Policies and Conditions for an Entrepreneurial Economy

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Introduction to Regions

Many visitors come to Silicon Valley each year to ask how it works.Most of them focus on only one part of the picture and miss many key points.

- Some want to start science parks.If they do not set the right conditions and recruit visionary companies into the park, they become only real estate developments.
- Some want to establish university technology transfer programs.If they do not develop favorable conditions and mechanisms for co-evolution of ideas between industry and the university,the programs become moribund.
- Some want to start venture capital industries.If they do not have the right regulatory regime,the venture capital companies just become banks.

Three Ways to Get Growth

- Improving Factor Inputs
  - Action:Increase amounts and quality of labor and capital
  - Result:Improved productivity
- Trade and Comparative Advantage
  - Action:Reduce import substitution rules and increase exports
  - Result:Increase of world market share of products and increase in GDP
- Innovation and Entrepreneurship
  - Action:Create favorable Habitat for Innovation and Entrepreneurship
  - Result:Increase in new business formation both within companies and in formation of new companies

What is this Habitat?

An Entrepreneurial Economy

In the 70's and 80's the United States learned manufacturing lessons from Japan, restructured,downsized,deregulated,and in the process lost 44 million jobs.These efficiencies yielded increased return on investment and increased profits for reinvestment.

If the US had not had a creation economy that created new markets,new companies, and in the process 73 million new jobs, the US economy would be in big trouble today.

Regions

- US Regions
  - Silicon Valley
  - North Carolina Research Triangle
  - Austin Texas
- Asia/Pacific
  - Singapore
  - Taiwan Hsinchu Science Park
  - Gifu Prefecture Japan
  - Australia MFP-Adelaide
  - Malaysia MSC
- Europe
  - Sophia-Antipolis Research Park (France)
  - Oulu Technopolis (Finland)

What is Silicon Valley Today

"Silicon Valley has a regional network-based industrial system that promotes **collective learning and flexible adjustment** among specialist producers of

a complex of related technologies.... The functional boundaries within firms are porous in a network system,as are the boundaries between firms themselves and between firms and local institutions such as trade associations and universities"

Anna Lee Saxenian,"Regional Advantage:Culture and Competition in Silicon Valley and Route 128",Harvard University Press,1994

Regional Network Systems

"It is these interlocking institutions which sustain the social relations which are the basis of continuous learning,innovation and therefore growth.Firms that fail to develop these fluid relationships with other firms are doomed to commercial failure-firms that detach themselves from their local networks do so at their peril."

Sean O Riain,"Competition and Change"
1997 Overseas Publisher Association,Amsterdam B.V.,by
Harwood Academic Publishers

Habitat
Networks and Interactions

Legal Environment:
Role of Lawyers

Accounting
Consulting

Environment:
Environment:

Role of
Marketing,

Accountants

Entrepreneurs

Knowledge(Ideas)

Capital

Strategy,
Operations

Human Resource Environment:
Role of Search Firms

Habitat for High Tech Innovative Community

- *Knowledge Intensity the only path to Quality Job Generation*
- *Presence of High Quality Work Force*
- *Highly Moble Labor Force*
- *Business Climate that Rewards Risk Taking and Does Not Punish Failure*
- *Open Business Environment,including International Linkages-"It's a positive sum game"*
- *Community Dynamics of Collaboration Between Business,Governments,and the Independent Sectors(Labor councils, universities, foundations, etc.)*

Habitat for High Tech Innovative Community (cont)

-Ready Acceptance of Diversity and Youth

in Institutions and Networks

-Presence of Venture Capital Industry that Understands High Tech

- Presence of Research Institutions and Universities that Interact Effectively With Industry:co-evolotion of ideas

- High Quality of Life in the Community (schools,recreation,health,etc.)

The Role of Venture Capital

Much has Changed in Three Decades

- Funds are much larger
- Investments are better placed and better managed
- Venture Capitalists' networks are more sophisticated
- Business infrastructure is now well developed
- An increase in the number of "Angels"
- Returns are still good but there is more competition
- Some slowing down of IPO market but more acquisitions

New Business Models
The HP Pavilion

Where does HP add value?

It does not do:

R&D----------Intel,Microsoft,Component Manufacturers

Manufacturing--SCI Systems,Intel

Sales----------CompUSA,Best Buy,etc.

Service----------Third Party Maintance Providers

New Business Models

Managing Information

Capturing Innovation From The Business Web

Stanford University's Role in Silicon Valley

- The Vision of Dean and,later,Provost Fred Terman-A University-Industry Community

- The Stanford Industrial Park
- Visionary Companies such as Hewlett-Packard and Varian Associates
- Educational Programs for Industry,eg the Honors Co-op Program and Continuing Education Programs
- Industrial Affiliates Programs
- Cooperative Research Programs
- Industry Speakers at Seminars and Student Clubs
- Spin outs from faculty and students
- Office of Technology Licensing

John Doerr's Contacts Stanford University 1980 Margaret Jacks Hall

Then home of the Computer Science Dept.

- Andy Bechtolsheim(Stanford University Network)-A Founder of Sun Micro.
- John Hennessey-A Founder of MIPS
- Jim Clark-A Founder of Silicon Graphics and Netscape
- Jerry Kaplan-A Founder of Tecknowledge,Go,and Onsale
- Forrest Baskett-Technical Officer at Xerox Park,Sun Micro.,and SGI
- Scip Stritter-A Founder of MIPS
- Len Bosack-A Founder of Cisco Systems
- David Cheriton-A Founder of Granite

Market Value of these Companies is about $90 Billion

Stanford University Graduate School of Business

Over the last few years about 8% to 9% of the graduating class of MBA students have started a new business immediately after graduation or before graduation. How could they do this?

- Courses on Entrepreneurship
- Available mentoring
- Network of colleagues including engineers and lawyers
- Availability of "Angels"
- Available Venture Capital
- Open business environment
- Attitudes toward failure-Chapter 11 permits soft landing

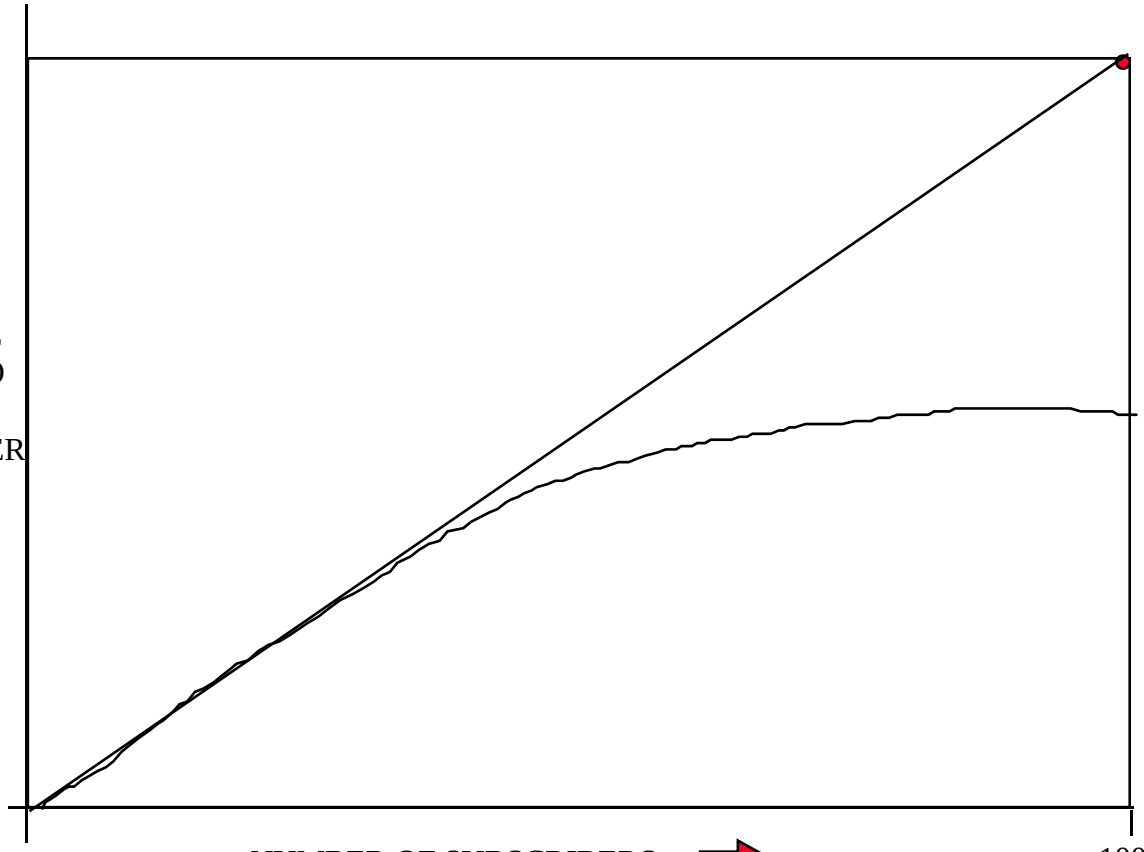
Regional Summary

	1	2	3	4	5	6	7	8	9	10	11
Silicon Valley	H	H	H	H	H	H	H	H	H	L	H
North Carolina	H	H	M	L	L	M	L	M	H	H	L
Austin Texas	H	H	M	M	M	H	M	M	H	L	M
Singapore	H	H	L	L	L	M	L	H	H	H	L
Taiwan	H	H	M	H	M	L	M	M	M	M	H
Malaysia	H	L	L	L	M	L	L	M	H	H	L
Gifu Japan	H	L	L	L	M	M	L	L	H	H	L
Sophia-Antipolis	H	H	M	L	L	M	L	L	H	H	L
Australia MFP	H	H	M	M	L	L	L	M	H	H	L

1. Knowledge Intensity
2. Quality of Work Force
3. Mobile Work Force
4. Rewards Risk Taking
5. Open Business Environment
6. Community Collaboration
7. Developed Venture Capital
8. University Interaction
9. Quality of Life
10. Government Involvement
11. Indigenous Companies

H-high L-low M-medium

Metcalfe's Law

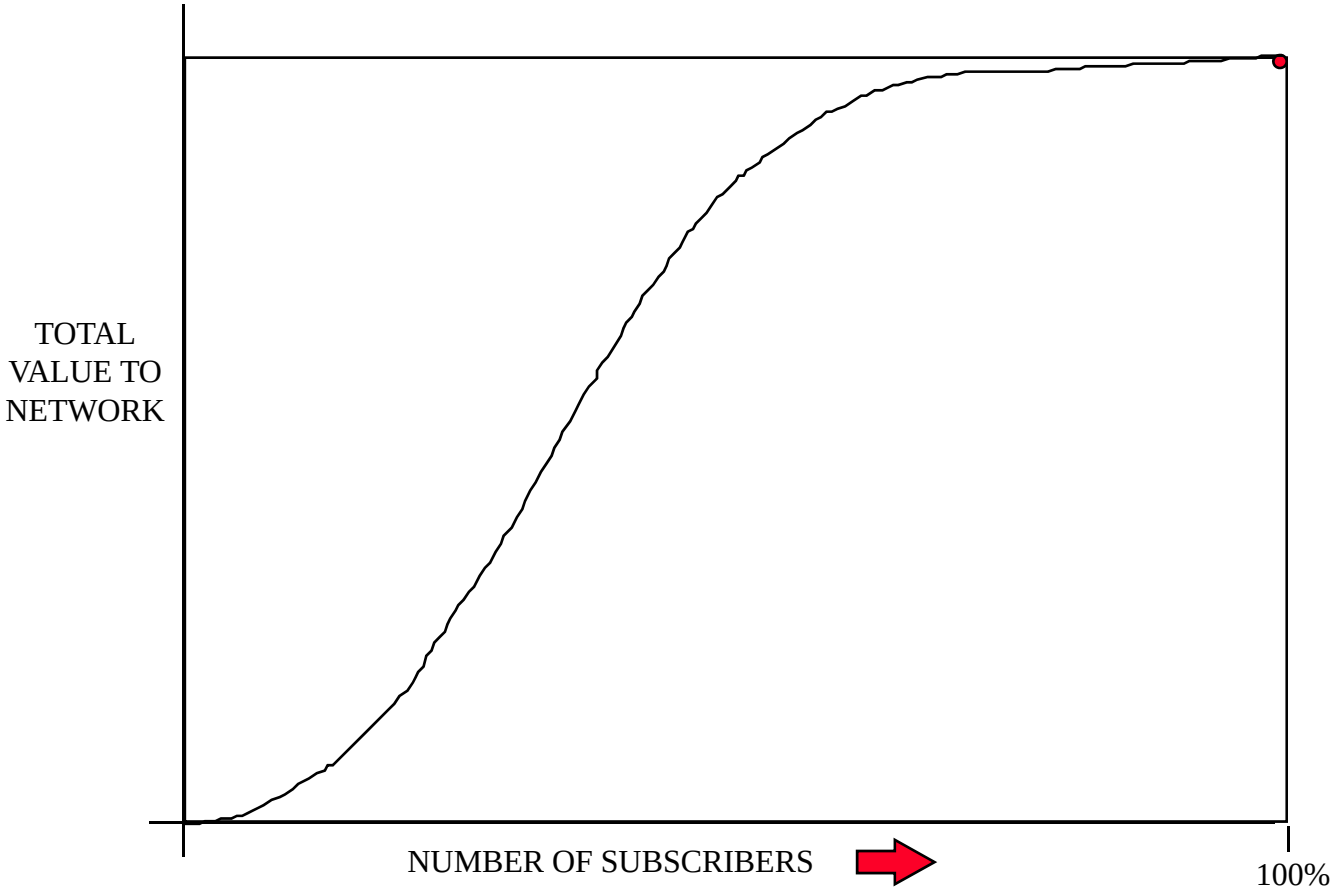


VALUE TO EACH	NUMBER OF SUBSCRIBERS (N)	TOTAL VALUE OF NETWORK
0	1	0
1	2	2 X 1
2	3	3 X 2
3	4	4 X 3
4	5	5 X 4

aN - a

aN (N-1)=aN^2 - aN

Metcalfe's Law



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