Why University-Industry Partnerships Matter and How to Benefit from them

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Why Partner?
Collaboration – why it matters???

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Humans: Why They Triumphed

How did one ape 45,000 years ago happen to turn into a planet dominator? The answer lies in an epochal collision of creativity. By Matt Ridley

By MATT RIDLEY

Human evolution presents a puzzle. Nothing seems to explain the sudden takeoff of the last 45,000 years—the conversion of just another rare predatory ape into a planet dominator with rapidly progressing technologies. Once “progress” started to produce new tools, different ways of life and burgeoning populations, it accelerated all over the world, culminating in agriculture, cities, literacy and all the rest. Yet all the ingredients of human success—tool making, big brains, culture, fire, even language—seem to have been in place half a million years before and nothing happened. Tools were made to the same monotonous design for hundreds of thousands of years and the ecological impact of people was minimal. Then suddenly—bang!—culture exploded, starting in Africa. Why then, why there?

The answer lies in a new idea, borrowed from economics, known as collective intelligence: the notion that what determines the inventiveness and rate of cultural change of a population is the amount of interaction between individuals. Even as it explains very old patterns in prehistory, this idea holds out hope that the human race will prosper mightily in the years ahead—because ideas are having sex with each other as never before.

The more scientists discover, the bigger the evolution puzzle has become. Tool-making itself has now been pushed back at least two million years, and modern tool kits emerged very gradually over 300,000 years in Africa. Meanwhile, Neanderthals are now known to have had brains that were bigger than ours and to have inherited the same genetic mutations that facilitate speech as us. Yet, despite surviving until 30,000 years ago, they hardly invented any new tools, let alone farms, cities and toothpaste. The Neanderthals prove that it is quite possible to be intelligent and imaginative human beings...
Collaboration – why it matters???

COLLECTIVE INTELLIGENCE

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Who is doing research??

Despite previous spills, oil cleanup research falls short

Updated 1 hour ago

By Julie Schmit, USA TODAY

BAD CEMENT: A frequent problem.

That lack of attention, research and investment by government and industry may seriously handicap efforts to clean up a spill that now threatens Gulf of Mexico shores and waters from Louisiana to Florida, given that, in most spills, far less than half of the spilled oil is ever recovered.

“We failed at preventing the spill. Now, we’re failing in the response simply because we’d never gotten ready,” says Richard Charter, oil spill expert for conservation group Defenders of Wildlife. “Nobody has invested in these technologies.”

Federal funding for oil spill research was cut in half between 1993 and 2008, falling to just $7.7 million in fiscal year 2008, data from the Congressional Research Service show. Federal legislation introduced last year to bolster oil spill research has yet to pass. And oil companies have invested “little to no” money on spill response technologies, concentrating instead on oil exploration and spill prevention, says Robert Peterson, a consultant to the oil and gas industry at Charles River Associates.

Last year, Douglas Helton of the National Oceanic
Who is doing research??

British energy giant BP, doesn't "specifically research" oil spill response technologies itself, says spokesman Robert Wine. Instead, it supports industry resources, including organizations set up to respond to oil spills, such as Virginia-based Marine Spill Response.

Later in same story.....

But while Marine Spill stations oil spill equipment at 78 locations and has an annual budget of about $80 million, it has no budget for research......
So why exactly do **strategic** U-I collaborations matter to universities??

- Faculty/Researcher Retention & Recruitment
- Student Recruitment & Job Placement
- Make your community more attractive for industry – Richard Florida/Michael Porter
- Patient Benefits – access to experimental drugs, devices, & therapies via clinical trials, & latest, approved treatments
- Reputation
- Philanthropy
So why exactly do strategic U-I collaborations matter to companies?

- Workforce Development
- Expertise - Access world class talent
- Access to large pool of potential subjects
- Facilities/specialized equipment
- Licensing

- Only 7% of licensed-in technologies were ready for practical or commercial use (Thursby & Thursby)
Why should start ups work with universities?

- Access to intellectual capital
- Access to specialized equipment
- Source of new IP that can result in wealth creation
- Enhanced grantsmanship
Recent Trends

- Increasing use of government incentives
  - Domestically – Scripps Florida, Albany Nano
  - Internationally – MASDAR
- Targeted, Venture Philanthropy
  - Cystic Fibrosis Foundation
  - Gates Foundation
Logical Partners

Different Partners
Different Roles
Require Different Strategies

Nat’l Labs
State/Local Gov’ts
Other companies
Non-profits

You
Guiding Principles for Successful Partnerships

- Support the mission of each partner
- Remove transactional barriers
- Focus on fostering appropriate, long term partnerships
The Partnership Continuum

Levels of Engagement Activities

- Awareness
  - Career Fairs
  - Interviews
  - EDU Account

- Involvement
  - Industry Affiliates/Advisory Program
  - Research Grants
  - Internship/Co-op
  - Software Grants

- Support
  - Student Consultant
  - Hardware Grants
  - Curriculum Dev/ABET Support & Fundraising
  - Workshops/Seminars
  - Support Contract
  - Student Organizations Sponsorships
  - Philanthropic Support
  - Guest Speaking/Lectures

- Sponsorship
  - University Initiative Sponsorship
  - Undergraduate Research Program Support
  - Graduate Fellowships
  - Collaborative Research Program Report
  - Outreach Programs
  - Support for Proposals for Education (NSF, NASA, etc.)
  - BETA Programs

- Strategic Partner
  - Executive Sponsorship
  - Joint Partnership
  - State Education Lobbying
  - Major Gifts
  - Business Development

Traditional Engagement

Holistic Engagement

KEY
1=Recruiting
2=Education Sales
3=UR Account Managers
4=UR Programs
5=UR Research
6=Other (Philanthropy, Alumni, Executive)

How do you leverage these diverse activities???

Courtesy of Wayne Johnson
Lots of ways to partner......

Courtesy of Wayne Johnson
Where to Partner?
Michelin - Networks of Innovation

(Subjects toward the exterior are more desirable for joint R&D)

Courtesy - Rod Bailey
The Challenges
Who do you partner with???

- Vice President
- SPA
- IP
- Econ Dev
- Incubators
- CTO

- Corp/Foundation Relations
- President’s Office
- Boards

Other
- Legal Counsel
- CFO/Business Services
- Career Services
- Auxiliary Services

Academic Affairs
- Colleges
- Departments
- Faculty
- IABs

Research

Advance-ment

One Stop Shops
The Challenge of Partnering – Different Currencies

Universities

Education of Students
Creation of Knowledge
Dissemination of Knowledge

Core Missions

Industry

Create Value for Investors
Provide Useful Goods/Services
Expand State of the Art

Create Value for Investors
Provide Useful Goods/Services
Expand State of the Art
Faculty – *Possess distinct interests*

- Faculty run small business ($250k to >$1M) with significant soft money, annual burn
- Industry funding (even for mundane projects) may be critical for running business
- Many view IP as “distraction” to building partnerships
- May be only party to know *the whole story*
- Access to proprietary information & materials
- Desire to create start-ups and be at helm

*Don’t assume that faculty represent the university...*
Barriers are real but can be overcome

• **Conflict of Interest**
• Different Speeds/Urgency
• Openness/Confidentiality
• Cultural
• Management of expectations
• Inconsistent messages on importance
The Rest of the World
Improvement in I-U Partnership in Japan

# of Joint Researches between Industry & National Univ.

Over 13,000 in 2007

Less than 3,000 in 1998
Germany – a more comprehensive approach???
In Summary

• More companies are focusing their resources on long term partnerships with fewer institutions
• Universities possess tremendous assets & can help companies achieve their objectives
• Develop a strategy for how to maximize these relationships - strategic not reactive
• Small Businesses can benefit from thoughtful engagement with universities and companies
• Find who can say yes at the partnering institution
Who we are ... what we do
We are your peers & your partners
The UIDP Today

Universities spending more than $16B on R&D

Companies with a market cap of more than a trillion dollars
UIDP Strategic Partners
Relationship with Other Associations

Strategic Relationships - Partner as appropriate
UIDP Mission

Enhance environment for University-Industry research collaborations & promote US competitiveness

How we do this

Projects & Demonstrations
Successful projects & demonstrations are at heart of what UIDP seeks to accomplish on behalf of its members.

* Sponsored Programs Agreements

THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine
UIDP Projects - Progress

- Early Stage Tech Screening
- Industry Survey
- Local Workshops
- Niche Agreements
- Funding Webinars
- Corporate RFP
- Partnership Continuum
- Negotiation Workshops
- TN/Contract Accords

1 – Ideation
2 – Under Development
3 - Approved/In Progress
4 – Demonstration
5 – Closed
Additional Projects Under Consideration

- Conflict of Interest
- Strategic Collaborations
- Faculty primer on working with industry
- Industry scientist primer on working with universities
- Clinical Trial/Translational Research
Closing thoughts – I

Patients & public benefit when physicians & researchers collaborate with pharmaceutical, medical device, & biotechnology companies to develop products that benefit individual & public health.

Opening Sentence in Conflict of Interest in Medical Research, Education, and Practice – Institute of Medicine (2009)
"Innovation has nothing to do with how many R&D dollars you have. ..........It's not about money. It's about the people you have, how you're led, and how much you get it."

-- Fortune, Nov. 9, 1998
And yet....

Failing to collaborate and be more “open” led to
Is history about to repeat?
IBM – New Initiative

IBM Global Entrepreneur

Looking for global entrepreneurs who want to build a smarter planet

We know that working together can drive change. With the world becoming more instrumented, interconnected, and intelligent, now is the time to use technology to address many of today’s societal challenges.

We designed IBM Global Entrepreneur to help you build your start-up business around the smarter planet market opportunity and to provide support and resources in the areas you need the most.

IBM is uniquely positioned to help you because of the depth of our resources, global reach, and in-depth knowledge and experience with the world’s largest enterprise customers. Let’s work together to make our planet smarter.
Congratulations

In Depth: America's Most Innovative Cities

No. 15: Albany, N.Y.
Tech and science jobs: 15
Creative jobs: 28
Patents per capita: 11
Venture investment per capita: 47
The Challenge

Treading water means losing ground!!
Accelerating Innovation:
System-level Strategies
for University-Industry Collaboration

The Fall 2010 meeting of the University-Industry Demonstration Partnership (UIDP) will highlight broad-based strategies where corporations, universities, government agencies and others are combining efforts to foster innovation. A featured initiative will be the collaboration between the 17 public institutions of the University of North Carolina and IBM to create and advance new approaches to innovation development and transfer. Join us to learn more about this and other unique partnerships and shared visions for accelerating economic and social impact.

University-Industry Demonstration Partnership Meeting
October 4-6, 2010
in Charlotte, North Carolina

Lead Hosts:
The University of North Carolina
IBM

http://sites.nationalacademies.org/pga/uidp
Thank you ...

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