

Leveraging University Partnerships to Build Life Science Commercialization Teams

Steven C. Currall, Ph.D.

*William and Stephanie Sick Professor of Entrepreneurship
Associate Professor of Management, Psychology, and Statistics
Founding Director, Rice Alliance For Technology and
Entrepreneurship
Rice University*

10 November 2004

**An Example of a Four-Institution Consortium
Promoting Entrepreneurship Education,
Research, and Life Science Company
Formation:**

**The “Rice University - Texas Medical Center
(RTMC) Alliance For Technology and
Entrepreneurship”**

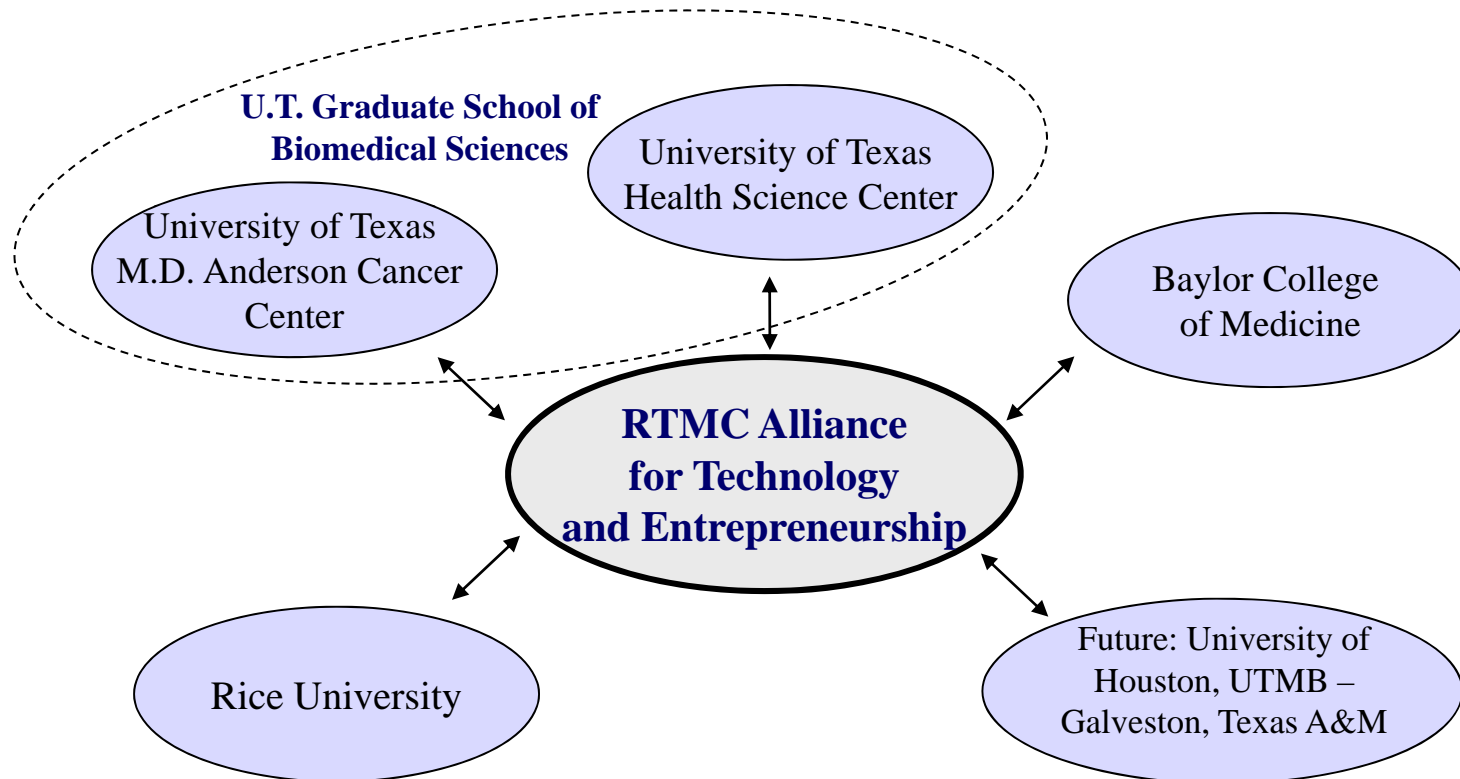
Extending an Existing Single-Institution Program: Rice University Alliance for Technology and Entrepreneurship

- Assisted in the launch of >150 new technology businesses during first four years of operation.
- Alliance-affiliated companies have raised over \$100 million in equity capital.
- Hosted over 12,500 attendees at Alliance educational events.
- Fourth annual Rice University Business Plan Competition: Graduate student teams from 34 universities, \$42,500 in prize money, 110 judges from the entrepreneurship and venture capital communities.
- Email “Digest” is received by 11,000 subscribers.

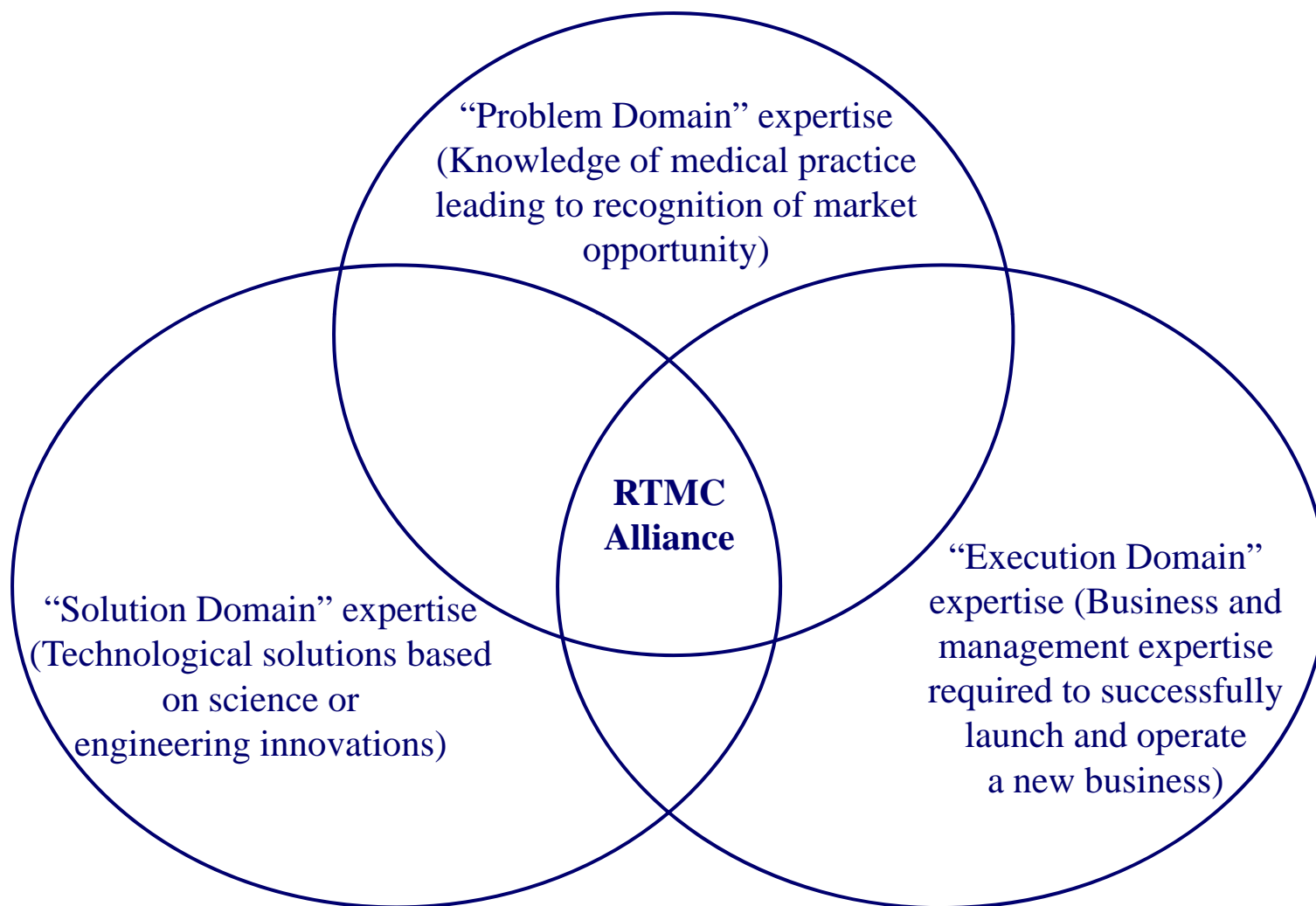
The Multi-Institution Rice - Texas Medical Center (RTMC) Alliance: Vision and Mission

- Vision: A consortium to create one of the world's leading hubs of innovation in science, medicine, and engineering.
- Mission: (1) Provide education to scientists, engineers, and medical professionals regarding how their discoveries can have a beneficial impact on society (this involves knowledge of the commercialization process), (2) conduct world-class research on the commercialization of technical innovations, and (3) **facilitate the formation of multi-disciplinary teams** that lead to formation of early-stage technology companies.

Collaborating Institutions



RTMC Alliance Promotes Formation of Multi-disciplinary Teams Capturing Expertise in Three Domains



Four Collaborating Institutions Have Complementary Assets

	Expertise in the “Problem” domain	Expertise in the “Solution” domain	Expertise in the “Execution” domain			
	Clinical Practice Areas	Basic Sciences	Engineering	Business School	Tech Transfer	Seed Funding
Rice University		Multiple	Multiple	✓	✓	
Baylor College Medicine	Multiple	✓			✓	✓+
M.D. Anderson Cancer Center	Multiple	✓			✓	✓
U.T. Health Science	Multiple	✓			✓	

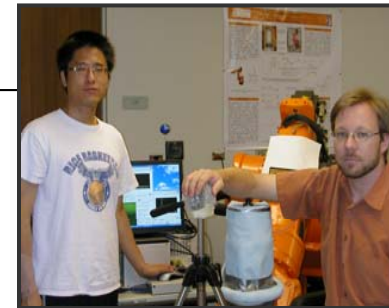
A Start-up Success Story Based on Collaboration Among the Institutions



- BioSonic, Inc. was formed in April 2004 upon the execution of an exclusive license with Rice University to commercialize acoustic technology
- The technology was developed by the director of Rice University's computational biomechanics laboratory, Dr. Michael Liebschner
- The technology utilizes acoustic waves, a patented sensor device, and recognition software to accurately determine bone density
- This methodology offers significant advantages over existing radiological diagnostics; it is more accurate and measures a bone's true structural integrity
- The technology will revolutionize the diagnosis of bone diseases, such as osteoporosis, and detection of fractures

Milestones and Achievements

- Developed working prototype devices
- Multiple experiments completed on cadavers & live subjects to validate the technology -- work carried out in collaboration with institutions in the Texas Medical Center
- Patent application to protect the technology
- Grand Prize Winner at NASA's annual Tech Briefs device competition, out of over 3,000 international applicants -- \$25,000 award



Initial prototype device



2nd Generation device



What Are Central Challenges Involved in Multi-University Collaboration?

Strategic Dilemmas and Challenges...

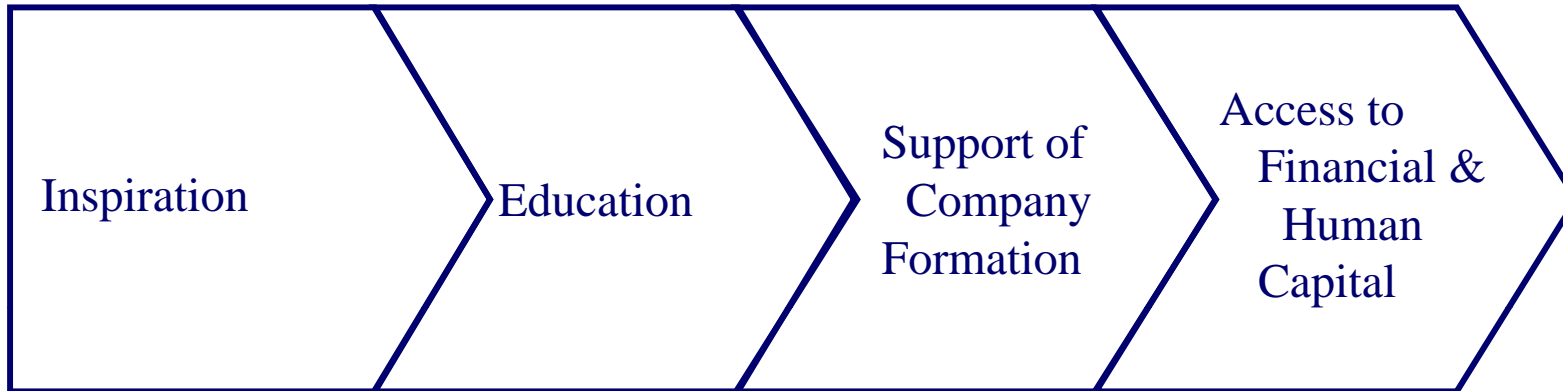
- Picking a counterpart institution as a partner:
 - “Birds of a feather flock together?” Or, “opposites attract?”
Should the focus be on similar or complementary resources?
 - Do the institutions share a common vision for collaboration?
 - Do the institutions share equal enthusiasm for the collaboration?
- Securing support? “Bottom-up” or “top-down?” In other words, start with chief executives? Or, with faculty boundary spanners?
- Stipulating financial outcomes: How to split the pie?
- Stipulating non-financial outcomes: Agreement on programmatic metrics?

Implementation Challenges...

- Inter-disciplinary challenges such as among science, engineering, business, and medicine
- Inter-occupational challenges such as between professors, administrators, physicians, business persons, investors
- Communication challenges associated with collaborations that span geographical distances: Cities? States? Countries?
- Challenges associated with different stakeholder groups?
Institutions with different rank ordering of importance of various stakeholder groups? Different budgetary procedures and calendars?
- Do boundary spanning individuals (e.g., faculty members) have the “bandwidth” to launch and develop the program? What about leadership attrition from stress-induced heart attacks!?!?

RTMC Framework for Education and Commercialization

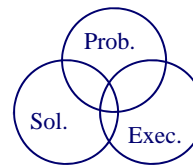
Laboratory $\xrightarrow{\hspace{15em}}$ Product



Distinguished Lecture Series on the positive impact on society of science, medical, and engineering discoveries. Inspirational case studies (i.e., role models) of academic researchers whose discoveries had a great impact on society “Civic Scientists”

Example: Two-day, National Science Foundation course on commercialization and company formation. Understanding the “problem” and “solution” domains. What is the appropriate role for academic researchers in commercialization of their research discoveries? Stay on academic career!

What are the steps in company formation? What resources does the institution provide to foster formation of companies to ensure that research discoveries benefit society? Initial management talent, IP protection, etc.



Once a company has been formed how to get access to seed money and mgmt talent? This is company building. Involvement of BioHouston: Forums for mature companies seeking A or B round \$

