Who will join and who will decline?

An analysis of factors predicting a firm’s decision to join a university-based industrial consortium

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Declining Industrial Support

- The recent decline in industry funding of academic R&D is the first decline in the past 3 decades. (NSB, Sci & Eng Indicators, 2006)

![Graph showing declining industrial support](slide)
Contents

1. Study overview
2. Center recruiting
   - Survey results
   - Best practices
3. Industry decision making
   - Preliminary results
   - Gray’s Benefits Model
Study Purpose

• Address gaps in the I/U collaboration literature
  – Center marketing
  – Sub-organization factors (decision process)
  – Control group of non-members

• Help center directors and other stakeholders increase the odds that memberships will happen
Study Plan

1. Literature Review ➔ Completed

2. Assessment of marketing practices at NSF-supported cooperative research centers ➔ Completed

   - Identified relationship marketing model

3. Qualitative interviews with industry representatives: joiners & decliners ➔ Completed

   - Identified decision-making model

4. Quantitative survey of industry representatives ➔ Design begins this Spring
Membership Factors Model

Factors at different levels influence membership decisions

- **Economic & Industry-level**

- **Firm-level**
  - Organization
  - Sub-org
  - Individual

- **Center-level**
  - Technical
  - Management
  - Marketing
  - Facilities

Membership decision
Recruiting Success Rates

- **Lead generation**
  - On average, centers generate about 11 new leads over a 12 month period.
  - About 7 in every 10 new leads for membership emerge from existing relationships.

- **New member commitments**
  - On average, for every 10 firms actively pursued by centers:
    » 3 will join
    » 2 will decline
    » 5 will be undecided
## Perceived Acceptance and Rejection Factors

### Top Factors that directors believe account for joining:

<table>
<thead>
<tr>
<th>Factor</th>
<th>Selected as a Top 3 reason</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Relevance</strong> of research to organization needs</td>
<td>78.7%</td>
</tr>
<tr>
<td>High probability of future knowledge and <strong>technology</strong> transfer benefits</td>
<td>61.7%</td>
</tr>
<tr>
<td><strong>Success</strong> of past Center/PI research accomplishments</td>
<td>40.4%</td>
</tr>
</tbody>
</table>

### Top Factors that directors believe account for NOT joining

<table>
<thead>
<tr>
<th>Factor</th>
<th>Selected as a Top 3 reason</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cost</strong> of membership fee</td>
<td>51.1%</td>
</tr>
<tr>
<td><strong>Lack of relevance</strong> of research to organization needs</td>
<td>38.3%</td>
</tr>
<tr>
<td>Concerns about <strong>IP and licensing</strong> rights</td>
<td>38.3%</td>
</tr>
</tbody>
</table>

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*Item: “What three (3) reasons from the list above do you think were most important to the organizations decision to join (not to join)?”*
Small Business Marketing

• An I/UCRC is like a small business
• Most effective marketing in small business is a combination of traditional marketing and networking
• Center Directors do networking
• What about the traditional marketing mix (4P’s)?
**I/UCRC Marketing Mix**

- Examples come from presentations at the 2006 NSF-I/UCRC Director’s Meeting
- **Product**: can be a good, service, idea, place or person
  - Nonwovens (Pourdeyhimi) built world class testing facilities worth $16 million; largest state-IUCRC in the country
- **Price**: can be in actual dollars or other investments, risks, and resources
  - Many centers now offering tiered membership pricing
- **Promotion**: requires knowing who ‘they’ are and what they need
  - Ceramics & Composites (Haber) held 1-day workshop to understand industry needs; resulted in a new sub thrust (product)
- **Placement**: from the customer’s view; its about convenience
  - Nonwovens (Pourdeyhimi) designed and maintains a comprehensive website with secure log-in for members
Interviews with Industry
Membership Factors Model

Factors at different levels influence membership decisions

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  - Organization
  - Sub-org
  - Individual
- **Center-level**
  - Technical
  - Management
  - Marketing
  - Facilities

Membership decision
Sample Profile

- 20 usable interviews
- 9 Joiners, 10 Decliners, 1 Undecided
  - Of the 9 joiners: 6 first timers, 3 previous members
  - Of the 10 decliners: 3 previous members
- 2 small companies (<500 employees)
- 2 research labs (1 government, 1 private)
- 10 Centers represented
- Topics covered: History, Context, Decision, event
Stages of Collaboration

Organizations actively scan the environment and engage in the research field

I/U collaborations often emerge from existing informal relationships

Establish informal linkages

Exchange (ongoing)

Evaluate opportunity

Execute agreement

Evaluate relationship

Collaborative opportunities are evaluated against organization needs; if the evaluation is unfavorable, the informal linkage is maintained

Rules underlying the formal linkage may reverse a favorable evaluation; if so, the relationship returns to an informal exchange

The formal linkage is continually evaluated against organization needs; if the linkage dissolves naturally or is broken, the relationship returns to an informal exchange
**Decision Process: Two cases**

**Case: Decliner (Large aerospace firm)**

- Contact reviews marketing materials
- Contact attends Center Meeting
- Contact discusses w/ immediate manager
- Contact discusses w/ firm’s Univ. Alliance Dir.
- Univ. Alliance Dir. visits Center
- Firm’s Legal Dept reviews agreement
- Legal Dept rejects agreement

**Case: Joiner (Medium semiconductor firm)**

- Center extends invitation to R&D Manager
- R&D manager proposes to immediate manager
- Team of researchers reviews Center info
- Team reaches consensus on joining
- Next level manager authorizes funds

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Denis: During that initial review do you have an idea of what your initial impressions were of the Center?

David: “Basically a windfall for our company because of the proximity of the center and the activities of the center line up very well with what we do in our business. The problem was not a push from my part. The problem as I realized later was the NSF propriety information agreement. That was the deal-breaker.”

Drew: When Greg approached you with this, was it an informal conversation that you two had or was there a formal meeting…

Bob: “Oh yeah, he proposed it and I requested quite a bit more information, so we received a packet from [the Center]. And we reviewed that among a number of managers here, and as a result of that process… I suspect we reviewed it maybe about a month before we decided to join.”
General Model of Decision-making

1. Informal linkages are established in the research community
2. Potential projects or collaborations are identified and proposed to immediate manager
3. The opportunity is evaluated against organization needs by the gatekeeper, the manager, (and other researchers)
4. If accepted, then additional approvals may be required:
   - Budget approval
   - Legal review
   - Corporate oversight
• Large firms tend to introduce additional decision points in the process
Preliminary themes

- Industry maintains networks with university researchers
  - Supported by marketing study findings
  - Industry is proactive in seeking out potential projects/partnerships (via conferences, publications, web searches, referrals, direct relationships)
  - Dynamic relationships: ongoing evaluation of the partnership
- The consortium model has benefits beyond what could be achieved through working independently with faculty
  - collective resources/knowledge → financial leveraging
- Some themes in decision criteria
  - Relevance of research to organization
  - Reputation of universities and researchers
  - Generating or improving business through IAB network
  - IP agreement is barrier

"Most of our R&D into base, core technology is actually taking place in Europe, and part of the reason for that is that government, university, industry relationships in Europe are much easier to manage (than in the US). … The real problem we have with funding research directly at universities in the US is, to be honest, the intellectual property ownership."

--IP Manager, mid-size semi-conductor firm (joiner)
Preliminary themes

• The internal champion’s role is more demanding when multiple product lines contribute to the membership fee

  “…then there was a corporate initiative to try to encourage additional and expanded interaction with universities. The offer was that those kind of interactions would not be funded through each individual product line. Rather, we just asked for a general agreement, thumbs up that we should participate at some level. And I could get that as long as it didn’t specifically come out of their budget.”  - Large construction (joiner)

• Larger firms are more likely to have formal positions for managing relationships (e.g., University Alliances, Sponsored Research)

• Industry developments/ changes impact R&D strategy

• Decision processes ranges from informal to formal, with varying degrees of resource intensiveness (e.g., review process, people involved)

• Return on Investment (ROI) is either taken for granted, considered impossible to measure, or assessed with a structured method

  “Yeah, I mean it wasn’t that we treated it that mathematically, although we do that for many types of projects, but in this case he’s looking for ‘Can I specifically point to something valuable?’ Let’s put it this way: assume there’s success. What is the most successful scenario you could imagine from joining the center? And then, if that doesn’t sound exciting then maybe you shouldn’t join.”  
  - Dir. Incubator Technology, large specialty chemicals firm (joiner)
Remaining work

- In-depth analysis of interview data
- Develop quantitative instrument
- Implement quantitative study

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