

University Entrepreneurship

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Issue

What are the common features among universities with a strong culture of entrepreneurship and innovation (E&I)? How did the universities develop such cultures?

Summary

As governments around the world seek to drive economic growth through technology-based innovation, they have looked to universities to drive this capacity. Universities like the Massachusetts Institute of Technology (MIT) and Stanford University are leaders in this regard and have long-established ecosystems that drive E&I both within their universities and regions (Boston and Silicon Valley, respectively). But there are many universities that have developed successful ecosystems more recently and are emerging as E&I leaders within their regions and countries. (An entrepreneurship ecosystem refers to the social and economic environment affecting local entrepreneurship.)

This report summarizes findings of a benchmarking study commissioned by the MIT Skoltech Initiative which, among other things, identifies the key features of universities emerging as E&I leaders and the models they used to develop that capacity.

Study Approach

The [MIT Skoltech Initiative](#) commissioned a benchmarking [study](#), conducted between 2012 and 2014, to learn about the conditions and strategies associated with E&I success for universities operating in more challenging environments. The study looked at both those universities with established, highly-regarded E&I capability (e.g., MIT and Stanford University) and those whose

profiles were emerging, often in challenging environments. (These universities are referred to as the “emerging leaders group,” or ELG. American universities studied include the University of Michigan and University of California, San Diego). The study offers insights on (1) how universities can drive and manage an institutional transformation toward a more entrepreneurial model and (2) how university-based ecosystems can be nurtured in cultural, economic, and socio-political environments that might not be naturally conducive to E&I.

The study was conducted in two phases. In phase one, researchers interviewed more than 60 experts with experience in building university entrepreneurship in order to identify the universities with the most highly-regarded E&I ecosystems and characterize their approach. Phase two focused on the ELG, and researchers conducted in-depth case studies to determine the drivers, conditions, change strategies, and barriers associated with E&I development at each university.

Features

In the study, researchers asked experts to identify the factors that they believe influenced the success of universities in the ELG. From those responses, researchers identified six main features, described below in Table 1.

Table 1: Key Features of Universities in ELG

<i>Feature</i>	<i>Description</i>
Well-connected champions	Transition toward E&I focus was due to the drive of two champions within the university — one who established a vision for change (and often had a short tenure) and one whose sustained efforts drove the growth; formal roles varied (e.g., student leader or university president), but champions all valued entrepreneurship and had connections to regional entrepreneurial community
Public endorsement by senior management	Universities were prominent in regional and national strategies for economic growth; university senior management publicly promoted an “emphatic and sustained” message about the importance of university engagement with entrepreneurship
Regional, national, or government support	Universities had received external support, in the form of generous government subsidies and advantageous regional policies, for their ecosystem development; support distinguished by its responsive and flexible nature and sustained presence
Relationships of trust within the regional E&I community	Many in the ELG had to both connect with and unify the local entrepreneurial community, because the existing community was small and highly fragmented; “student energy in entrepreneurship” acted as a conduit between the university and the community, as they came together to “support the next generation of entrepreneurs”

Table 1 (continued)

<i>Feature</i>	<i>Description</i>
Mobilization and drive of the student entrepreneurial movement	Universities' capacity to generate entrepreneurial success is maximized by a student body that is informed, mobilized, and empowered; amongst the ELG, these features were associated with four factors: (1) existing entrepreneurial networks and experiences among the student leadership, (2) direct communication between student leaders and supportive university senior management, (3) dedicated low-level funding for new and on-going activities, and (4) strong sense of dissatisfaction with the status quo, leading to a shared common purpose among the students
Creating a market for university entrepreneurship	Due to limited E&I strengths in their immediate environment, universities sought to create a market for their E&I output by (1) mutually beneficial partnerships with alumni entrepreneurs, (2) establishing a business-facing agency to develop international and industry partnerships, or (3) offering open-access support for entrepreneurial development regardless of university affiliation or nationality

Models of E&I Development

Researchers found that each university in the ELG fell under one of two different development models:

- Bottom-Up (Model A).** Researchers describe model A as “community-led, catalyzed by students, alumni, and entrepreneurs in the regional economy, with a loose IP control.” E&I development at these universities is triggered by a desire to stimulate regional or national economic growth, often in response to economic challenges. Development is driven by university grassroots movement, students, and alumni, and partnerships with the regional community.
- Top-Down (Model B).** Researchers describe model B as “university-led, working through established structures, with a tight IP control.” E&I development at these universities is triggered by desire for income from university research and focused on a strong and ambitious technology transfer office.

Table 2 summarizes the features of each model.

Table 2: Features of ELG Development Models

	<i>Model A</i>	<i>Model B</i>
Initially triggered by...	Regional/national economic constraints, leading to a desire to position the university at the center of a program of regional capacity development, job creation, and ultimately, economic growth.	A desire to “realize income from university research” and increase university revenues.
Initial E&I drive often led by...	A grassroots movement, often driven by students and alumni in partnership with the regional entrepreneurial community.	A strong and successful technology transfer office (TTO) (or equivalent) typically with a clear preference for licenses over startups.
Strategic priorities	The development of the regional entrepreneurial ecosystem, typically focused on technology-based startups, regardless of university affiliation or IP ownership.	To create national and international impact and revenue from the institution’s translational research output. Tight control is exerted over university-owned IP, with a primary focus on inventive research output.
Key features of the emerging ecosystem	Entrepreneurial activities are highly integrated into the regional entrepreneurship community, often acting as a catalyst to bring this community together. The entrepreneurial activities often take root at speed and appear to be associated with significant levels of engagement, trust, and collegiality both outside and within the university. A diverse range of E&I activities is developed, often both innovative and led by students or the E&I community, ranging from low-entry networking opportunities, to E&I development courses/experiences, to one-to-one startup support. This model appears to be more strongly associated with external, often government-linked, funding to support E&I activities.	The university often has established research strengths and growing capabilities in multi-disciplinary applied research with an explicit emphasis on societal and industry benefit. With national research funding increasingly linked to “impact,” such translational research activities are the focus of increasing attention. Almost all E&I activity is associated with the TTO (or equivalent) and the approach developed offers a stable and robust set of E&I processes which provides a strong platform for the university to access international markets. These processes are well-understood and disseminated within the university and are not dependent on the priorities of individual university leaders or “the ups and downs of university life.”
E&I performance metrics employed	Anticipated long-term success metrics include regional employment opportunities, graduate E&I skill base and employability, growth in regional startups and (ultimately) regional economic growth. The universities, however, find short-term success metrics more difficult to identify or measure.	Institutional E&I success metrics are typically focused on licensing revenue and industry-funded research. TTOs will also closely monitor numbers of invention disclosures, patents, startups, and licenses.

Table 2 (continued)

	<i>Model A</i>	<i>Model B</i>
Challenges associated with the ecosystem model	Challenges focus on the extent to which the E&I activities are embedded into the institutional fabric rather than being dependent on the drive and networks of a few charismatic individuals. In consequence, many such universities have invested time and resources in establishing parallel E&I activities within the university itself, to complement the student- or community-led activities. The organic nature of the growth of this E&I model also makes its progress difficult to predict or manage.	The university, believing E&I to be an established strength of the institution, often does not see the need to develop additional entrepreneurial capabilities outside those supported by the TTO (or equivalent). As a result, the university's E&I policies become "synonymous" with those of the TTO, leading to a culture where "only university-protected IP is seen as worthwhile." Such a model risks marginalizing student- and alumni-driven entrepreneurship, and integration with the regional entrepreneurial community is often very limited.

Source: [Creating University-Based Entrepreneurial Ecosystems: Evidence from Emerging World Leaders](#), Table 1, p. 41

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