

“Entrepreneur Engineering”
with Japanese New Business Model

Nov.4, 1999

US-Japan TMC, Stanford

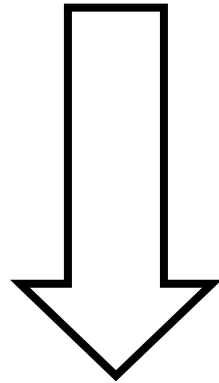
Noby MAEDA

Research Fellow, NISTEP, STA

Professor, Kochi University of Technology

Mission of
US - JAPAN

Competition & Collaboration



Neuer Kombinationen
Creative Destruction

World Innovation

COC Innovation Index

3'99 Council on Competitiveness
The New Challenge to America's Prosperity
Findings from the Innovation Index

- **1995** **US** *No.1*
- **1999** **Japan** *No.1* **US** *No.3*
- **2005** **Japan** *No.1* **US** *No.6*

Japan Committed to S&T

1981 ERATO Up to date: **57 Projects**
Exploratory Research for Advanced Technology

1988 NISTEP *established*
National institute of Science & Technology Policy

1991 R&D Free Ride Criticism

1995 S&T Basic Law
S&T Basic Plan \$126B \$170B/5years (+35%)

1999 Millennium Projects
IT, Environment, Bio etc.

USA Enhancement of S&T

1980 Stevence-Wydler Technology Innovation Act

1980 Bayh-Dole Act

1982 SBIR

1985 Young Report :

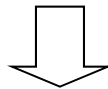
Global Competition-The New Reality

1986 Federal Technology Transfer Act

1991 Council on Competitiveness

Japanese Economy

1980's Japan as No.1



1991 Bubble Broke Out

<Long Depression>

1998 Big Bang-Japan

1999 "Venture Congress"

Three Big Tide Behind

Globalization 20 Years

De-Regulation 20

IT Revolution 10

IMD's National Competitive Power: 1st 16th

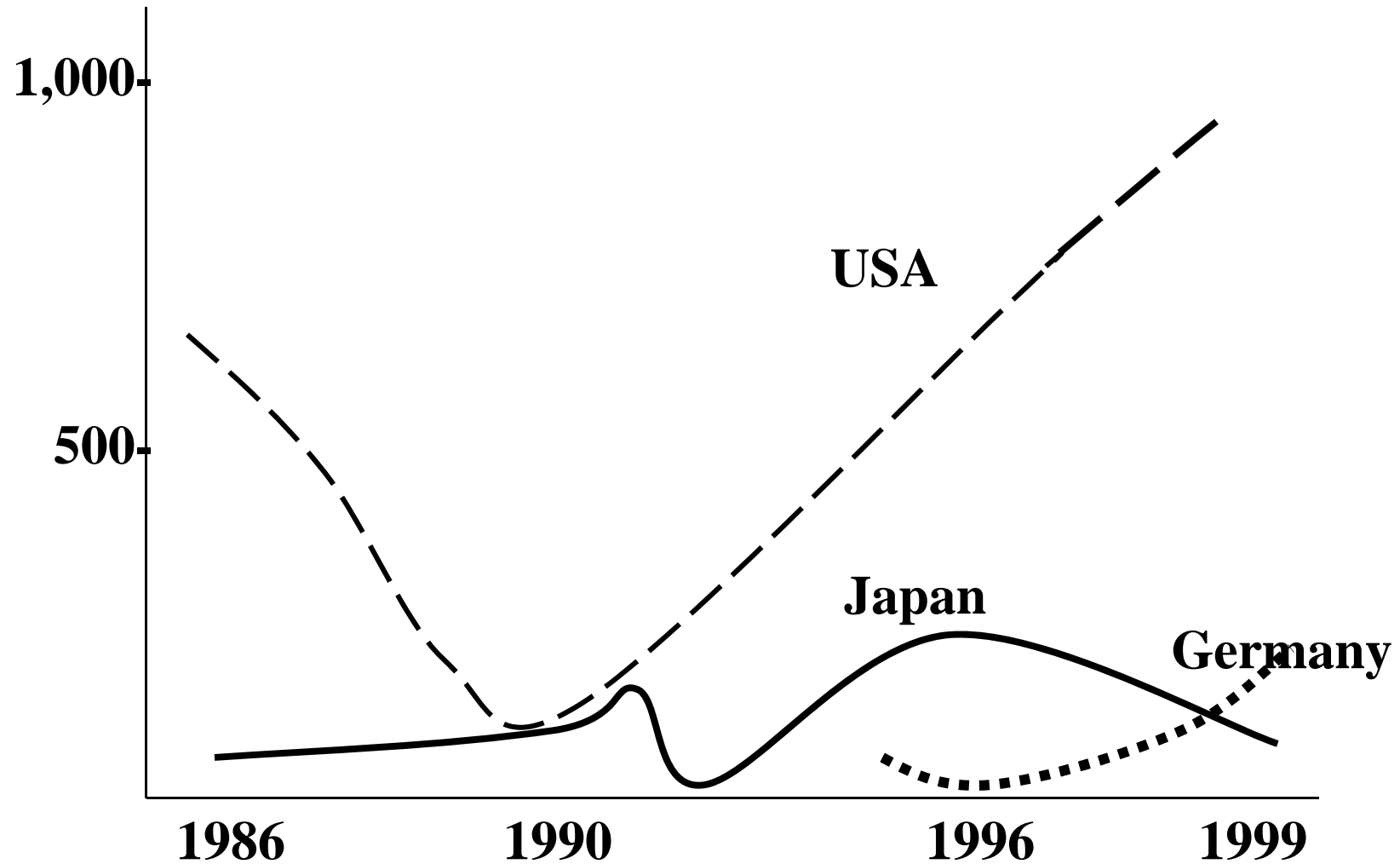
R&D: 1st 2nd

Venture Boom

	<u>1st</u>	<u>2nd</u>	<u>3rd</u>
<u>USA:</u>	1967~ INTEL	1978~ Micro Soft	1993~ Internet
<u>JAPAN:</u>	1970~ Get Out	1982~ Fin.Ind.VC	1994~Now Gov. Policy Many Registrations

Number of IPO per Year

Image chart



What You Know as a History

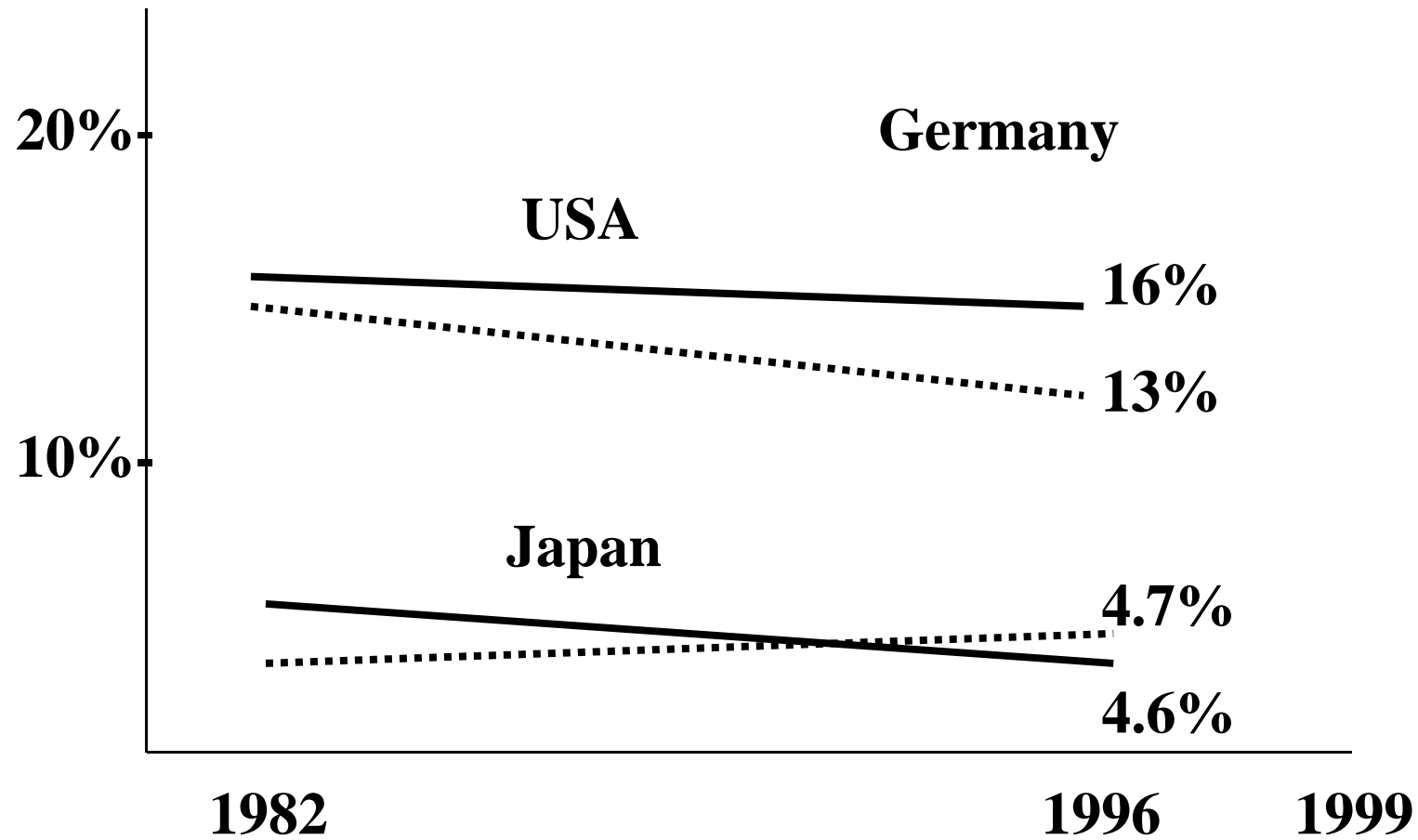
Big Entrepreneurial Success

SONY	1946	Ibuka/Morita
HONDA	1948	Honda
KYOCERA	1959	Inamori

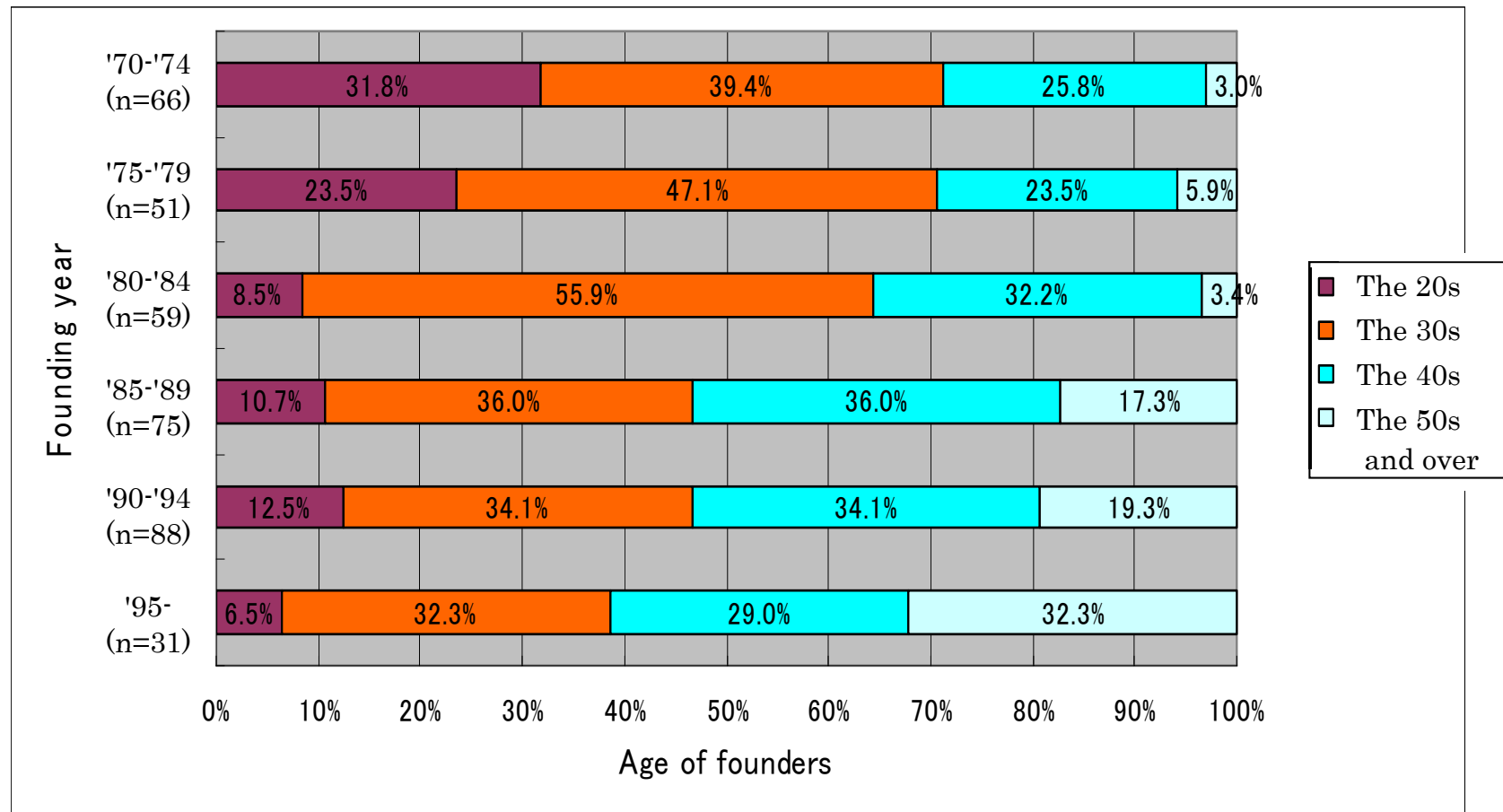
⇒ No Entrepreneurs to overcome them.

Company “Establish” “Shut Down” Ratio

Image chart

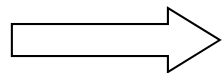


CEOs' ages when they founded their firms



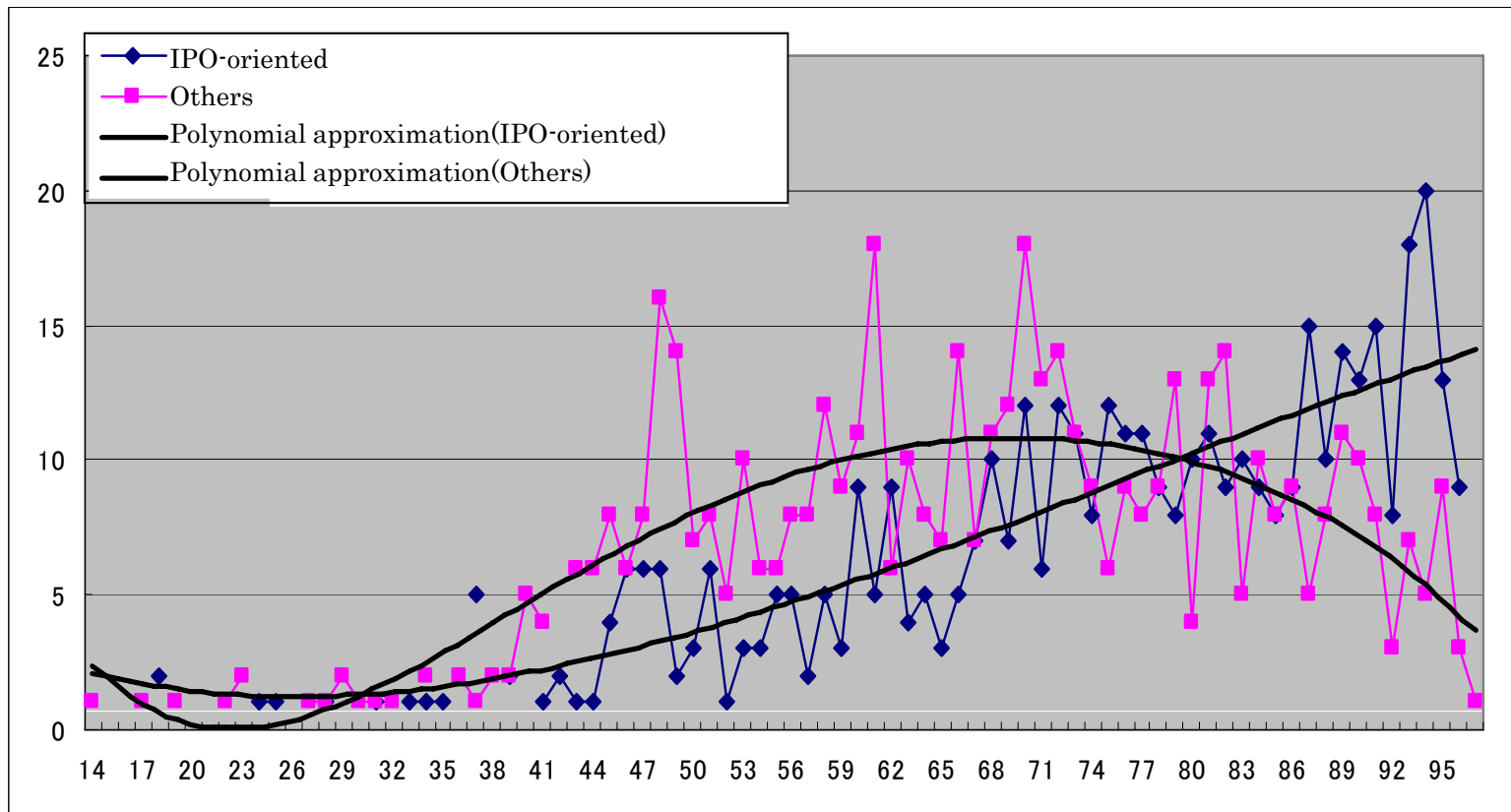
What You See Today

	<u>USA</u>	<u>JAPAN</u>
• IPO Ave. Year	5~6	29 Year
• No. of IPO/Year	500	100 Co.
• Equity % of Founder at IPO	4	70%
• New Employ't by SME/Y	1,500	90K
• Univ. of Entre. Lecture	500	50
• Co.Establish, Shut Down	16/13	4.6/4.7%
• VC Support	Hands on	Loan



Recent Development is different!!!

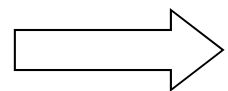
The yearly number of start-ups



Many Recent Success Stories

Some are over \$2 Billion Sales

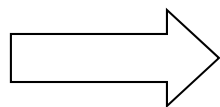
- | | | | | |
|-----------------------|---------------------|-------------|--------------|------------------|
| • HIS | Travel | 1980 | 1995 | Sawada |
| • NOVA | English | 1990 | 1996 | Saruhashi |
| • Hikari | Com.Sales | 1988 | 1996 | Shigeta |
| • Plaza Create | Photo | 1988 | 1994 | Ohshima |
| • Doutor | Coffee Shop | 1976 | 1993 | Toba |
| • Rakuten | Network Shop | 1988 | 2000? | Mikitani |
| • DegiQub | Game Sales | 1996 | 1999 | Suzuki |



Very Few Tech. Oriented Entrepreneurs

Supporting Policy/Registration

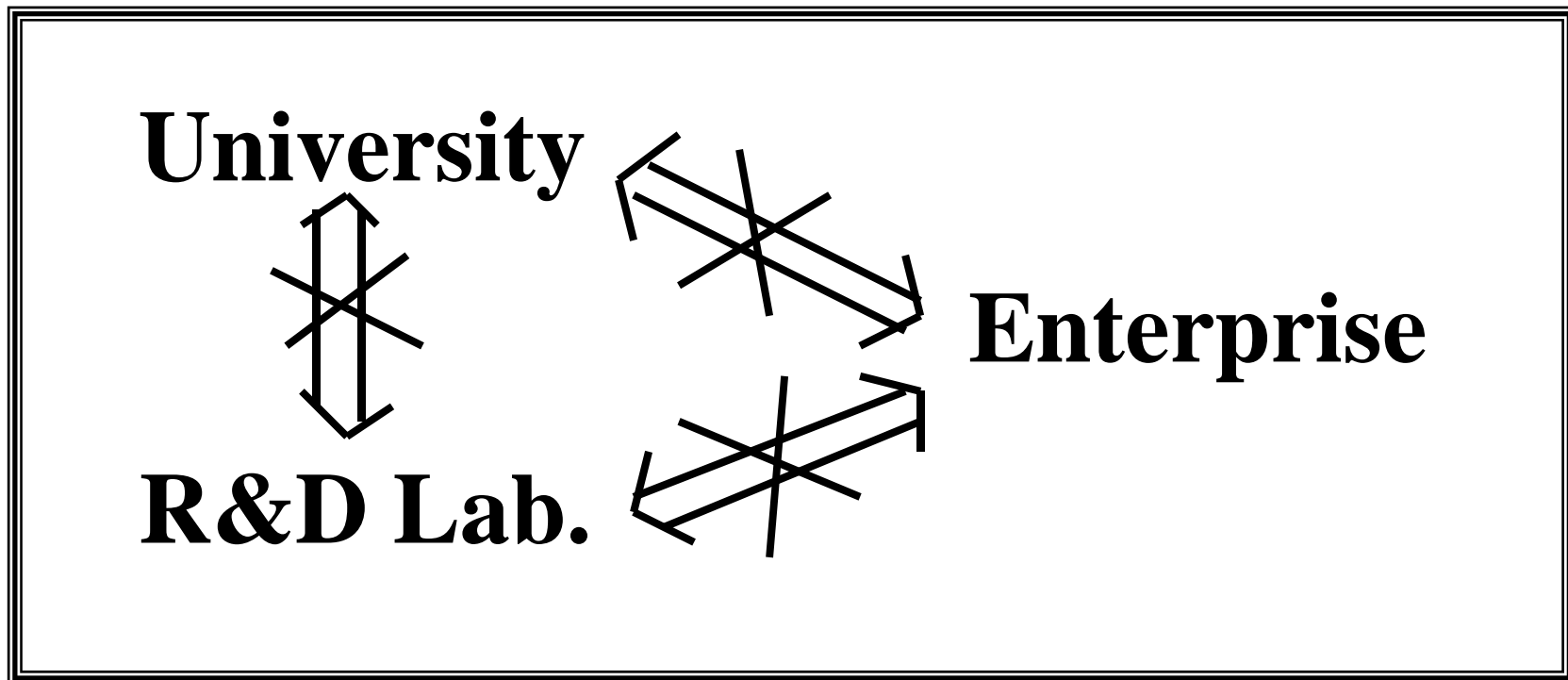
	<u>US</u>	<u>JAPAN</u>	
V C Co.	1946	1972	- 26
SBIC	1958	1963	- 5
Bayh-Dole Law	1980	1999	- 19
SBIR	1983	1998	- 15
Stock Option		1995	
Angel Tax		1997	
TLO	1940~	1999	- 50



10~20 Years Behind USA

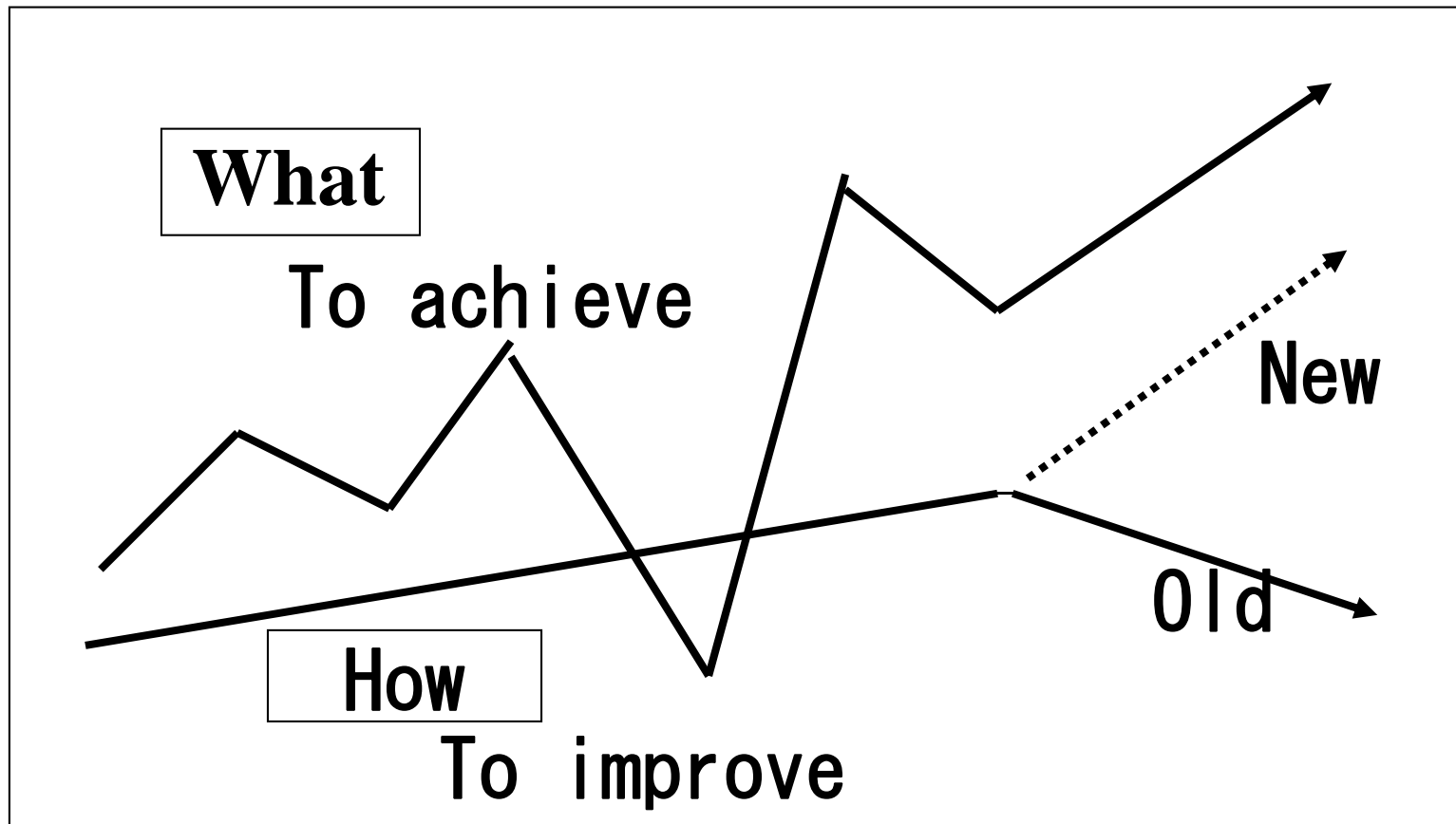
Key Issue of Japan

R&D Collaboration



STRATEGY vs KAIZEN

Prof. M.Porter says: Japan has no Strategy.



BUSINESS MODEL

	OLD	NEW	Keyword
US	Large Co.	--> Silicon Valley Model GE Portfolio Model	Net Economy
EUROPE	National	--> Pan Euro Model	EURO Money
Japan	Kaizen Model	--> ?	?

Manufacturing : JAPAN < USA

JAPAN 1980's

JIT

KANBAN

+ IT

=

SCM

TQC

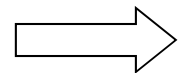
KAIZEN

+ IT

=

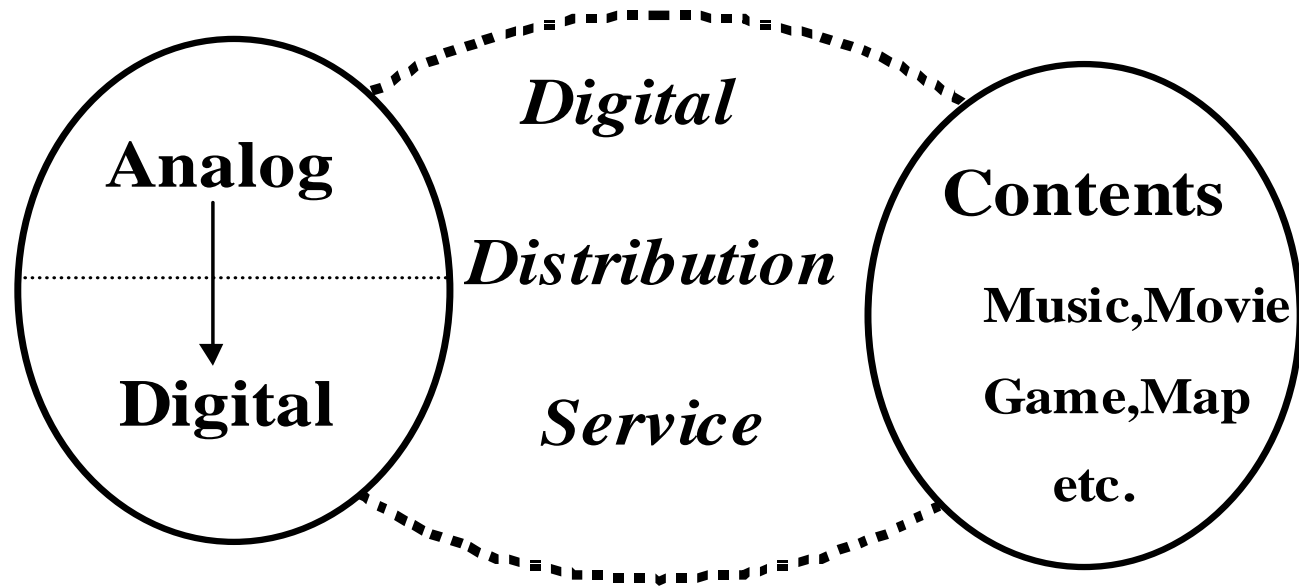
Six Sigma

USA 1990's



US Exceeded Japan in Manufacturing

SONY`s
NEW BUSINESS DOMAIN

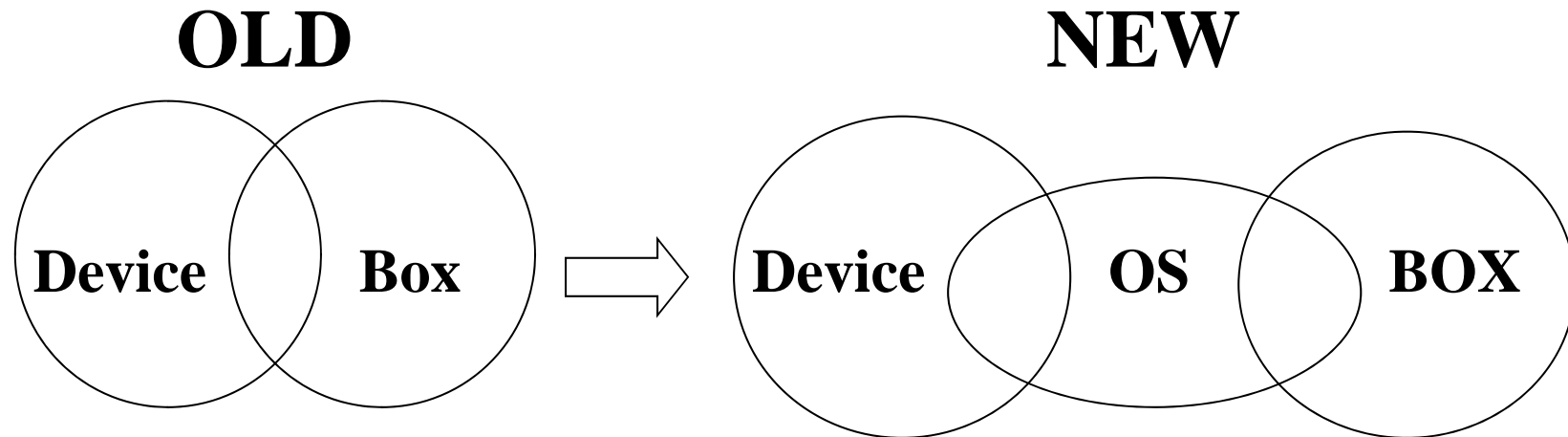


BOX

Network

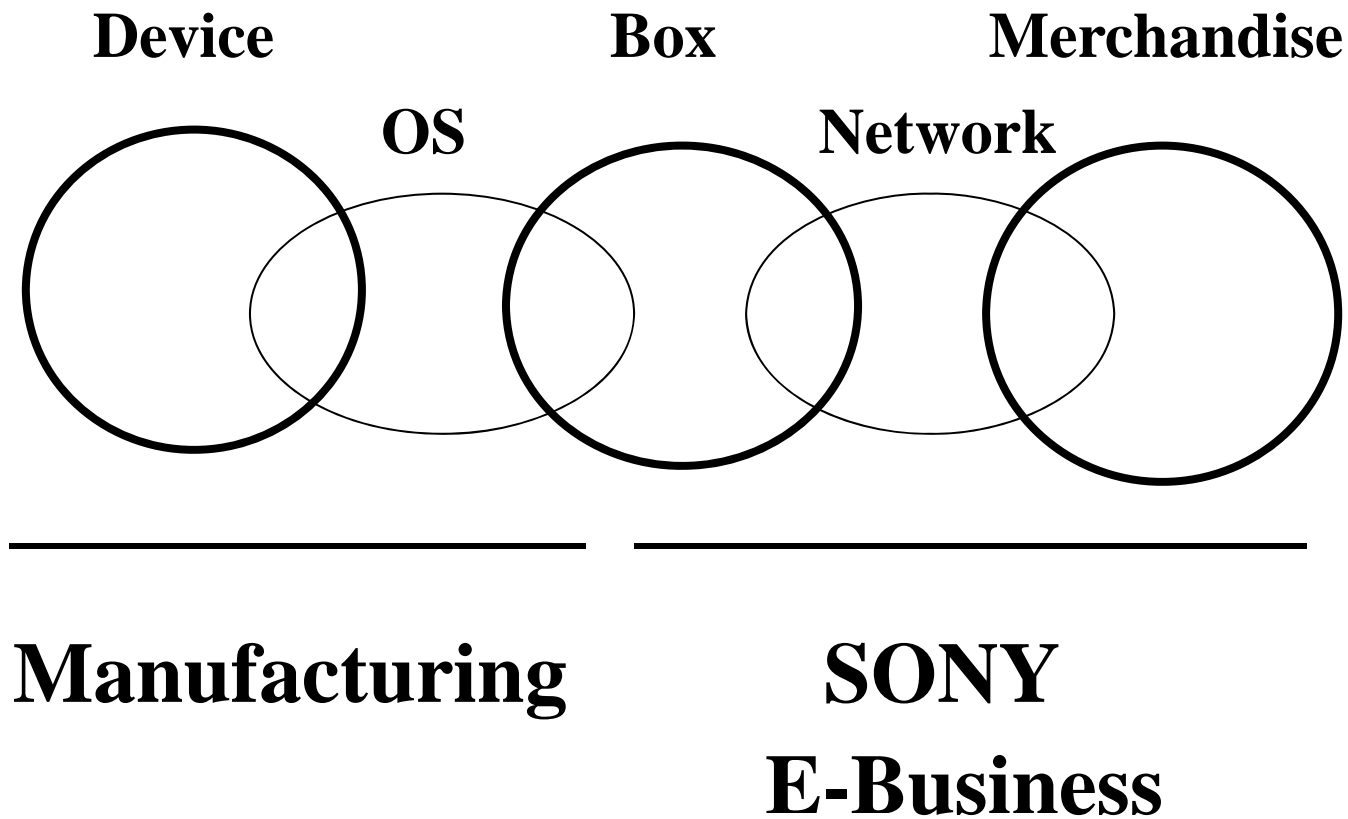
Merchandise

Manufacturing Business Model

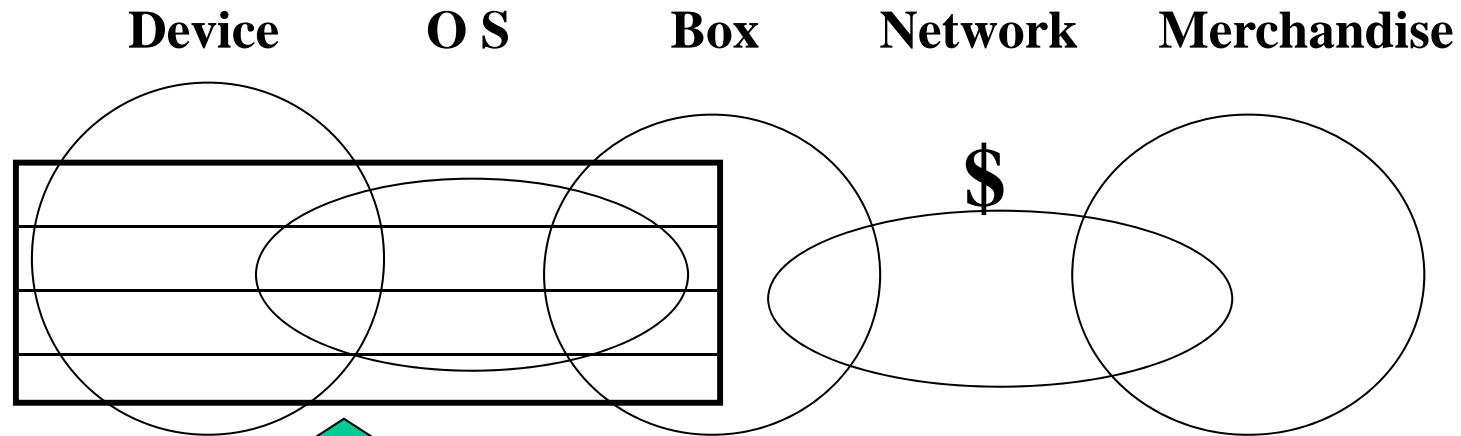


**STB, Portable Phone,
Automobile, IC Card, etc**

Five-Circle Model



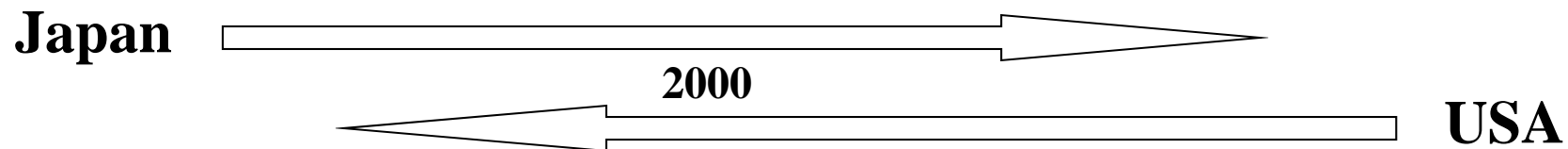
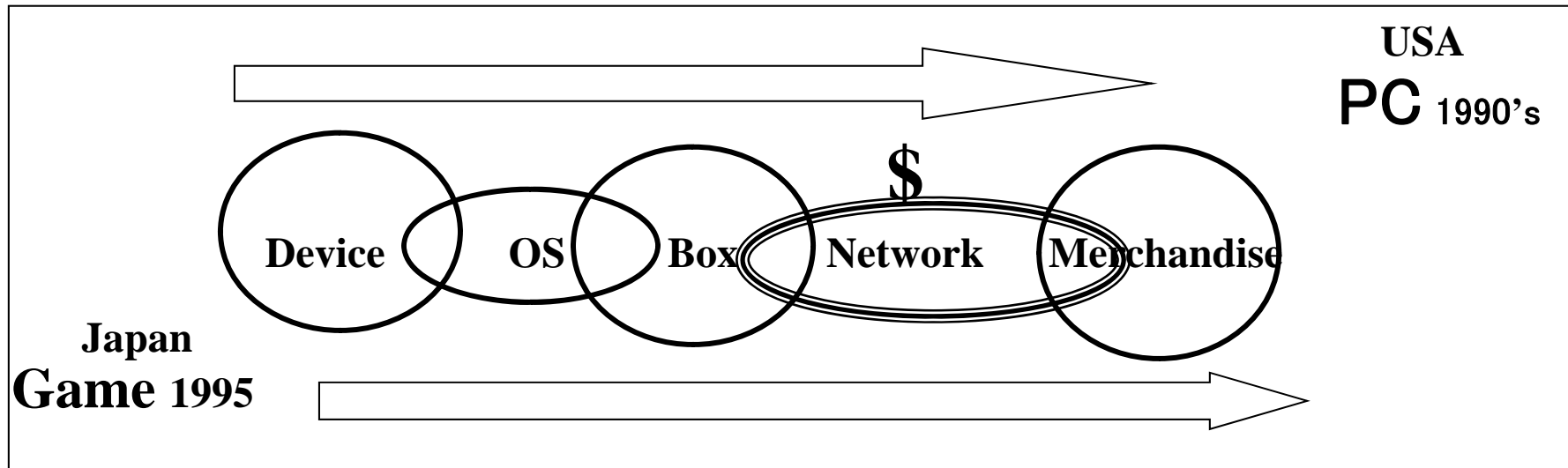
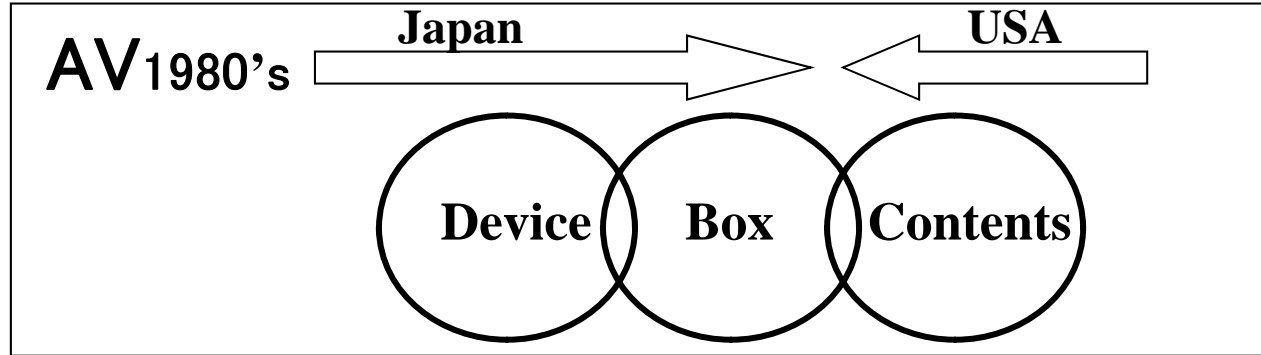
Built in the Japanese Strength to



Ultra Small Motor,Bearing
KANAGATA/Mold
System LSI
Battery

*Level up to IT Environment
to keep influence to the Network,
where \$\$\$ comes in the New Age.*

Value Chain Approach : US v.s JAPAN

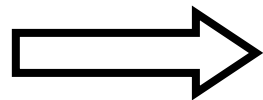


OS for Terminals

Home: STB

Automobile: ITS Navigation System

Outdoor: Cell Phone



Windows CE v.s. Non WINTEL

From Professional IT Society
to Personal IT Society

Home Audio ⇒ **WALKMAN**

PC ⇒ **Cell Phone**

Cell Phone Banking, Shopping, E-mail

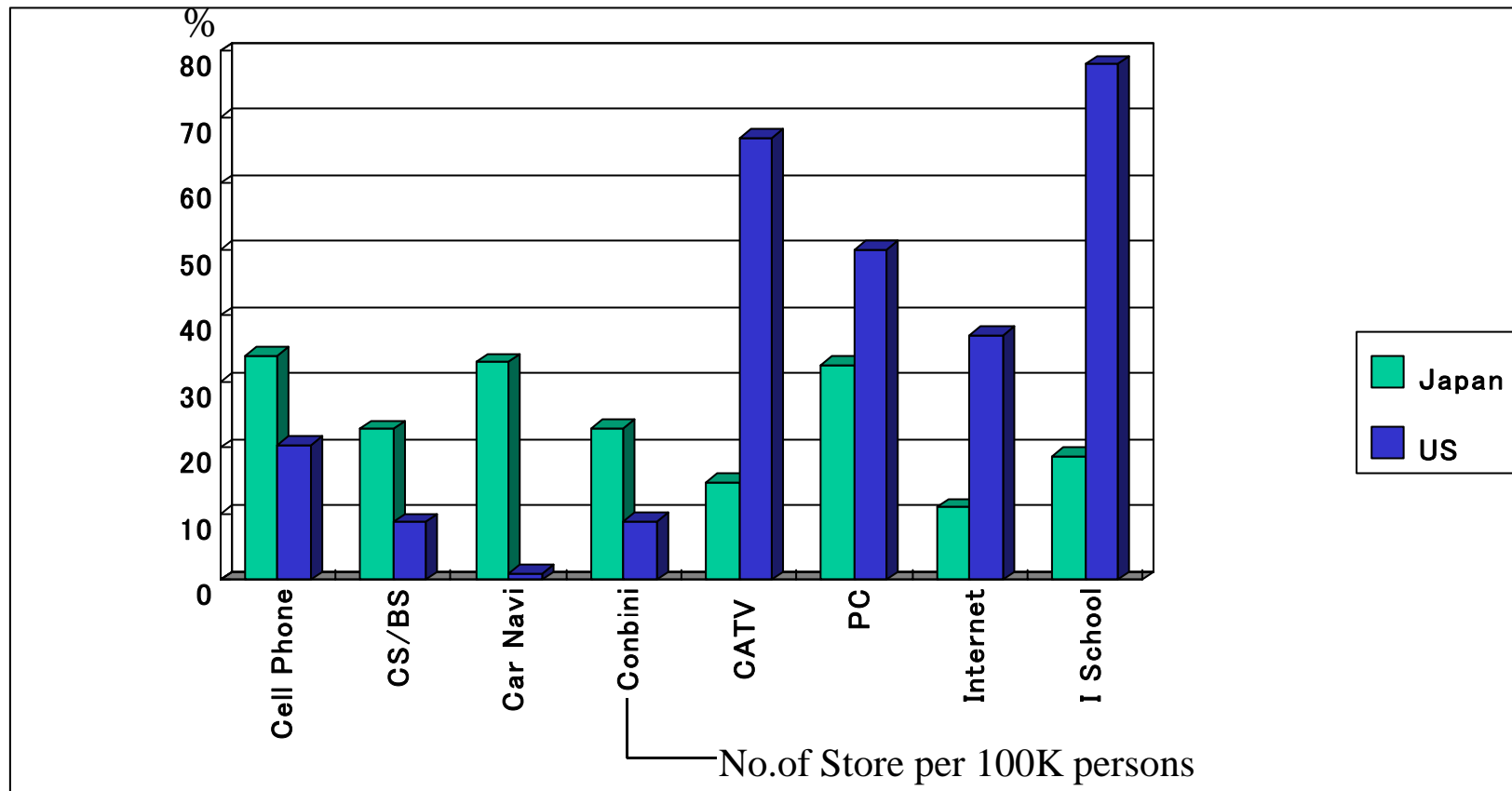
Other Key Factors for Network Economy Penetration

Japanese Advantages

- 1. Clever Portable Phone Terminal**
- 2. Physical Portal : 24h Convenience Store**
- 3. Express Distribution Service to Home**

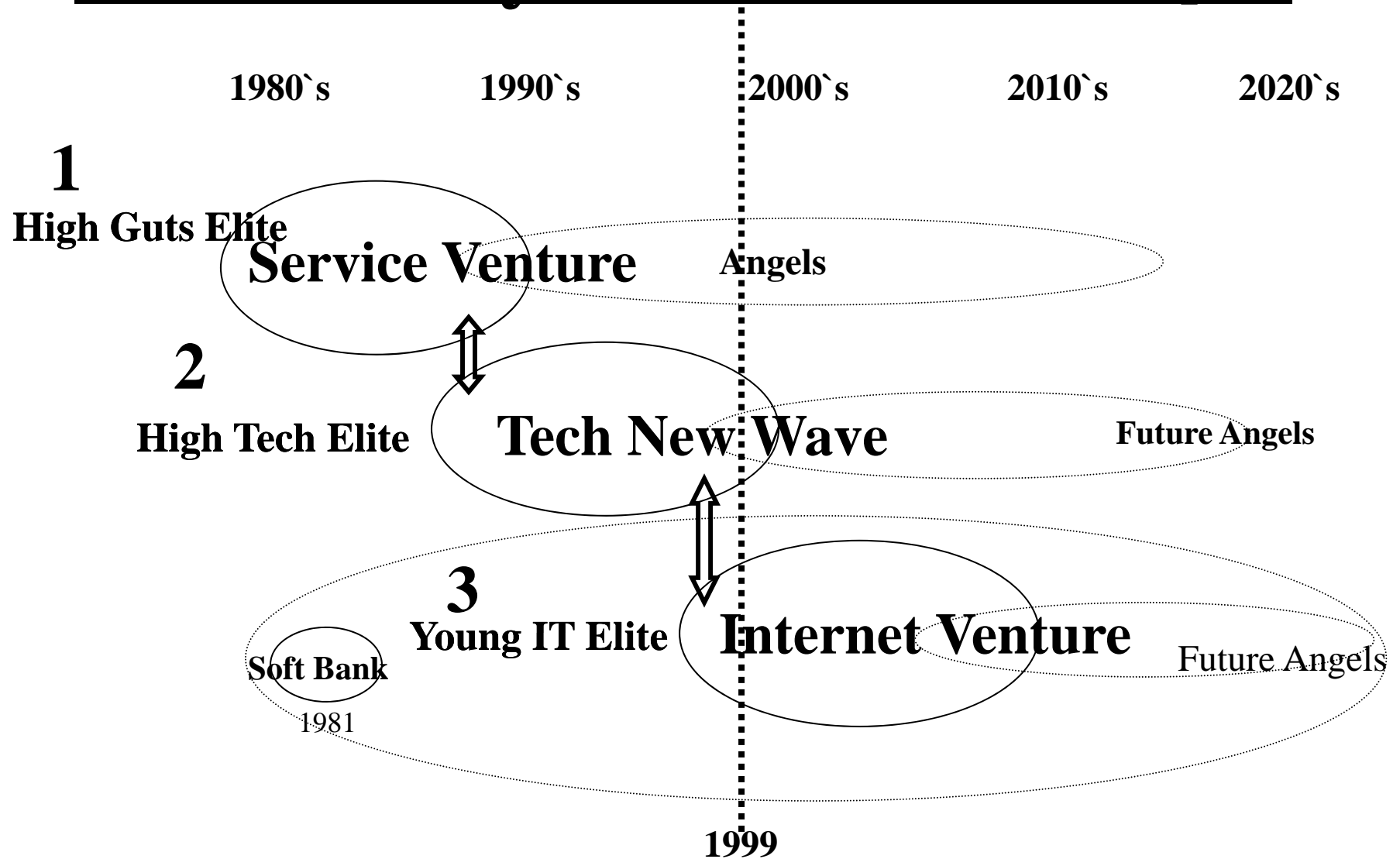
⇒ *Highly IT Armed Seven-Eleven, Yamato Express*

“Network” Penetration Ratio

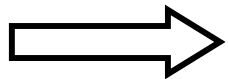
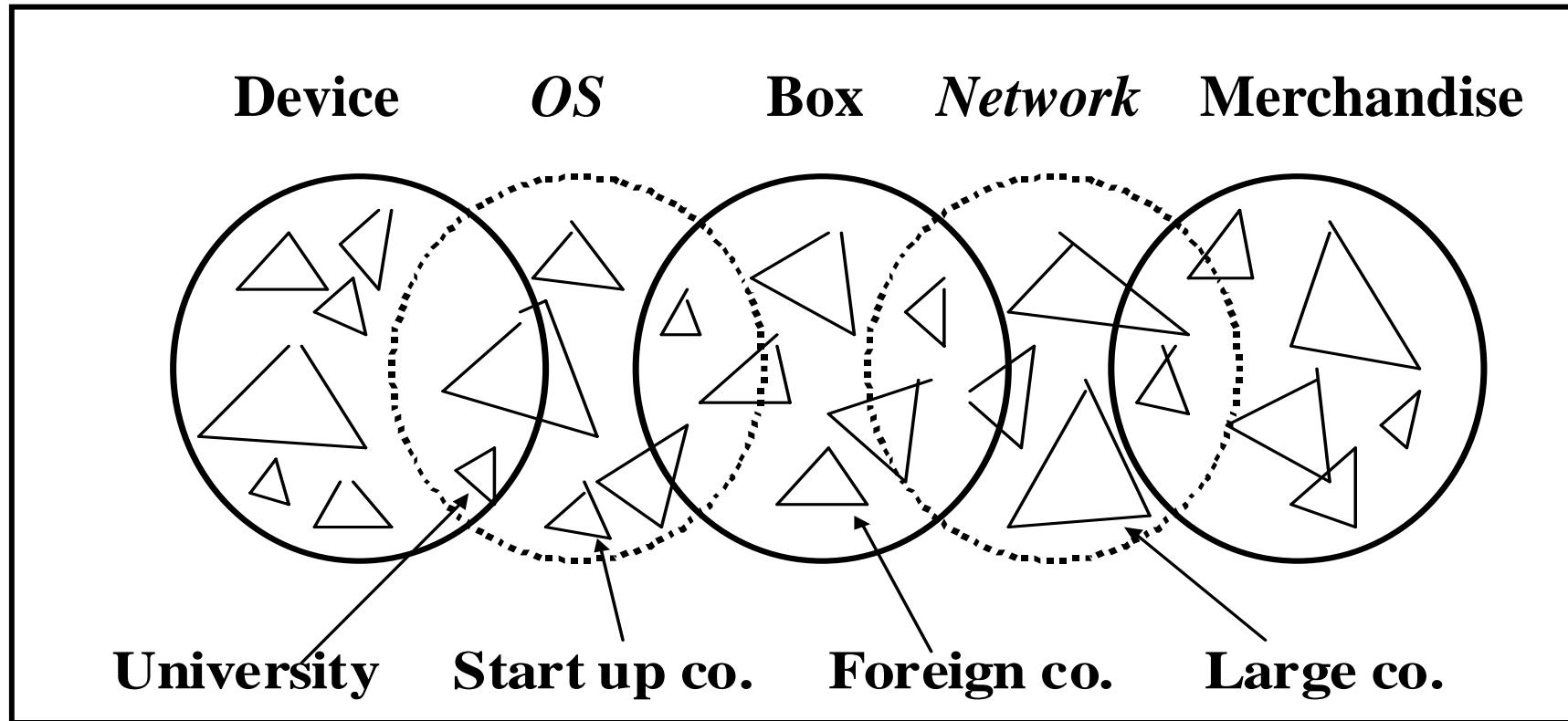


Data: 1999 Japan Communication white Paper, etc.

Three Layers Structure of Japan



Dynamic Module Combination

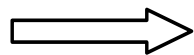


Small Independent Organization is the Key.

New Waves in Japan

Technology Oriented Entrepreneur

<u>Company</u>	<u>Founded</u>	<u>Founder</u>	<u>Business</u>	<u>Joint work with:</u>
• IIJ	'98	Suzuki	B to B Network	SONY, Toyota
• INCS	'90	Yamada	Mold Tooling	HONDA
• Yozan	'90	Takatori	LSI	NTT
• Future	'89	Kanamaru	System Design	Seven Eleven
• Mega Chips	'90	Shindo	System LSI	Nintendo
• Thein	'92	Iizuka	System LSI	AV Makers
• Synthesis	'98	Yoshida	System LSI	Sumitomo Denko
• Kyouden	'83	Hashimoto	Print Board	AV Makers



Utilize Big Companies as a Equal Partner.

Characteristics of *the New Waver*

- Blue Chip's Elite Engineer
- Started with Age 40's
- USA Univ. or Business Experience
- Global Mind and Action
- IPO or M&A Exit Strategy
- Keep as a CEO, but not to their kids
- Future Angel

R&D Oriented Emerging Entrepreneurial Company in JAPAN

Technology	Co.Name	CEO	Found	IPO	Person	\$M	Technical Specialty
Mfg.Tech.	INCS	49	'90	-	110	30	3D Speed Tooling
	SAMCO	57	'79	-	100	33	Thin Film Tech.
System LSI	Megachips	57	'90	'98	90	60	Game LSI
	Thine	51	'92		40	95	AV LSI
	Realvision	45	'96		40	10	3D Image LSI
IT,Network	I I J	52	'92	'99	270	300	Internet Provider
	Rakuten	35	'97	-	40	60	Network Mall
	Mag Mag	29	'97	-	10	5	Mail Magazine
	Future	44	'89	'99	150	40	System Integration
Game Soft				many companies			

Key Issue of JAPAN

- **New Combination**
- **Independent Personality**

**Japan is Ready
to Compete / Collaborate
with USA**

for Global Innovation