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Research Centers

# Recruiting New Members: Update on Research Findings and Effective Strategies

# Purposes

- Shed light on factors that influence how and why firms decide to join or not join an IUCRC
  - “Who will join and who will decline?: What recruited firms have to say”
    - » Denis Gray & Drew Rivers, IUCRC Evaluation Project, NC State University
- Highlight successful recruitment strategies
  - Alan George, High Performance Reconfigurable Computing, University of Florida



*Who will join and who will  
decline? What recruited firms  
have to say*

An analysis of factors  
predicting a firm's decision to  
join a university-based  
industrial consortia

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*Psychology in the Public Interest Program*

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# *Study Purpose*

- Help center directors and others understand which firm and center characteristics 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



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- 1. Marketing practices at NSF-supported cooperative research centers: Directors Survey**
  - ➤ Complete
  - ➤ Near completion
- 2. Identify **decision making** factors for joiners & decliners: Industry Interviews**
  - ➤ Design begins this spring; assessment begins late spring

# *Membership Decision Study*



- Design
  - Multiple case study: joiners vs. decliners
- Approach
  - 10 IUCRC Directors volunteered to provide names of recent joiners and decliners
    - » Director wrote introductory email
    - » We followed up by email: ~5% refusal; 75% participated;
    - » Semi-structured taped telephone interviews (20-30 minutes)
  - Qualitative content analysis with pattern matching, etc.
  - **Centers:** Advanced Computing and Communications; Biocatalysis and Bioprocessing of Macromolecules; Computational Materials; Design of Analog and Digital Circuits; Intelligent Maintenance Systems; Nonwovens Cooperative Research Center; Non Destructive Evaluation; Precision Metrology; Repair of Buildings and Bridges with Composites; Silicon Wafer Engineering and Defect Science

# *Sample Profile*

- 9 Joiners, 11 Decliners
  - Of the 9 joiners: 6 first timers; 3 previous members
  - Of the 11 decliners: 6 first time; 3 previous members
- 2 small companies (>500 employees)
- 2 research labs (1 government, 1 private)
- Industries: Construction, Semiconductors, Biotechnology, Packaging, Aerospace, Specialty Chemicals, Telecommunications, Industrial Equipment, Agricultural Chemicals
- Serious prospects: most had made or received visits

# *Why do firms join/not join IUCRCs?*



- Process is highly variable
  - Multiple criteria come into play; key factor(s)
  - One person decision to full committee plus multiple check offs)
- **Strategic analysis of benefits**
  - No one mentioned corporate goodwill or charity
- **Strategic Research Relevance** (or lack thereof) was the dominant reason for joining (not joining): ROI, Net Present Value

# *Why do firms join/not join IUCRCs? (continued)*



- **IP concerns** can make a difference but most firms seem very sophisticated about when and under what circumstances IP matters
- **Firm resources and capabilities** can figure prominently into the decision to join
- **Firm decision making process** can have a major impact on the decision to join
  - Can tilt decision pro or con

# *Strategic Research Relevance*



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## Why they joined

- “We don’t do in house very much theoretical work to advance the state of the art. However, sometimes we get right at the edge of or beyond our ability to do certain kinds of calculations or certain kinds of analyses. Its good to have an internationally recognized entity that you can go to get support in these kinds of situations.”  
(Construction firm)
- “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.”  
(Packaging firm)

# *Strategic Research Relevance*



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## Did not Join:

- “The first decision was ‘is it strategic to what we’re doing?’ And when the answer was obvious to me that it was not, then we didn’t make any progress on any other matters”.  
(**Agricultural products firm**)
- “...We already had a program in place [in a very critical area] and all the mock ups; there really wasn’t much they could contribute to that really. They were behind us in this particular area. Some of the projects they do weren’t really that relevant exactly to what we were doing” (**private R&D supplier**)

# *Strategic Research Relevance*



- “... we have to present first a business case that outlines the Net Present Value of the research that’s going on in our company...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...the decision was because of the lack of clear net present value type evaluation on what we were trying to do, that we would not join the center...3 or 4 months later our joint project was cancelled”.  
**(Large Chemical Company)**

# *Other Strategic Factors*



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## Why they joined

### Financial leveraging

- Basically its like, “we’re going to spend \$40,000, we’re going to get almost a half a million dollars of research out of it.” And then I tell my director, “It’s up to me to steer some of the projects into specific things that we want, or materials that we’re interested in.” (**government lab**)

# *Other Strategic Factors*

## IAB Composition

### Joined

- “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)

### Not join

- “We know where our competition is and we pretty much avoid that universe.” (**Aerospace/ defense firm**)

# *Other Strategic Factors*

## Alternative Source for Research

### Not Join

- “ Yeah, the distance makes it difficult to collaborate with universities in the US...And here Local U. is just an hour away. I personally have a position there, a part-time position, so for me its easy for me to access the resources there, the PhD students, and maybe supervise them. It’s really in my hands to do it” (**Specialty chemical firm, former member**)

# IP Concerns



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## Joined

- “The IP issues with the legal guys was a problem, and the overriding thing there was that we said, “...the chances of our divulging anything to the center that is going to be a problem is low...In terms of how we take advantage of the IP the center generates...although nobody liked it [agreement]...but not too different than other university deals we get into” (**Industrial equipment/components firm**)

## Did not join

- “[My initial impression was] basically a windfall for our company...my legal people did not recommend that we sign up for that [NSF document] agreement...a typical university grab involved in IP” (**Aerospace/defense firm**).

# *Firm Capabilities*



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Did not join

## Financial

- “... Financial limitations have kept them from joining.”
- “one reason is financial, basically the budget reason”.
- “Sometimes when the economy is good and we have some extra money and say, “Let’s spend it. Let’s find something”

## Absorptive Capacity

- “... Just finding the time to champion getting funding in place and then taking and managing that relationship with [the Center] has been lacking. ” (**Construction firm**)

# *Firm Capabilities*

## Absorptive Capacity

- “...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.

“We’re not doing a whole lot ourselves, so our decision was “OK, let’s start it ourselves and do a little bit of work so we understand it better, then in a couple of years we’ll try them out.” (**Automotive equipment/ components firm**)

# Decision Making Process

## Did not join

- “And we got at least first level of management buy-in to pursue it... But we have to line up support from operating groups -- we’d have to get support from other operating groups within our company... We didn’t make the deadline that year... I’m afraid in that time we maybe just forgot about it and didn’t get back to it...had to do with just having time and resources to pursue it.” (**Construction firm**)

# Decision Making Process



## Joined

- So anyway, it got to be too tough to manage and the interest was too low and so we decided to bail, and 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. (**Industrial equipment/components firm**)

# Decision Making Process

## Anti-Champion

- “My boss would say ‘I need ROI’, without ROI it don’t even count... the problem is we have a very powerful guy in home office and when I went to see him he was not very keen on accepting this kind of proposal... he had this understanding we are strong enough ... we don’t need to expose ourselves to some other people and they will know exactly what we are doing.”  
(**materials manufacturer**)
- “My general manager is not as generous as I might be in supporting universities...He’s very risk adverse” (**Aerospace/ Defense firm**)

# *Other Issues of Interest*

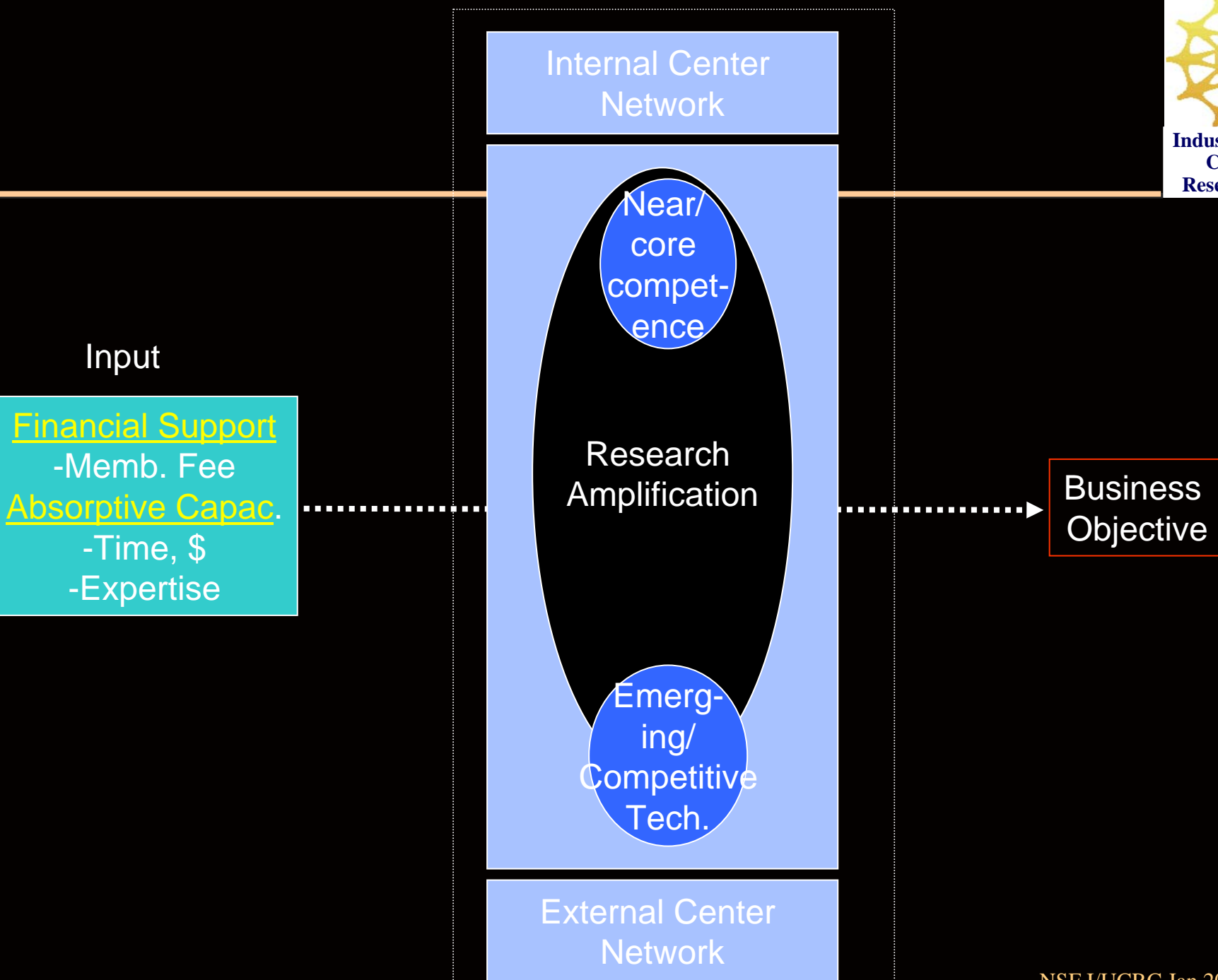


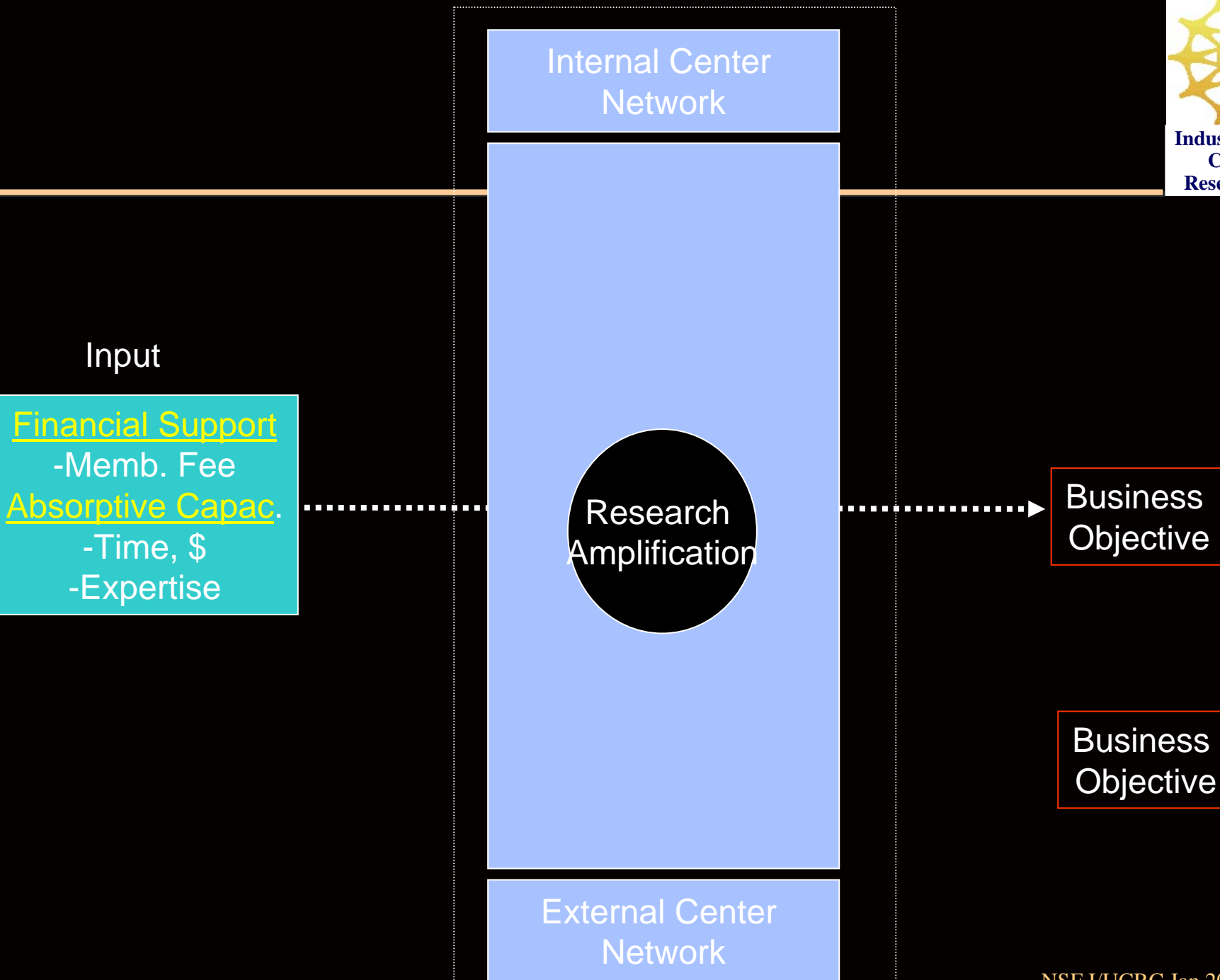
- Some firms try to steer all/most of their research to “focus universities”
- One firm mentioned use of consultants to help them identify universities to partner with
- Reputation manifested in important publications and conference presentations can be key
- Recruiting focus tends to be associated with local universities
- Some but not frequent mention of working with non-US universities because of IP
- Once a lagging firm catches up with center expertise, they may reconsider membership
- Firms mention customers pushing them to join a center

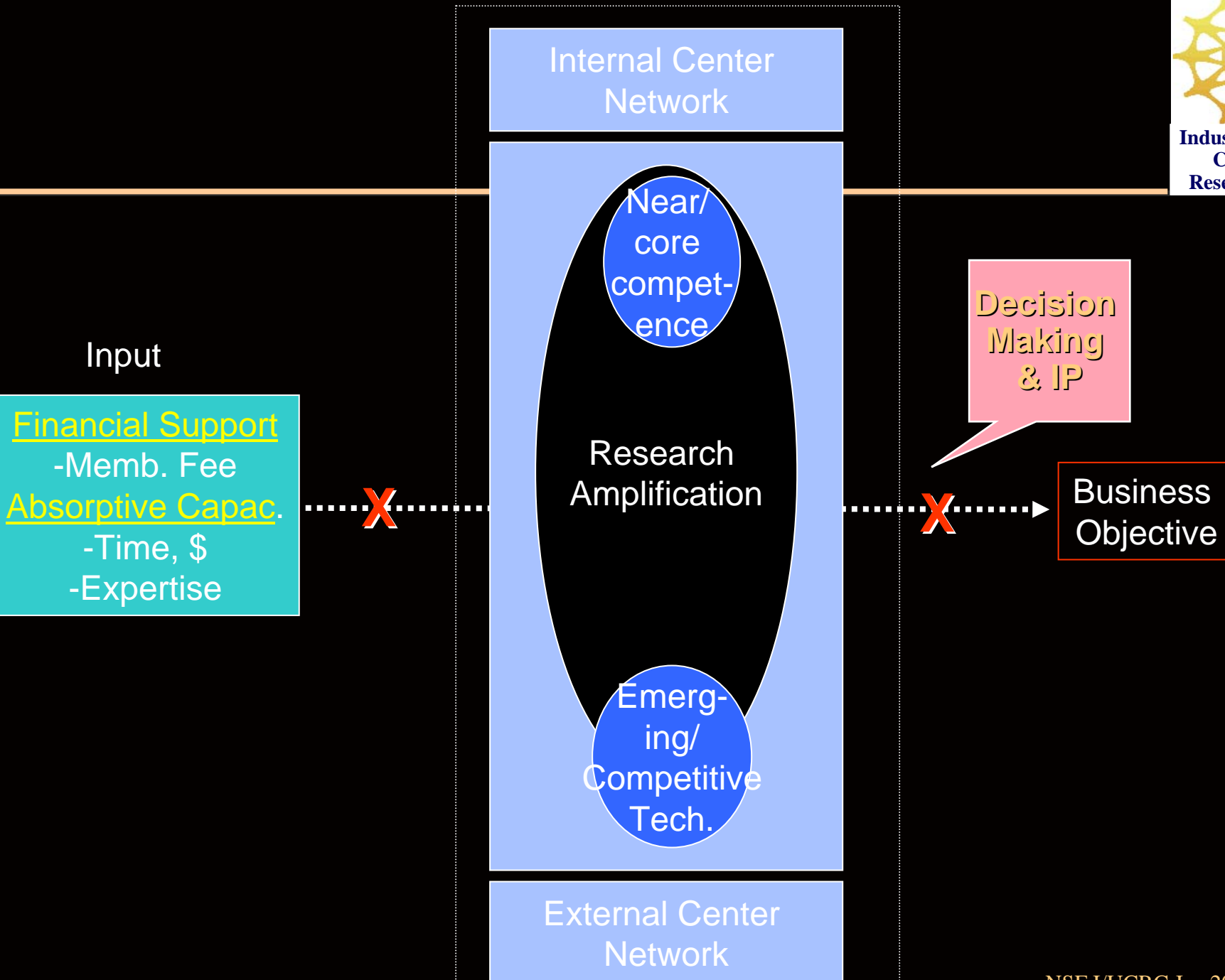
# *IUCRC Business Model*



- In parallel with this study have been working on an “IUCRC Business Model”
  - Model explains what the member gets or might get from participation
  - Emergent model
- Proposed business model draws from our current study and earlier studies







# Summary

- Have good start at understanding which factors affect membership decision
  - Benefits Model
  - The relative weight of various factors (champion, firm, industry characteristics; internal decision making processes; perceived benefits) and the circumstances when factors are decisive is less clear.
- Need to validate our model on a larger population

# *Remaining work*

- Industry interviews
  - More formal qualitative analyses
- Conduct large sample questionnaire study
  - » Instrument design
  - » Data collection
  - » Analysis
- We'll need your help!

# *Acknowledgement*



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