Graduated IUCRCs: Proposed Follow-up Study

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Outline

• Brief Review of the Graduated Centers Study
  – Quantitative Analyses
  – Qualitative Case Studies

• Some unanswered questions

• Proposed study
  – Sustainability Over Time
  – Fidelity vs. Reinvention
  – New Ivs
  – Phase 3
  – Qualitative

• Questions & Suggestions
Goals:

Descriptive

- To determine the status of I/UCRCs post-funding
- To determine how much fidelity to the I/UCRC model sustained centers exhibit
- To determine the level of sustainability centers have achieved in terms of continued program activities, structures, and outcomes

Predictive

- To determine what factors predict center status
- To determine what factors predict fidelity to the IUCRC model
- To determine what factors predict the level of sustainability centers have achieved in terms of continued program activities, structures, and outcomes
Graduated Centers: Post-funding Status

1 Year Post Graduation Status:
- 53 sustained; 17 not sustained

Current status:
- 44 operating; 26 not operating

Data from 2009 report. Another 12 centers have since graduated…
Graduated Centers: Fidelity

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<tr>
<td>industrial support</td>
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<tr>
<td>university based</td>
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<td>Tech Transfer</td>
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**Structural Fidelity Mean: 0.75**

- stakeholder meetings: 69.8
- membership fees: 67.9
- IAB: 67.9
- consortial results dissemination: 64.2
- consortial project selection: 50.9

**Assessment Fidelity Mean: 0.21**

- Evaluator: 17.0
- LIFE: 17.0

- Industry support, university based, and tech transfer are almost universal across sustained centers
- EFA yielded a 2 factor solution, but...
- These measures of fidelity may not fully capture the various organizational forms and identities of formerly funded I/UCRCs....
Graduated Centers: Predictive Findings

- Based on quantitative analyses, we learned a lot about the rate of sustainability but just a little about why/how of success/failure…
Qualitative Case Studies
Graduated Centers: Cases

Goals:

✓ Get a better understanding why some centers sustain
✓ Get a better understanding how centers sustain

Methodology

– 4 failure cases; 4 success case
  • Success cases still in progress
– Structured interviews
Triple Helix Unravels

- Centers Sustain or Don’t for a number of reasons:
  - Multiple Flaws
    - Structural weaknesses
      - No doctoral programs
    - External factors
      - Industry with exclusive IP interests
      - Lack of absorptive capacity in firms
    - Lack of institutional support
      - Especially during transitions
    - Lack of leadership/ Botched succession planning
  - Transformation
    - Minor tweaks → Major reinvention
Some Unanswered Questions

• What is the status of graduated centers now?
  – Is sustainability maintained over time?
  – What about the new cohort of graduated centers?

• How do graduated centers operate?
  – We know how they fair in terms of fidelity to the IUCRC program model, but what about additional programmatic innovations?
  – Can we identify various operational types?

• What other factors predict sustainability?
  – Leadership transitions, industry specific predictors, stakeholder support/satisfaction, reinvention
Sustainability Over Time

- Data collected annually while IUCRC funded and in 2009
- Proposed:
  - Collect 2012 data & use multiple pre-grad data points
  - Changes over time
  - Sustain. for new graduates
  - Data collection began 12/13/11; N = 18

- Research Questions:
  - What is the likelihood that center status will change after funding ends?
  - What are the sustainability trajectories of formerly funded centers in terms of budget, members, etc?

- Analysis: MLM (Raudenbush & Bryk, 2002)
Fidelity vs. Reinvention

• Research Question:
  – What organizational forms do formerly funded IUCRCs take?

• Data Sources
  – 2009 Interview transcripts: fidelity items & open-ended question
  – 2012 survey, includes fidelity items, open-ended question, AND:

*19. The following is a list of possible structural changes your Center may have made since graduating from IUCRC support. Please check all that apply:

☐ Center has become a site or merged with a currently NSF funded IUCRC
☐ Center works as a contract research entity, engaging in one-on-one research with industry
☐ Center has received major funding from another source and been re-branded under a new identity (e.g., ERC, State Center)
☐ Center activities continue, but have been absorbed by a larger Pre-Existing entity (i.e. another center or institute)
☐ Center has made a significant discontinuous change in our research focus (e.g., addressing a new research area)
☐ Center has added a function to aid commercialization and/or economic development
☐ None of the Above

• Analysis: Cluster (Aldenderfer, 1984)
  – Determine if centers group into discernable types based on fidelity & reinvention items
Predicting Sustainability: New IVs

• So budget & members predict sustainability: **Big whoop! What else?**

• Data Sources:
  – P/O: industry & faculty satisfaction, benefits, commitment
  – CD: leadership transitions (Gray, Sundstrom, Tornatzky, & McGowen, 2011)
  – 2009 & 2012 Responses: fidelity & reinvention scores

  *8. What industrial areas are served by your Center? Check all that apply.

  - Advanced Electronics
  - Advanced Manufacturing
  - Advanced Materials
  - Biotechnology
  - Civil Infrastructure Systems
  - Other (please specify)

Phase 3

• Formerly funded centers need to secure new funding to survive.
  – Reaplication to the same funding source is often used as a sustainability strategy (Scheirer, 2005).
  – Given that NSF has implemented Phase 3 funding, it will be important to examine why some centers chose to take advantage of this opportunity while others do not.

• Research Questions:
  – Why do/don’t formerly funded IUCRCs reapply for Phase 3 funding?
  – What impact does Phase 3 funding have on graduated IUCRCs?
The Qualitative Gold Mine

- 2009 Questions with rich answers:
  - What were the primary challenges your Center faced transitioning from I/UCRC grant support?
  - What factors, in your opinion contributed to your center sustaining/not sustaining itself after the IUCRC grant ended?
  - In your opinion, has there been any positive or negative impacts of having and IUCRC for the center, the university, and/or for faculty involved in the center, such as technology transfer, spawning new centers, spin off companies, awards, economic impacts, etc?
  - Do you have any advice to offer other Center directors making the transition from I/UCRC support to self-sustainability?
Questions & Suggestions