CAN GOVERNMENT-ACADEMIC PARTNERSHIPS HELP SECURE THE FUTURE OF THE FEDERAL STATISTICAL SYSTEM?

EXAMPLES FROM THE NSF-CENSUS RESEARCH NETWORK

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Question rephrased

(How Best) Can Government-Academic Partnerships
Help Secure (Enhance) the Future
of the Federal Statistical System?

Short answer: ***Of course!***

Longer answer invokes key questions

1. Is the operational environment favorable to research?
2. Can partnership goals align?
3. Features of effective partnership structures & functions?
4. How to manage expectations and processes:
   - Resource requirements, timelines, outcomes?
   - Steps to assess progress and optimize results?

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Operating environment

I. Mission of official statistics

Provide high-quality, cost-effective statistics to inform decisions made by a wide range of stakeholders

In shorthand

- Balance quality v. risk v. cost ("performance")
- Best value for the nation's data dollar

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Environment (continued)

II. Federal statistics are capital intensive–mostly intangibles, substantially influenced by research
   A. Technical skills – see May 7-8 presentations
   B. Management capabilities
   C. Institutional culture

III. Challenging trends
   A. Increasing stakeholder expectations for scope, timeliness and quality
   B. Increasing costs
   C. Resources flat or declining in real-dollar terms

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Environment (continued)

IV. We face a negative-sum exercise UNLESS we accelerate progress with:

A. Improved methodology

B. Alternative data sources (including "big data")

C. Expanded products and customer base

Conclusion: Government-academic partnerships can (must?) help the statistical system thrive in this highly dynamic environment

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Environment (continued)

V. Tradition of government-academic partnerships

A. Joint Program in Survey Methodology
B. Research Data Centers, within-agency access
C. CNSTAT, FESAC, other advisory groups
D. NSF – Measurement-Methods-Statistics Program
E. Agency-specific contracts
F. Networks of research collaborations, professional organizations and staff movement

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Environment (continued)

VI. Expanded government-academic opportunities

A. Growth in sophisticated statistical toolkit, data
B. Statistical agency challenges more interesting to academic partners
C. More career opportunities for students
D. Altered funding environment pushes academics to be entrepreneurial

Thus -- ample avenues, opportunities and incentives to align research with operational environment.

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Goals of government-academic partnerships

I. Methodological research

If Government Statistics = Pure Public Good

Then Methodology for Government Statistics = $(Pure\ Public\ Good)^2$

A. Methodological topics from May 7-8 all important

B. Prospective disruptive innovations

- Methods to assess stakeholder information needs
- Adaptive designs and analyses
- Alternative data sources (including "big data")
- Statistical production systems – standardization
- Cost structures – measurement and modeling
- Enhanced dissemination and exploration tools

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Goals (continued)

II. Substantive research

A. Enhances data's value to policymakers, businesses, individuals, other stakeholders

- Per Session 2 this morning: "Uses and Benefits from Government Statistics"
- Crucial contributions
  - Case-specific guidance for decisions
  - Models of underlying processes (simulations, forecasts)
  - Context for narratives

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Goals (continued)

B. Enables innovation in statistical agencies
   - Enhance measurement, dissemination, range of products
   - Identify emerging economic, health and social phenomena that we should measure better

C. Observation about working in a dynamic world
   - Phenomena of greatest current importance (to policy or stakeholders) are often hardest to measure (new concept, measurement and data access challenges)

D. Examples in labor and price economics
   - Wage records
   - Emerging forms of employment and markets
   - Disease-based price indices

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Goals (continued)

III. Education

- Train statistical agency staff
- Educate future data users

Thus -- many opportunities to align goals.

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Structure and function of partnership

I. Who works on what? (see Adoption and Diffusion of Innovations Rogers, 2003; many others)
   A. Broad spectrum—early, middle, late adopters
   B. Resources limited in statistical agencies and universities
   C. Different parts of spectrum fit with skills, information, risk profiles, constraints of
      - General academic research
      - Academic research directly supported through federal statistical system
      - Research by agency personnel
      - Agency program development, implementation

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Structure and function (continued)

II. Communication (federal ⟶ academia) to ensure that academic partners understand

A. Complex operational context (operational and information constraints, related uncertainties)

B. Integration of methods, data sources w/systems

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Structure and function (continued)

III. Communication (academia ⟹ federal) to facilitate technology transfer from academia to statistical agencies

A. Projects directly funded by statistical agencies

B. Research from related areas

- General statistical theory and methods
- Biostatistics
- Economics and econometrics
- Behavioral sciences
- Etc.

Success requires effective structure and function.

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Realistic expectations and processes

I. Issues

   A. Resource requirements, timelines, outcomes?
   B. Steps to assess progress and optimize results?

II. Clear understanding of concrete goals and limitations

III. Strong feedback loops

Thus -- 'nuff said….

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In closing

- Thanks to conference presenters for advancing an important ongoing conversation
- Rephrased session title:

How Best Can Government-Academic Partnerships Help Enhance the Future of the Federal Statistical System?

- Burgeoning opportunities—if we get 4 things right:
  - Align research with operational environment
  - Clear vision of partnership goals
  - Effective partnership structure and function
  - Realistic expectations and processes

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Additional Material

Topics from Census-NCRN Mini-Workshop: May 7, 2015

Evaluation of Field Operations
Adaptive Design and Use of Paradata
Usability Testing

Microsimulation Modeling
Record Linkage
Metadata and Collaborative Editing

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Additional Material (Continued)

Topics of the CNSTAT-NCRN Seminar – May 8, 2015

1: NCRN - Next Generation of Government Statisticians

2: Uses of, and Benefits from, Government Statistics

3: Geographic Aspects of Statistics

4.A: Confidentiality

4.B: Statistics and Unstructured Data

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