

Licensing Strategy of Japanese Firms.

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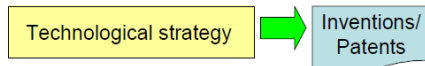
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as a discussant at 日仏会館 for our フランス国立現代日本研究センター..

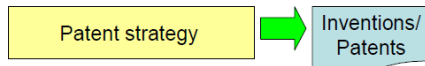
A Research Question

What drives a firm to get patents?

Science and Technology Perspective

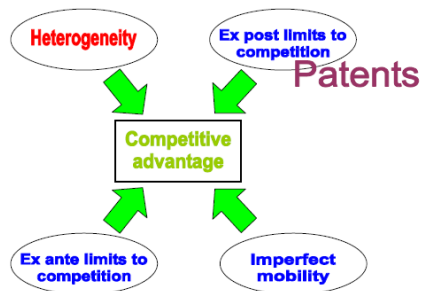


Licensing Business Perspective

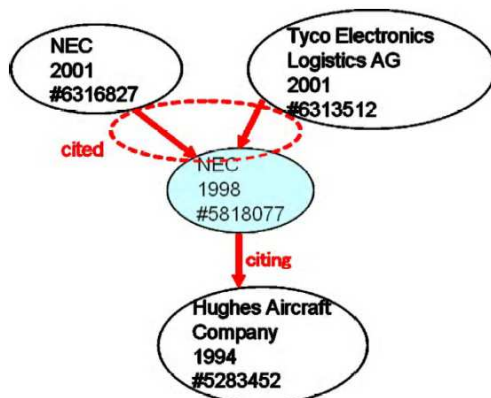


Resource-Based View (RBV)

- (a) Resource heterogeneity of the firm to generate Ricardian rents.
- (b) Mechanisms to sustain the heterogeneity of the firm.



The Relationship of Citing and Cited among Patents.



The Data

This study focuses on the American patents

- registered from 1990 to 1999;
- classified into USPTO primary classes 257, 326, and 438 defined as “semiconductor devices” by Hall, Jaffe and Trajtenberg (2002);
- composed of the top sixteen American and Japanese semiconductor manufacturers ranked by sales.

Six American companies; Advanced Micro Devices (AMD), IBM, Intel, Micron Technology, Motorola, and Texas Instruments (TI),

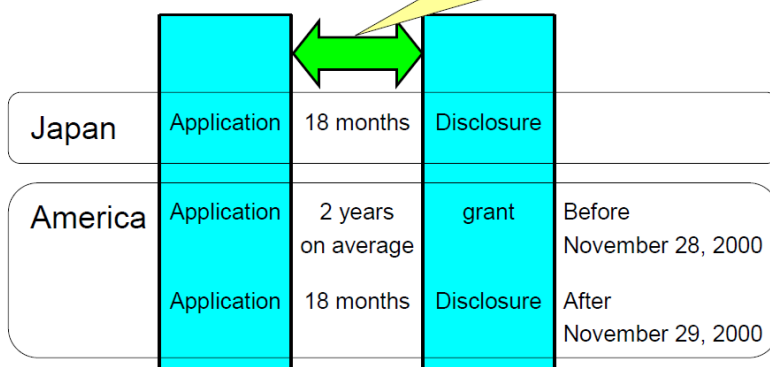
Ten Japanese companies; Fujitsu, Hitachi, Panasonic, Mitsubishi Electric, NEC, Rohm, Sanyo Electric, Sharp, SONY, and Toshiba.

Self-Citation Ratio

		Number of patents	Number of citations	Number of self-citations	Self-citation ratio
American firms	TI	1,418	10,546	2,196	0.21
	IBM	1,331	13,691	2,534	0.19
	Motorola	1,303	9,084	1,333	0.15
	Micron Technology	1,168	12,709	1,888	0.15
	AMD	802	6,886	730	0.11
	Intel	320	2,517	177	0.07
Japanese firms	Toshiba	1,729	9,609	1,370	0.14
	NEC	1,722	8,186	743	0.09
	Mitsubishi	1,670	8,792	1,078	0.12
	Hitachi	907	5,340	912	0.17
	Fujitsu	813	4,580	403	0.09
	Matsushita	560	3,204	186	0.06
	Sony	557	3,278	213	0.06
	Sharp	440	2,208	169	0.08
	Rohm	191	795	26	0.03
	Sanyo	112	529	24	0.05

The time lag to patent disclosure

The applicants only know the patent contents.

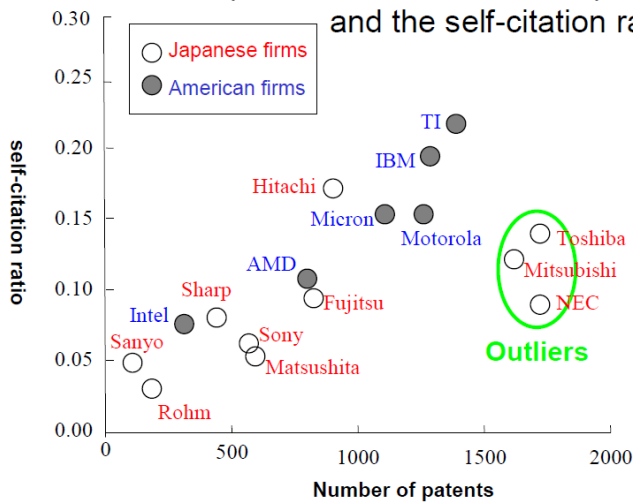


Hypothesis

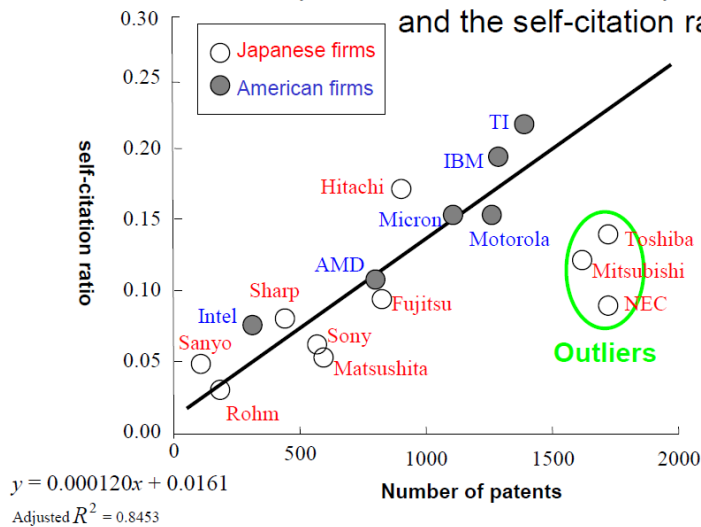
For a period when a firm generates inventions for technological strategy, the higher the frequency of patent filing, the higher the self-citation ratio in the patents filed, where the *self-citation ratio* is defined as the ratio of the number of self-citations a firm made to the total number of citations it made.

The purpose of this study is not only to confirm this Hypothesis, but also to specify outlying firms probably generating "inventions for patent strategy."

The relationship between the number of patents and the self-citation ratio



The relationship between the number of patents and the self-citation ratio



Patents As a Tool for License Negotiation

- A) Patents abandoned after the conclusion of a cross-licensing contract
- B) Patent applications abandoned after filing
- C) Patents needed for the lawsuit
- D) Patents needed for a deterrent

Avoidance costs < License fee
⇒ Inventions for patent strategy

Avoidance costs:

- a. the costs of R&D to avoid that patent
- b. the cost of submitting an appeal-for- invalidation claim
- c. the legal costs needed when the patent owners file a patent infringement lawsuit

The “blue LED lawsuit” fought over “patent 404” (from 2004 to 2005)

- “Method of growing a semiconductor crystalline film of nitride compounds” (Japanese patent number 2628404).
- The inventor’s compensation of patent 404
Tokyo District Court: 60.4 billion.
Tokyo High Court: 10 million yen at most.



From a *licensing business perspective*

Patents abandoned after the conclusion

- Almost one year after the settlement, Nichia officially announced that it would abandon all rights to patent 404.
- It is nothing more than a problem of balancing
 - (1) the need for maintaining the patent,
 - (2) the cost of maintenance.

Patent applications abandoned after filing

- Japan Patent Office examines only the patent applications requested by anyone at any time in the 3 years from the filing date.
- In respect of patent applications required just to make up the numbers to negotiate a cross-licensing agreement, it is the reasonable option to neglect the patent applications without examining due to the much higher cost for examination.

Patents Needed for the Lawsuit

- Tokyo District Court intermediate decision sentenced the attribution of patent 404 to Nichia on September 19, 2002.
- Nichia and Cree made a cross-licensing agreement on November 6, 2002.
- Abandonment of patent 404 would raise a risk that the judge would suspect that Nichia had abandoned the patent in order to reduce the sentenced 20 billion yen.

Patents Needed for a Deterrent

- 🌐 Toshiba bought the MRI Division of Diasonics whose patent was strong enough to be effective against GE's patent.
- 🌐 Toshiba and GE were both aware of the possibility of infringement but did not take any actions to correct it including cross-licensing negotiations.
- 🌐 Patents would act as a deterrent without the rights being exercised.