

# Software Entrepreneurism and Economic Development

Avron Barr and Shirley Tessler Stanford Computer Industry Project www.stanford.edu/group/scip/

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### Stanford Computer Industry Project Corporate Partners

**AcrossWorld Communications** 

**Andersen Consulting** 

**British Petroleum** 

Citibank N.A.

CMP Media, Inc.

Daiwa Institute of Research

Ernst & Young LLP

Fujitsu

FX Research Laboratory

Goodyear Tire and Rubber

Merrill Lynch

Microsoft Corporation

Banc of America Securities

Moore Corporation, Ltd.

NTT

PeopleSoft

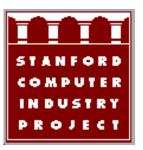
**Philips** 

**Sumitomo Corporation** 

Symantec

Telecom Italia

Toshiba America, Inc.



#### Stanford Computer Industry Project: Research Initiatives, 1990-1999

- ◆ IT in use: technology adoption (G. Saloner)
- Information age organizations (H. Mendelson)
- Rapid product innovation (K. Eisenhardt)
- ◆ Intranets: theory vs. practice (F. Bar)
- ◆ Impact of the Internet on marketing (W. Hanson)
- ◆ Software (Miller, Barr and Tessler)
  - Issues in the US software industry
  - Pilot study of software project management
  - Software capacity: supply & demand for talent
  - Global trends in software entrepreneurism
  - Implications of early-stage "R&D" acquisitions



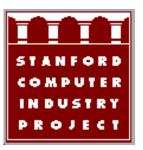
#### SCIP's Software Study 1993-1999

- ◆ Analysis of the Japanese software industry
- ◆ Improving US government data collection
- Software project management study
- Globalization of the software industry
  - The search for talent to meet rising global demand
- Skills & education of software professionals
- Comparison of national software industries and software entrepreneurism
  - US, Japan, India, Israel, Ireland, Taiwan and Korea
- ◆ Implications of early-stage, "R&D" acquisitions



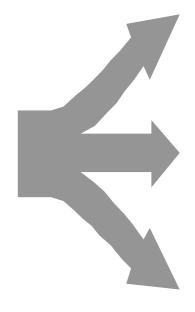
## Why Startups Are Important in the Software Industry

- Innovation, risk (diversified approach)
- ◆ Speed, responding to rapid change
- Flexibility: technology, platforms, partners
- Cooperation with competitors
- ◆ Co-invention with customers
- ◆ Giving innovators a bigger piece of the pie



# Software Teams Produce Wealth in Many Ways

Total Software Capacity



Software products and "titles" publishing

Software services to business & government

Operations and strategy in traditional firms

New, software-enabled businesses

Software embedded in products of all sorts

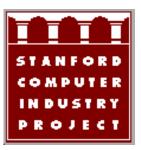
Software technology licensing

Services to off-shore software publishers



#### National Software Strategies, In Retrospect

Country	Current Focus	Strategy	Size (\$B)	Exports (\$B)
India	Export SW services	Utilize existing human resources	3.9	2.7
Ireland	Services to publishers	Knowledge transfer	6.6	5.9
Israel	Export technology	Military high-tech spin-offs	1.5	.7
Japan	Game titles	"New Hard"	2.9	1.3



### Domestic Demand is Important for Software Startups

- Software services is an important segment in Korea and a natural market to develop
- Prestigious customers give credibility to startups and legitimacy to entrepreneurs
- ◆ Local customers give better feedback
  - Features, marketing, competitors
  - Enterprise publishers need state-of-the-art beta sites that can co-invent new features
  - May filter firms, before larger investments
- Acquisition as an additional exit strategy
- ◆ A training ground for new entrepreneurs

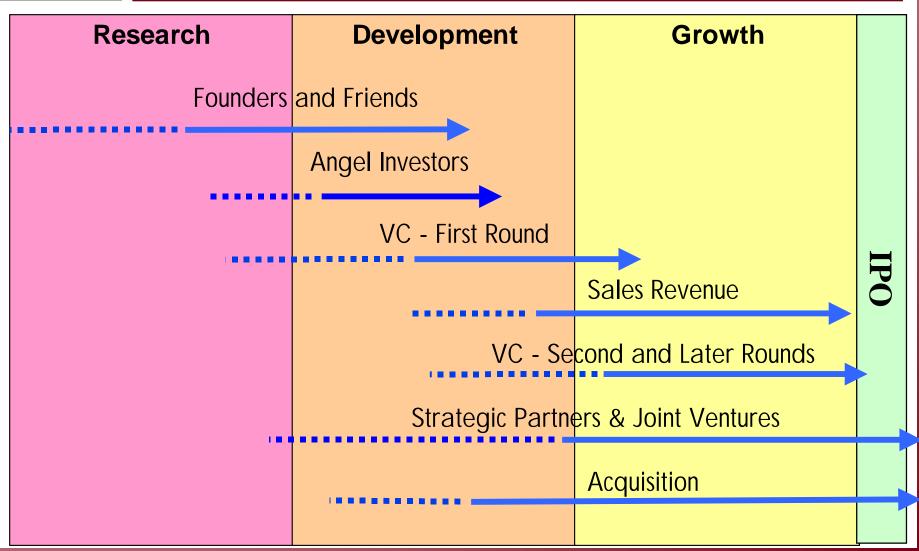


#### **New Business Creation**

- All entrepreneurs should be encouraged
  - Not just high-tech startups
  - Society's attitudes about entrepreneurism factor into every entrepreneur's decision
- Weighing risks and rewards
  - Ownership and venture financing
  - Failure and bankruptcy law

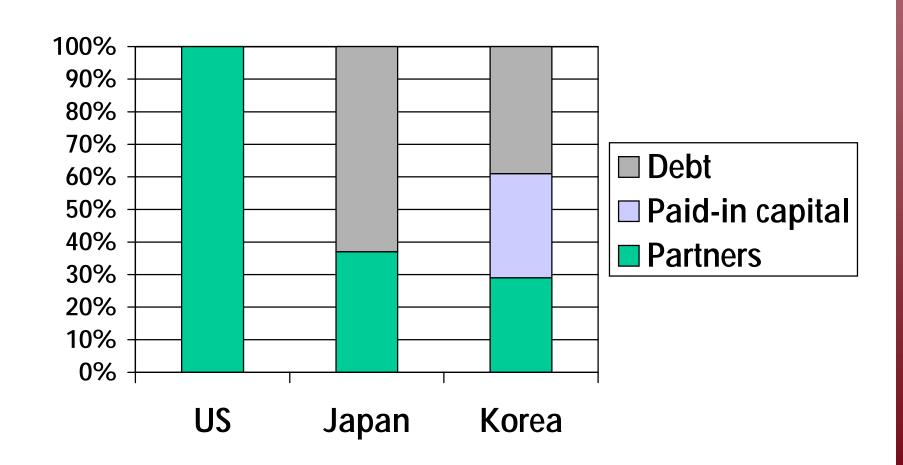


#### Financing Startups



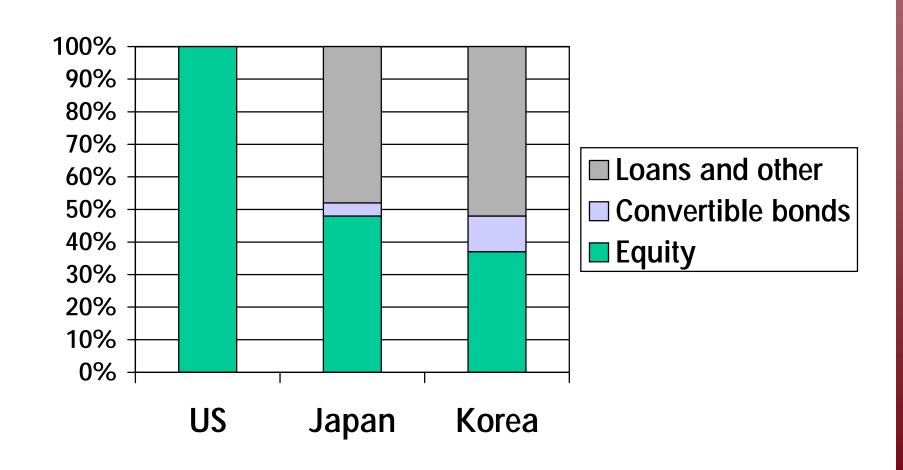


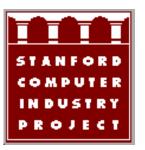
## Source of Funds for Venture Capital Firms



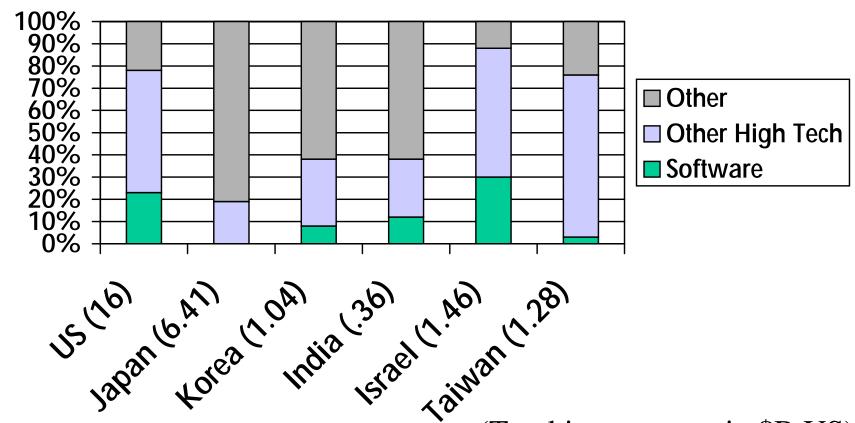


### Types of Investment by Venture Capital Firms

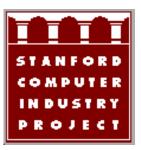




### High-Tech Focus of Venture Capital Firms



(Total investments in \$B US)



#### The High-Tech Habitat

