

Management of Technology for the Future



early Zenith



early Sony

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<http://www.tvhistory.tv/>

Challenges

Complexity

Globalization

Emancipation

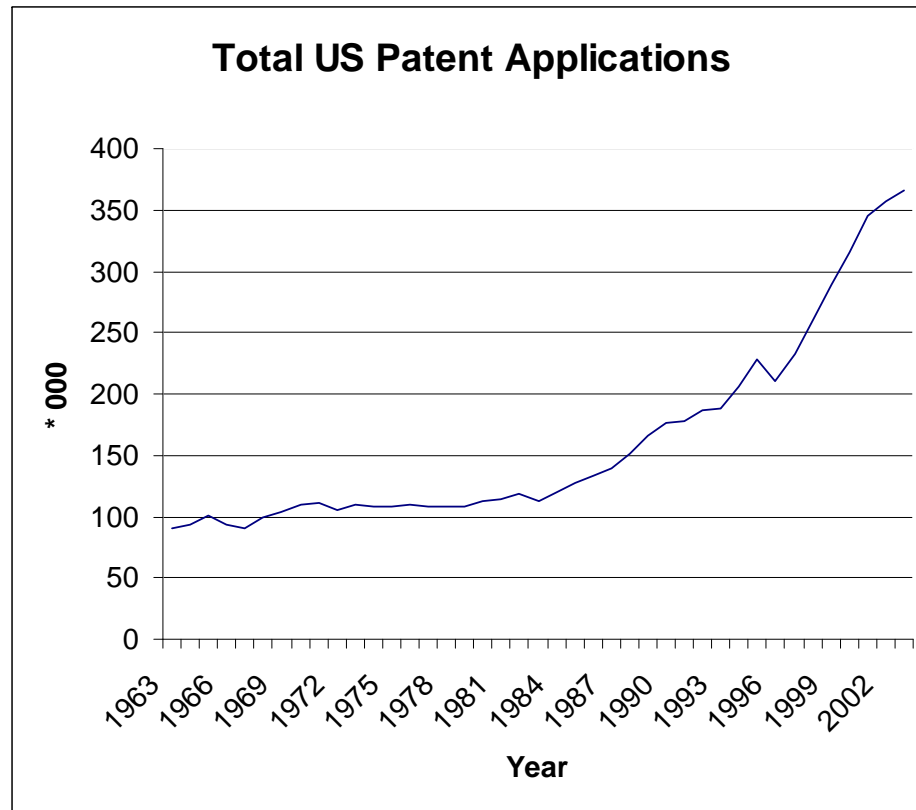
Why we need Managers of Technology:

Increasing Complexity

- Increasing complexity, and less design redundancies create barriers for changing designs
- E.g. cars used to be designed by mechanical engineers
- Now electronics, material science, computer science, chemistry, aerodynamics all play a role
- Innovation only manageable by involving suppliers,

Why we need Managers of Technology:

Keeping up in the plethora of information becomes harder



Why we need Managers of Technology:

Example: Television

In 1949 there were:

78 US TV brands

12 UK TV brands

7 French TV brands

1948 Sentinel 405 7" (USA)



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Why we need Managers of Technology:

Example: Television, Emerging Brands

Paradox: Everywhere in the world consumers can choose from a wider offer of brands, but the total number of brands goes down dramatically

Akai	Japan	?
Curtis Mathes	USA	1960
Hitachi	Japan	1975
JVC	Japan	1976
Philips Magnavox	Netherlands	1976
Matsushita Panasonic	Japan	1975
Mitsubishi	Japan	1980
Thomson RCA	France	1987 (1946)
SAMPO	Taiwan	1981
SAMSUNG	Korea	1989
Sanyo	Japan	1977
SANSUI	Japan	1987
Sharp	Japan	1983
Sony	Japan	1961
Tatung	Taiwan	1979
Toshiba	Japan	1976
LGE Zenith	Korea	1999 (1948)



early Zenith



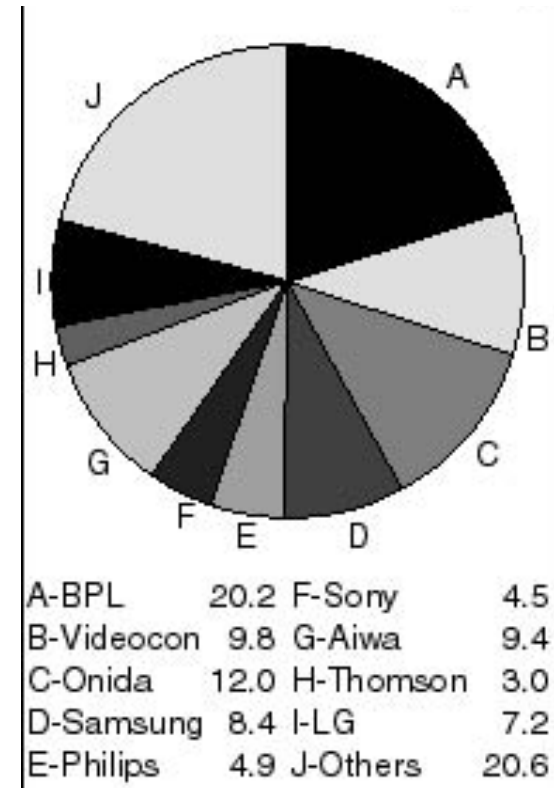
early Sony

Figures from <http://www.tvhistory.tv/>

Why we need Managers of Technology:

Example: Television, Market Share Television Brands

Market shares 1999-2000



Source: MIRC Electronics annual report 1999-2000

Why we need Managers of Technology:

Example: Television

TV brands in a Belgian shop: Half of the brands are also present in US shops

TV-brands in a random Belgian online store:

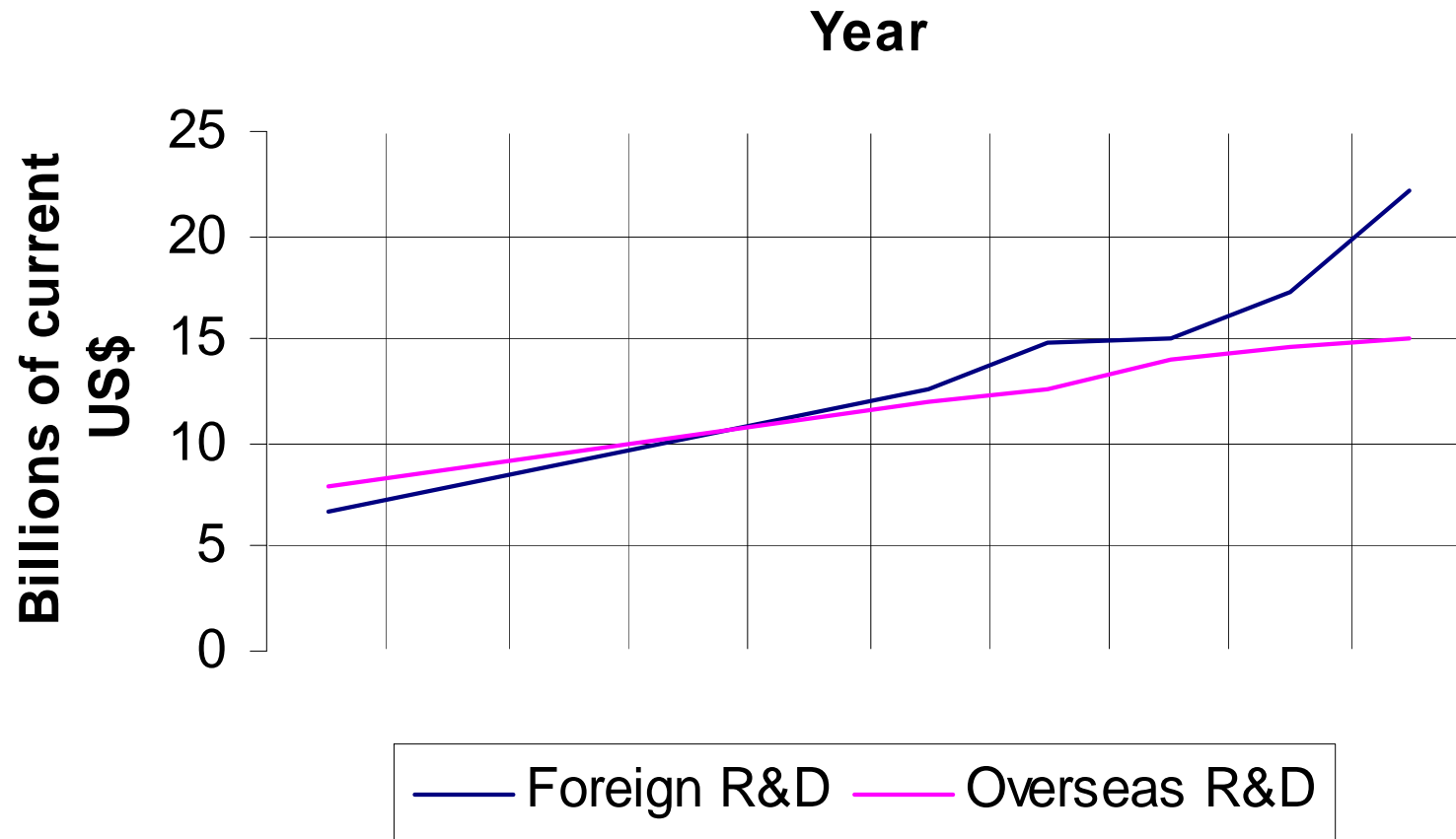


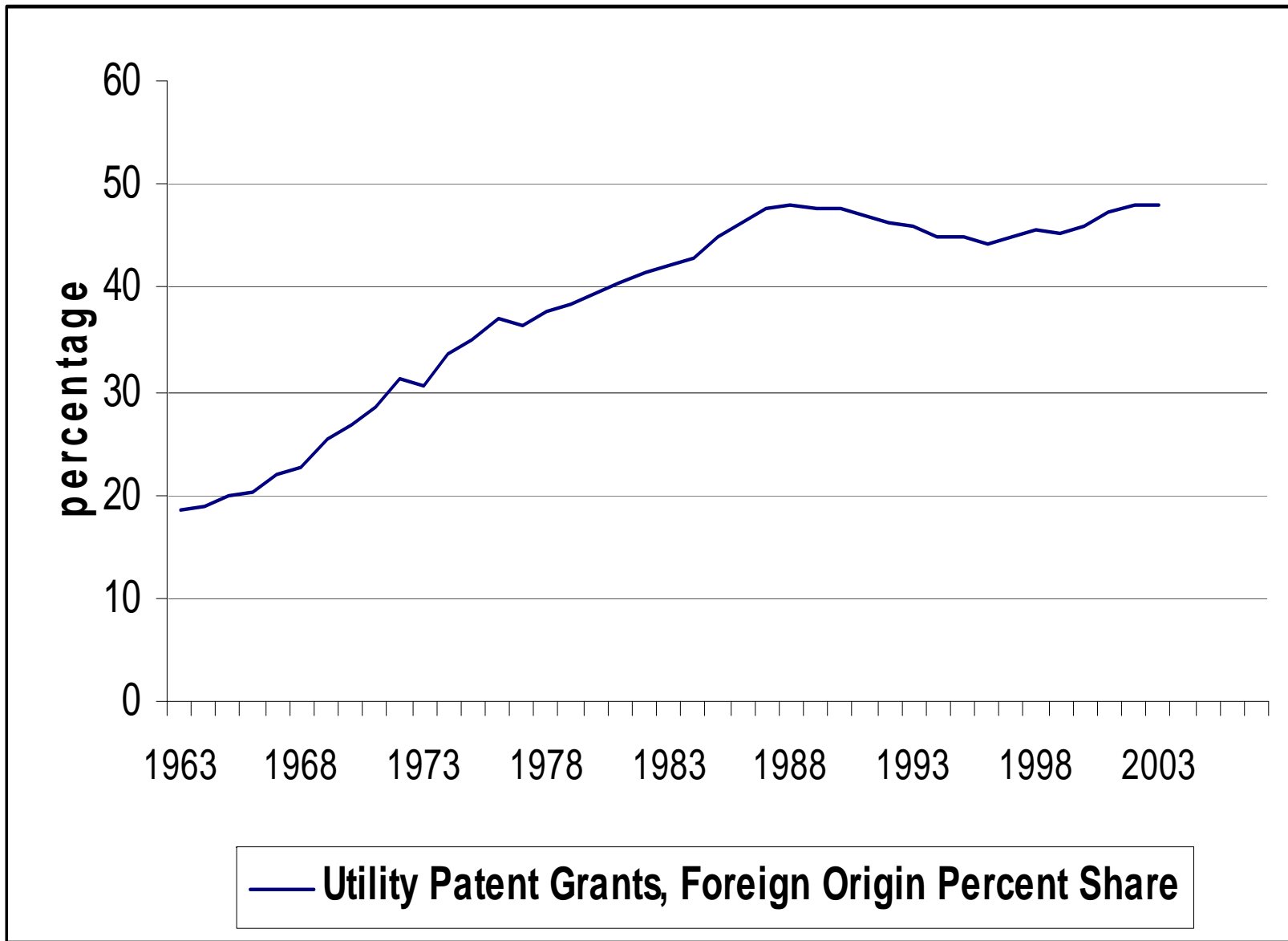
TV-brands in a random US online store:



Images from company websites

Globalization of US Industrial R&D 1989-1998





Why we need Managers of Technology:

Emancipation of citizens

Participation in Higher Education 1970-1996

	1970	1996	Increase %
Albania	25469	34257	34,5
Austria	59778	293172	390,4
Bulgaria	99596	262757	163,8
Finland	59769	226458	278,9
Iceland	1706	7908	363,5
Italy	687242	1892542	175,4
Netherlands	231167	468970	102,9
Norway	50047	185320	270,3
Romania	151885	411687	171,1
Spain	224904	1684445	649,0
Sweden	144254	275217	90,8
United Kingdom	601300	1891450	214,6

FOKKE & SUKKE

GAAN ER METEEN WAT AAN DOEN

DE VERVUILING
OVERSCHRIJDT
ALLE NORMEN!



WAAR IS DE
LUL DIE DE NORMEN
HEEFT VASTGESTELD?!?

RGVT

www.foksuk.nl

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Technology Assessment

Strategic Technology

A process to analyze technological developments and discuss the consequences

The goal of technology analysis is to provide those involved with information to formulate strategic policy, and to define areas of further study.

But:

- This is not neutral

- Goal is to implement results

Technology Assessment

Constructive Technology

Precondition:

Technological change is not autonomous

Stimulate interaction between technology developers and those implementing technology

Interactive technology assessment, public debate

Company Technology Assessment?

In the longer run Chemical Industry cannot afford to be in war with society

Aernoud Loudon, CEO AKZO-Nobel, president CEFIC

Company Technology Assessment?

In the long term, it is in the self interest of the company to take social effects of technology into account:

1. because one needs the cooperation of stakeholders such as workers, consumers, chair holders, neighbors, media, local officials
2. because these 'socially' improved technologies might become the standard at the market, either by consumer demand or by regulation

Examples?

- Brent Spar
- Biotech dialogue
- Nanotech?

Governance of Technological Innovation

- Top down commanded and controlled innovation will not be successful
- Globalization: create scope for experiment
- Complexity: manageable by more open innovation
- Emancipation: Involve the public,

Authorities are no commanders but process organizers

- Consensus based strategy
- Coordination of various activities
- Communication between stakeholders

Rebound:

