

Who will join and who will decline?

An analysis of factors predicting a firm's decision to join cooperative research centers

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Study Purpose

- Help center directors and others understand which firm characteristics (sub-organizational and personal) and center marketing approaches have the biggest impact on a firm's decision to join a center, so that the center can:
 - More clearly define the target market
 - Adjust the marketing approach
 - Structure the research program to optimize industry support
- Add to the scholarly understanding of the factors that support and/or undermine cooperative research

Study Plan

NSF-STC funding

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

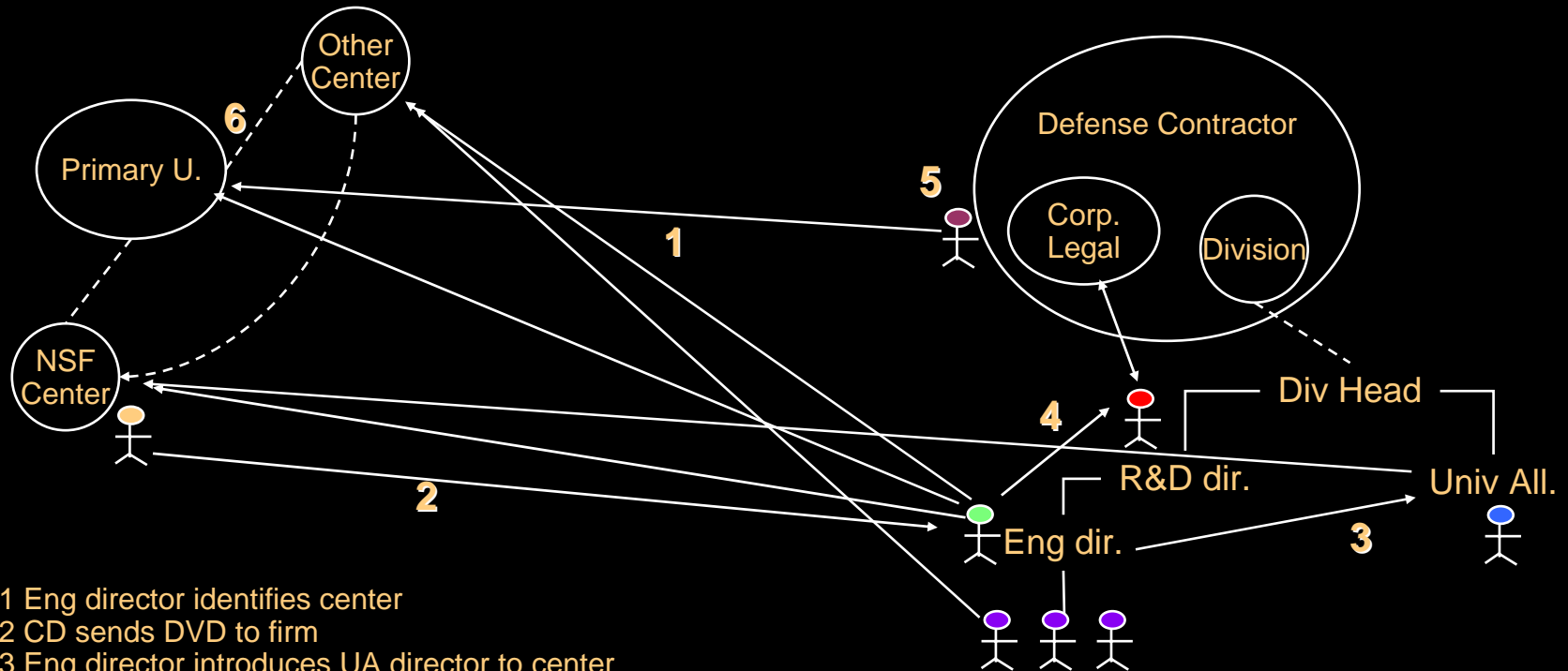
Other funding

4. Quantitative study → ➤ Survey launch underway

Interviews with Industry

- Semi-structured interviews with industry ‘front-line’ researchers (e.g., project leader, senior researcher)
- Leads/contacts provided by Center directors at 7 different Centers
- Topics covered in the interviews
 - History: Origins and developments in the relationship with the Center
 - Context: Individual role and company structure (e.g., company size, industry, centralized or decentralized R&D)
 - Decision event: Landmark events, stakeholders, decision criteria
- 20 interviews: 9 joiners, 11 decliners
- Mostly US-based decision makers; variation in organization size and industry

Interview Case: Defense Contractor



- 1 Eng director identifies center
- 2 CD sends DVD to firm
- 3 Eng director introduces UA director to center
- 4 Eng director goes to R&D director for approval
- 5 R&D director consults legal, recommends against it
- 6 Eng director secure agreement with university TTO DECLINE

Key factor: IP Agreement

Joiners: Key factors

NETWORKING BENEFITS

- Company identified potential customers on the IAB
- Company viewed the IAB as opportunity to enter US markets

ALIGNMENT WITH TECH ROADMAP

- Center research aligned with the organization's technology roadmap, and membership fee was viewed as excellent financial leverage
- Center research viewed as particularly relevant to long-term needs
- Center research viewed as closely related to core technologies
- Center research aligned with a specific project in the Company

SEEKING INNOVATIONS AND DISCOVERIES

- Company looking to borrow innovations from related areas, and to build business partnerships
- A new corporate initiative provided funding support for product groups collaborating with universities on basic research
- Company believes in supporting basic research in their industry

Joiners: Key Factors

- “Well, we as a company and an industry are I think looking at externally harvesting innovations from sort of parallel industries. ...there are many technologies and products that could be married to our products that we see that are available that we’d like to pay more attention to, and thought this would be a good forum to engage on that.” (large packaging)
- “Access to customers in the US was a primary benefit or reason for joining. The current members were key players in the US industry” (chemical firm)

Decliners: Key factors

TECHNICAL ALIGNMENT

- The Center is too advanced for the Company's current skill set
- The Company had already learned what they needed from the Center

DECISION PROCESS

- The champion was unable to garner support from the product groups
- The Company's Internal Legal group advised against signing the contract

ADDRESSING SPECIFIC NEEDS

- The center research did not align with the Company's current projects
- The project slated for collaboration had an uncertain market potential (and was later cancelled)
- The Company prefers to only engage on specific projects, and rarely engages in consortia
- The Organization was focused on shorter-term objectives, due to recent industry regulations
- Upper management avoids consortia; they could not be convinced of benefits outside of specific project work independent of the consortium

Did not join

Did not Join:

- “... we have to present first a business case...what benefit might the internal program get from joining the center... it [our project] was deemed to be fairly early in development...the value was sort of fuzzy because we were early on...3 or 4 months later our joint project was cancelled”. (Large Chemical Company)
- “We know where our competition is and we pretty much avoid that universe” (large defense contractor)
- “...we felt we were not ready yet. In other words, what they do is a little far reach for us. We haven't got the knowledge base, we think, to utilize their output”. (Medium manufacturing)

Quantitative Survey: Variable domains

- Decision regarding the Center (DV)
- Firm-level characteristics
 - Revenue, R&D spending, Industry sector
- Respondent characteristics
 - Years of experience, supervisory level
 - Involvement in scientific community
- Initial conditions
 - Trust and familiarity
 - Pre-existing relationships
- Sub-organizational characteristics
 - R&D structure
 - External research orientation
 - Decision process and complexity
- Center evaluation
 - Technical merit
 - Administrative merit
 - Structural components

Quantitative Survey: Sample questions

- Primary dependent variable

Considering your most recent decision regarding the Center, did you:

- o Decline to join the Center (0)
- o Join the Center (1)

- R&D Structure

Where would you place your company's R&D structure on the following scale? By 'centralized' we mean R&D is located in a corporate group; by 'decentralized' we mean each business unit conducts its own R&D.

- o Centralized within a corporate R&D group
- o Mostly centralized in a corporate R&D group with some business unit R&D
- o Balanced between corporate and business unit R&D
- o Mostly decentralized across business units with some corporate R&D
- o Decentralized across business units with no corporate R&D function
- o Prefer not to say

Quantitative Survey: Sample questions

- Center evaluation: Relevance/ alignment of R&D

To what extent did the Center's research program overlap with your company's: (Scale: 'Little or no extent' to 'Very great extent')

- o Short-term, core technology goals
- o Long-term, core technology goals
- o Emerging or competitive technology interests

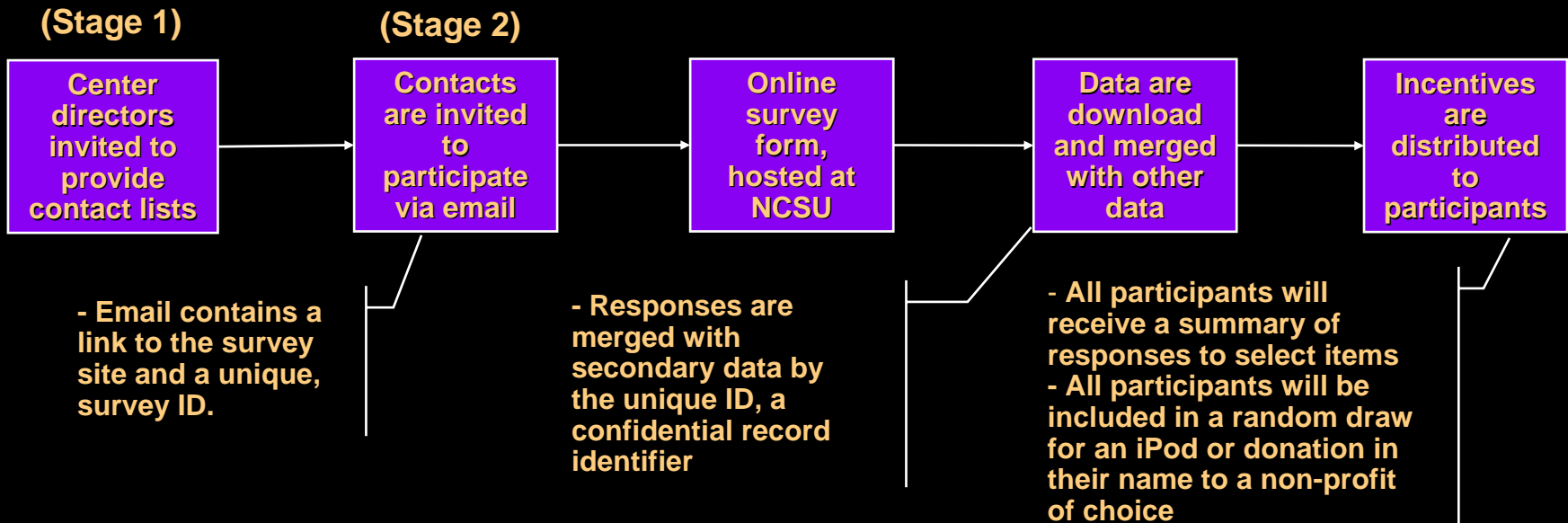
- External research orientation

To what extent do the following statements describe your company with regard to external collaborations in research and development? (Scale: 'Little or no extent' to 'Very great extent')

- o Financial support is available for technical staff to attend scientific conferences
- o There are written policies that encourage and support external collaboration in R&D
- o External collaborations play a significant role in our technology strategy

Data collection process

- Two stage sampling: center directors and industry representatives



- Main Analysis: Logistic Regression (with Join/Decline as the outcome variable)

Remaining work

- Heads up to directors: January '08
- Data collection: February '08
- Analysis: March-April '08
- Conclusion: May '08

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