Opportunities, Challenges and Practical Approaches for Training and Human Resource Management in National Statistical Offices

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Overview

I. Introduction: Opportunities and Challenges

II. Practical Context for National Statistical Offices

III. Four Dimensions of Design for Survey Processes

IV. Matrix Management

V. Training Needs
I. Introduction: Opportunities and Challenges for National Statistical Offices

A. Opportunities

1. Increasingly complex stakeholder needs for high-quality statistical information

2. Alternative data sources that may provide additional relevant information
   a. “Organic data” or “non-designed data” (Groves, 2011) or “big data”
   b. Integration of multiple data sources (Citro, 2013, 2014)
I. Introduction (Continued)

B. Challenges: Anchor Our Response in Careful Balance of Data Quality, Cost and Risk

C. Suggestions:

1. Responses to these opportunities and challenges will require increasingly sophisticated forms of Human Resource Management and Training (HRMT)

2. Essential to recruitment & retention of strongest personnel

3. Crucial: Cumulative impact of targeted investments in HRMT (intangible capital)
II. Practical Context for National Statistical Offices

A. Mandate: Provide high-quality statistical information for a wide range of stakeholders

B. Body of material on general principles for good practice by statistical offices


2. General themes: Quality, integrity, transparency, cost-effective management, risk management
II. Practical Context (Continued)

C. Increased Emphasis on Standardization of Statistical Practice and Production Systems

Examples: GSBPM (Vale, 2009), GSIM, standardized architecture (Camstra and Renssen, 2011; JOS Special Issue, 2013; references cited therein)

D. Budgetary Challenges:

1. Decreasing aggregate resources; allocation constraints

2. Crucial factor: Most important projects are capital intensive (human capital; other intangible capital)
III. Four Components of Design

A. Market Definition

1. Which segments of the “information market” to enter/continue/adjust/exit?

2. Meeting specific perceived “customer needs”

3. Realistic alignment of cost/quality/risk profile with current and sustainable revenue streams

4. Critical role of rigorous market standards for quality, integrity and transparency
III. Four Components of Design (Continued)

B. Methodology: Defined Broadly

C. Systems: All aspects of cost/quality/risk

D. Management

1. All aspects of organization, as well as individual and institutional incentives

2. Critically important: Alignment of authority, accountability and skills (longstanding issue in the role of science and technology in representative governments)

3. Intellectual property (data, methodology)
IV. Matrix Management

A. Broad term applicable to management of essentially all large technical organizations, including large statistical offices

B. Goals: Efficient integration of diverse set of highly specialized skills into specific projects when needed

C. Spectrum of options: Functional, Balanced, Project

- Extensive literature
IV. Matrix Management (Continued)

D. Commonly cited strengths:
   Economies of scale, possible flexibility

E. Important challenges (e.g., Sy & D’Annumzio, 2005):

   “Misaligned goals”
   “Unclear roles and responsibilities”
   “Ambiguous authority”
   “Lack of matrix guardian” (overall governance)
   “Silo-focused employees”
V. Training Needs

A. Technical Training

1. Methodology (defined broadly):
   - Fundamental concepts and tools for variability sources
   - Evaluation of data quality and coverage
   - Adjustments for “patchwork” coverage of populations
   - Extensions of “Total Survey Error” models to non-survey sources (Davern, 2007; Zhang, 2012; others)
   - Hierarchical modeling, Imputation

2. Information technology:
   - Web-scraping, database management, record linkage

3. Substantive areas (economics, public health, demography)
V. Training Needs (Continued)

B. Training in Formal Management, Broader Leadership

1. Communication, active listening, negotiation, especially:
   a. Understand and articulate the relevance of, and value added by, methodological concepts and tools

   b. Link (1.a) with need to balance multiple dimensions of quality, cost and risk

2. Skills to address limitations of “matrix management”

3. Foster highly collaborative institutional culture
   - Careful attention to group, individual incentives
VI. Conclusions

A. Era of Remarkable Opportunities and Challenges
   - Complex stakeholder needs, diverse information sources
   - Anchor responses in careful balance of quality, cost, risk

B. Implications for Human Resource Management & Training:
   1. Careful attention to four dimensions of design:
      Market definition, methodology, systems, management
   2. Account for strengths & limitations of matrix management
   3. Crucial: Serious and sustained investments in technical and managerial training
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