Improving research productivity, collaboration, commercialisation and impact

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Improving research productivity, collaboration, commercialization and impact

Innovation Growth Lab 2019
Henry Sauermann, ESMT Berlin
What makes scientists and engineers tick?

- Economic vs. psychological perspectives
- Motivation crowding out?
- Links to creativity and productivity

Our research

- 1,700 PhD scientists and engineers in firms
- Patent applications over 5 years
- Findings
  - Motives related to challenge, independence, (money) → positive
  - Motives related to security and responsibility → negative
  - Stronger effects in basic/applied research (vs. development)
  - Not mediated by levels of effort – quality of effort?

https://www.perdo.com/blog/intrinsic-motivation/
Academics’ motives to engage in commercial activities

- Academic entrepreneurship: Concerns and hopes
- What are the underlying motives? 2 Simplistic stereotypes

Our research

- 2,000 academics at 160 U.S. institutions
- Patent applications over 5 years

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<th>Life sciences</th>
<th>Physical sciences</th>
<th>Engineering</th>
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<td>Money</td>
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<td>Challenge</td>
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PhD career transitions from academia to startups

- Knowledge wrapped up in a person
- Diverse STEM careers, including entrepreneurship

Our research
- 4,100 STEM PhDs in U.S.
- Motives related to founding or joining startups
- Currently analyzing what happens 3/6 years later
Diversity, motivations, and outcomes

Rem Koning - Assistant Professor, Harvard Business School
Key Points:

1. Women/minorities bring talent and different types of innovation to the table

2. Barriers that female and minorities researchers face in commercialization

3. Potential solutions?

4. Short case studies on how some innovators have overcome these barriers
Lessons from the trenches of academic tech transfer
Charlie Day – CEO, Innovation and Science Australia
Key Points:

1. Understand the many layers of incentives your researchers face: reputational, financial, career (locally & globally) etc

2. Take the time to educate researchers about the process of commercialising an idea

3. Emphasise the role of teamwork, and invest in assembling strong teams
Small Group Discussion:
Divide into smaller groups around a flipchart.

Over the next 20 minutes, discuss the following topics:

• Interventions and incentives your organisation/agency could deploy to get more women/minorities in the innovation pipeline
• Ways to assemble and support strong teams
• Actions your organisation/agency could take to improve research impact given the motivations might drive its scientists/researchers

At 15:15, be prepared to report your group’s ideas. Each group will get 2 minutes to present.
For more on technology commercialization process, check out this free online course from the Laboratory for Innovation Science at Harvard

Launching Breakthrough Technologies

https://www.edx.org/course/launching-breakthrough-technologies