

Achieving Growth Through Strategic Innovation

Entrepreneurship and Innovation as Public Policy

Outline of a discussion

Lisboa

29 -30 March 2009

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Desired Outcomes of these Discussions

1. Discuss the importance of supporting entrepreneurship and innovation at the public policy level:
 - Need for more nimble, dynamic, globally competitive economies
 - Need for higher value, knowledge-based products, to withstand global competition
 - Need for more, higher value jobs.
2. Review Critical Success Factors in High Tech Entrepreneurship and Innovation.
3. Outline some effective policies to support entrepreneurship and innovation, and to create the proper climate for more startup companies to succeed.
4. Review selected case studies:
 - UK: Cambridge-MIT Institute
 - UAE: Dubai, and The Higher Colleges of Technology (12 campuses)
 - Denmark: 25x250 “Gazelle” Program
 - Québec: 10x20 Program
 - Pakistan: OPEN & MIT Club

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Acknowledgements

This presentation draws upon work done by several faculty and staff at The MIT Entrepreneurship Center, including Profs Richard Locke and Ed Roberts; and Bill Aulet, Bob Ayan, Catherine Calarco and Ken Morse



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The Impact of Entrepreneurship and Innovation as Public Policy

Governments must invest in education and R&D

“Waves of technically trained young people -- steeped in the latest theories and techniques, and honed by some of the smartest minds in science and technology -- do more for raising a country's industrial competitiveness than all the tax breaks, development aid, and government initiatives put together.”

*“Understanding Technology Transfer”, June 2005
Written by: The Economist Intelligence Unit
Published by: APAX Partners*

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Maintaining Global Competitiveness Drives the Need for Action

1. In order to maintain economic growth and standards of living, nations and regions are seeking to create more high value jobs.
2. Portugal is seeking to create more fast growing, technology-based firms.
3. There are never enough talented, globally ambitious entrepreneurs!

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The Challenges in Portugal May Be More Acute

1. Long history of government favoring large “national” firms. Less turnover of large firms on stock exchanges.
2. Pace of decision making in large established firms may be slower .
3. Limited ability to outsource innovation to the venture industry:
 - Fewer ambitious entrepreneurs
 - Less ambitious VCs
 - Less well developed venture support systems and entrepreneurial ecosystem
 - Layers of well intentioned programs may inadvertently inhibit entrepreneurial fervor

Critical Success Factors in Entrepreneurship and Innovation

1. Believe that Startup Ventures can Succeed:
 - Parent(s) who are entrepreneurs
 - Early contact with successful entrepreneurs
 - Exposure to success stories and case studies.
2. Gain practical, real world experience before and during university studies.
3. Be willing to be Unusual/Unconventional.
4. Agree to Embrace Risk, and possibly failure.
5. Want to leave a large Company.
6. Live in a society that sees the above as normal, not a strange exception.
7. Ambitious entrepreneurs ask themselves: “What do we really want to do?”
 - We want to make a world class product, whatever it is.
 - We want to have fun doing it.
 - We want to get involved in a business area or business segment that is at its ground floor and in its infancy.

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The Entrepreneur: A Special Species?

- ▶ **What does the successful high tech entrepreneur look like?**
 1. Integrity
 2. Leadership
 3. Impatient; bias toward action (with analysis).
 4. Quick clockspeed
 5. Modest ego. Seeks and accepts coaching. Recognizes, and hires to overcome weaknesses.
 6. Willing to be different, but knows it (not oblivious).
 7. Pragmatic; willing to compromise (in order to move forward).
 8. Rejoices in others' victories (no petty jealousy).
 9. Driven to solve a valuable problem for customers (not driven by money or technology).
 10. Able to attract world class talent.

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Net:

pH of Stomach = $1-2 \sigma > \text{average}$

** With special thanks to
Flagship Ventures*

Examples of what CAN be taught (1)

(especially valuable for engineers, scientists, and business people)

- ▶ Teamwork creates value and success:
Lone wolves build perpetually small companies.
- ▶ Appreciation and mutual respect for different types of people guarantees better company performance:
 - Excellent sales people are essential
(not lower life forms).
- ▶ Customers need to feel they have a relationship with your firm before they will buy from you.
- ▶ Sales and sales management is mission critical:

www.entrepreneurshipeurope.com

www.entrepreneurshipnewzealand.com

www.entrepreneurship-pakistan.com

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Examples of what CAN be taught (2)

- ▶ Business Basics: CFIMITYM
 - Profit vs. cash flow
 - Risk is higher when you're growing
- ▶ How to Write a Business Plan
 - Need to know how, but...
 - Recognize that VCs don't read them
- ▶ Selling Products vs. Creating Businesses
 - The difference between cash and wealth

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Examples of what CAN be taught (3)

- ▶ Creative Thinking:
 - Generate alternatives
 - Challenge assumptions
 - Sacred cows = hamburger
- ▶ Failure is Acceptable in North America
 - No such thing as winners and losers
 - More like: winners and learners

This positive attitude is a U.S. national asset; Germany & Japan may be different.
- ▶ Academicians and Engineers:
 - Successful commercialization of your invention is the most effective way to diffuse your innovation.
 - Don't be embarrassed to make money.

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Bringing University IP to Market

“It never works well with big companies. They focus their energy on showing why the new technology won’t work. I always prefer to start a new company: it will deliver total focus, energy, passion, and commitment.”

Professor Robert Langer, Langer Lab

Kenneth J. Germeshausen Professor of Chemical and Biomedical Engineering

Keynote Speaker, MIT Venture Capital Conference (07 December 2002)

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Entrepreneurship and Innovation at MIT

"The ideas that drive the economy and improve our quality of life are increasingly emerging from inventive, interdisciplinary collaborations -- across different fields and with other institutions in the public and private sectors. This spirit of openness, invention and teamwork are hallmarks of MIT and, I believe, are the keys to our future. MIT's intense creativity, passion, intensity and playfulness drive everything here -- the entrepreneurial ideas, the innovations, the discoveries."

MIT President Susan Hockfield
May 2005



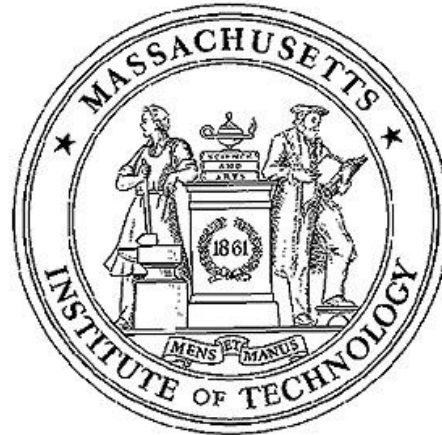
Photo by Donna Coveney/MIT

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Innovation/Entrepreneurship at MIT



- Results of Bank of Boston Study (1997)
- >4,000 companies formed
- >1.1 million employees
- >\$232 billion in annual revenues
- If considered as a standalone economy, these spinoffs would be the 24th largest in world
- Amazing laboratory to study entrepreneurship

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The MIT EDP

MIT Entrepreneurship Development Program
26-30 January 2009

An intense one-week program tailored to the needs of future entrepreneurs, corporate venturing officers, economic development professionals, and university entrepreneurship faculty and staff.

- ▶ Participants learn from:
 - “Live case studies” of successful MIT entrepreneurs;
 - Our faculty and the MIT entrepreneurial spirit; and,
 - Route 128 venture capitalists, lawyers, and institutional investors.
- ▶ In 1999, 25 participants came from Cambridge (UK), Ireland, France, Germany, Thailand, Taiwan, & US.
- ▶ In 2000, 65+ persons came from 10+ countries.
- ▶ In 2001, 95+ persons came from 16+ countries.
- ▶ In 2002, 70 persons from 13 countries.
- ▶ In 2003, 93 persons from 9 countries.
- ▶ In 2004, 140 persons from 16 countries
- ▶ In 2005, 109 persons from 19 countries + storm of the decade
- ▶ In 2006, 100 persons from 21 countries
- ▶ In 2007, 130 persons from 22 countries
- ▶ In 2008, 136 persons from 28 countries
- ▶ In 2009, 136 persons from ~ 25 countries

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How Governments Can Support Entrepreneurship & Innovation (1/2)

Think and Act Long Term:

- Invest in R&D and ensure strong IP Protection
- Invest in technically talented people
- Understand that people and passion are the #1 critical success factor
- Establish a robust and dependable ecosystem
- Encourage the right networks and support programs
- Encourage big companies to buy from small startups and ...
- Understand that satisfied customers (who pay promptly) are essential to the sustainable growth of new ventures.

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How Governments Can Support Entrepreneurship & Innovation (2/2)

- **Be an active, but not overbearing partner:**
 - Promulgate clear, long term strategies
 - Provide dependable funding and predictable support
- **Set the rules of the road; then get out of the way:**
 - Create a few of the right regulations
 - Enact and enforce them well
 - Eliminate many more other regulations
 - “Regulation is the Enemy of Innovation”
 - Let markets pick winners and losers
 - focus on enabling more winners
 - avoid shoring up losers

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What the Private Sector Can Do

Focus on crisp execution and faster clock speed:

- Be a true Active Partner and support entrepreneurs
 - Be an aggressive industry voice to government
- Stimulate faster clock speed
 - Help develop top talent
 - Help provide access for entrepreneurs to global markets
 - Make investments in new ventures
and ...
 - Be a lead customer for startups (and pay promptly)
- Support ambitious entrepreneurs

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Entrepreneurship and Government Policy -- an Oxymoron?

What gov't is good at -

- Set a vision
- Think long term
- Understand larger picture
- Support & fund activities
- Tolerate risk while leading fundamental change
- Be predictable

What gov't is not good at -

- Make rapid decisions
- Accept mistakes
- Maintain fast clock speed
- Be entrepreneurial
- Avoid politics
- Take action (vs. talking)
- Avoid control & indecision

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The Problem to be Solved (1/2)

In order to be more globally competitive as a nation or a region, more significant technology-based firms need to be started, and built to last.

These firms must have high potential, and achieve sustainable growth, against global competition.

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The Problem to be Solved (2/2)

In many parts of the world, there is no shortage of interest, activities and funding to help startups. However, to date most startups may sprout fast, but they “stall out” at the level of 8-20 employees.

They do not become important actors on the regional or global stage.

They fail to reach their full potential for many reasons, including a shortage of:

- global ambition
- market savvy
- customer focus
- sales skills
- overseas networks
- passion and grit
- smart funding, and
- other factors...

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Case Studies (1/5)

United Kingdom:

1. Sustained vision and commitment by Gordon Brown and Tony Blair
2. The Cambridge-MIT Institute
 - ▶ University of Cambridge & Cambridge Network
 - ▶ Two dozen additional Scientific Enterprise Centers
3. Five Year Focus (2000 – 2006)
 - ▶ Innovation
 - ▶ Entrepreneurship
 - ▶ Global Competitiveness

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Case Studies (2/5)

United Arab Emirates:

1. Sustained vision and commitment by the Leaders
2. The Higher Colleges of Technology
 - ▶ Established Entrepreneurship Centers at all 12 campuses
 - ▶ 64% women engineers
 - ▶ HCT – MIT Conference: Entrepreneurship 2010
 - March 2005
 - September 2006
3. The Dubai Phenomenon
 - ▶ Industry-focused clusters, launched one by one

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Case Studies (3/5)

Denmark:

1. Sustained vision and commitment from the Prime Minister and the Ministry of Science, Technology and Innovation (VTU)
2. Developed the plan to launch a new program in 2007 as a Public-Private Partnership. The goal of “The Denmark 25x250” (“Gazelle” Growth Program) is to help enable at least 25 of Denmark’s most promising and ambitious startups to achieve at least DKK 250 million annual revenue in the next five years.
3. The 25x250 is to be run by a small team of entrepreneurial veterans, all from the private sector, worldwide (not only Danes).
4. They plan to offer global sales-oriented training courses and establish links to customers and networks in entrepreneurial hot spots around the world.

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Case Studies (4/5)

Québec:

1. 10x20 Pilot Program (2007). Sponsored by Ministère du Développement Economique, de l'Innovation et de l'Exportation - MDEIE.
2. Run by Private Sector/Real World former entrepreneurs: "Foundation for Entrepreneurship".
3. 53 applications for 10 places in the Pilot Program.
4. Assisted by MIT Senior Lecturers: Aulet, Calarco, Grandinetti, Morse (+ Talbot).
5. Five 2-day workshops for top 3 managers of each of the firms in Sales, Marketing, Leadership, Financing, and Operational Excellence.
6. Ten coaching sessions in 2007 for each CEO.
7. Capstone: all CEOs attended EDP 2008.
8. Program was renewed for 2008-2009.

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Case Studies (4/5 continued)

Québec Timeline:

1. April 2007 → Interview 16 of 53 applicants; selected 10 focus companies, with short waiting list; all companies may attend workshops
2. 18-19 May 2007 → Global Sales Strategies Workshop
3. Coaches assigned and begin working with teams
3. 29-30 June 2007 → Entrepreneurial Marketing Workshop
4. 19-20 July 2007 → Operational Excellence Workshop
5. 18-20 September 2007 → Entrepreneurial Marketing Workshop for CEOs beyond the 10x20 Program
6. 21-22 September 2007 → Leadership Workshop
7. 28 Jan – 01 Feb 2008 → Ten CEOs attend MIT EDP

Results:

- 1 company increased its value from \$10-15M to > \$50M (probably will sell for \$60M+)
- 1 company selected and executed a strategy to become a solution provider in a new market –helped them raise smart money to complete plan
- Many other success stories.

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Case Studies (5/5)

Pakistan:

1. Vision & Commitment from the MIT Club of Pakistan and OPEN – The Organization of Pakistani Entrepreneurs (chapters across USA plus Dubai)
2. Pakistan's startups need assistance
 - Mentoring
 - Networking – to recruit talent and other benefits
 - Access to markets (Europe & USA)
 - Access to smart, ambitious capital
3. Phase One (completed in November 2007)
 - Business Acceleration Program (BAP)
 - Tech Angels Network (TAN)
 - CEO Summit on Innovation & Entrepreneurship
 - Series of hands on workshops
 - Global Sales Strategies
 - Entrepreneurial Marketing
 - Financing for Growth
 - Operational Excellence and Corporate Governance

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Case Studies (5/5 continued)

Results

THE WALL STREET JOURNAL.

WEDNESDAY, SEPTEMBER 5, 2007 - VOL. CCL NO. 55

★★★★ \$1.50

▲ 91.12 0.7% NASDAQ 2630.24 ▲ 1.3% NIKKEI 16420.47 ▼ 0.6% DJ STOXX 50 3804.17 ▲ 0.9% 10-YR TREAS ▼ 3/32, yield 4.558% OIL \$75.08 ▲ \$1.04 GOLD \$682.50 ▲ \$9.50 EURO \$1.3609 YEN 116.24

What's News -

Business and Finance

World-Wide

el's problems deepened t announced another ll, with the majority in- accessories associated signature Barbie brand. ll, Mattel's third major summer, covers about Chinese-made toys, all are believed to contain levels of lead paint. A3

ow industrials jumped ints to 13448.86 amid at credit markets were down. Crude rose \$1.04 to \$75.08. Bonds fell. c1

U.S. sales in August d the gloom and damped s for major auto mak- ite growth at GM. A3

edit crisis has pushed ondon interbank offered ch may have a big impact ts and the economy. c1 ng regulators urged to restructure the loans ns of borrowers at risk ; their homes. A2

gauge of manufacturing showed modest expan- ugust, reflecting strong for U.S. exports. A2

soft failed in a bid to

■ A report says Iraq has failed to meet most goals set by Congress.

The GAO study said Baghdad hasn't met 11 of 18 benchmarks, an assessment that challenges Bush's war findings ahead of a pivotal report to Congress next week. The GAO revised some parts after White House resistance, determining Iraq partially met four goals, two more than in an earlier draft. Democrats seized on the report, saying the president's policy was failing, as lawmakers opened a series of hearings on the Iraq war.

Bush is unlikely to order more than a symbolic cut in troops before year end, officials said, and appears set on hewing to his current strategy.

■ The housing slump is straining state and local governments, cutting into fees, taxes and other related income, forcing legislators to consider deep budget cuts to offset projected deficits. Their budget problems could worsen when property-tax assessments catch up with the rapid decline in housing prices over the past few years. A1

■ Power-sharing talks between Musharraf and Bhutto may end up bolstering Nawaz Sharif's standing with the Pakistani electorate as he returns from exile next week. Separately, twin bombings killed at least 25 outside Islamabad. A4

MODERN AND MUSLIM

In Turbulent Pakistan, Start-Ups Drive a Boom

Fast-Growing Economy Lures Entrepreneurs; Liposuction and Pilates

By PETER WONACOTT

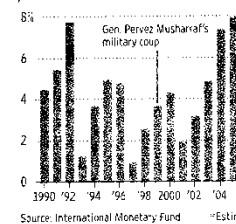
ISLAMABAD, Pakistan—Pakistan's political scene is growing more clouded, but a clear demonstration of confidence in the country's future is coming from an emerging economic force: entrepreneurs.

Scores of new businesses once unseen in Pakistan, from fitness studios to chic coffee shops to hair-transplant centers, are springing up in the wake of a dramatic economic expansion. As a result, new wealth and unprecedented consumer choice have become part of Pakistan's volatile social mix.

Volatility has erupted often in recent weeks. Yesterday, two bombs exploded outside this city, killing 25 people. Adding to the political uncertainty is the expected return Monday from exile of former Prime Minister Nawaz Sharif, who was ousted in a 1999 military coup led by Pervez Musharraf. To counter that challenge, President Musharraf is close to sealing a power-sharing pact with another former prime minister, Benazir Bhutto. The two aim to join forces in a government that would take on Islamic extremists who have recently launched a series of

Strong Performer

Growth of Pakistan's gross domestic product



A new class of entrepreneurs is emerging who, in small but significant ways, have challenged the religious orthodoxy. They provide a stark counterpoint to the rising Islamic radicalism that the U.S. and others view as a threat to Pakistan's position as a staunch Western ally. And with many importing ideas from abroad, they are contributing to Pakistan's 21st-century search for itself.

"Can you be modern and Muslim? How is Pakistan going to link into the global economy?" asks Ali Cheema, an economics professor at Lahore University of Management Sciences, who has researched Pakistan's entrepreneurs. "These people are posing important questions."

Housing Slump Strains Budgets Of States, Cities

By AMY MERRICK

Tremors from the housing market's slump are straining the budgets of state and local governments from coast to coast, sending officials scrambling to plug gaps.

Rising defaults on subprime home loans are boosting the inventory of unsold homes and driving sale prices lower. That's cutting into housing-related revenues from building-permit fees, taxes on contracting and recording property transfers, and ever sales taxes.

As a result, legislators in Florida which was at the forefront of the housing boom, plan a special session this month to consider deep budget cuts to offset a projected \$1.5 billion funding gap. California forecasts a shortfall of at least \$5 billion in next year's budget. And Chicago faces a \$217 million gap in its \$5.6 billion budget for 2008.

In the Kansas City, Mo., area, more than two dozen agencies that serve the homeless are likely to lose a least some of their funding this year. Meanwhile, the tiny town of Sultan Wash., near Seattle, has had to lay off the janitor at City Hall, forcing office workers to take over bathroom-cleaning duties.

In many cases, budget officials knew that the fast pace of housing-related revenue growth in recent years wasn't sustainable, but the extent of the slowdown has sometimes surprised them. Unlike the federal govern-

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Will Portugal soon spawn similar programs?

1. It takes clear vision and strong, sustained leadership.
2. It is hard to unite the many existing initiatives which have their own constituencies, momentum and inertia.
3. It is easy to get diverted by short term crises.
4. Some governmental bodies are more interested in protocol than progress.
5. Entrenched, well-meaning social welfare mentalities often favor shoring up losers over fostering winners.
6. Competing interest groups are often wary of centers of excellence, and the jam gets spread too thin.
7. There is pain, but is it felt strongly enough?

Discussion....

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