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# An Analysis of Preliminary Results of an IRMQ Survey of Triple Helix Practices in China, Japan, Singapore and the U.S

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# IRMQ Analysis Overview

- Purpose
- Survey design
- Overall statistics
- Summary of project data
- Summary of PI data
- Summary of Researchers' data
- Selected regression results

# IRMQ Survey Purpose

- The Innovation Research Model Questionnaire Survey
  - Reflects a broad perspective (six locales)
  - Reflects seven helix configurations
  - Measures the **impact** of collaboration on innovative research

# Seeking Answers

- Key questions
  - What is the prevalence of triple helix research?
  - Does triple helix research improve prospects for innovation?
  - What is the impact of triple helix research on innovation?

# IRMQ Survey Design

- Surveys for Academia, Industry, Government research projects
- Six locales
- Seven helix configurations
- English, Japanese, Chinese
- Respondents recruited by Institute's Community of Practice Members



# Overall Summary Statistics

Categories	Overall Project	Principal Investigators (Pis)	Research Team Members
Number of respondents	37	37	25
Helix types	37	37	25
Academia	19	19	14
Industry	5	5	4
Government	13	13	7
Languages	37	37	25
English	21	21	17
Japanese	2	2	2
Chinese	14	14	6
Locales	37	37	25
California	3	3	1
China	17	17	6
Hawaii	8	8	9
Japan	2	2	2
Singapore	4	4	6
Washington	3	3	1



# Summary of Research Projects' Characteristics

Key research project features	Statistics
Average research grant award amount (dollars)	\$1,298,530
Average facility size (sq ft)	1,242
Percentage of facilities that expanded during project	28.21%
Percentage of projects that received commendations	10.26%
Percentage of projects that applied for additional funds	41.03%
Percentage of projects that generated Intellectual property	61.54%
Percentage of projects involved in collaborative research	69.23%
Average distance to most important collaborator (miles)	1,006



# Summary of PIs' Data: Collaborations

Collaboration with academic institution		
Yes	23	62.2%
No	14	37.8%
Total	37	100.0%

Collaboration with industry institution		
Yes	19	54.3%
No	16	45.7%
Total	35	100.0%

Collaboration with government institution		
Yes	9	26.5%
No	25	73.5%
Total	34	100.0%

Collaboration with 3 Helix institutions		
Yes	15	41.7%
No	21	58.3%
Total	36	100.0%





# Summary of Research Team Members' Data: Collaborations

Collaboration with academic institution		
Yes	16	64.0%
No	9	36.0%
Total	25	100.0%

Collaboration with industrial institution		
Yes	14	56.0%
No	11	44.0%
Total	25	100.0%

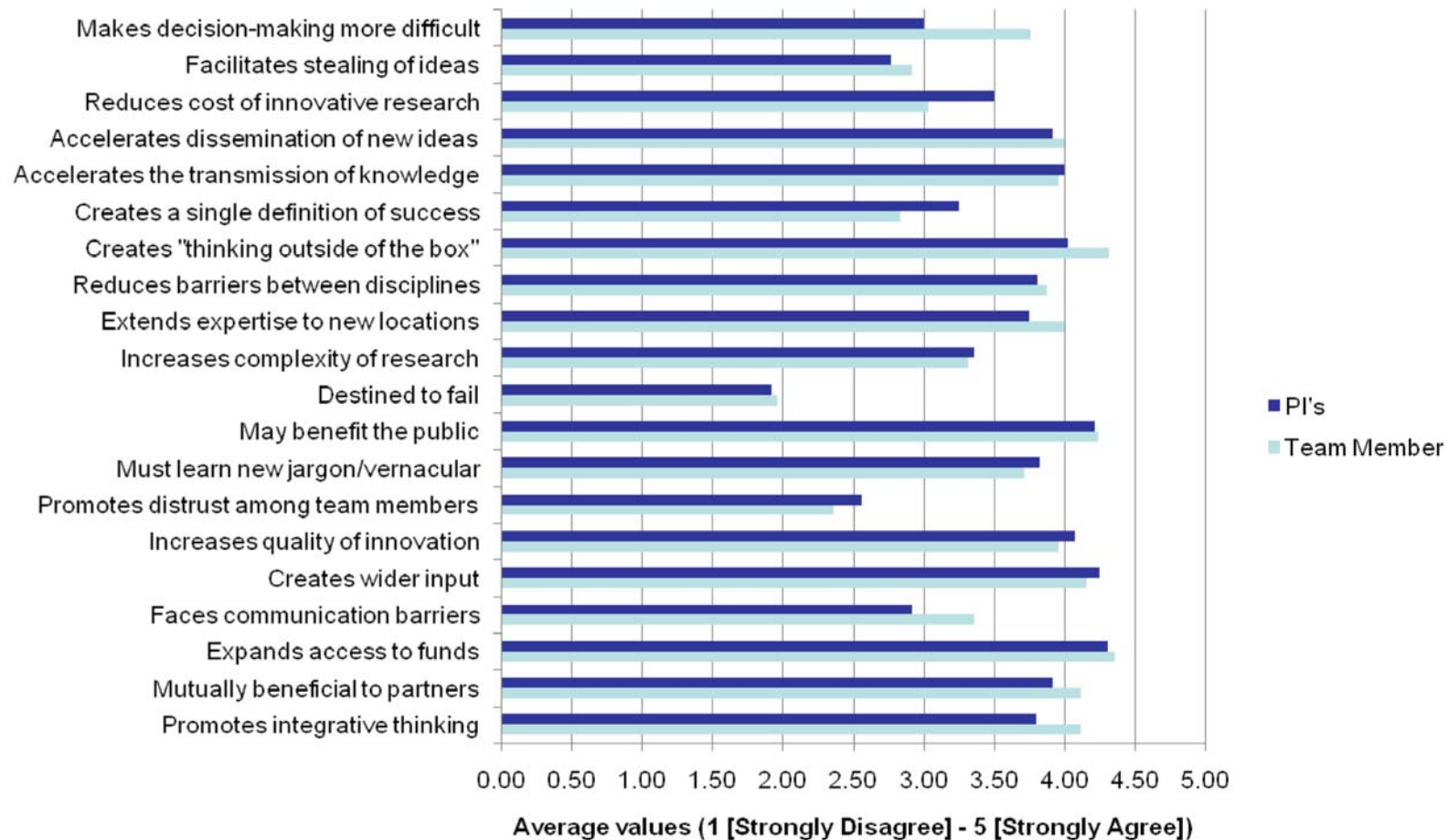
Collaboration with governmental institution		
Yes	8	32.0%
No	16	64.0%
Total	25	100.0%

Collaboration with three helix institutions		
Yes	9	36.0%
No	15	60.0%
Total	25	100.0%

# PI's and Team Members' Thoughts on Collaboration

## Strength of Agreement Concerning Triple Helix Research Collaboration: PI's versus Team Members



# OLS Regression Results: Developed IP (Yes/No) is the Dependent Variable

OLS Regression	Parameter estimates	T-values	Parameter estimates	T-values
Intercept	0.89165	1.61		
Total Budget	0.04788	0.82	0.10551	2.21
Duration	-0.1915	-1.56	-0.15397	-1.24
Research facility size	-0.02289	-0.6	-0.1975	-0.5
Facility expanded	0.16337	0.95	0.13644	0.77
Received awards	0.408	1.48	0.36433	1.29
New grant applications	-0.41034	-2.41	-0.41034	-2.35
Collaboration present	-0.06632	-0.34	-0.02242	-0.11
Collaborators distance	0.01522	0.56	0.01656	0.59
F-Values	1.47		9.77	

# Logit Regression Results: Developed IP (Yes/No) is the Dependent Variable

	Parameter estimates	T-values	Parameter estimates	T-values
<u>Logistics Regression</u>				
Intercept	-3.0196	-0.8773		
Total Budget	-0.2892	-0.9096	-0.4316	-2.5873
Duration	1.3298	2.7154	1.0346	2.2291
Research facility size	0.159	0.5209	0.1401	0.4344
Facility expanded	-1.0915	-0.9839	-0.8405	-0.7004
Received awards	-12.0849	-0.0029	-12.8077	-0.0013
New grant applications	2.4421	5.2084	2.2898	5.0396
Collaboration present	0.4515	0.1827	0.329	0.1031
Collaborators distance	-0.0849	-0.3747	-0.0986	0.5092
Likelihood Ratios	13.6807		16.0445	



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Second Annual

# Triple Helix Summit

February 2 – 5, 2008

Sheraton Waikiki Hotel  
Honolulu, Hawaii