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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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Study Plan



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**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 → ∅ Data collection in process

Quantitative Study Overview



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- Web-based survey with sample of organization representatives
- Cross-sectional predictive design
- Primary segments
 - Recent Joiners
 - Recent Decliners
- Purpose: begin to empirically support propositions developed from the organization interviews

Factors from the Interviews



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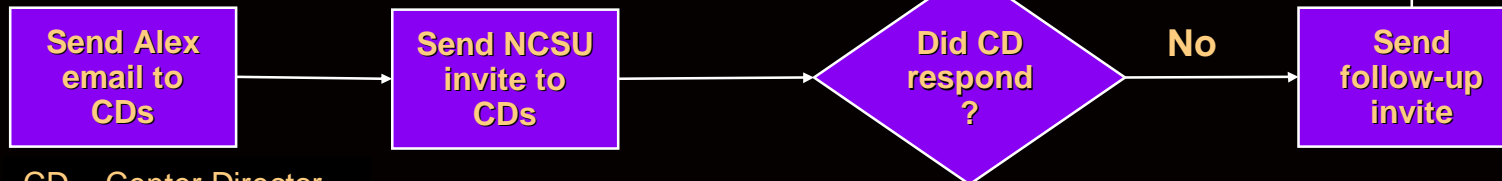
- Sub-organizational
 - Entry point/ trigger
 - R&D structure & funding
 - Organization climate
 - Budget planning & timing
 - Financial health
 - Past experience
 - Absorptive capacity
- Individual-level
 - Champion
 - Antagonist
- Center-level
 - Strategic fit
 - IP agreements
 - Consortium structure
 - Other technical and non-technical factors

Collection Process



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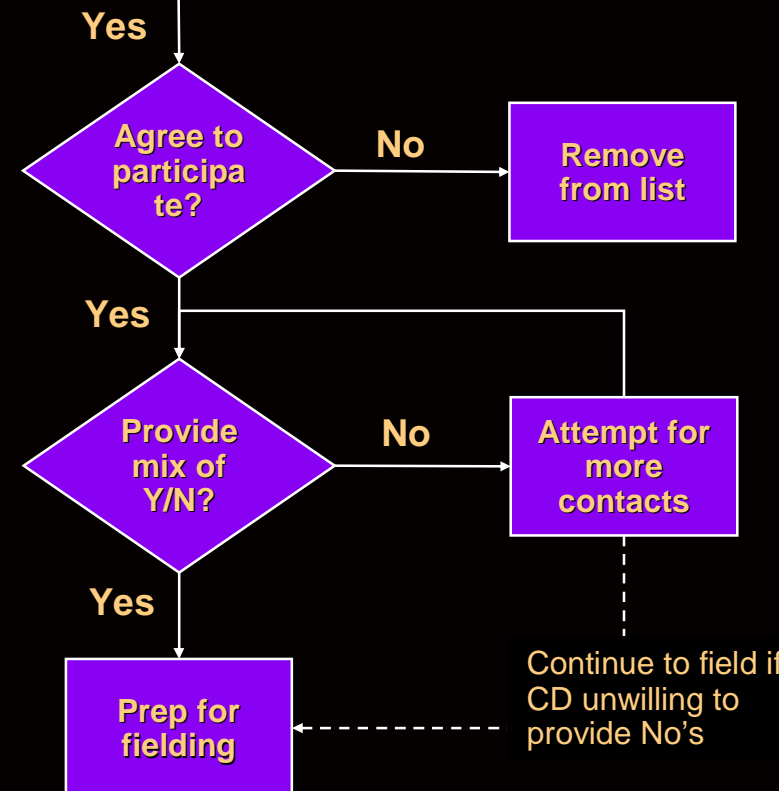
(Start here)



CD = Center Director

Field stats

- 104 primary and site directors invited
- 21 agreed to participate (18 have already provided contacts)
- 8 more are participating via primary university
- 12 expressed interest
- 18 said 'No thanks'
- 45 have not responded, including 15 primary directors



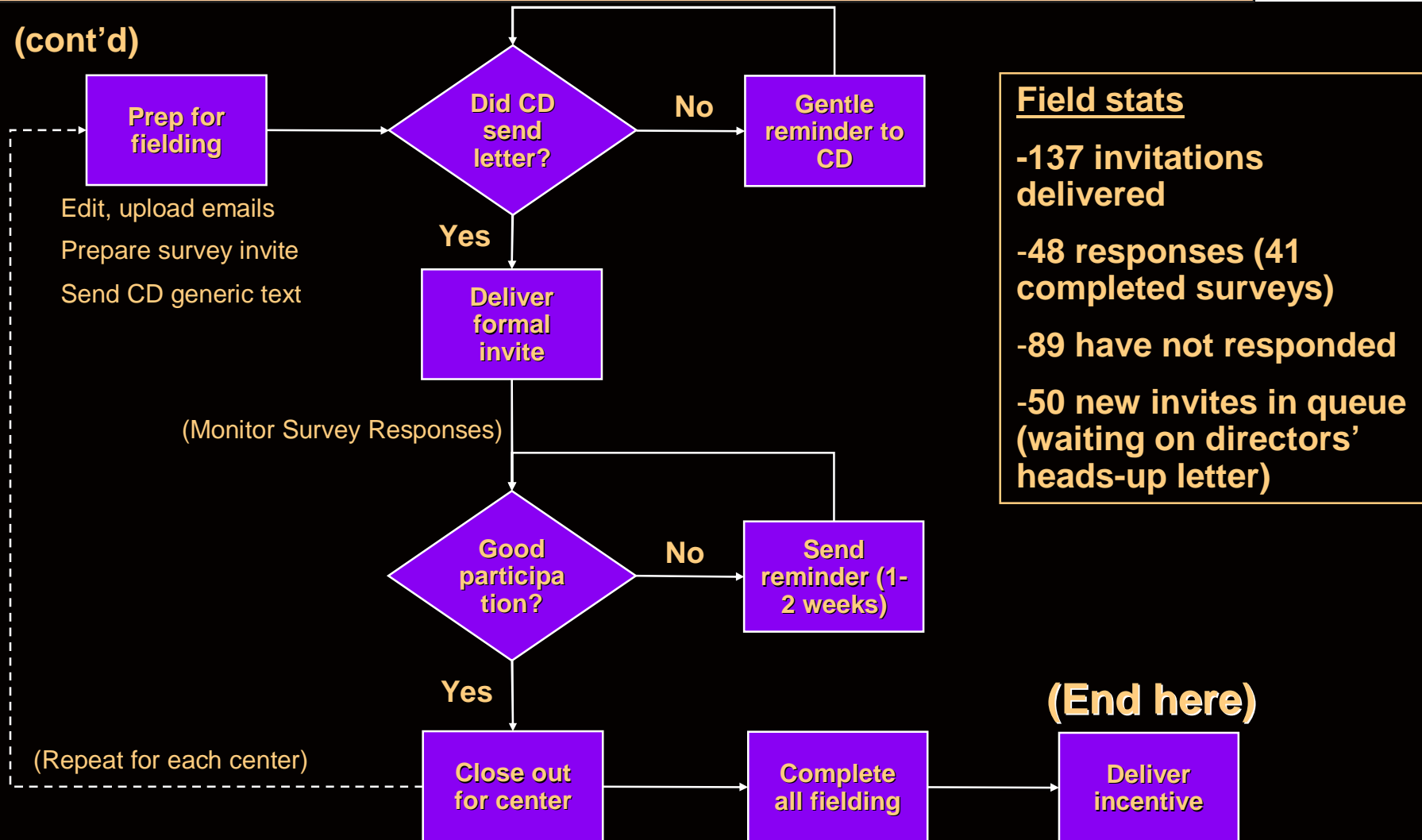
Collection Process cont'd

Note: survey administered using SurveyMonkey.com



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(cont'd)



Field stats

-137 invitations delivered

-48 responses (41 completed surveys)

-89 have not responded

-50 new invites in queue (waiting on directors' heads-up letter)

Recency of Decision



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Current sample: n=41

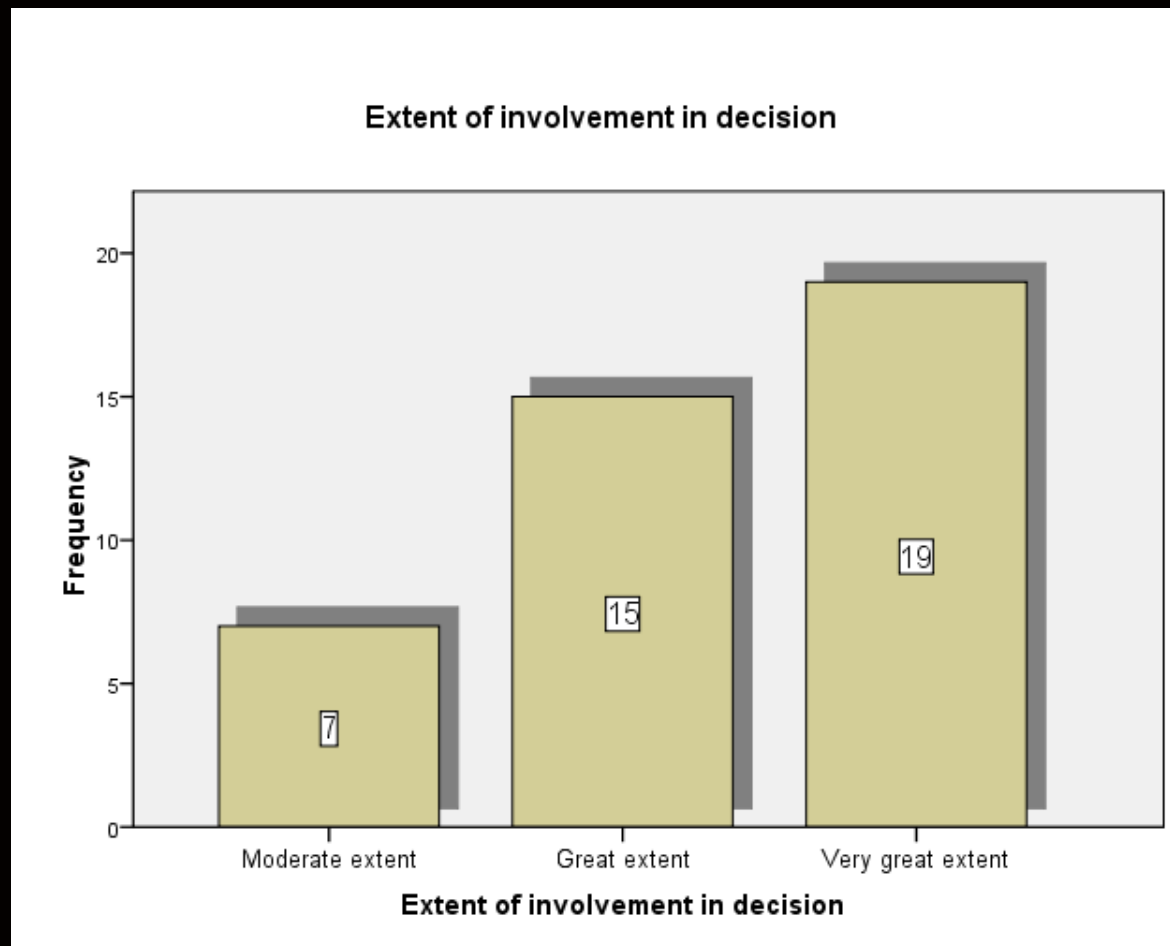


Involvement Level



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Current sample: n=41

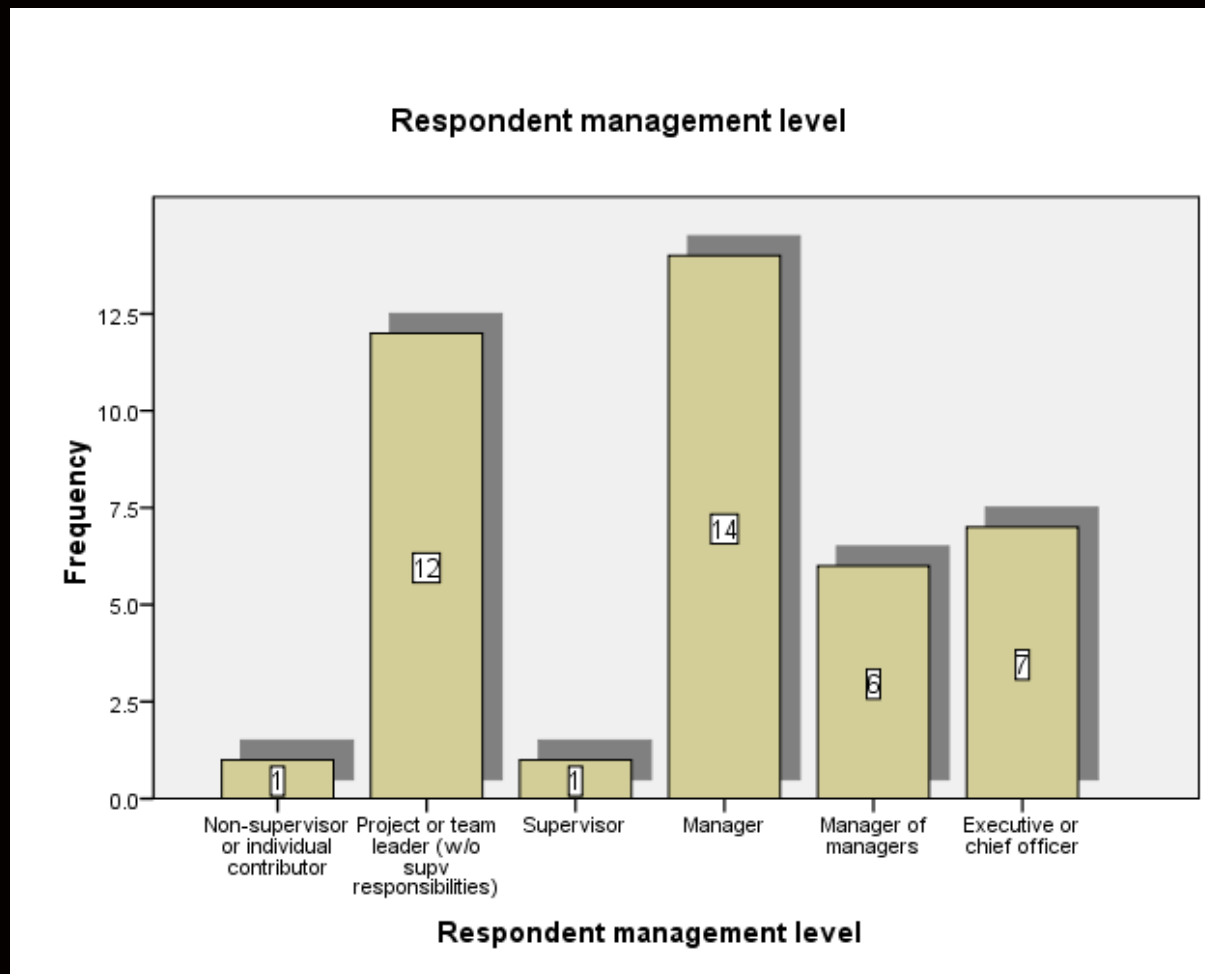


Management Level



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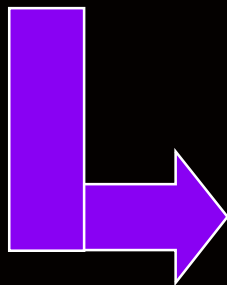
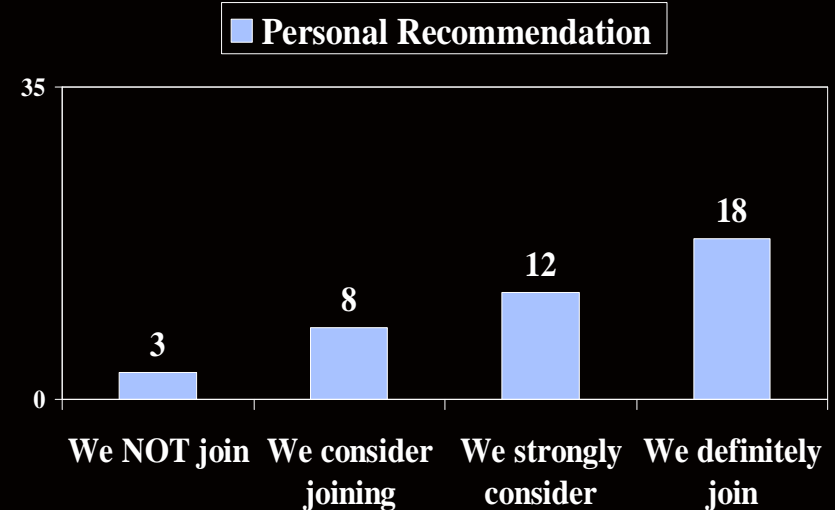
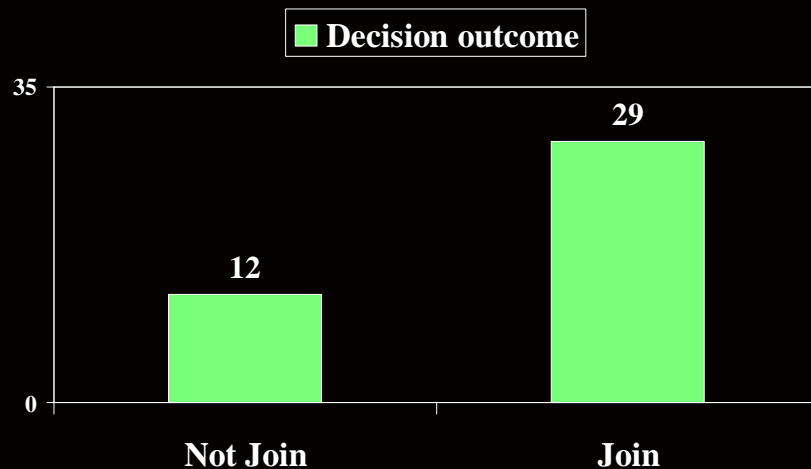
Current sample: n=41



Outcome Variables



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Future intentions of non-joiners (n=12):

16.7%- Not likely to join in the future

50.0%- Might consider joining at a later time

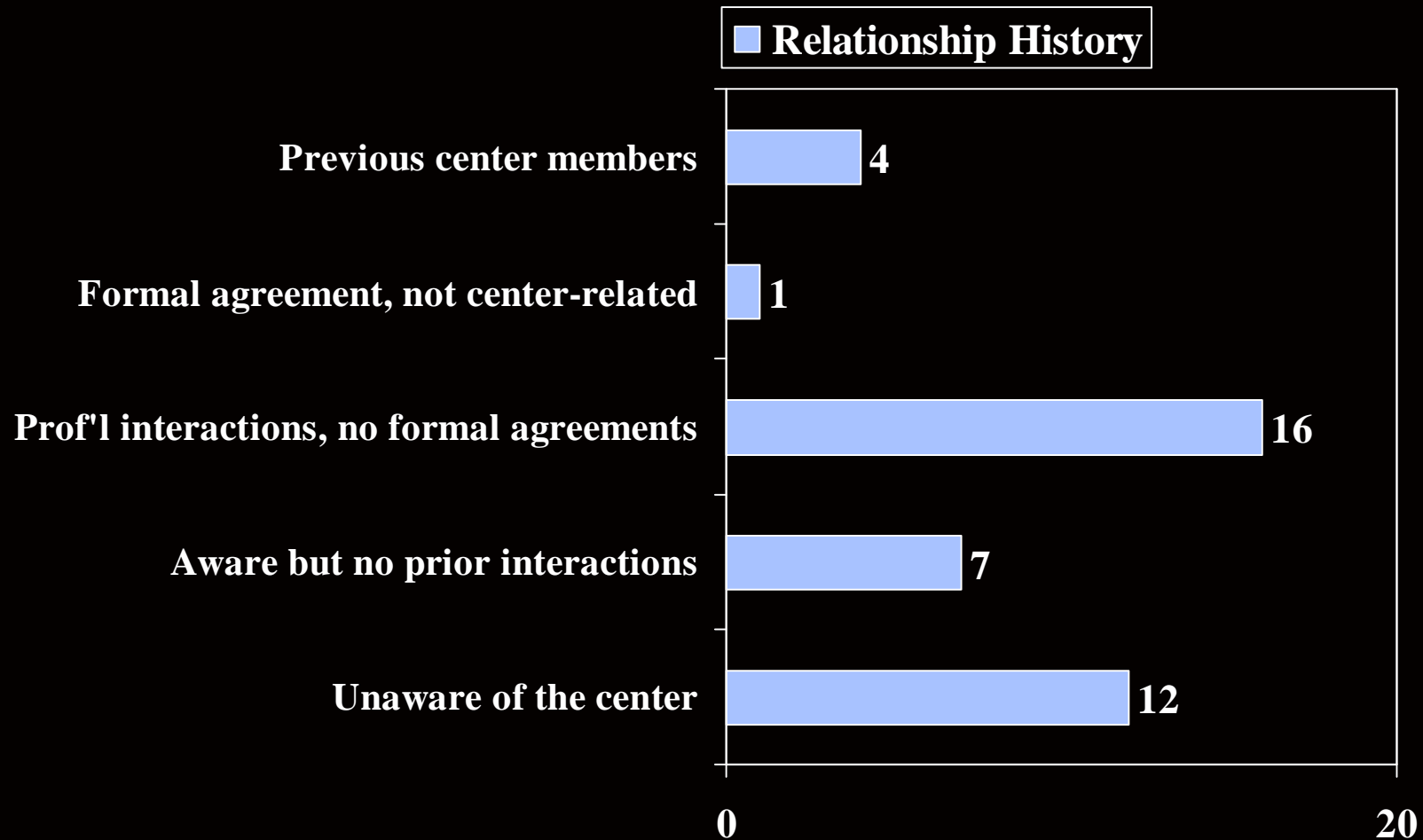
8.3%- Seriously consider joining next budget cycle

25.0% - Other

Existing Relationships



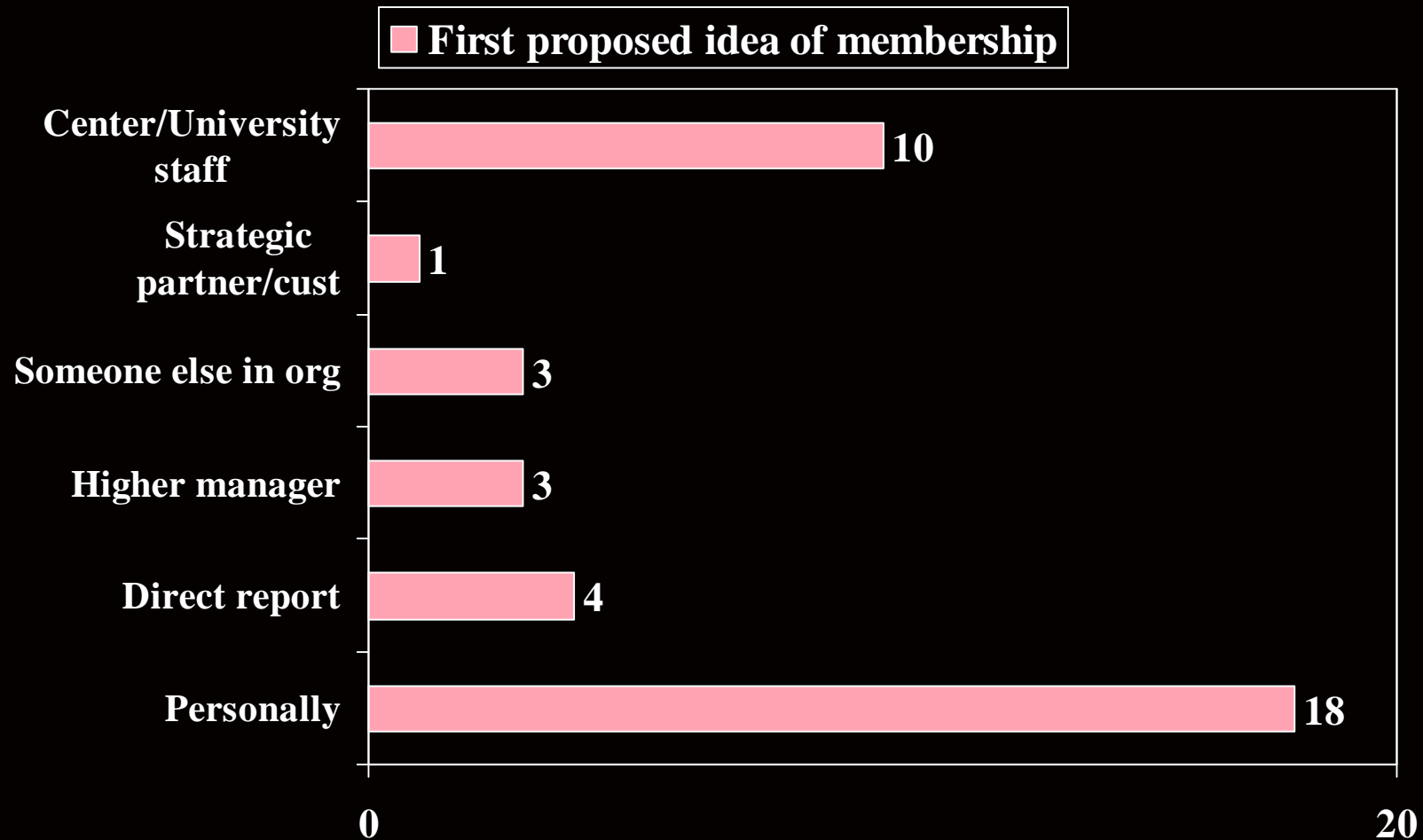
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Initiated Idea of Membership



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Technical Need * Research Type



- q12. Did your organization have a specific technical need or problem to address for which the center was being considered? (Y/N)
- q15. What type of research was your organization most interested in from the center?
 - Basic Research: *Activity toward the advancement of scientific knowledge without specific immediate commercial objectives*
 - Applied Research: *Activity directed primarily towards a specific commercial or practical objective*
 - Development: *Activity translating research into new or improved products, services, or processes*

Have a technical need * Type of research of most interest Crosstabulation

Count		Type of research of most interest			Total
		Basic research	Applied research	Development	
Have a technical need	Yes	1	22	5	28
	No	2	8	3	13
Total		3	30	8	41

Research Questions



- (1-2) To what extent do the following variables (levels) influence decision outcomes in organizations considering membership in university-based CRCs?
 - Industry and organization-level variables
 - » Appropriability (-)
 - » R&D Intensity
 - » Organization size
 - Center characteristics
 - » Objective attributes – size, age
 - » Perceived technical attributes
 - » Perceived non-technical attributes

Organization Size

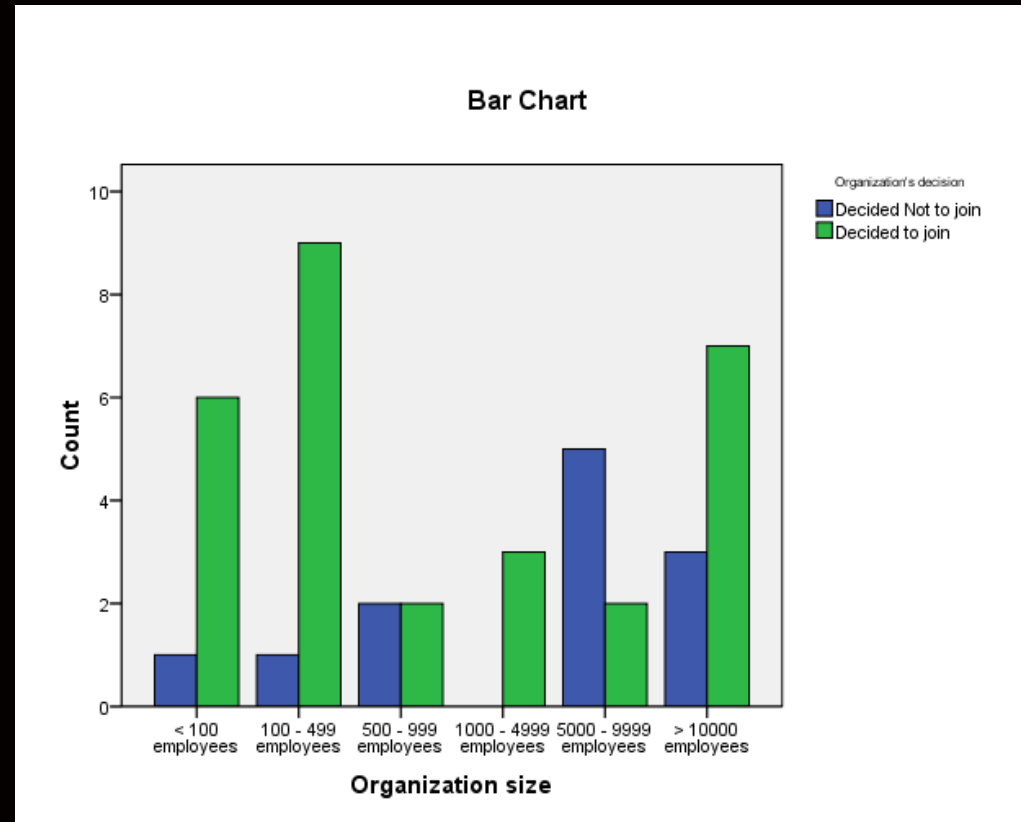


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Correlation for size
X number involved
in the decision:

$$r = .19, p = .239$$

Organization size as single
predictor of organization's
decision



Variables in the Equation

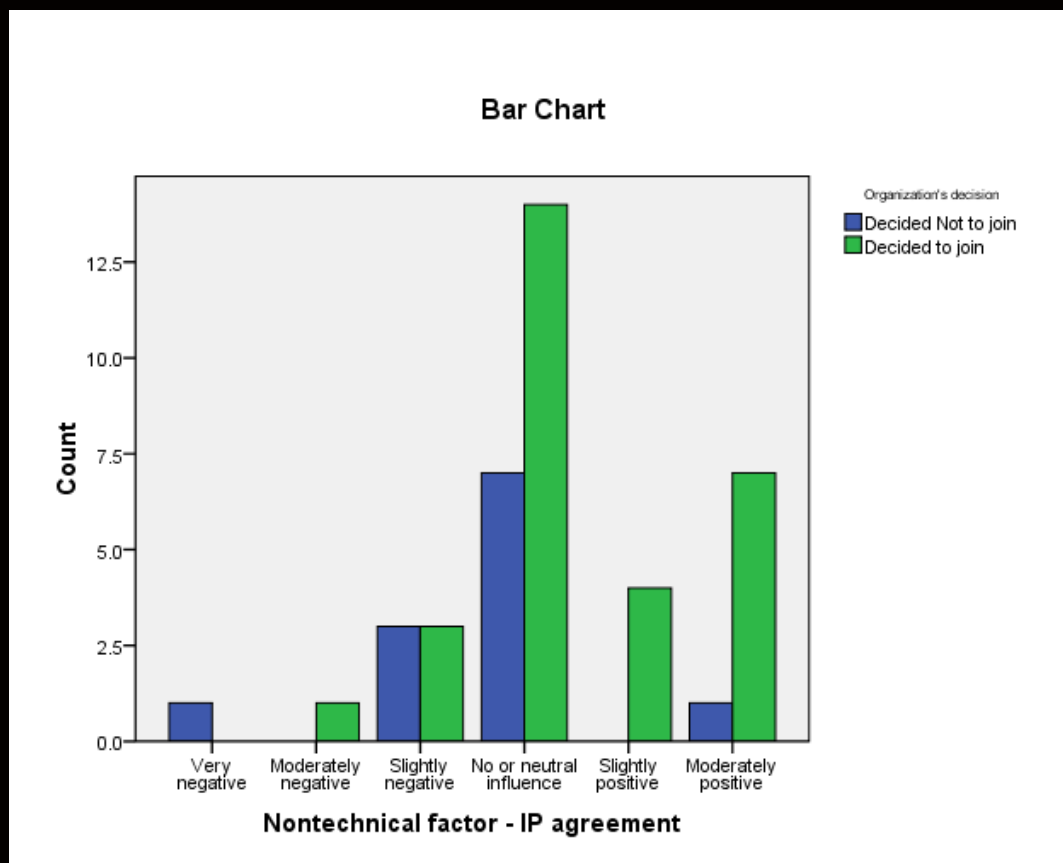
		B	S.E.	Wald	df	Sig.	Exp(B)
Step	q31	-.321	.195	2.698	1	.100	.726
1 ^a	Constant	2.100	.864	5.916	1	.015	8.170

a. Variable(s) entered on step 1: q31.

IP Agreement



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From the Interviews

“We’ll we’re on the side that we’re very protective of our IP content. And we’re very selective of the type of work we disclose to a university... We never really participated to any great extent in any of the general topics [at the Center], mostly hold a neutral stance to all those projects... We would prefer the ones which we would have a specific need, we would work directly with the university.” (Case 10)

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	q20a	.679	.366	3.444	1	.063	1.972
	Constant	-1.876	1.486	1.593	1	.207	.153

a. Variable(s) entered on step 1: q20a.

IP Agreement as single predictor of organization’s decision

Perceived ROI * Decision

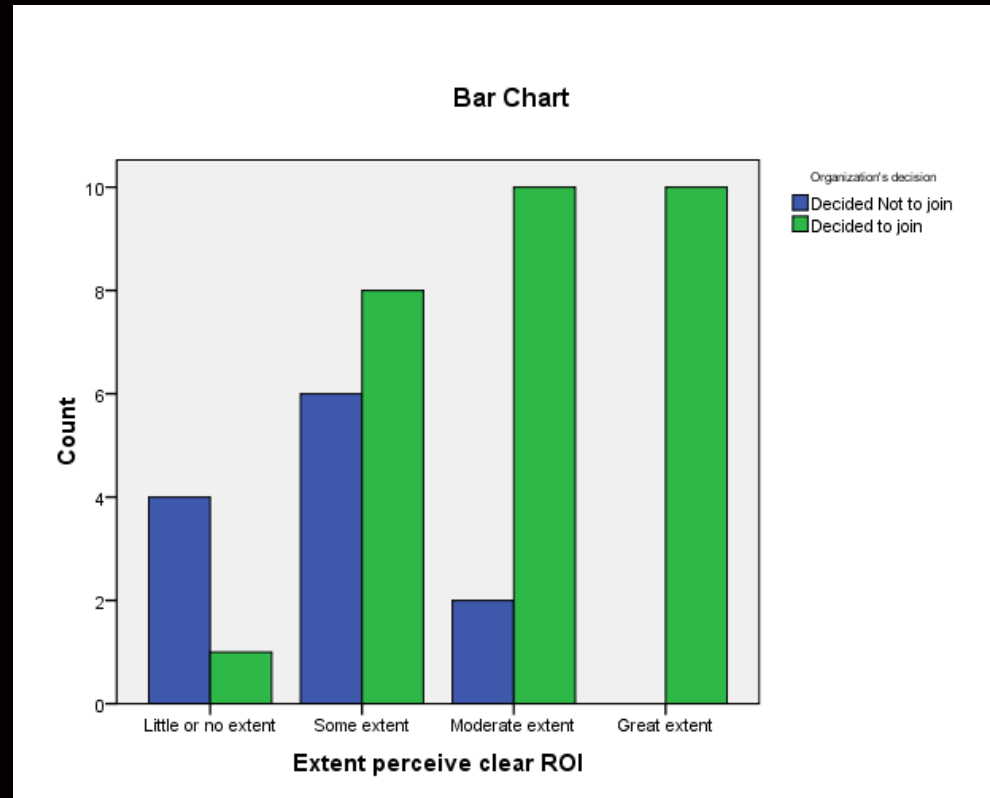


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From the survey

“No clear ROI. In fact, it seemed we would be investing time and money with little or no return.”

- non-joiner



Extent of perceived ROI as
single predictor of
organization's decision

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step	q17	1.688	.585	8.331	1	.004	5.407
1 ^a	Constant	-3.136	1.343	5.451	1	.020	.043

a. Variable(s) entered on step 1: q17.

Research Questions cont'd

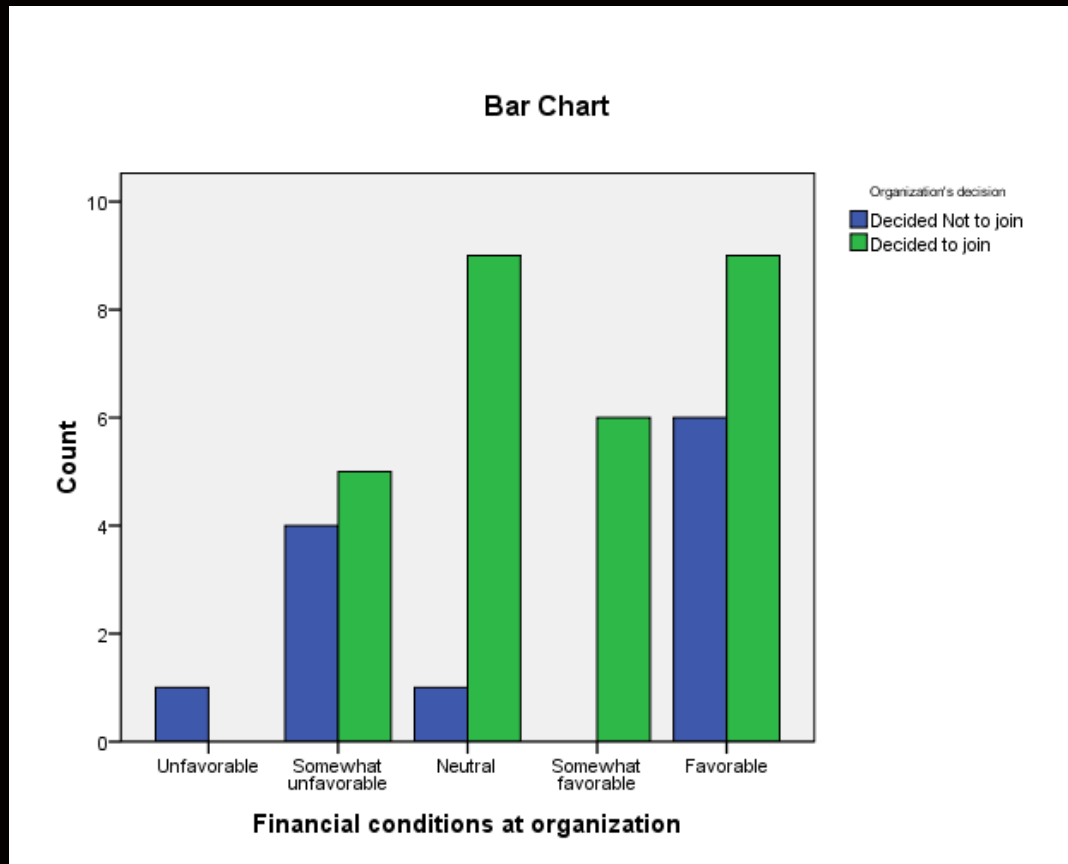


- (3-4) To what extent do the following variables influence decision outcomes in organizations considering membership in university-based CRCs?
 - Sub-organizational
 - » Financial health
 - » Open climate for innovation
 - » Triggers – execs, partners, proactive search
 - » Absorptive capacity
 - » Decision complexity (-)
 - » Antagonists (-)
 - Individual
 - » Personal recommendation
 - » Experience
 - » Champion qualities

Budget/Financial Conditions



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From the survey

“We need more time for our management to fully understand all the benefits. We also need our business levels to improve, and we will need to plan for membership in our budgeting process.”

- non-joiner

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a q38	.099	.275	.131	1	.717	1.105
Constant	.526	1.033	.260	1	.610	1.693

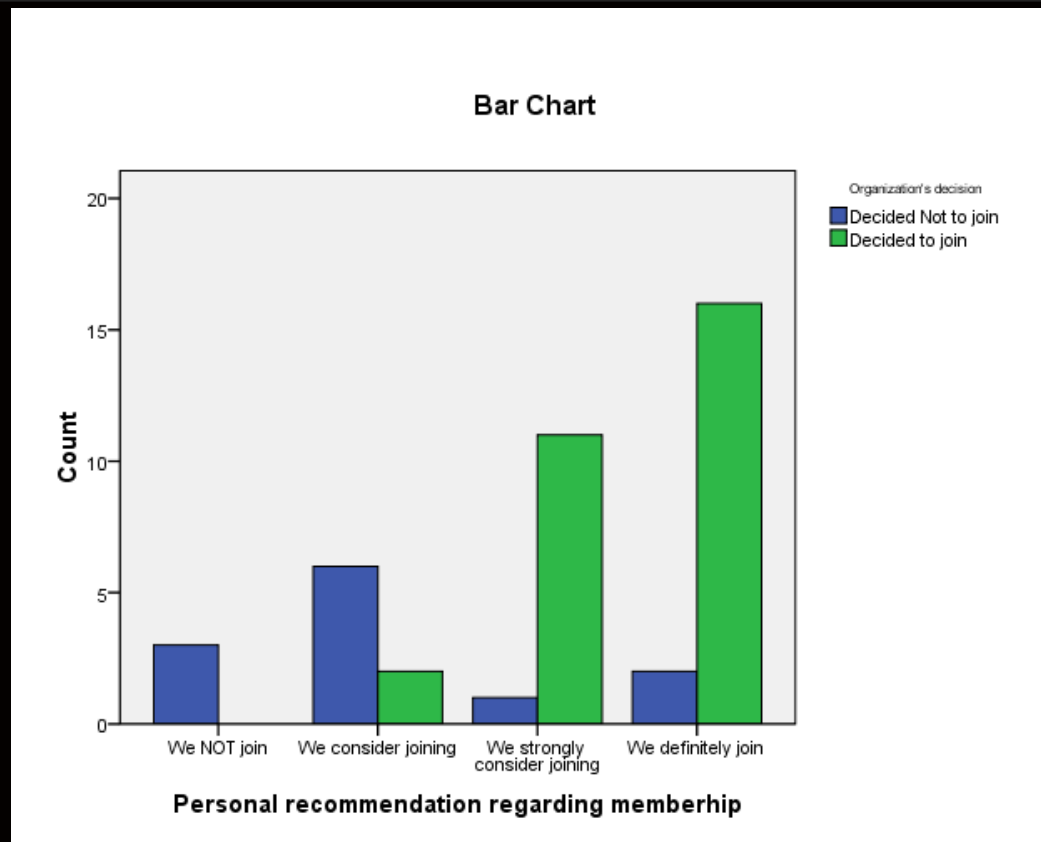
a. Variable(s) entered on step 1: q38.

Financial Conditions as single predictor of organization's decision

Respondent Recommendation



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From the survey

63% reported to always need higher level financial approval. Others could approve from \$2,500 up to \$1M, with a median budget authority of \$25,000.

Variables in the Equation		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	q9	1.820	.567	10.309	1	.001	6.171
	Constant	-4.344	1.615	7.235	1	.007	.013

a. Variable(s) entered on step 1: q9.

Respondent's recommendation as single predictor of organization's decision

Absorptive Capacity

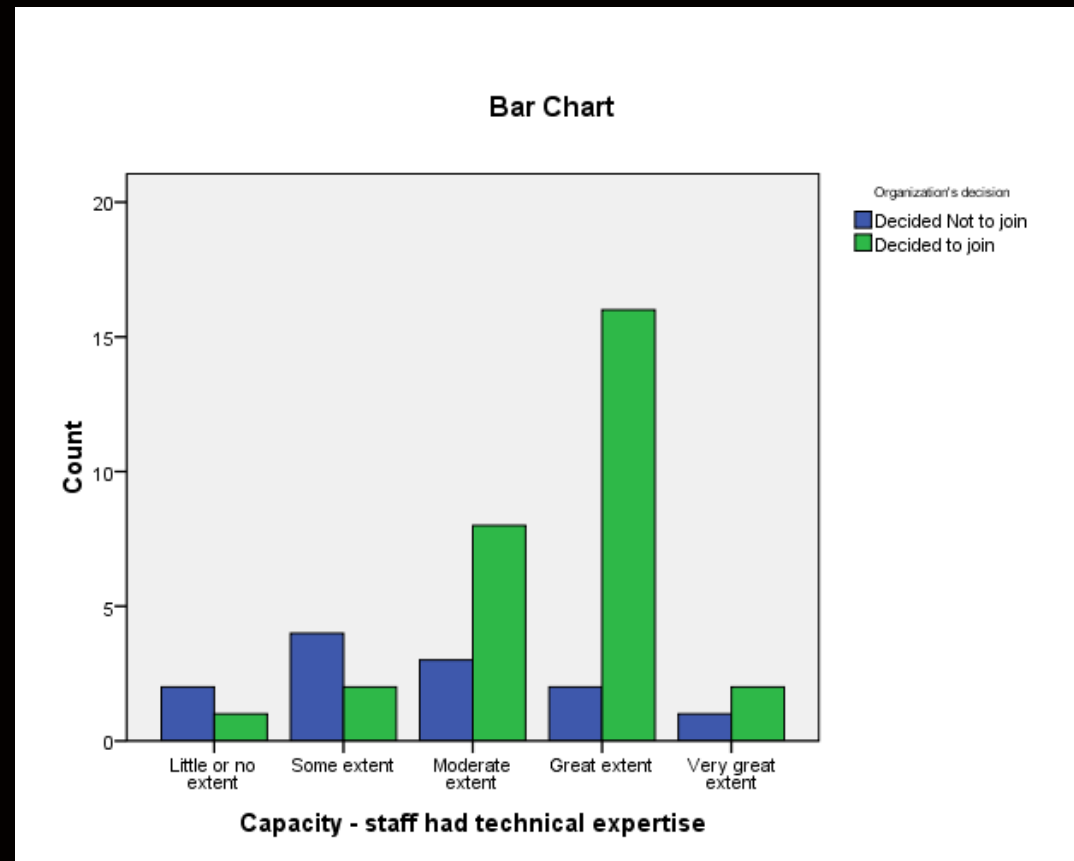


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From the interviews

“One reason is financial, basically the budget reason, and the other would be technical. I think we... 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 totally utilize their output.” (Case 6)

**Technical expertise
(absorptive capacity) as
single predictor of
organization's decision**



Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step	q30a	.853	.371	5.283	1	.022	2.346
1 ^a	Constant	-1.794	1.184	2.295	1	.130	.166

a. Variable(s) entered on step 1: q30a.

Research Questions cont'd



- (5) What variables at what level have the greatest influence on decision outcomes, after controlling for industry and organization level factors?
- (6) To what extent does the decision process vary across organizations?
 - Decision complexity
 - Involvement
 - Champions and antagonists
 - Location/ Level of sponsors
 - Importance of perceived center attributes (technical and non-technical)
- (7) Explore path models

Unique Effects from Different Levels



- Membership decision =
 - ∅ Gatekeeper recommendation (q9)
 - ∅ Perceived ROI (q17)
 - ∅ Absorptive capacity (q30a)
 - ∅ Organization size (q31)

		Variables in the Equation					
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	q9	1.627	.748	4.731	1	.030	5.090
	q17	1.053	.725	2.108	1	.147	2.866
	q30a	1.052	.693	2.305	1	.129	2.864
	q31	-.481	.329	2.143	1	.143	.618
	Constant	-8.125	3.646	4.967	1	.026	.000

a. Variable(s) entered on step 1: q9, q17, q30a, q31.

Decision Complexity



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To what extent do these statements describe your organization's decision process for joint research like that involving the center?

Item	Mean*	Std
a. Multiple or escalating levels for reaching a decision	2.71	1.146
b. Obtaining funding support from multiple departments or budgets	2.20	1.346
c. A primary focus on demonstrating ROI (return on investment)	2.66	1.257
d. Competition for funding from other individuals or groups in your organization	2.37	1.392
* 1=little/no extent, 5=very great extent		
Number of individuals with at least some influence in the decision regarding center membership	4.44	2.775

Possible Path Model



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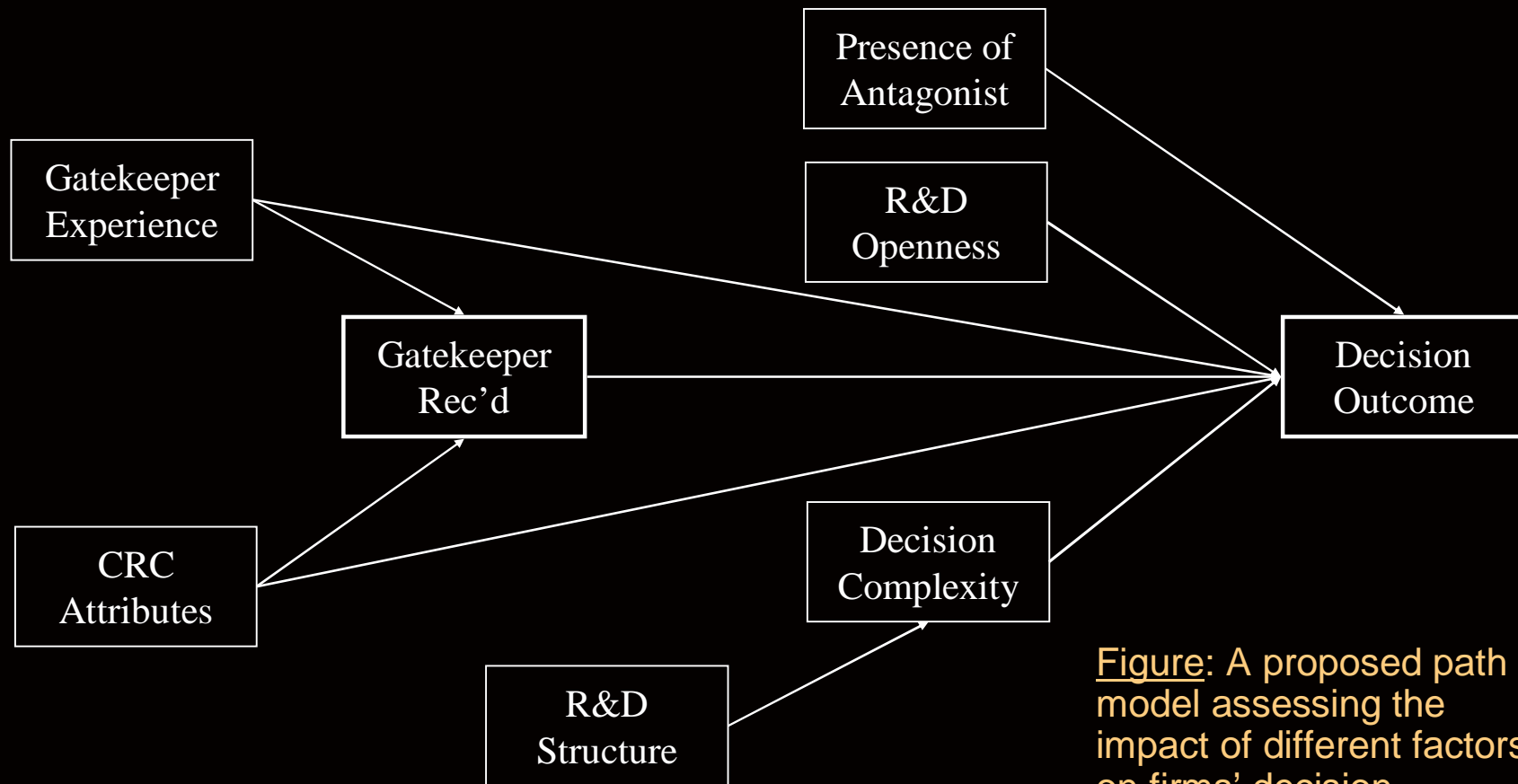


Figure: A proposed path model assessing the impact of different factors on firms' decision outcomes

Critical Acclaim



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- From the optional comments
 - *“Excellent study. Need participation/ funding models that focus on collaboration rather than up-front cash.”*
 - *“Very well thought out questions. Looking forward to getting the results.”*
 - *“Well thought-out”*

Final Steps



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- Finish data collection (> 100 responses)
- Data analysis and discussion
- Defense! (early Fall 2008)