Innovation-Driven Entrepreneurial Ecosystems: Acceleration through Measurement and Policy

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Far too often…

Well-intentioned approaches often end…in the Boulevard of Broken Dreams

Many regional efforts to accelerate through entrepreneurship fail to turn “ideas” into action, or fizzle out after an initial burst of energy and initiative
How can we grow through accelerating innovation-driven entrepreneurial ecosystems?
MIT Regional Entrepreneurship Acceleration Program

Diagram:
- System
- Strategy
- Stakeholders

Arrows connect System to Strategy and Stakeholders, indicating a flow or interaction between them.
Engaging more than 30 regions all over the world...
MIT IDE Ecosystem Framework

Economic Impact
Social Progress

IDE Ecosystem

I-Cap
E-Cap

Cluster Based Comparative Advantage

Foundational Institutions
Alignment between regional comparative advantage, ecosystem capacity, and specific IDE ecosystem priorities

Select Your REAP Strategic Interventions

- Accelerators
- Prizes & Competitions
- Diaspora Networks & Immigration Policy
- Early-stage Capital Approaches
To align stakeholders and policymakers, need for shared understanding…

Can we develop meaningful and actionable (and real-time) metrics for IDE ecosystem assessments?
Measuring Entrepreneurial Quality: A Predictive Analytics Approach

"Digital Signatures" of Growth Potential

Mapping Growth Outcomes onto "Digital Signatures" to estimate quality for all firms
# How do “Digital Signatures” of Start-Ups Predict Growth? (NB: Prediction NOT Casual)

<table>
<thead>
<tr>
<th>Change in the Probability of Growth</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Has Short Name</td>
<td>248%</td>
</tr>
<tr>
<td>Firm Named after Founder</td>
<td>-70%</td>
</tr>
<tr>
<td>Corporation (Not Partnership or LLC)</td>
<td>405%</td>
</tr>
<tr>
<td>Trademark in First Year</td>
<td>501%</td>
</tr>
<tr>
<td>Patent and No Delaware Registration</td>
<td>3,534%</td>
</tr>
<tr>
<td>No Patent and Delaware Registration</td>
<td>4,470%</td>
</tr>
<tr>
<td>Both Patent and Delaware Reg.</td>
<td>19,640%</td>
</tr>
</tbody>
</table>

### Sectoral Controls
- Included

### State Controls
- Included

Guzman and Stern, 2016.
A New View of the Skew

10-Fold Test of Predictive Quality of Model*
Top 1% includes 51% of growth outcomes (range: [49%, 53%])
Top 5% includes 69% of growth outcomes (range: [65%, 72%])
Top 10% includes 75% of growth outcomes (range: [70%, 79%])

*10-Fold analysis of model separates the model into 10 random samples and then uses each of those sample as a test sample. We report the average value as well as minimum and maximum (range) of such.
Entrepreneurial Quality Index (EQI)

Average estimated quality within a group of start-ups

Regional Entrepreneurship Cohort Potential Index (RECPI)

The number of startups within a particular region expected to later achieve a growth outcome

Regional Entrepreneurship Acceleration Index (REAI)

Estimates the ability of an ecosystem to convert entrepreneurial potential into realized growth events.
Address-Level Visualization of Silicon Valley
RECPI / GDP: The State of American Entrepreneurship Over Time

RECPI / GDP shows a sharp raise in potential during the late 1990 followed by a drop (but NOT a collapse) in 2001 and more moderate increase after the Great Recession. Nowcasted Index tracks closely and documents “boom” since 2010.

Peak of dot-com bubble

Great Recession

United States Regional Entrepreneurship Potential (RECPI) by Founding Year
All firms in 15 US states (50.5% of GDP)
Decline in REAI indicates scaling failure for high-quality US start-ups over past 15 years...
Entrepreneurial Quality Has a Strong Relationship to Economic Growth
Potential for Real-Time Policy Evaluation: The US EDA i6 Program

**Change in Entrepreneurial Quantity**

- No changes in quantity

**Changes in Entrepreneurial Quality**

- But an upward (noisy) swing upward in quality around i6 site
Potential for European Entrepreneurial Quality Statistics: The Case of Spain

Entrepreneurial Potential (RECPI) in All Spain Provinces

Measurement as a Driver of Policy and Acceleration

System

Strategy

Stakeholders
The Challenge of Empowering Stakeholders for Systems-Level Change

IDE Ecosystem-led growth is different from traditional economic development approaches.

Collaboration across key stakeholders is crucial for collective impact and acceleration at the ecosystem level.
Shared Metrics and Evaluation Enable Stakeholder-Led Evidence-Based Entrepreneurial Acceleration…

- Setting a Common Agenda
- Shared Metrics & Evaluation
- Stakeholder Engagement & Communication
- Backbone Support Organization

IDE Ecosystem Acceleration
Can we leverage advances in measurement and data to foster innovation and entrepreneurship in the Euro area?
Thanks!!

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