturning traditional concepts of work, location, space, and time**
- **fundamentally changing how services are provided and how business is conducted**

EFFECTS OF CHANGES ON ORGANIZATIONS

GENERAL

- **global competition causing organizations to continuously reshape and reinvent themselves to keep their costs down while maintaining quality products and services**

- **slow or bureaucratic decision or "permission" process can mean a failed business or operation**

- **costs and consequences of human errors or equipment failures are often extremely high**

CHANGING ORGANIZATIONAL STRATEGIES

- **abandonment of traditional means of achieving efficiencies**

- **shift to a production model based on flexible automation, real-time and on-line quality control, and deployment of horizontally integrated networks of specialists and professionals**

- **increasing focus on "core competencies" and reliance on purchased components and outsourced services**

- **constant breaking up, downsizing, "rightsizing," restructuring**

- **participation in mergers, acquisitions, buyouts, and newer forms of strategic partnerships and alliances**

- **increased use of "contingent" workers**

- **increased focus on speed, quality, and customer service**

- **adoption of new and innovative HR strategies**

EFFECTS OF CHANGES ON ORGANIZATIONS

CHANGING ORGANIZATIONAL STRUCTURES

- **traditional organizational boundaries shrinking:**
  - **vertically (fewer layers of management)**
  - **horizontally (across departments and work groups)**

- **traditional organizational boundaries becoming more flexible/fluid**
  - **increasing use of work teams of various types and of variable composition and duration**
  - **driven by the growing interdependence of increasingly specialized work activities that often require combination of skills and knowledge rarely resident in single individuals**
  - **also serves as mechanism for maintaining flexibility and fluidity of structure**

- **necessary to capitalize on ever-shorter windows of opportunity in which to respond to changing market conditions and demands**

- **promotes greater responsiveness to customers and decision making that is quicker and closer to the points of production or service**

EFFECTS OF CHANGES ON ORGANIZATIONS

CHANGING ORGANIZATIONAL CULTURES

- **increasing value placed on "intellectual capital" as key competitive advantage for increasingly knowledge-intensive work enterprises**

- **increased focus on the “contextual” aspects of work performance**

- **increased adoption of a “tools, not rules” philosophy**

- **championing “high-performance workplace” values: speed, quality, continuous process improvement, and customer service**

- **encouraging increased worker participation and empowerment—and accountability**

- **need to cope with difficulty of establishing, communicating, and sustaining a shared and compelling organizational vision and culture--and maintaining employee loyalty and commitment to organizational values--with contingent workers, flexible work arrangements, remote supervision, and the often heterogeneous subcultures resulting from mergers, acquisitions, and other types of partnerships**

EFFECTS OF CHANGES ON ORGANIZATIONS

CHANGING NATURE OF WORK AND JOBS

- **traditional concept of "job" rooted in industrial revolution**

- **concept of "job" becoming less useful, seen as undermining adaptive strategies needed to maintain competitiveness and flexibility**

- **work being redefined into broader sets of more self-managed responsibilities and work requirements, highly interdependent tasks/activities, and constantly changing roles**

- **fixed-person/fixed-task/fixed-location/fixed-schedule model of work becoming an anachronism in the increasingly fluid and boundaryless 24-hour global business day**

- **"death" of the job may be exaggerated, but jobs are becoming more complex and difficult:**
  - **cognitively**
  - **socially**
  - **perceptually**
  - **emotionally**

"NEW" SKILLS FOR "HIGH-PERFORMANCE" ORGANIZATIONS: MYTH OR REALITY?

- **perceived need for organizations to evolve into HPOs to maintain US competitiveness**
- **no precise definition of HPO, but generally described as organizations where:**
  - **work tends to be problem-oriented, flexible, and organized in teams of multi-skilled workers**
  - **there is a strong customer focus/customer service ethic**
  - **production is customized and production control is decentralized**
  - **labor is viewed not a cost but an investment**
  - **quality is designed into the product development process via process re-engineering and quality management principles**
- **effects of HPO "movement": proliferation of surveys/studies deriving HPO "skill lists," which tend to reinforce the importance of cross-functional skills but reveal little that is "new"**
- **conclusion: perceived need for "new skills" is part myth, part reality**
  - **must look beyond skill/competency labels to their meaning and measurable components (e.g., teamwork, "practical intelligence")**
  - **relative importance of some skills for some jobs in undoubtedly increasing**
  - **there are few (if any) "new" skills (despite what ad hoc skill/competency labels might suggest), but rather new configurations, weightings, or rank orderings of mostly well-established KSAOs**

WHICH SKILLS GAP?

There are at least six categories of what are called "skills":

	TRAINABILITY	
	Difficulty	**Time/Cost**
• **Personal Qualities (conscientiousness, reliability, adaptability, motivation, honesty, integrity, values, interests)**	**H**	**H**
• **Aptitudes and Abilities (cognitive, perceptual, physical)**	**H**	**H**
• **Workplace Basic Skills (reading, writing, math)**	**M**	**H**
• **Cross-Functional Skills (teamwork, communication organizing/planning, information analysis)**	**H-M**	**M**
• **Specialized/Technical/Functional Skills**	**M-L**	**M-L**
• **Specialized/Technical/Functional Knowledge**	**M-L**	**M-L**

Conclusions:

- **"SKILLS" DOES NOT MEAN JUST ONE THING: Different types of skills are trainable to varying degrees and with varying investments of time and cost**

- **Need to correctly define, identify, and understand the types of skills needed in order to develop appropriate skill acquisition, development, and maintenance strategies**

THE SKILLS EMPLOYERS WANT

Synthesis of Results of Many Different Surveys/Studies: Skills Most Valued by Employers for Present and Future	
Skill	Skill Category
1. Reading and Writing	Workplace Basic Skills
2. Applied Mathematics	Workplace Basic Skills
3. Interpersonal/Teamwork Skills	Cross-Functional Skills
4. Oral Communication	Cross-Functional Skills
5. Information Gathering/Analysis	Cross-Functional Skills
6. Problem Solving	Cross-Functional Skills
7. Critical/Creative Thinking	Cross-Functional Skills
8. Organizing, Planning, and Decision Making	Cross-Functional Skills
9. Occupation-Specific Skills and Knowledge	Specialized Technical/ Functional Skills and Knowledge
10. Personality Traits, Values, Interests (motivation, integrity, dependability, self-management)	Personal Qualities

Conclusions:

- **The most important present and future skills span multiple "skill categories"**

- **Different skill acquisition, development, and retention strategies will be needed, depending on the nature of skill gaps in specific circumstances**

Worker Attributes Needed for a Changing Workplace (from Pearlman & Barney, 2000**)		
Attributes Related To:	**Examples**	**Rationale**
learning, knowledge and skill acquisition	• general cognitive ability • motivation to learn • openness to input	employees' need for frequent training/retraining for new work roles and for assimilating and applying new knowledge and information within their own specialties
problem-solving	• higher-order and critical thinking skills • abstract reasoning • creativity/resourcefulness • info. processing/evaluation/analysis skills	the increasing complexity of work and increasing knowledge- and information-intensiveness of many jobs
effective team performance and effectiveness in working collaboratively with people of heterogeneous cultural, educational, and experience backgrounds	• interpersonal and communication skills • negotiating skills • resource management skills • conflict management skills • empathy • extroversion • social sensitivity • adaptability • multiple language skills • knowledge of specific countries & cultures	the increasingly networked, decentralized, and often global structure of organizations, the growing interdependence of work activities, and various demographic trends that are increasing workforce heterogeneity and diversity
effective contextual performance	• such cross-functional skills as interpersonal, leadership, teamwork, communication, and conflict management skills • such personal qualities as service orientation, adaptability, social sensitivity, responsibility, empathy, conscientiousness, honesty, and integrity	the role of contextual performance in important organizational outcomes (e.g., employee retention and customer loyalty) and the increasing importance of customer-service-related work as the service sector of the economy continues to expand
the ability to handle uncertainty, ambiguity, and stress	• emotional stability • resilience • adaptability • time and resource management skills • stamina/energy	the impact of change and churn in organizational structures, cultures, and work itself due to broader technological, economic, and demographic changes
the ability and willingness to work outside of traditional temporal, geographic, and organizational boundaries	• adaptability • time-, resource-, & self-management skills • organizing and planning skills • communication skills • conscientiousness	the shrinking of traditional boundaries due to technology and changing organizational structures
employee retention	• work- or organization-culture-related interests, values, work preferences, and personal qualities (i.e., to measure applicants' differential suitability for different types of organizational cultures)	skill/knowledge shortages in labor market and consequent need for organizations to retain their intellectual capital
the ability to act quickly & capital-ize on opportunities for business growth or process improvements	• decisiveness • risk-taking • initiative/proactivity	the speed and pace of marketplace changes and increased global competition
the prediction of counterproductive behavior (e.g., tardiness, absenteeism, vandalism, drug/alcohol abuse, theft, white-collar crime, workplace violence)	• conscientiousness • honesty • integrity • self-management skills	undermines effective contextual performance and its associated organizational outcomes (value-added benefits such as customer loyalty and satisfaction)

** "Selection for a changing workplace." In J. F. Kehoe (Ed.), *Managing selection in changing organizations* (pp. 3-72), Jossey-Bass.

KEY IMPLICATIONS OF WORKPLACE CHANGES FOR PERSONNEL SELECTION

- **Need for multi-skilled people; selection for trainability (ability and willingness to learn)**
- **Need for specialists**
- **Need for experienced workers**
- **Selecting for interpersonal, team, and communication skills**
- **Selecting for personality / values**
- **Selecting non-native English speakers**
- **Selecting for retention of skilled workers**

SIOP TASK FORCE: OVERVIEW

- **ORIGIN**
  - **SIOP President request to Scientific Affairs and Professional Practice Committees to investigate current practice in competency modeling and report back to membership**
- **MEMBERSHIP**
  - **Mix of SIOP practitioners and academics**
- **WORK ACTIVITIES**
  - **Literature review**
  - **Structured interview with 37 SMEs representing six distinguishable perspectives:**
    - **non-I/O HR professionals**
    - **competency modeling "thought leaders"**
    - **traditional I/O job analysis perspective**
    - **I/O practitioners with both perspectives: traditional and competency-based**
    - **former SIOP presidents**
    - **international practitioners**
  - **"Level of Rigor" scale development**
- **WORK PRODUCTS**
  - **Primary report published in *SPF* (Shippmann et al., 2000; The practice of competency modeling. *Personnel Psychology*, *53*, 703-740.)**

SIOP TASK FORCE:
SME INTERVIEW COMMENTS ON
THE DEFINITION OF COMPETENCIES

COMPETENCIES ARE THE SAME OR SIMILAR TO KSAOs (27%)

COMPETENCIES ARE BROADER THAN, OR INCLUDE, KSAOs (19%)

COMPETENCIES INVOLVE COMBINATIONS OF KSAOs OR ARE MULTI-DIMENSIONAL (22%)

COMPETENCIES ARE THE NEXT GENERATION OF KSAOs (6%)

SIOP TASK FORCE:
SME INTERVIEW COMMENTS ON
THE ATTRACTION OF COMPETENCIES

- **HAVE FACE VALIDITY**
- **ARE FUTURE ORIENTED**
- **ARE TIED TO BUSINESS RESULTS**
- **ARE "JUST-IN-TIME" SOLUTIONS, EASIER THAN JOB ANALYSIS**
- **AID IN THE INTEGRATION OF HR SYSTEMS AND LINKAGE TO STRATEGIC PLANNING**
- **RELATIVELY QUICK, USER-FRIENDLY, FLEXIBLE, AND HAS UTILITY FOR MANY HR FUNCTIONS**
- **PROVIDE A COMMON LANGUAGE BETWEEN LINE AND HR, AND ACROSS THE ORGANIZATION FOR SETTING PERFORMANCE/BEHAVIOR EXPECTATIONS**
- **CREATE A CLIMATE FOR DEVELOPMENT**
- **HAVE LESS ADVERSE IMPACT**
- **REFLECT A DECREASED EMPHASIS ON THE JOB AS UNIT OF ANALYSIS**
- **CAN OPERATIONALIZE FUZZY CONCEPTS**

SIOP TASK FORCE:
SME INTERVIEW COMMENTS

SHARPLY DIVERGING VIEWPOINTS:

- **competencies as underlying traits, not readily trainable**

  (a) "Competencies are underlying characteristics of an individual." (b) "Competencies are what people possess; they are not learnable; they are based on attitudes and personal traits.")

- **competencies as observable behaviors, readily trainable**

  (a) "Competencies focus on observable behaviors demonstrating the KSAs." (b) "Competencies are things people believe can be measured, developed, and changed."

ALSO:

- **tendency to equate "job analysis" with task analysis (or other <u>work</u>-oriented job analysis methods) and competency modeling with person analysis (or other <u>worker</u>-oriented approaches)**

  (a) "Job analysis is task analysis and work focused. Competency modeling is worker focused, looking at top performance." (b) "Job analysis is interested in the job, the 'what.' Competency modeling is interested in results, the 'how.'" (c) "Job analysis is job-specific and competency models are organization-wide."

- **actual application and implementation of both job analysis and competency modeling are highly variable within and across organizations**

SIOP TASK FORCE: MY CONCLUSIONS

MUST LOOK PAST LABELS AND EVALUATE:

- **What actually was done?**
- **Who did it?**
- **How well was it done (e.g., are the competencies definable, measurable, and useful/appropriate for their intended application)?**

SIOP TASK FORCE: MY CONCLUSIONS

THERE ARE TWO TYPES OF COMPETENCY MODELING:

- **GOOD COMPETENCY MODELING**

- **BAD COMPETENCY MODELING**

GOOD COMPETENCY MODELING

MOSTLY "TROJAN HORSE" WORK:

- **conventional, rigorous job analysis methods**
- **usually executed or directed by I/O types**
- **positioned with management as "competency modeling"**

HAS ABILITY TO "RESONATE WITH" AND COMMUNICATE TO MANAGERS IN A WAY THAT IS MEANINGFUL TO THEM (e.g., BY MAKING LINKAGES TO BUSINESS STRATEGY APPARENT)

THUS BECOMES A MECHANISM FOR GAINING MANAGEMENT ACCEPTANCE AND SUPPORT OF RIGOROUS AND USEFUL JOB ANALYSIS

BAD COMPETENCY MODELING

- **CONCEPTUAL/DEFINITIONAL UNCLARITY**
- **LACK OF METHODOLOGICAL RIGOR**
- **MIS-APPLIED: USED IN WAYS UNSUITED TO STATED PURPOSE**
- **JEOPARDIZES LEGAL DEFENSIBILITY OF TOOLS/APPLICATIONS**
- **LACK OF EVALUATION (EITHER INTERNAL OR IN PEER-REVIEWED OR REFEREED OUTLETS)**
- **HAS RESULTED IN THE DEMOCRATIZATION AND "DE-PROFESSIONALIZATION" OF JOB ANALYSIS**
- **BETTER EXAMPLE OF SUCCESSFUL MARKETING THAN OF SUCCESSFUL SCIENCE**

COMPETENCIES IN AUTOMATED PERSON-JOB MATCHING SYSTEMS

TYPICALLY DEPLOYED AS PART OF BROADER HR INITIATIVES DESIGNED TO IMPROVED SPEED AND LOGISTICS OF STAFFING/SELECTION AND OTHER HR FUNCTIONS

SYSTEMS BASED ON COMPARING COMPETENCY DATA ABOUT PEOPLE WITH COMPETENCY-ANALYSIS-BASED WORK/JOB REQUIREMENTS DATA

SOME CAUTIONS:

- **systems are intuitively appealing, BUT are only as good as the data they manage**
- **worst case: systems promote the ability to more quickly disseminate inaccurate information and make bad decisions, if based on suspect or deficient person data (e.g., based on self-ratings of complex competencies) or work/job profiles derived from non-rigorous work analysis**
- **extensive skilled human intervention/monitoring required (e.g., for updating as work content, structure, and process change); system vendors rarely understand or provide adequate guidance for this**

SOME EXAMPLES OF COMPETENCIES

Results Driven: Achieves committed business results while focusing on quality, customer satisfaction, profitability, and people.

Behavioral Indicators:

- **keeps it simple--focuses on what has to be produced and when**
- **focuses on reducing time to market**
- **tenaciously drives for results, putting in extra time or effort when needed**
- **high energy person who will do what is necessary to reach goals**

Product Champion: Demonstrates enjoyment of "the game" of product management (is motivated by "winning" at it)

Behavioral indicators:

- **believes in the superiority of XYZ Inc. products and solutions**
- **balances enthusiasm and championing of product with maintaining objective judgment and interpreting data and feedback**
- **demonstrates resilient energy and the ability to recover from setbacks**
- **sees project setbacks as part of the job and growth opportunity**
- **takes personal responsibility for quality**

MORE EXAMPLES OF COMPETENCIES

<u>Energizing/Empowering</u>: Energizing others to act due to personal enthusiasm, commitment, hopefulness, and confident belief in others.

Behavioral indicators:

- **when leading a project or task, expects others to stretch and build their skills**
- **takes visible satisfaction and joy from helping others acquire knowledge, skill, and self-confidence in areas where he/she is an expert**
- **other people feel and act more energized and enthusiastic when they work with or for the individual**

<u>Systems Thinking</u>: Taking a big-picture and long-range perspective on problems, decisions, situations, and events. Understanding interrelationships and multiple effects of actions.

Behavioral indicators:

- **ask questions that shift people's perceptions so they can see issues from a new perspective**
- **takes into account the long-term consequences of actions and decisions**
- **makes connections between and sees implications of events for each other**

LESSONS FOR I/O PRACTICE

IMPORTANCE OF INTERNAL MARKETING/POSITIONING OF I/O PRODUCTS/SERVICES

IMPORTANCE OF COMMUNICATING WITH ORGANIZATION LEADERSHIP/MANAGEMENT IN THEIR OWN LANGUAGE

NEED TO EVOLVE OUR OWN JOB ANALYSIS AND SKILL ASSESSMENT PRACTICES TO BE MORE RESPONSIVE TO EMERGING ORGANIZATIONAL NEEDS:

- **sufficiently process-oriented to reflect the dynamic nature of work and future/strategic skill/knowledge needs**
- **ability to capture the contextual aspects of job performance**
- **analysis of team or group performance**
- **provide a common language and common metrics that allow for the analysis of multiple levels of both work and worker characteristics across an organization**

Table 1

Level Of Rigor Scale

VARIABLE	1 Low Rigor	2 Low/Medium Rigor	3 Medium Rigor	4 Medium/High Rigor	5 High Rigor
1. Method Of Investigation	The same method for collecting information (e.g., focus groups, observation, interviews, or fixed-content questionnaire) is employed, regardless of setting or target population	Same two methods used every time regardless of the research setting and intended application	Variable combination of two methods used, depending on some effort to consider the constraints of the research setting	Variable combination of two or three methods used, depending on the research setting, target population, and intended application	A variable combination and logically selected mix of multiple methods are used to obtain information (e.g., interviews, focus groups, observation, questionnaires), depending on the research setting, target population, and intended application
2. Type Of Descriptor Content Collected	Same type of information (e.g., competencies, work activities, KSAOs, or performance standards) collected every time, regardless of intended application(s)	Same two types of information collected every time, regardless of intended application(s)	Variable combination of two types of information collected, depending on the intended application(s)	Variable combination of two or three types of information (e.g., competencies, work activities, KSAOs, and performance standards) collected, depending on the intended application(s)	Variable combination of multiple types of information collected, depending on intended application(s)
3. Procedures For Developing Descriptor Content	• No effort to gather information from content experts; instead, the researcher or analyst serves as sole content expert	• Information is gathered from convenient samples of content experts using ad hoc or unstructured procedures • No qualification criteria (e.g., time on the job, top performers based on appraisals) are used to identify individuals in the best position to serve as content experts	• Information is collected from a large number of content experts using a semi-structured protocol • Some effort is made to identify individuals most qualified to serve as content experts	• Information collected from content experts using a structured protocol and with reference to a fairly well thought out sampling plan • Content experts meet some qualification criteria (e.g., time on job, top performers based on appraisals)	• Information collected from content experts using a structured protocol and following a logically developed sampling plan with a comprehensive and representative sample • Content experts meet some qualification criteria (e.g., time on job, top performers based on appraisals)
4. Detail Of Descriptor Content	Handful of broad labels representing categories of content, with no associated definitions	Broad labels with narrative definitions or a small sample of descriptor items serving as the operational definition	Moderately specific labels representing different categories of content and a mix of descriptor items helping to operationally define each category	Fairly precise labels representing different categories of content that subsume fairly comprehensive sets of item-level descriptors which operationally define each category	A number of precise labels representing discrete categories of content that subsume very comprehensive and crisply defined sets of item-level descriptors which operationally define each category and leave no room for misinterpretation

Table 1 (Continued)

Level Of Rigor Scale

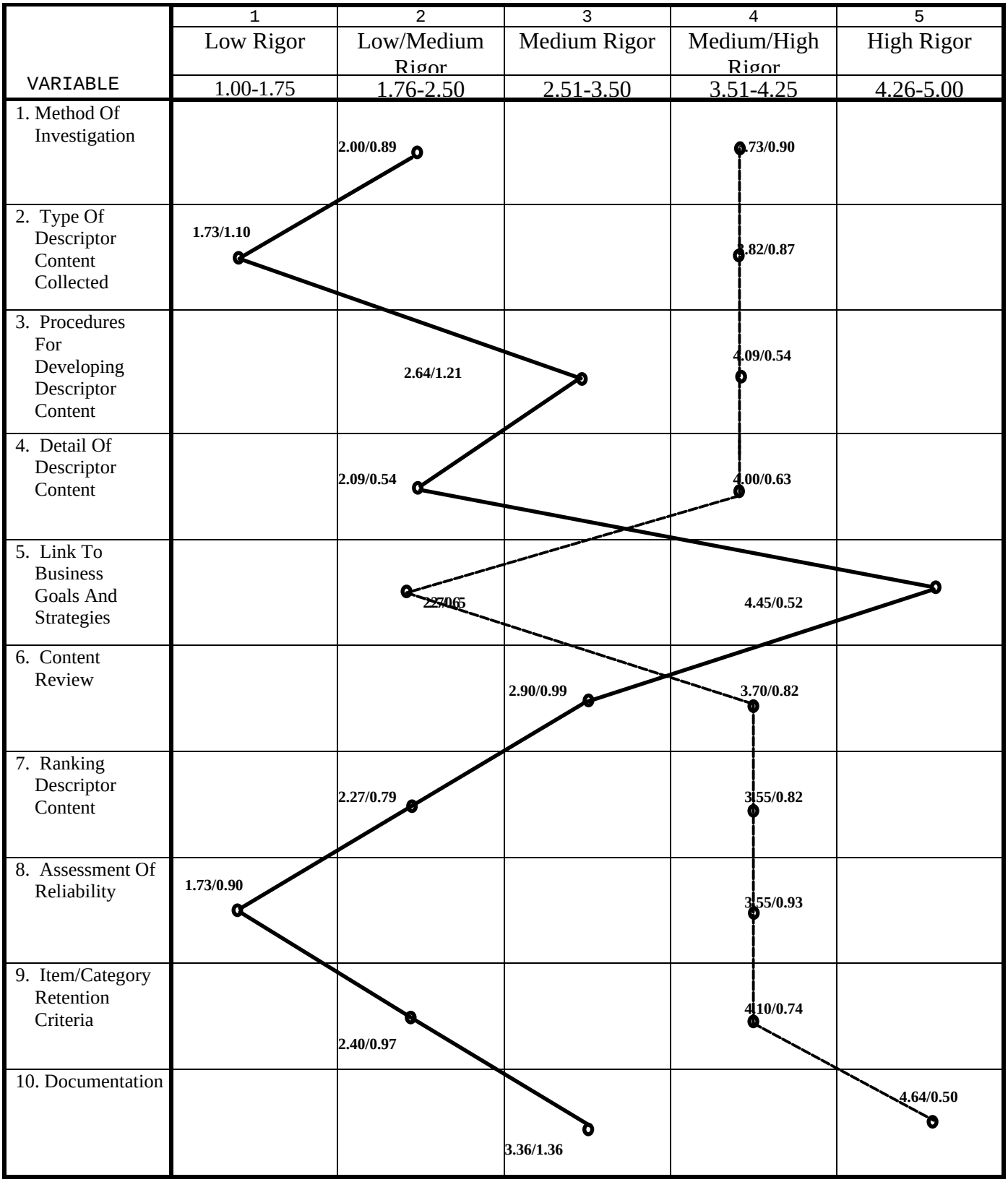
VARIABLE	1 Low Rigor	2 Low/Medium Rigor	3 Medium Rigor	4 Medium/High Rigor	5 High Rigor
5. Link To Business Goals And Strategies	No attempt to understand business context or broader goals and long-term strategies of the organization	Minimal effort to research the business context and review strategy-related documents to ensure results are aligned with the broader goals and long-term strategies of the organization	Modest effort to research the business context and review strategy-related documents to ensure results are aligned with the broader goals and long-term strategies of the organization	Substantial effort to research the business context and review strategy-related documents, as well as meetings with HR and/or line managers who are aware of the organization's plans, in an effort to ensure the results are aligned with the broader goals and long-term strategies of the organization	Significant effort to research the business context and review strategy-related documents, as well as meetings with top executives responsible for setting strategies, to ensure the results are aligned with the broader goals and long-term strategies of the organization
6. Content Review	No content review	Brief review of rationally created solution with the client sponsor to ensure: • Item-level descriptors are clear	Formal review of rationally created solution by client project leaders to ensure: • Item-level descriptors are clear • Content categories do not overlap	Formal review of rationally created solution by client project leaders and a technical review team to ensure: • Item-level descriptors are clear • Content categories do not overlap • Content categories are parsimonious and internally consistent	Formal review of rationally created solution by client project leaders, technical review team, and potential end users of the application built from the solution to ensure: • Item-level descriptors are clear • Content categories do not overlap • Content categories are parsimonious and internally consistent • Items and categories represent measurable content appropriate for the intended application
7. Ranking Descriptor Content	None. The final descriptor set is an unprioritized set of narrative content describing the target job group	Based on participation in interviews, focus groups, etc., the researcher or analyst serves as expert and rationally creates an ordinally prioritized descriptor set of broad labels	Based on some procedure for weighting the judgments of a small group of content experts (e.g., limited distribution questionnaire), an interval prioritization of the final descriptor set is derived	Some mix of questionnaire, electronic monitoring, observation, diary data recording, or other methods are used with a fairly large sample of content experts to collect data that is empirically used to create an interval prioritization of the detailed descriptor set	Some mix of questionnaire, electronic monitoring, observation, diary data recording, or other methods are used with a comprehensive and representative sample of content experts to collect data that is used to empirically create an interval prioritization of the detailed descriptor set

Table 1 (Continued)

Level Of Rigor Scale

VARIABLE	1 Low Rigor	2 Low/Medium Rigor	3 Medium Rigor	4 Medium/High Rigor	5 High Rigor
8. Assessment Of Reliability	No effort to assess consistency or reproducibility of the results	Based upon discussions with a convenient/casual sample of content experts, the analyst concludes that there is general agreement among the expertise regarding the meaningfulness and relevance of the categories of content	A convenient/casual sample of content experts perform some rating task (e.g., rating items on relative importance for successful job performance). Results are expressed in terms of the average intercorrelation of the ratings	A systematic sample of content experts are involved in matching content category labels with definitions and perform some rating task (e.g., rating items on relative importance for successful job performance). Results are expressed in terms of percent correct matches and the average intercorrelations of the items	Multiple systematic samples of content experts are involved in matching content category labels with definitions and item-level descriptors and perform some formally structured rating task (e.g., rating items on relative importance for successful job performance). Results are expressed in terms of percent of correct matches and the average intercorrelations of the ratings
9. Item / Category Retention Criteria	None. All created items/categories retained	A single criterion is applied to items and categories to determine retention or deletion, though the criterion is somewhat unclear or inconsistently applied	A single clear, logical criterion is consistently applied to items and categories to determine whether content is retained or deleted	Two clear, logical criteria are consistently applied to items and categories to determine whether content is retained or deleted	Multiple clear, logical criteria are consistently applied to items and categories to determine whether content is retained or deleted
10. Docu-mentation	None	Brief handwritten notes	Summary file memo referencing related user materials and outputs	Standardized final report “shell” document with appropriate information and data slotted in	Detailed and customized written report which thoroughly describes the procedures employed and the composition of content expert samples, includes copies of instruments used, and comprehensively reports the results

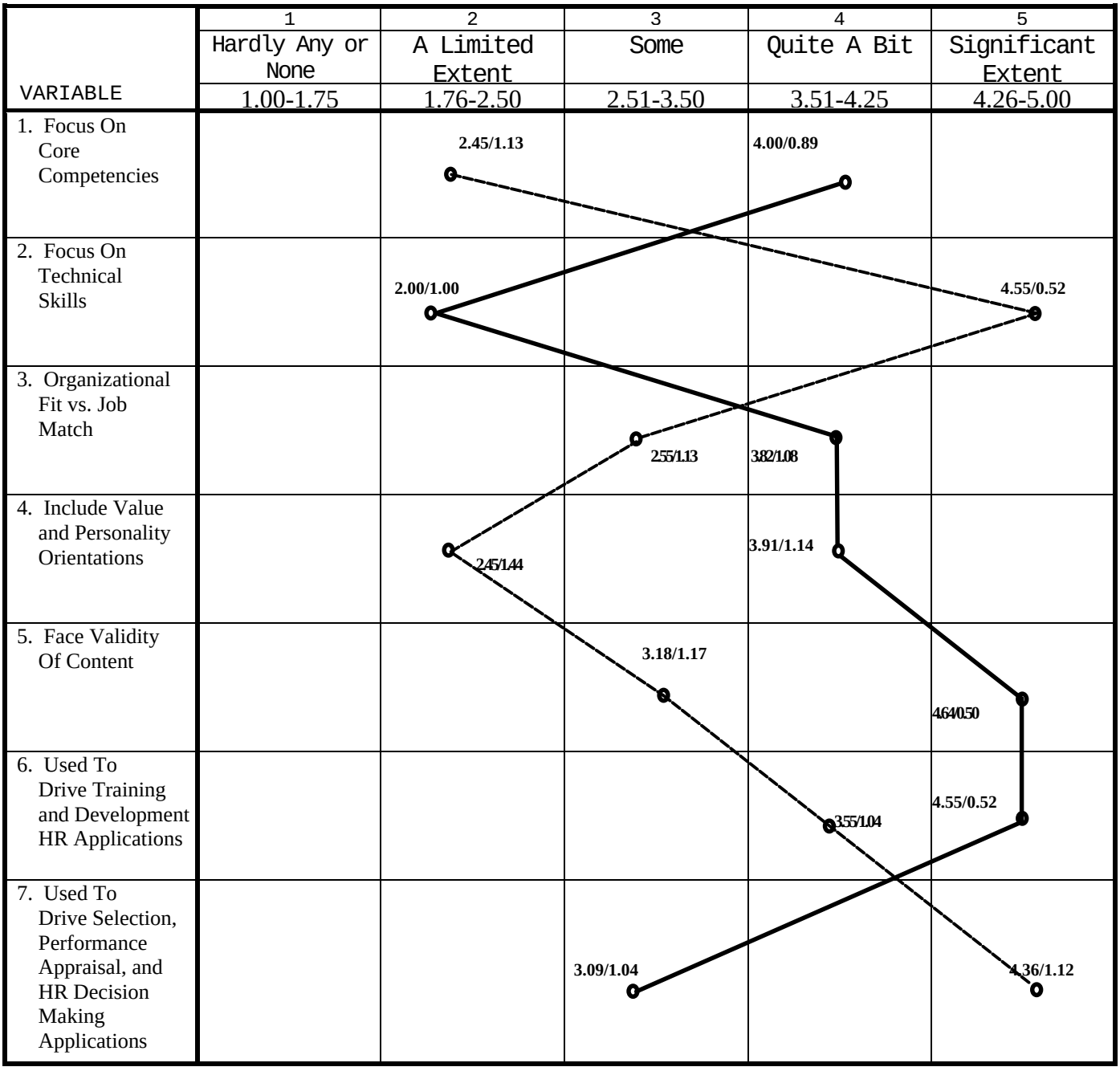
Figure 1
Comparison of "Typical" Competency Modeling
Rigor Profile versus "Typical" Job Analysis Approach*



* = Means/standard deviations are reproduced next to plotted points in the figure.
——— = "Typical" Competency Modeling Project
- - - - - = "Typical" Multimethod Job Analysis Project

Figure 2

Comparison of "Typical" Competency Modeling and "Typical" Job Analysis Approaches on Seven "Other" Variables*



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——— = "Typical" Competency Modeling Project
- - - - - = "Typical" Multimethod Job Analysis Project