September 9, 2010
Japan TRIZ Society
6th TRIZ Symposium
at Kanagawa Institute
of Technology

Using TRIZ for intellectual properties and its practice

Patbrain corporation, Japan

CEO Toshimitsu Kataoka

PATBRAIN

English Translation : Kyoko Miyashita and Kazushi Tsuwako

Biography

Born Sendai city, Miyagi

Graduated Tokai University, Research Institute of Electrical Communication

Tohoku University. Entered Anritsu Corporation

While worked as an engineer for 8 years contributing to various development such as Yellow 100-yen pay phone, became interested in creativity development (i.g. equivalent transformation theory, KJ method, and NM method) that bought a book, “発明発想入門”written by Genrikh Saulovich Altshuller

After transferred to patent division in charge of intellectual property, dedicated to patent search, trained staff, filed patent application, obtained patent, handled dispute, and introduced TRIZ to the company; furthermore, contributed to obtain patent for various global inventions such as NC turret punch press, telephone card with a magnetic string, mobile phone for rental service, super black membrane.

In 2007, found Patbrain corporation, an intellectual asset consulting company providing patent search, ideas, and licensing support.

Publication: 「ソフト化時代の知的財産戦略ノウハウ」（The Nikkan Kogyo Shimbun Co.）

「絶妙なネーミングは金になる」 collectively written（Jitsugyo No Nippon Co.）


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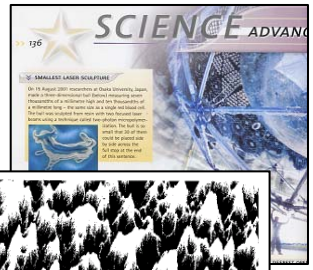

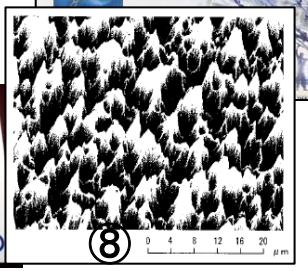
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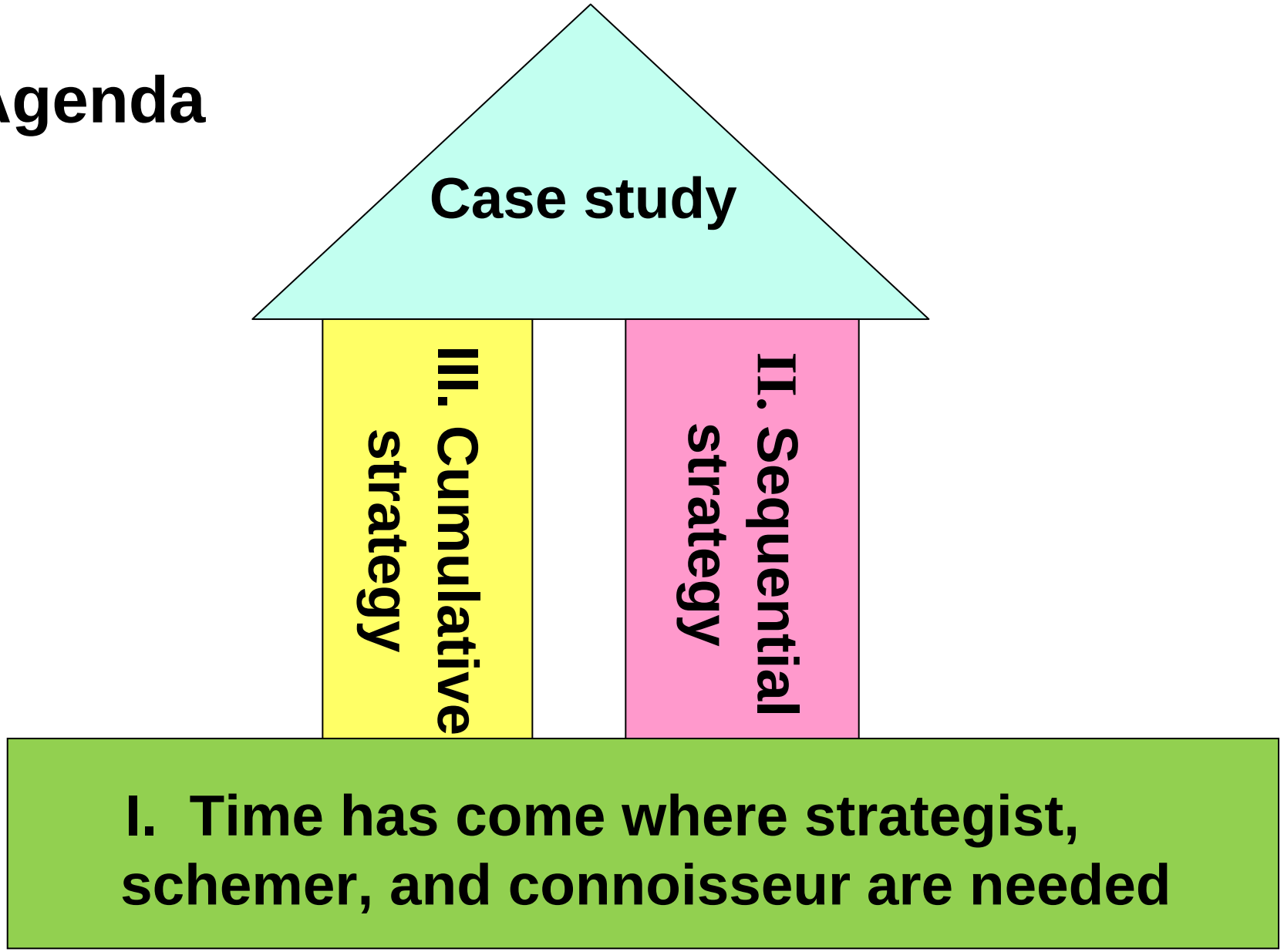
Agenda



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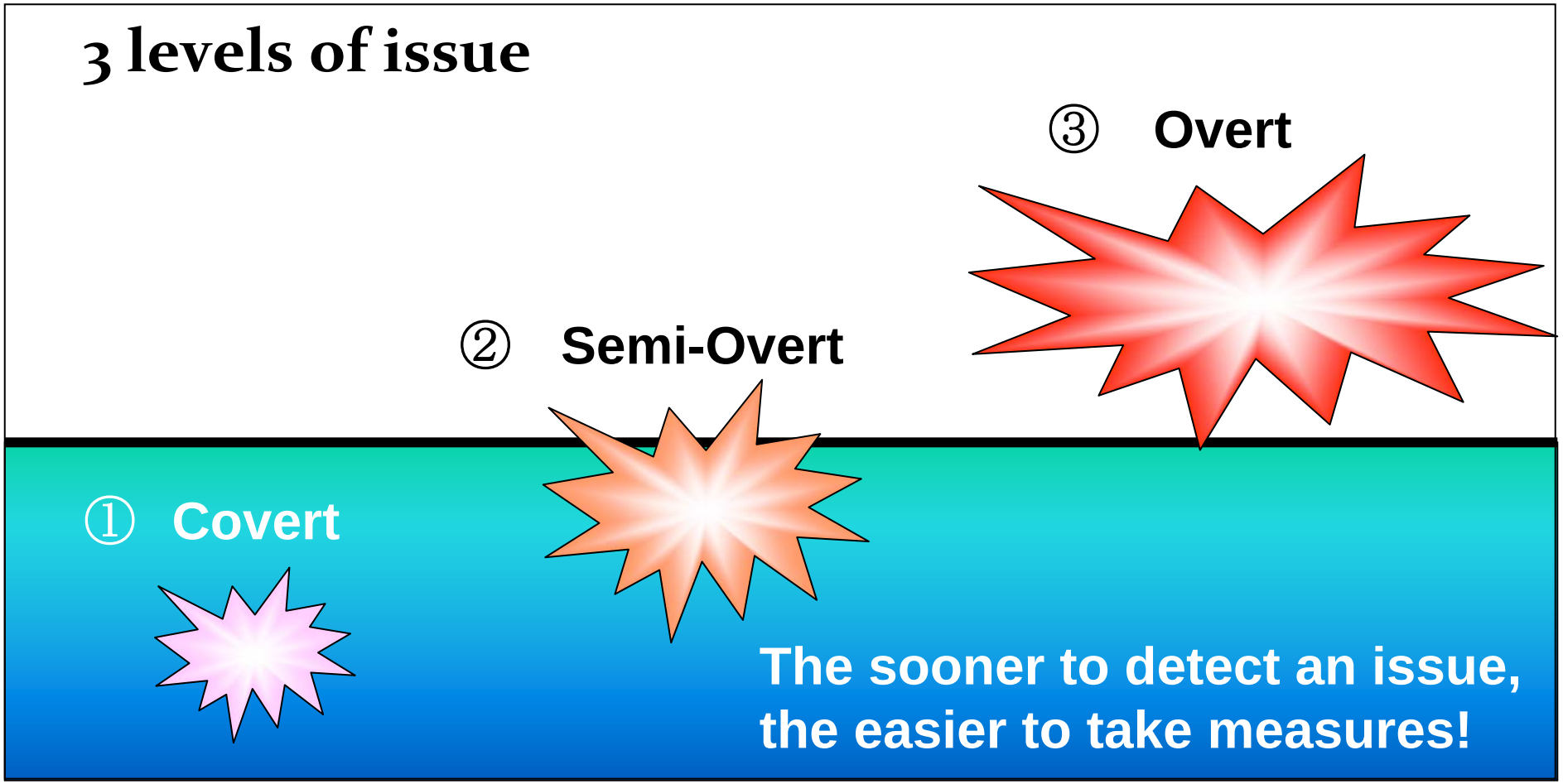
Notice sooner the better



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Publications indicating creativity and prosperity (1960 – 1998)

G. S. Altshuller wrote “発明発想入門”, introducing resolution algorithm (ARIZ-68) for ideal machine, system (technical) contradiction, and invention issues.

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Publications regarding intellectual property introduced TRIZ

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Publications regarding intellectual property issues of 2004 and later

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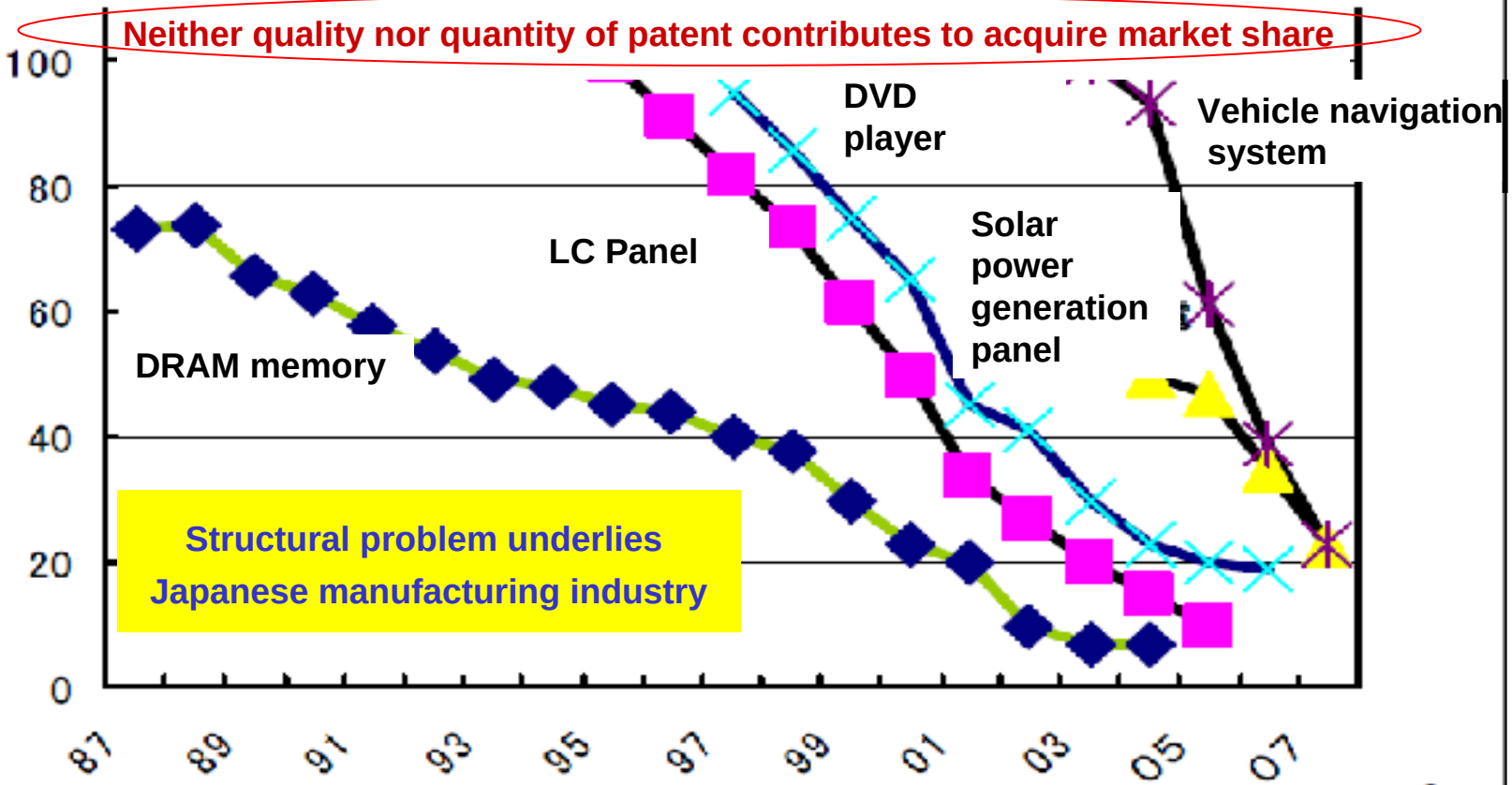
Japan is now in profound transition stage of a half century

Japanese companies may face withdrawal from the market when mass marketing



"International standardization and intellectual property" written by K. Ogawa Prof Tokyo Univ.
(Reprinted from http://www.kantei.go.jp/jp/singi/titeki2/tyousakai/kyousouryoku/dai3/siryou3.pdf)

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Analysis and recommendation by Mr. Senoo and Mr. Ogawa, Tokyo University professors

- **Japanese automobile industry is in the greatest crisis: may collapse in 15 years!**
- **Why Intel survived?**

Japanese semiconductor LSI companies coalition: No. of patent is approx. 10,000

Operating loss in 2009 is approx. ¥490B

Intel: No. of patent is approx. 320　Operating profit in 1st quarter of 2009 is approx. ¥64B

①Patent is powerful leverage?

②Zhu Ge Kong Ming, a genius schemer exists in the modern world?

⇒ Trinity management, business, R&D, and intellectual property strategies

Quoted from a book written by Kenichiro Senoo ：「技術力で勝る日本が、なぜ事業で負けるのか画期的な新製品が惨敗する理由」

Intellectual property barely contributed to maintain company's competitive edge

⇒ Intellectual property management is to weigh heavily on IP usage, not on volume or quality

Quoted from Koichi Ogawa, Prof. Tokyo Univ. "International standardization and intellectual property"

PATBRAIN (reprinted　from http://www.kantei.go.jp/jp/singi/titeki2/tyousakai/kyousouryoku/dai3/siryou3.pdf)

Recommendations made in the 2nd TRIZ symposium (2006)

17: Another dimension

Use TRIZ as an intellectual strategy tool

TRIZの非技術分野への適用

Win with intellectual property

知財戦略、経営戦略、技術戦略

Use TRIZ as a strategy tool for the trinity management

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7. Nesting, 1. Segmentation, 19.Cycle

5 keys to survive intellectual competition

①強い特許取得（発明レベルUPコーチ、権利化）
②他社特許非侵害（迂回技術のヒント、トリミング）
③経営、技術、知財戦略の三位一体化（的を絞る）
④対外戦略（対競合、特許庁、裁判所、etc）
⑤知財戦略と知財戦術の強化（入れ子、スキルUP）

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3: Focal nature, 10: Wedge servo (victory goes to the swiftest)

Intellectual property power: power to legally monopolize a specific field with just a single patent

経営戦略における「集中と選択」
技術戦略における「コア技術」

×

Intellectual property power

孫子の必勝の兵法：十をもって一を攻めよ

ランチェスター法則：「局所優勢主義」
戦闘力＝武器効率（強い特許・TRIZ）×兵力数（人財）

弱者必勝の策：創業者帝王の学
（豊田佐吉、松下幸之助、井深太、立石一真、孫正義etc）

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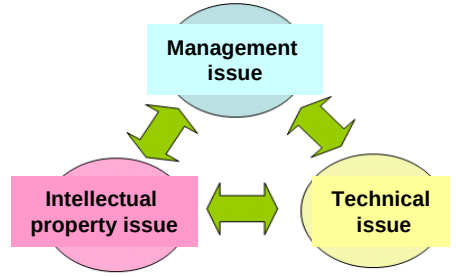
Summary : Utilize TRIZ to maximize company value



問題解決の共通言語としてTRIZ駆使

特許分析から生まれたTRIZ、知財戦略ツールとして活用してこそ
知財部門：コストセンター ⇒ プロフィットセンターへ変身可能

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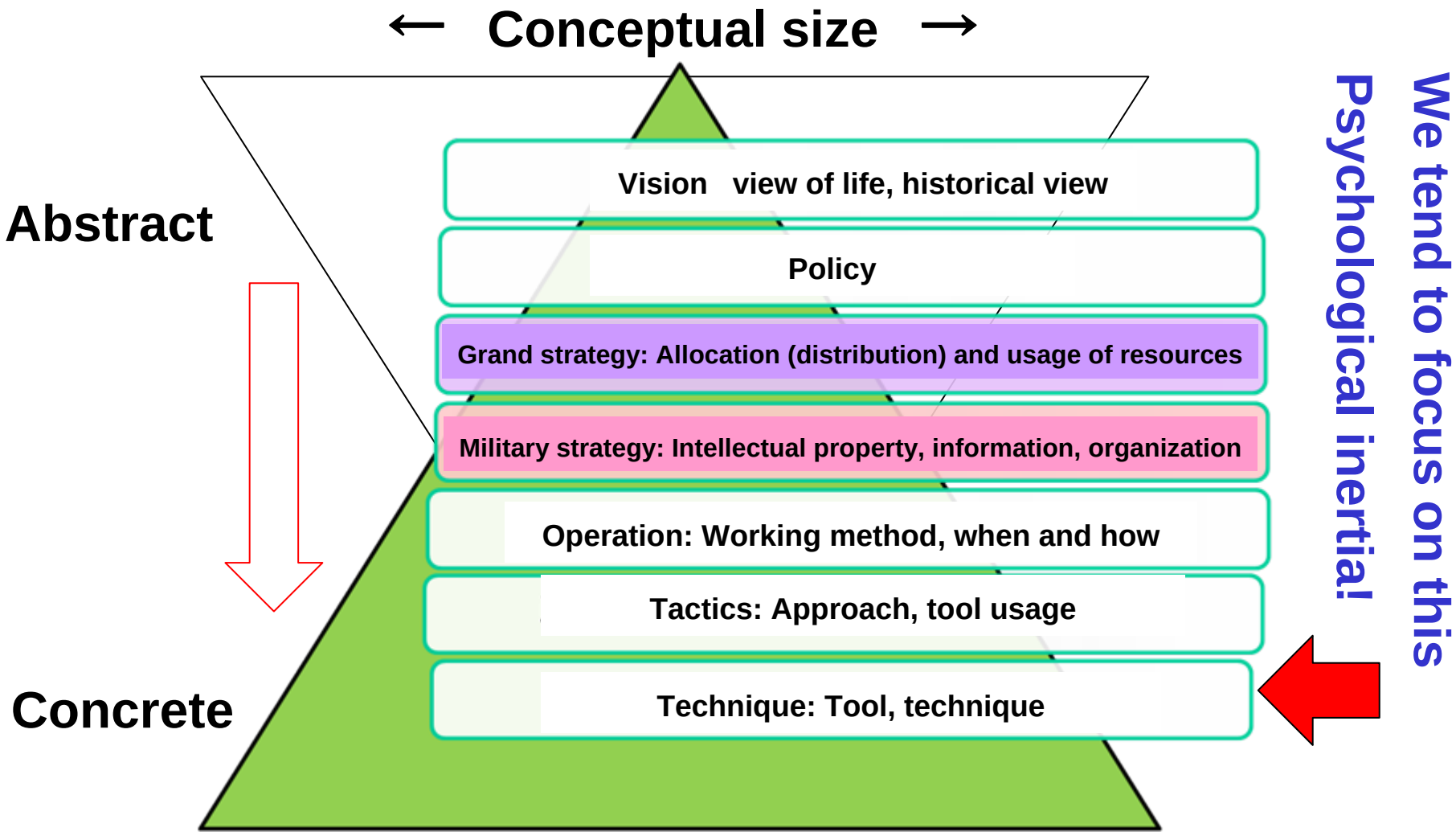
Concern change of intellectual property activity and decay of TRIZ activity in intellectual property division, Alert people!

What is “strategy”?



Based on “Military strategy: A general theory of power control”, Joseph Caldwell Wylie

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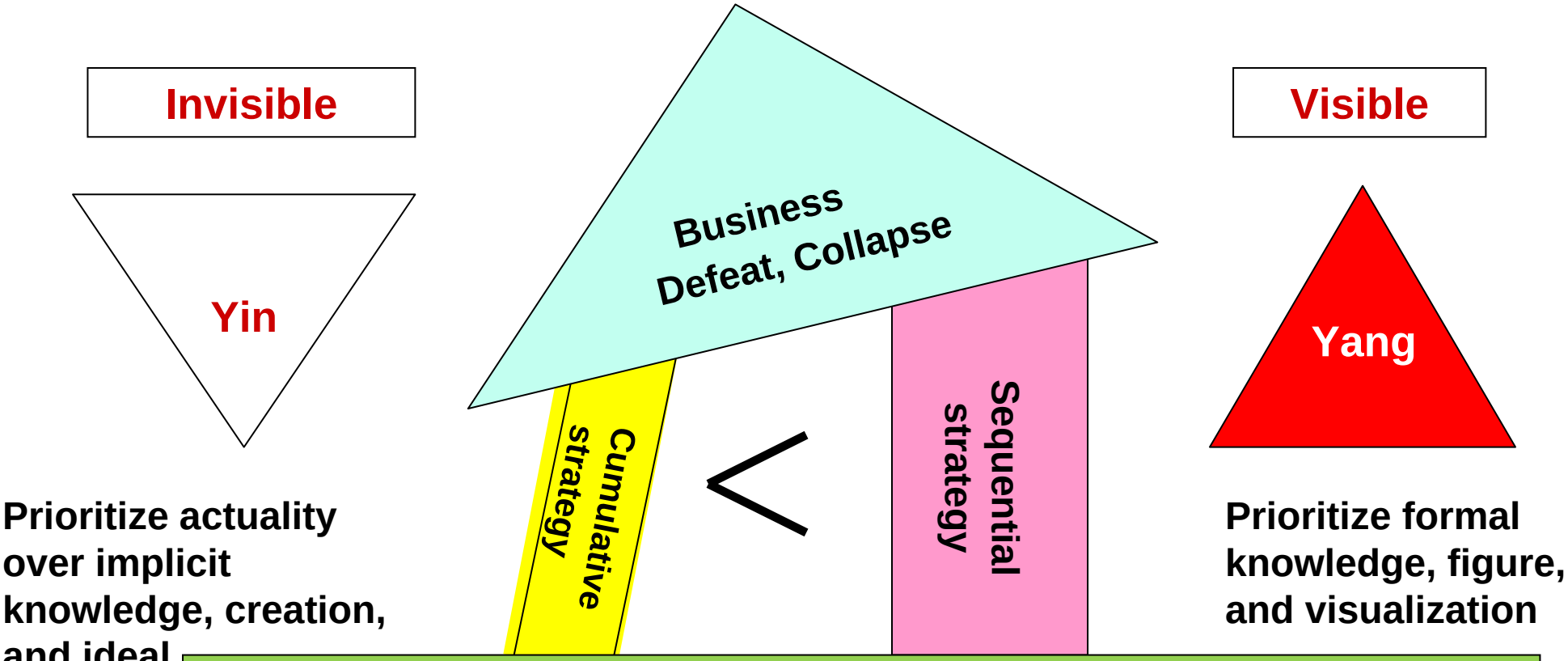
Underlying cause of failure : Sequential strategy oriented and disvalue on cumulative strategy

Like WW2, disdain for defeat cumulative strategy was the cause of defeat?



" Intellectual property which can only exist with inventions" is unrecognized. Creation and invention activities are considered less serious ? => Practice of inventor's suite.

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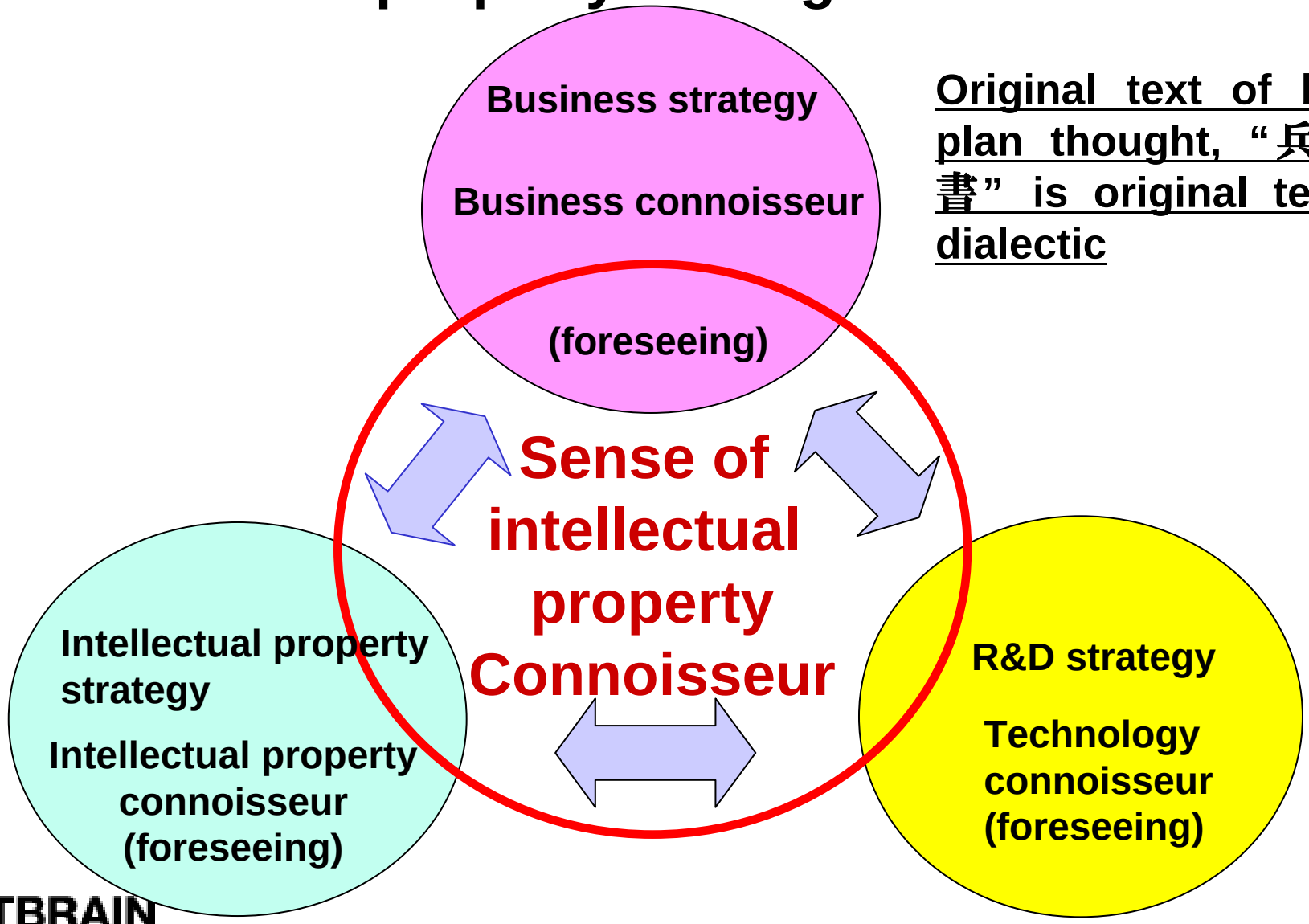
Trinity management of business, R&D, and intellectual property strategies



Original text of battle plan thought, “兵法七書” is original text of dialectic

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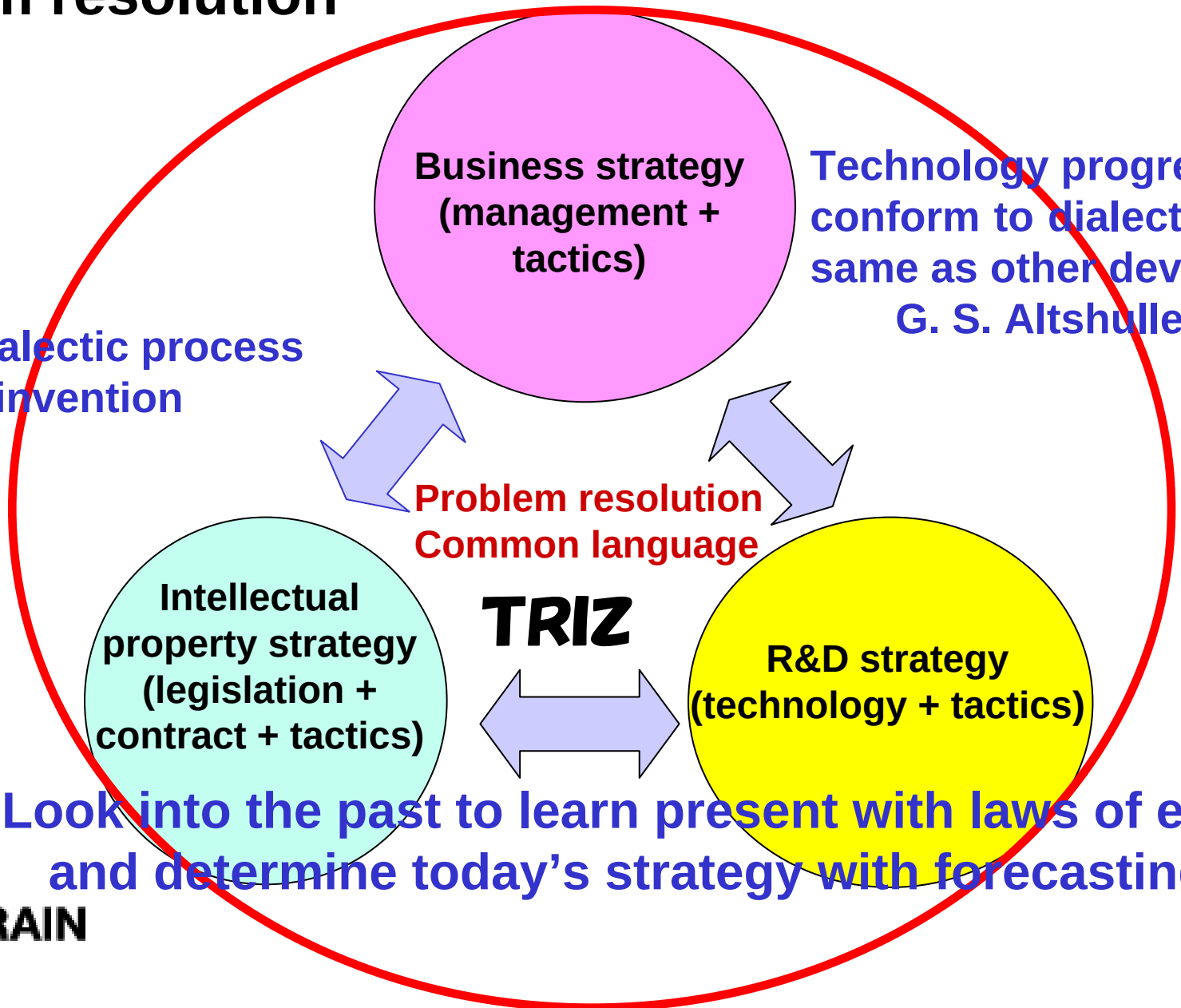
Exercise wisdom to come up with ways to strengthen business.

Leverage TRIZ as a common language for strategy and problem resolution



⇒ Look into the past to learn present with laws of evolution and determine today's strategy with forecasting future.

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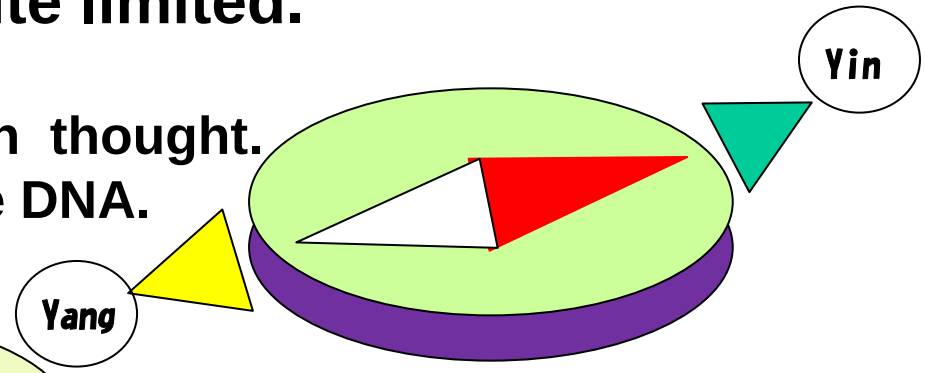
Notice on using TRIZ

TRIZ information in Japanese is quite limited.

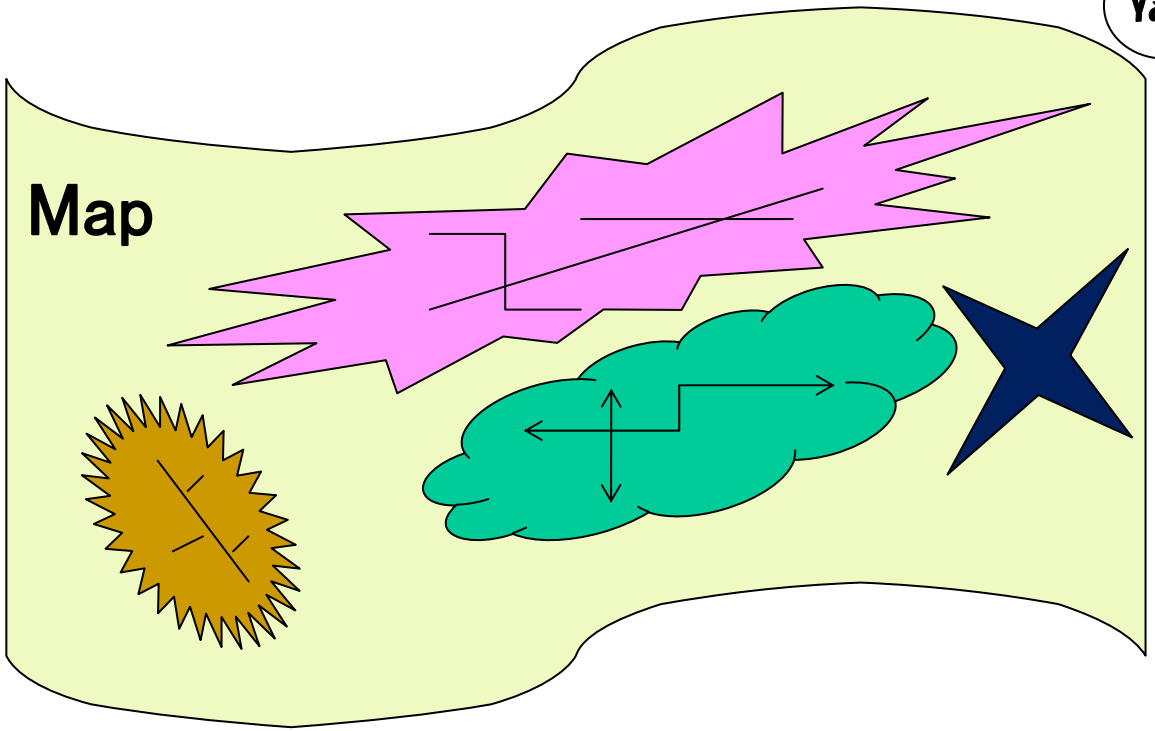
Base of TRIZ is dialectic process.

Basic idea of dialectic process is eastern thought.

Eastern thought is written on Japanese DNA.



Compass is dialectic process.



TRIZ is like an unfinished map which is constantly revised.

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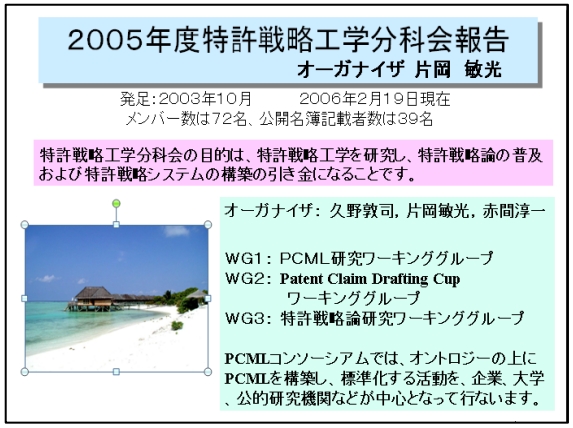
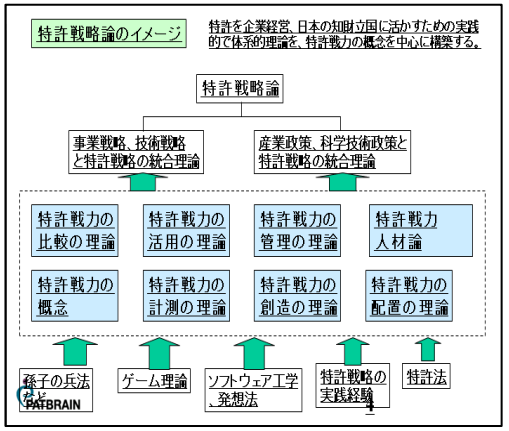
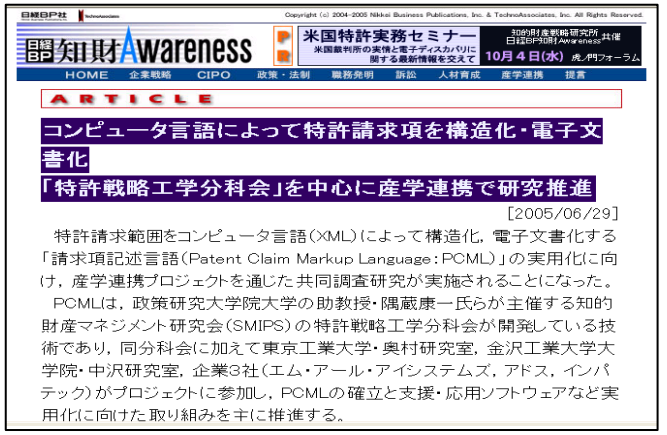
If we get lost though using a map, use the compass!

Activities integrating intellectual property and TRIZ

TRIZ activities at Smips Patent Strategy Engineering Subcommittee (from 2003)







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From

http://www.patentisland.com/Patent_Strategy_Engineering/Result.html

What is patent strategy?

Patent strategy : A force to win patent shootout

Patent strategy	[A just cause] Purpose which is firm enough to motivate overcoming various hurdles while utilizing patent and a will of achieving the goal.	Patent power	・Scope of patent license and market volume ・Detectability of patent invention violation ・Number of patent and its term ・Technology contents and understandability of patent term
		Information power	・Detectability of competitor's violation (collection and analysis ability for competitors' products) ・Investigative and analytical skills for known art ・Litigation and negotiating abilities ・Patent information management system of own company and competitors (accessibility to patent contents)
		Organization power	・Morale, knowledge, and competence of the division utilizing patent ・Social status of the division utilizing patent ・Decision-making system and budget securement status on using patent ・Strong cooperation system between other divisions and the one utilizing patent ・Reputation for fighting potential of the division (indirect force)

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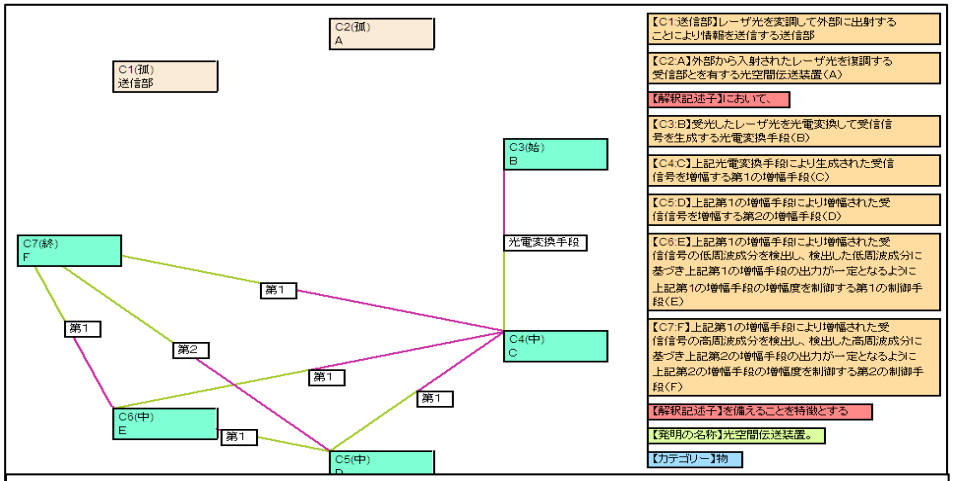
⇒ Plan a business strategy in view of patent strategy and utilize intellectual property to contribute to a business!

Improvement of claim drafting ability is fount of patent strategy advancement

[Current claim]



Length from 1st to 7th component :31、36、33、35、36、94、94、

No. of component :7

No. of isolated component :2

Max. length of component name :3

Max length of component :94

No. of component group :1

Exceeded No. of component :－4

Exceeded component length :－8

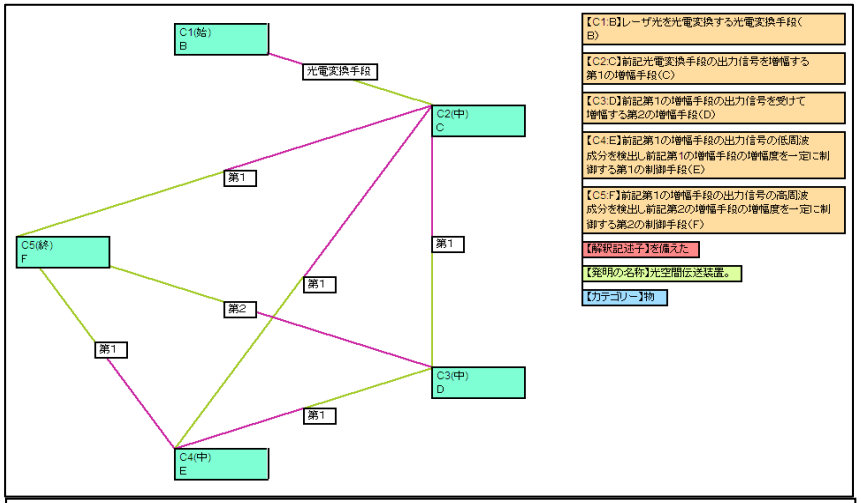
Inappropriateness of reference relationship:－20

Total points are 68

Total case component :17

Issues in sentence structure: “There are 2 isolated component (a component which has no reference relationship with other components)”

[Claim after focusing on case component]



Length from 1st to 5th component :20、28、32、55、55

No. of component :5

No. of isolated component :0

Max. length of component name :55

Component with no reference relationship :1

Total points :99

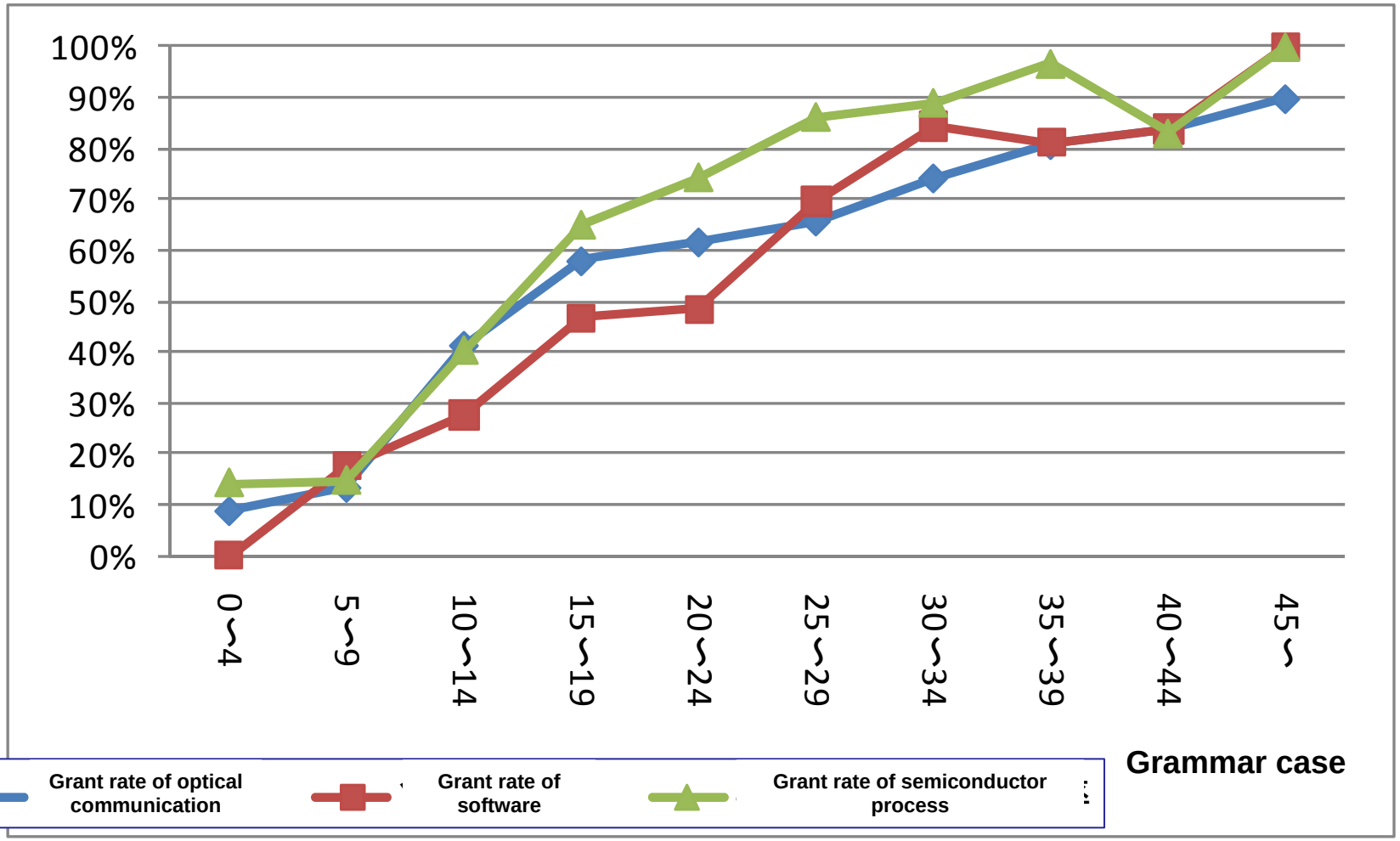
Total case component :7

Improvement of claim quality and its visualization

Patent claim limitation and its strategic use

The more case component increases, the more patent grant rate rises.

= Patent is obtainable just to limit patent claim scope.



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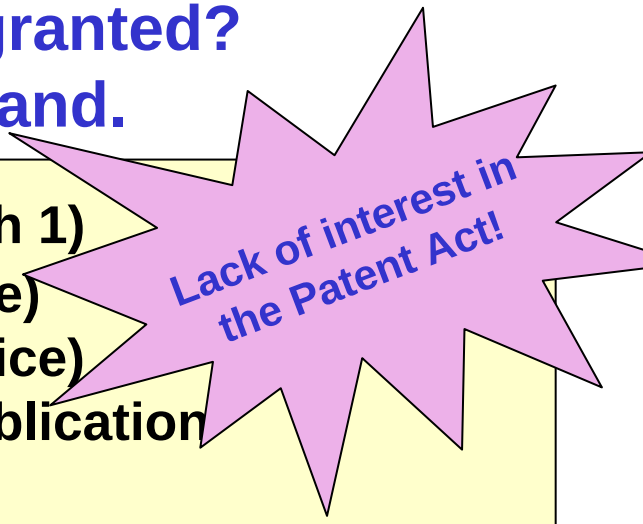
Provided by Hajime Yasuhiko, a lawyer at Minoru International Patent Office

What is specific nonbinding target for obtaining patent?

What is a guideline for patent to be granted?
Difficult for engineers to understand.



Novelty (Patent Act, Article 29, paragraph 1)

- Inventions that were publicly known (official notice)
- Inventions that were publicly worked (official service)
- Inventions that were described in a distributed publication (disclosed in a publication)
- Inventions that were made publicly available through an electric telecommunication line

Inventive step (Patent Act, Article 29, paragraph 2)

Where, prior to the filing of the patent application, a person ordinarily skilled in the art of the invention would have been able to easily make the invention based on an invention prescribed in any of the items of the preceding paragraph, a patent shall not be granted for such an invention notwithstanding the preceding paragraph.

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Judgment criteria of inventive step by the Patent Agency screening standard

Consider what a skilled person in the specific field would do, and judge logically whether the skilled person could easily reach the idea of the invention described in the claim.

- **Choose the inventions which are most suitable as references**
- **Extract the coincidences and differences between them**
- **If the application invention is logically derivable, then it will be rejected**
- **If the application invention is not logically derivable, then it will be accepted as 'Non-obvious'**

Discerning skill is essential!

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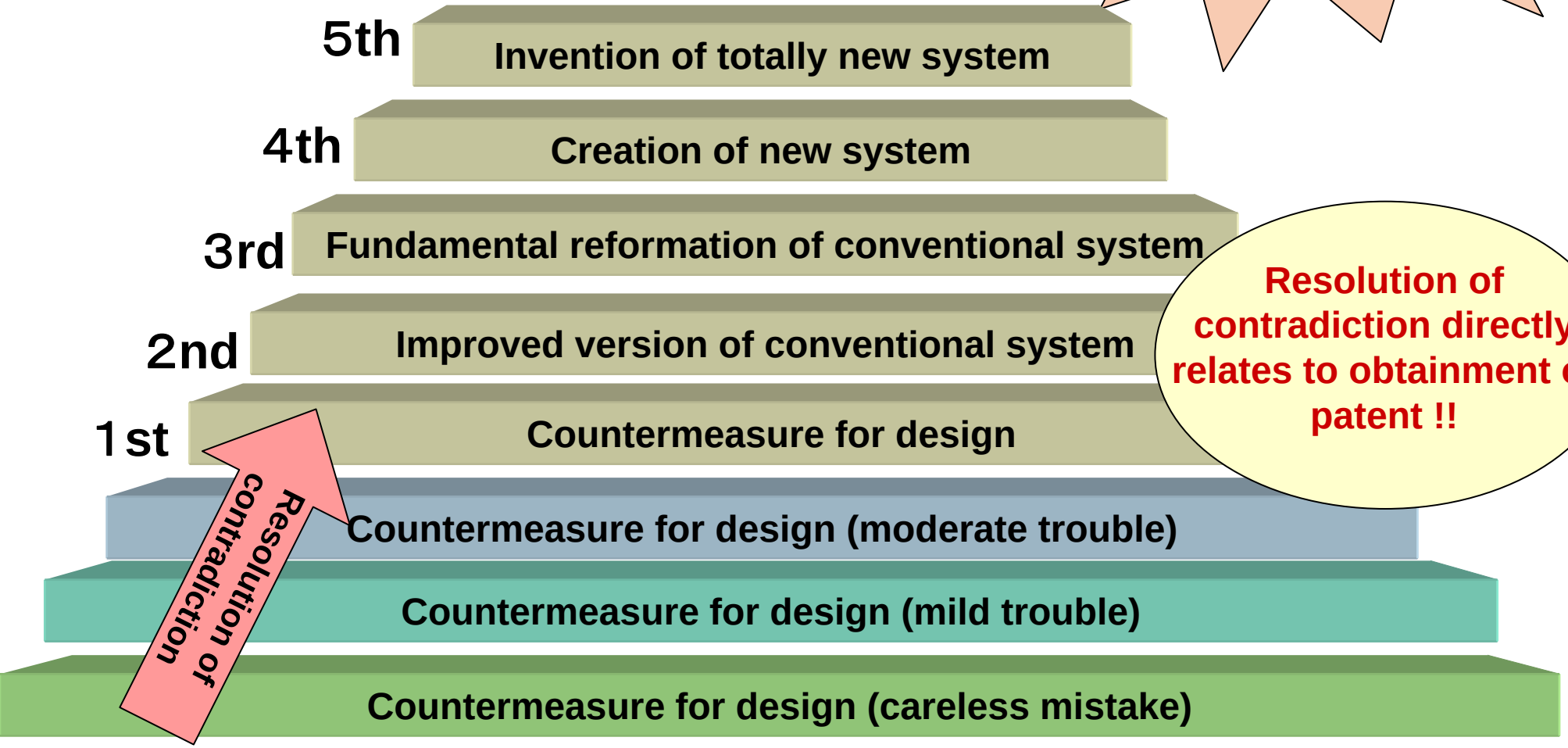
TRIZ: Think with levels of inventions !

Engineers want to know the targets to challenge patent acquisition!

Level of inventions



Resolution of contradiction directly relates to obtainment of patent !!

Patent application process can be largely externalized by using objective criteria, elimination of technical contradiction for invention. G. S. Altshuller

Common sense and nonsense of forecasting patent acquisition

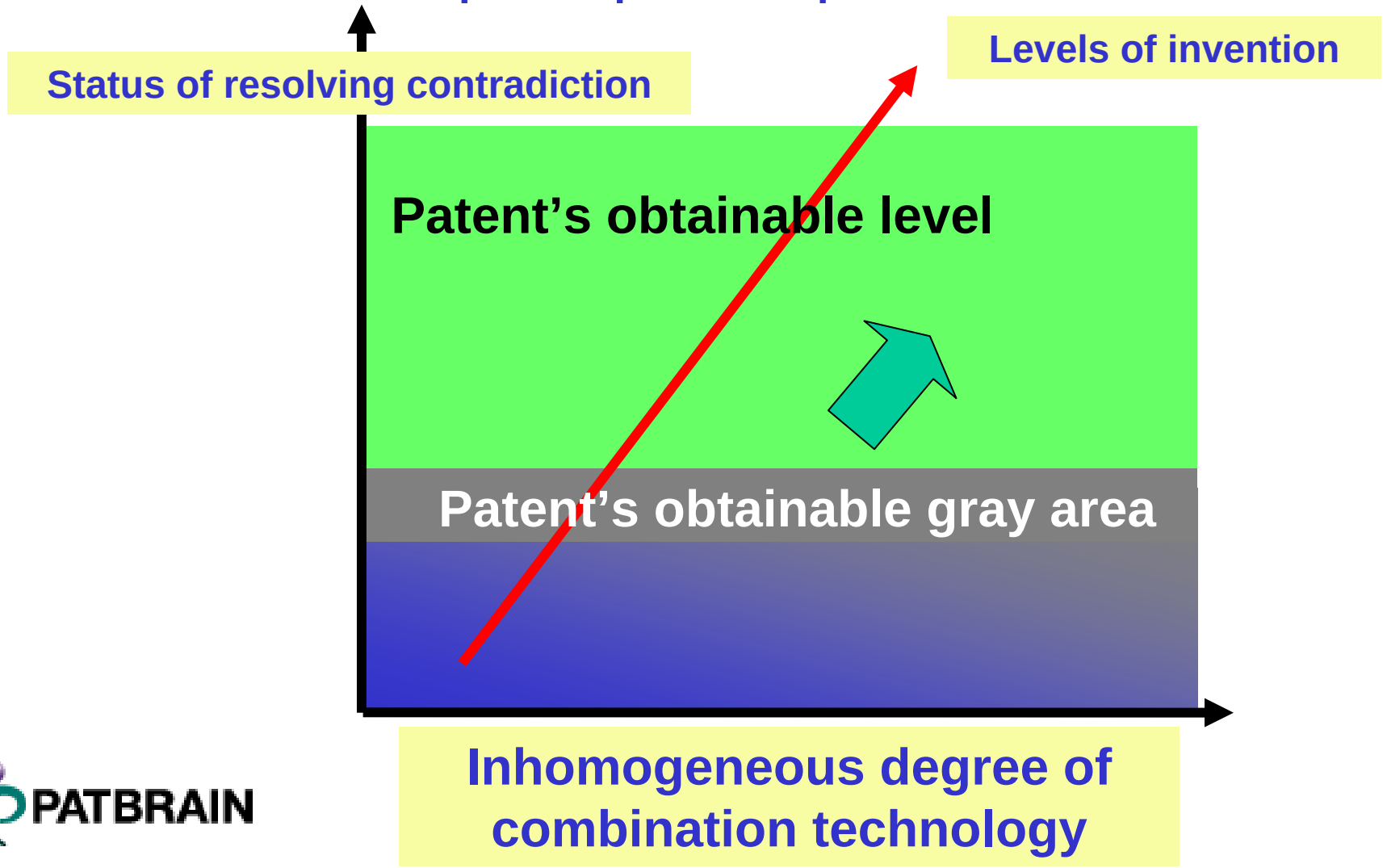
Possibility of obtaining patent	Public's common sense	Level of invention in Patent Agency screening standard (relative comparison to conventional technology)		Level of Invention in TRIZ
Available	Available	Easier to obtain patent	Resolution of contradiction and anatomy issues, Clarifying difficulty Killing two or more birds with one stone. Hop, step, and jump.	Level 5 Level 4 Level 3
	Not available	Harder to obtain patent	Invention with the simplicity of Columbus' egg. Motivation, objective, and functionality/a part of composition is different.	Level 2 Level 1
Not available		Motivation, objective/issues, functionality, and composition are the same or similar		Level −1
		Simply design change		Level −2
		Replacement with equivalent		Level −3
		Optimization of value range		Level −4
		Selection of optimal material		Level −5

Good opportunity for intellectual property's connoisseur to show his/her skill.

Availability of obtaining patent is influenced by essential quality of invention whether it is indicated in the patent specification in accordance with objective standard, "removal of contradiction".

Intellectual property's connoisseur is a mentor to inventors and management executives

Guide them toward a path to patent acquisition and invention brush up!



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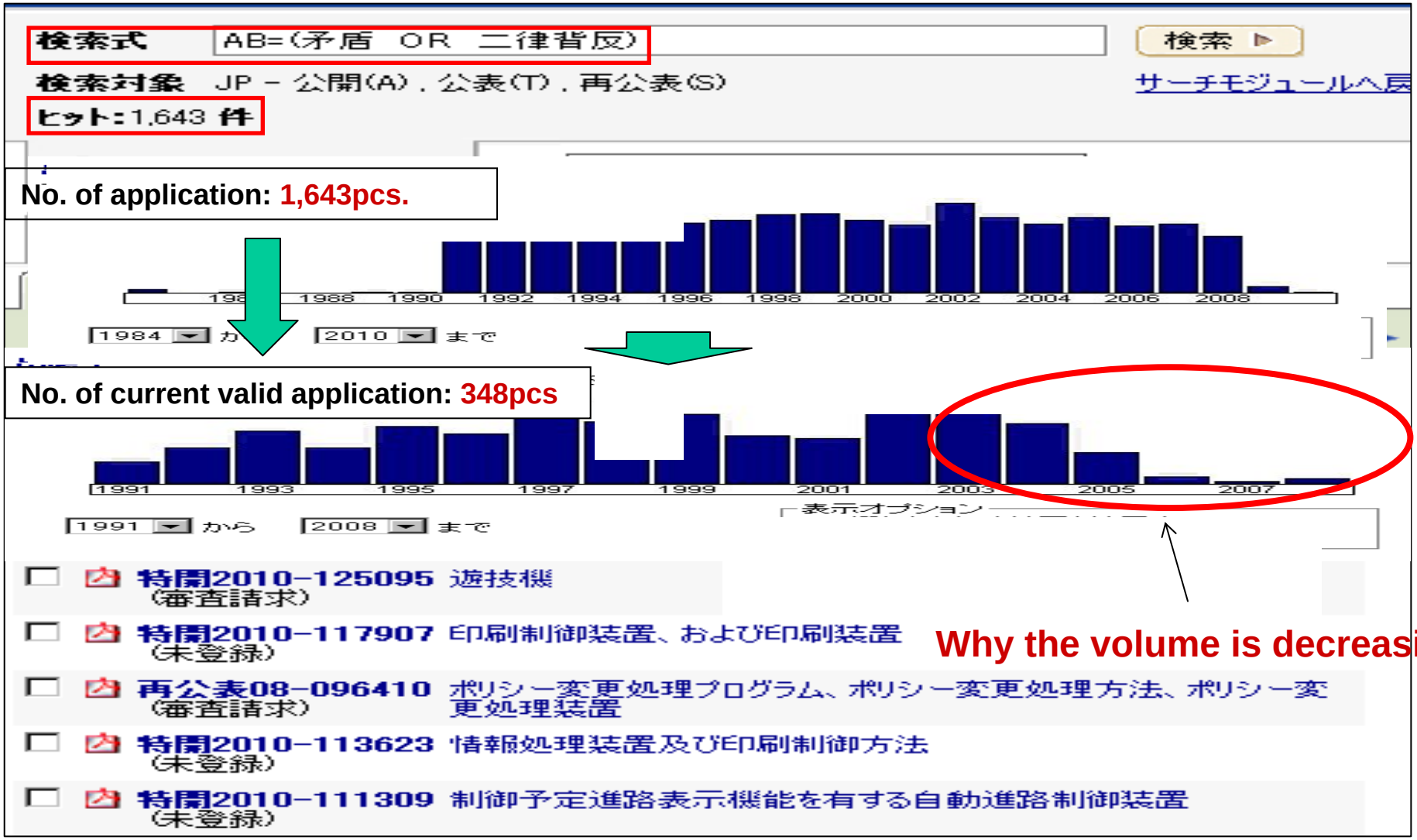
Use “antilogy and antinomy” as keywords to analyze trend of patent application (1)



Why the volume is decreasing?

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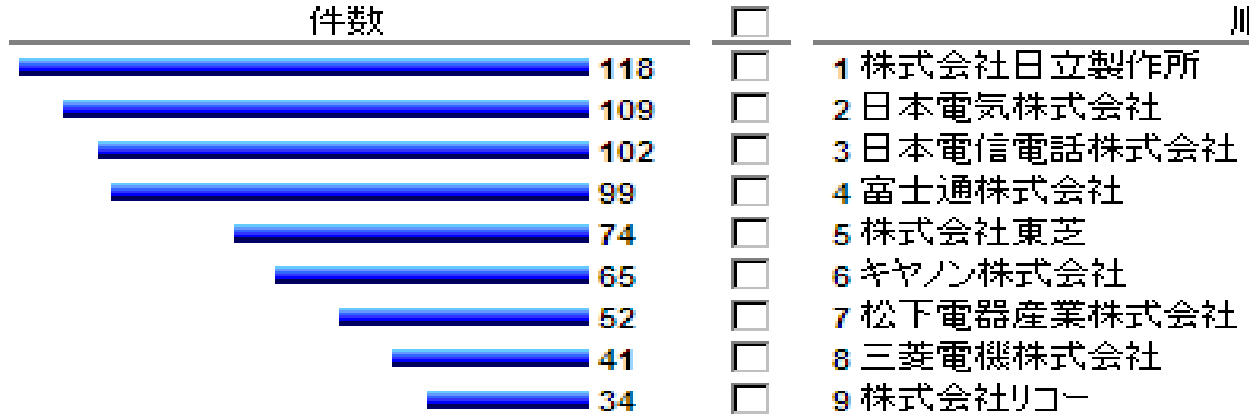
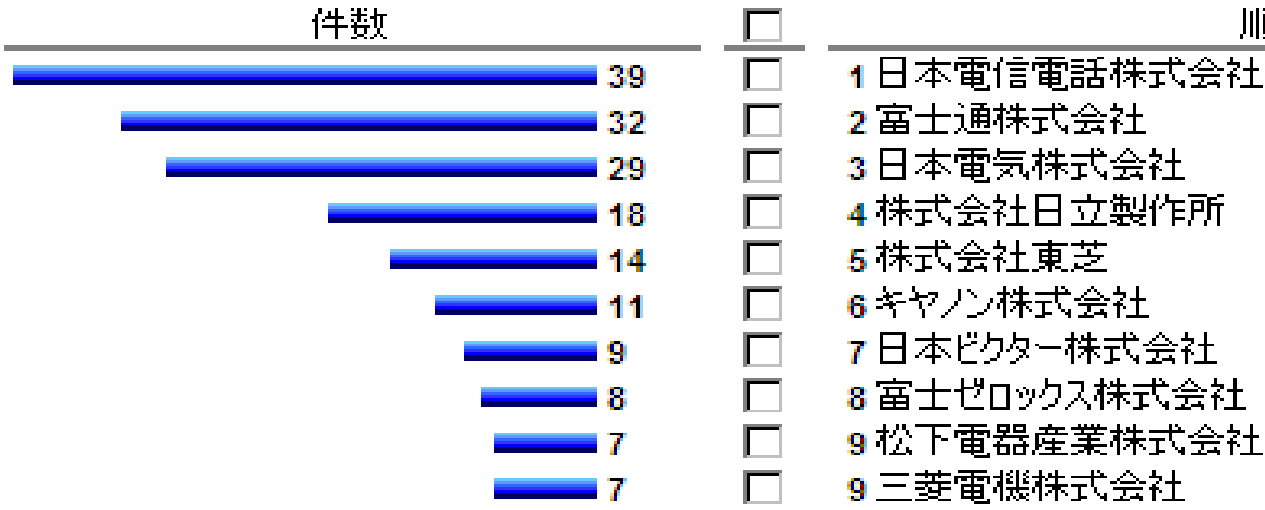
Search and Analysis by FOCUST-J, WISDOMAIN, Inc

Progress after submitting patent application with “antilogy and antinomy” as keywords (2)



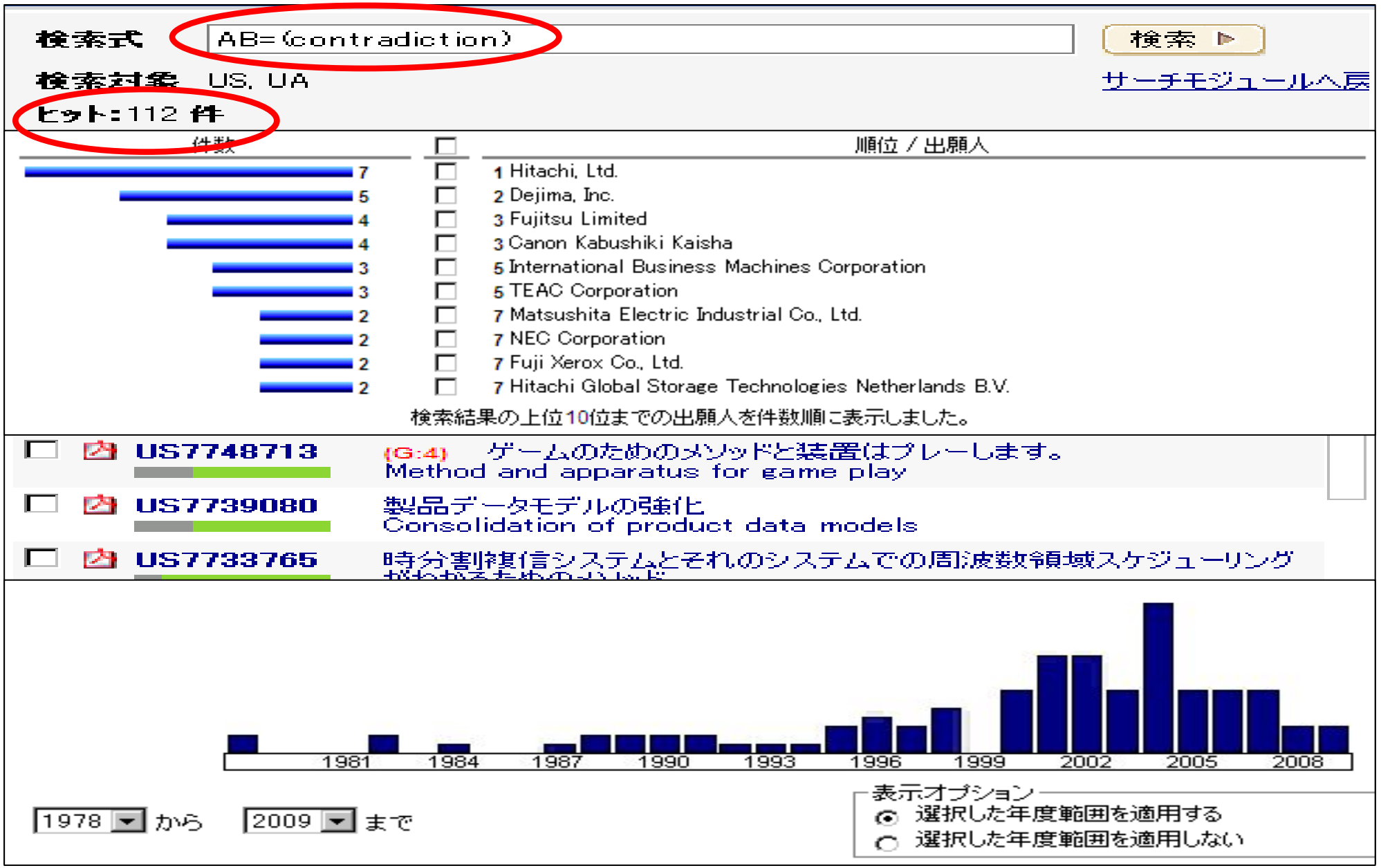
No. of application: 1,643pcs.



No. of current valid application: 348pcs.

検索結果の上位10位までの出願人を件数順に表示しました。

Situation of U.S. patent application with “contradiction” as a keyword



Situation of China patent application with “contradiction” as a keyword

検索式 AB=(contradiction) 検索

検索対象 CN-P, CN-U

サーチモジュールへ戻

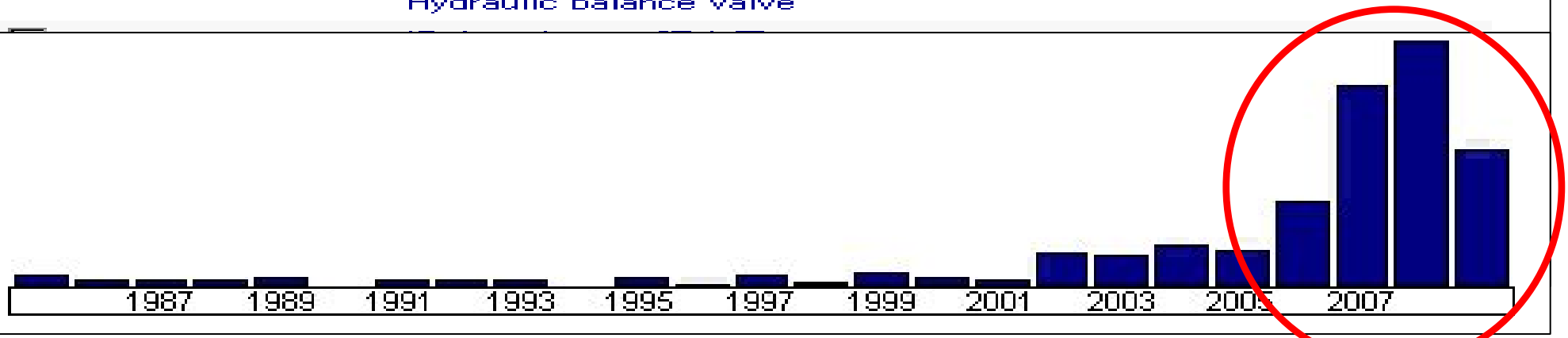
ヒット：388 件

件数	順位 / 出願人
8	1 Huawei Technology Co., Ltd.
5	2 Harbin Institute of Technology
5	2 Huawei Technologies Co., Ltd.
4	4 Institute of Microelectronics of Chinese Academy of Sciences
4	4 Sichuan University
4	4 Tsinghua University
4	4 Wang Xingkun
4	4 Xidian University
4	4 ZTE Corporation

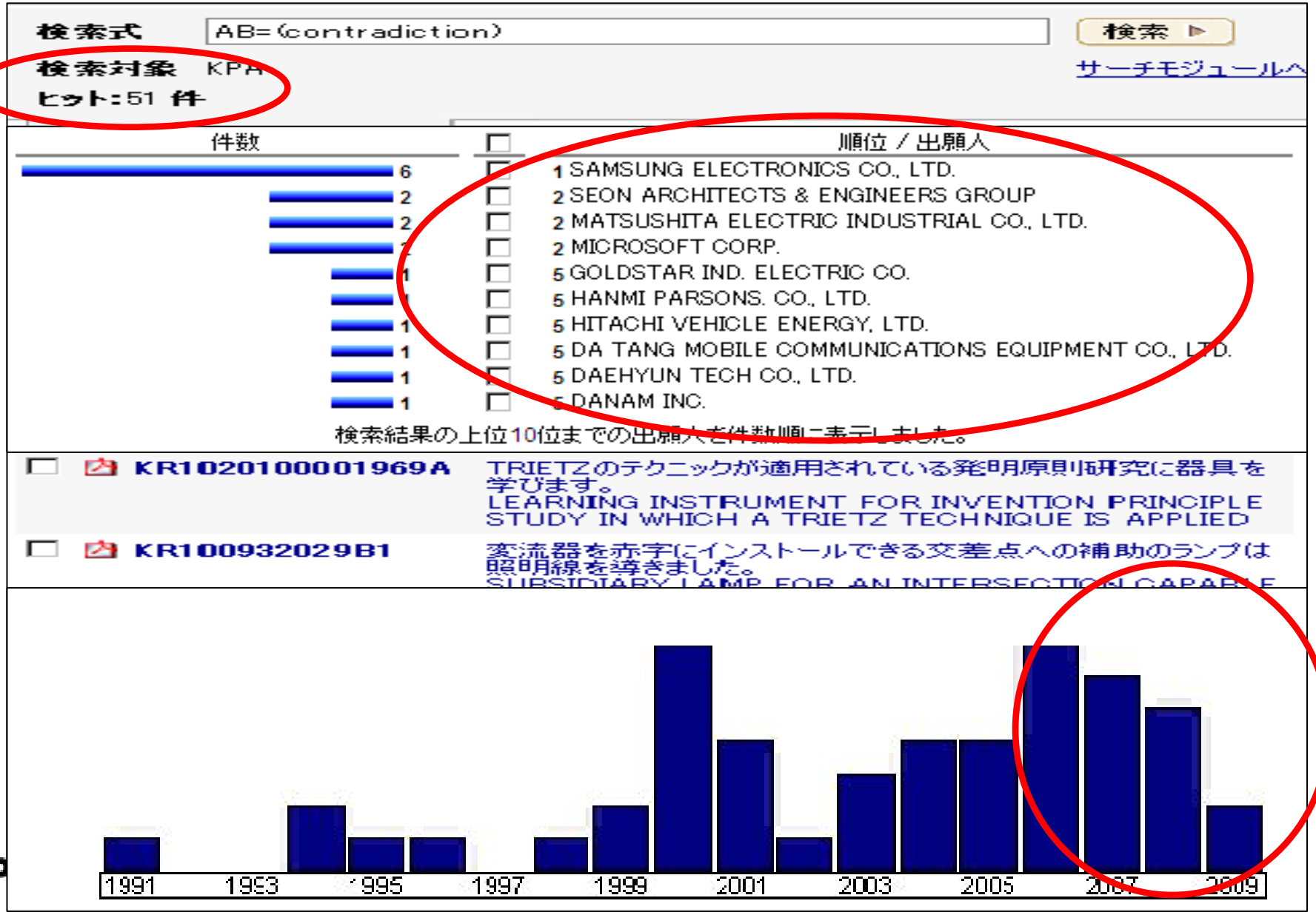
CN200910063609 水上輸送のエポキシ樹脂錆止めペイントとそれの調製法
Water borne epoxy resin anticorrosive paint and preparation method thereof

CN200910063487 綿の副産物をつややかなganodermaに生物学的に変換するためのメソッド
Method for biologically converting cotton by-products into glossy ganoderma

CN200910101460 水力バランス弁
Hydraulic balance valve



Situation of Korean patent application with “contradiction” as a keyword



Why are there not many applications with “contradict” and “antinomy” keywords?

Hard to figure a guideline for patent

Why US.＞China/Korea? No use maintaining application volume.

Give-up: Because management executive, superior, or colleague says so?

Real intention: Troublesome to convince them?

Judged based on risk management viewpoint!

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Kataoka's TRIZ practice and patent acquisition

	Registered date	Patent number Duration up to patent acquisition	Name, objective, and usage of the invention	Topic, announcement	Discussion	Position
①	1973/7/31 1971/10/06	US 3749220 acquisition 2 years	Coin Discriminating Apparatus	World's best selection accuracy Appeared in British journal	Symmetry principle、Feedback, self	Inventor
②	1974/04/16 1972/01/31	US 3804408 acquisition 2 years	Remaining Pin Detecting …	World first auto scorer	Separation principle、Local quality principle	Inventor
③	1992/12/24 1975/05/28	1721502 acquisition 7 years	Obtained a patent for NC turret punch press Patent negotiation "Turret punch press' punching processing"	Battle over patent acquisition for 20 years, Huge amount of royalty revenue, and president award, 2nd TRIZ symposium	Physical contradiction、Resolution, asymmetry, technological evolution, Mono, bi-, poly	Intellectual property
④ ＊	1997/06/20 1981/01/28	2664890 acquisition 16 years	Obtained a patent for public telephone with magnetic card "Magnetic card and its usage"	Cumulative sales is ¥3T, Succeeding IC card business is Suspended 2nd TRIZ symposium	Asymmetry principle, Local quality principle, Partial or excessive actions principle, Segmentation principle	Intellectual property
⑤ ＊	1993/05/28 1985/06/28	1762896 acquisition 18 years	Obtained a patent for measure for phone line liberalization: "ACR/LCR device" License negotiation	Record-low price, Basic patent on ACR/LCR devices, Ahead of Softbank's NCC box	Preliminary action, Local quality principle, Segmentation principle, Merging principle	Intellectual property
⑥	2000/03/24 1989/07/28	3046997 acquisition 1 year	Obtained of rental cellular phone right	Basic patent on prepaid cell-phone	Acquisition preliminary action,	Inventor
⑦ ☆	2000/12/28	Patent 2002-202246 and 9 others	Supported gas cell development Obtained its right Announcement of result of introducing TRIZ to the company	IM and TRIZ symposium presentations Introducing TRIZ website	Curvature increase principle、Asymmetry, split, preliminary action,	Intellectual property
⑧ ☆	2007/07/13 2003/04/16	3984971 acquisition 4 years	Supported black membrane Development Obtained its right "Black particle and optical absorber with it" and others	Fiber-optic technology standard, The Guinness Book of Records certification	Localized principle、Nested doll principle, Curvature increase principle	Intellectual property Inventor
⑨ ☆	2008/03/21 2002/03/26	4096591 acquisition 6 years	Resolved issues disaster evacuation Site Obtained a patent for "multifunctional structure material"	Generation of TRIZ ideas and documentation of cases for obtaining patent, 4th TRIZ symposium	Composite materials principle, Segmentation principle	Inventor

Patent acquisition by TRIZ!

How to express a non-logical explanation?

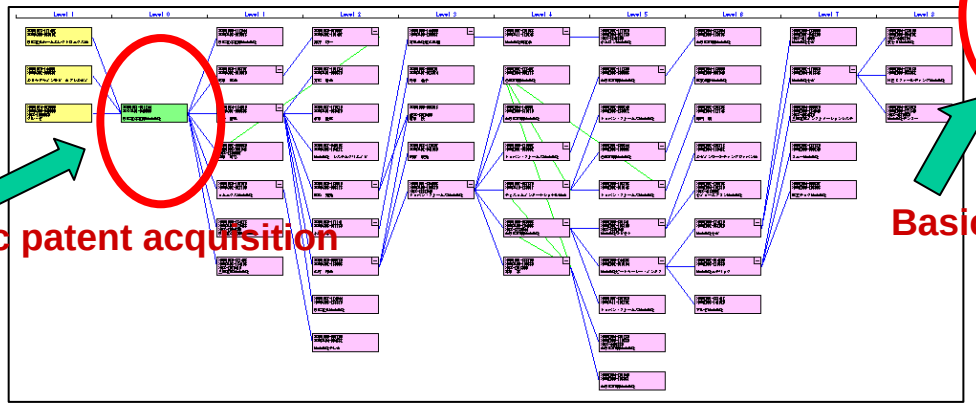
Point out divisive factors and spot contradictions to show difficulty.

What is difficulty? → Do not use abstract words such as convenient, low cost, small, performance, or durable. Need to State substantial reason and logicality.

- **Contradiction resolving**
- **Adversary relationship**
- **Distinguished function effect**
- **Different solution principle (inventive principle) from reference.**
- **Different technological evolution trend from reference.**

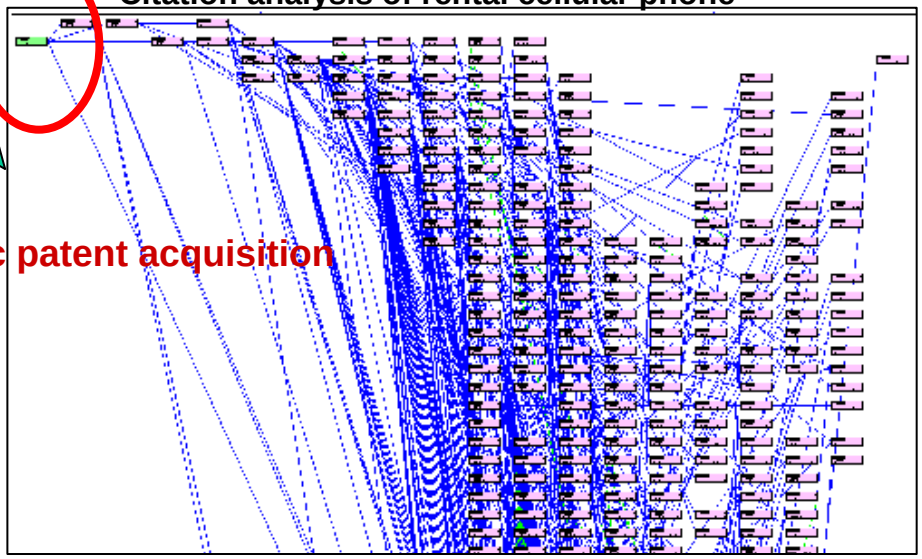
TRIZ fosters foresight, prediction skill, creativity, and insight (notice).

Citation analysis of Calling card for public card phone



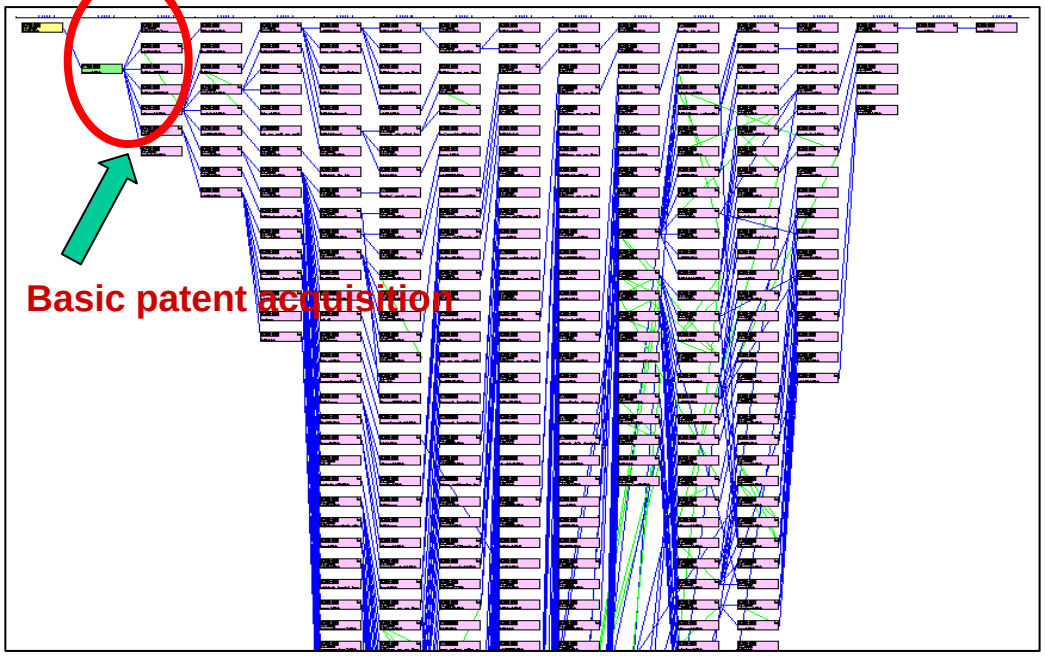
Basic patent acquisition

Citation analysis of rental cellular phone



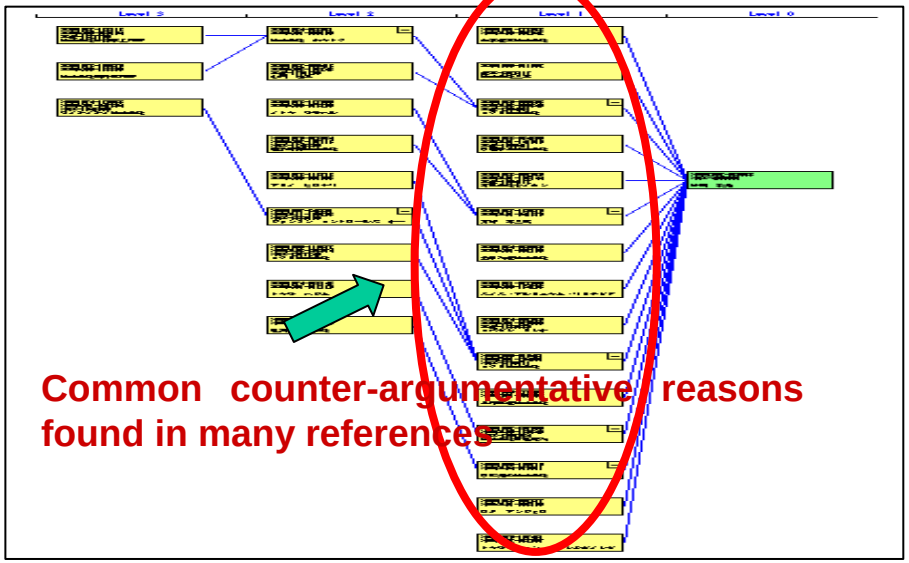
Basic patent acquisition

Citation analysis of 回線自動選択型電話装置



Basic patent acquisition

Analysis of multifunctional structured material



Common counter-argumentative reasons found in many references

TRIZ is usable for extraction of invention essence

Patent No. 2664890
Case of "magnetic card and its usage"

Objective: consistent hole position regardless of card size or remained amount of money.

The high level idea such as card reader created during the invention was high in technological degree of difficulty that its patent application was carefully examined. During the consideration, the idea, combination of numerical sequence (showing amount of money left in the card) and holes was not value enough for patent, it may worth just an utility model.

Magnetic phone card invented in 1981

Common sense: Patent is not granted to mathematical method and mathematical formula, This invention falls into that category. It's a nonsense to put out effort into such invention.

VS

Preposterous idea: This invention is wonderful. Let's apply for patent!

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Which one do you choose?

Belief that the invention is useful for the business kept me going for 16 years, till granting of patent.

Scope of utility model registration claim

A card for public telephone with magnetic card consists of magnetic part which records information of frequency used and frequency magnitude displayed by a punch hole which is made when the information of frequency becomes less or larger than the specified value. The card is characterized by relation with remaining value and indication font size. When remaining value is larger than the information of frequency used, the difference is displayed in large font. As remaining value is used, the difference is displayed in smaller font.

PATBRA

The idea of magnetic card was first registered as utility model right with the claim on the left. However, I learned and was aghast that the text “card for public telephone with magnetic card” in the claim made difficult to obtain patent even though “card display method of this invention can be diverted to bus’ commutation ticket an d others” was indicated in the context.

With such objection, I decided to file a divisional application and apply patent again. My will to get patent and my belief that the invention definitely serves a useful purpose in the business moved co-applicant to support me.

Because of my unshakable faith toward the invention, I did not yield to advice from superior and colleagues that I should stop fight a losing battle. However I did not give in and was able to obtain patent after 16 years. I achieved my dream.

Utilizing TRIZ for resolution of non-technical and legal issue problems

Improve: Loss of information (for making the rights profitable)

Worsen: Harmful Emissions (risks of being blocked by others)

Improvement: Motionless object area

Worsen: Operability

7. Nesting, 1. Segmentation,
13. The Other Way Round, 21. Skipping,
35. Parameter Change

+

10: Prior action, 4: Asymmetry,
24: Intermediary, 25: Self-service,
26: Copying, 16: About

Divisional application: (use of segmentation principle)

Supporting the preparation for claim drafting consideration at divisional application

- Multi-screen method (broader and narrower concepts)
- Function diagram (product analysis)
- Inventive principles (resolved issues and solution principle)
- Resolution of contradictions (proof of non-obviousness)

Vending machines	Public telephones	Methods of processing value information
Prepaid card	Prepaid card for public telephones	Magnetic card
Deletion of segmented region	Printed numerical sequence Punched holes	Printed numbers including 0 Return of the card

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Multi-screen method

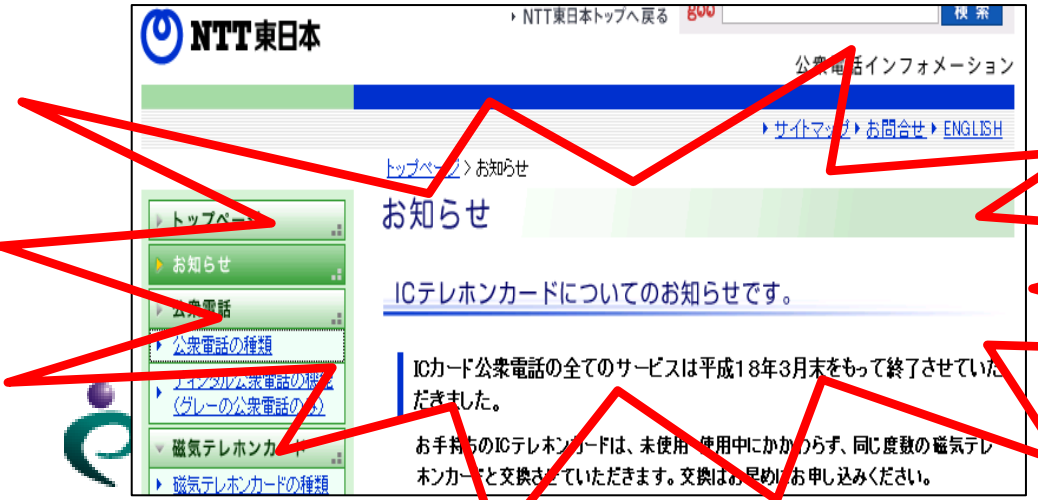
Consumers should understand essence of the invention! (business strategy)

Why did IC card type public telephone receive unfavorable criticism?

Subsequent IC card made its debut with great hopes and various functionalities such as security measure. However, there was a flaw that remaining value was displayed only with IC card type public telephone. Moreover, such inconvenience grew intolerable since number of installed IC card type public phone was not many that the phone was removed from Japan before March, 2006.

This indicates the idea of using a hole to show remaining value is brilliant and proves all the dedication and passion poured into it was not fruitless effort (was worthwhile).

Numerical sequence and holes should have been kept!



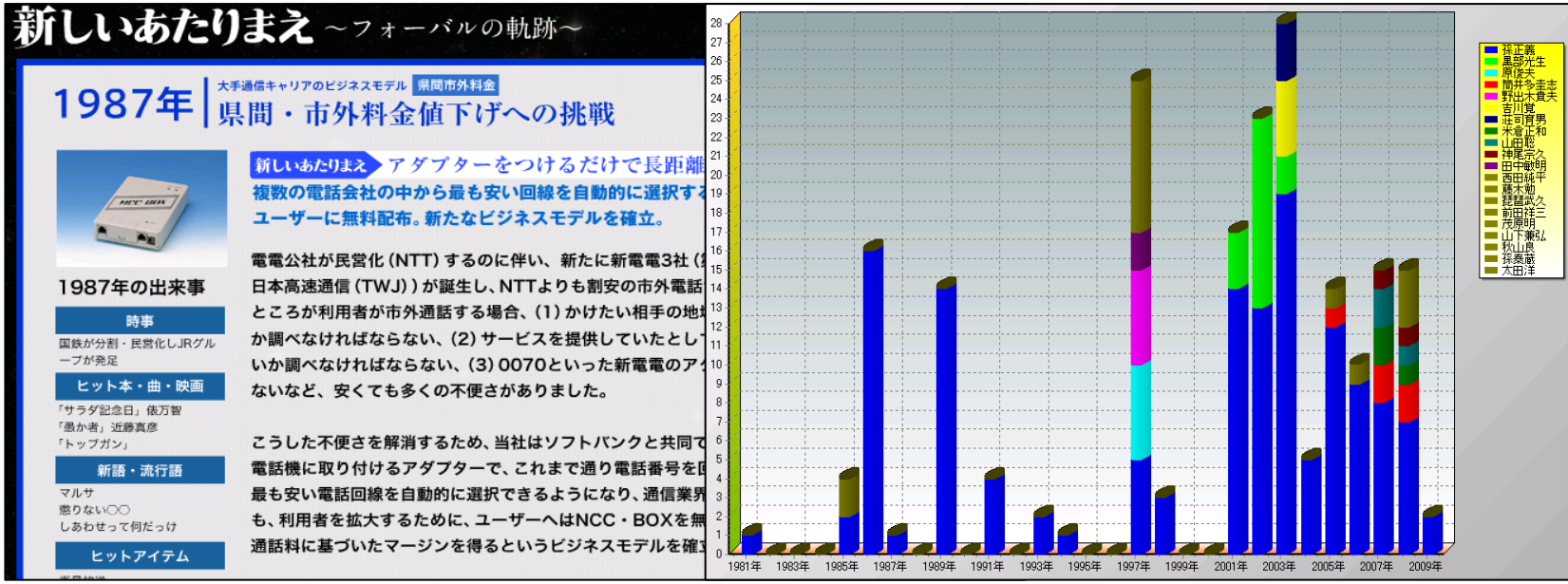
Tens of billions of yen investment was wasted!

LCR patent which pulls back Son, CEO of Softbank Capital from the brink!

Mr. Son practices trinity management which is business, R&D, and intellectual property strategies without losing business opportunities. After recovered from illness, he almost went bankrupt due to ¥10B debt but he cleared the debt by LCR invention and he made further leap to create basis of today's business.

Mr. Son and Mr. Ohkubo together made large profit by "NCC Box" Both Forval Corporation and Softbank Corp. evolved to 10 billion yen enterprises.

IN

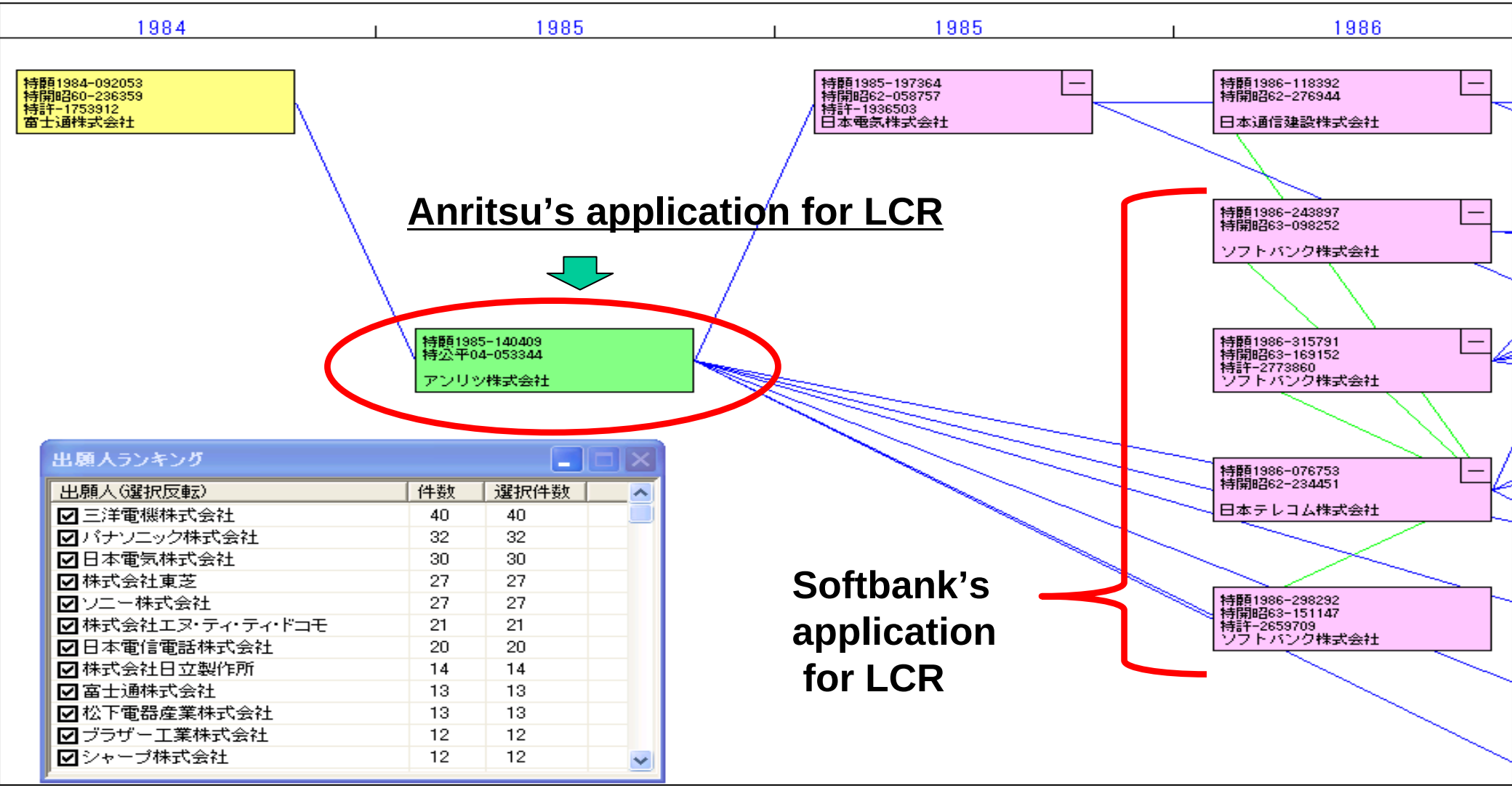


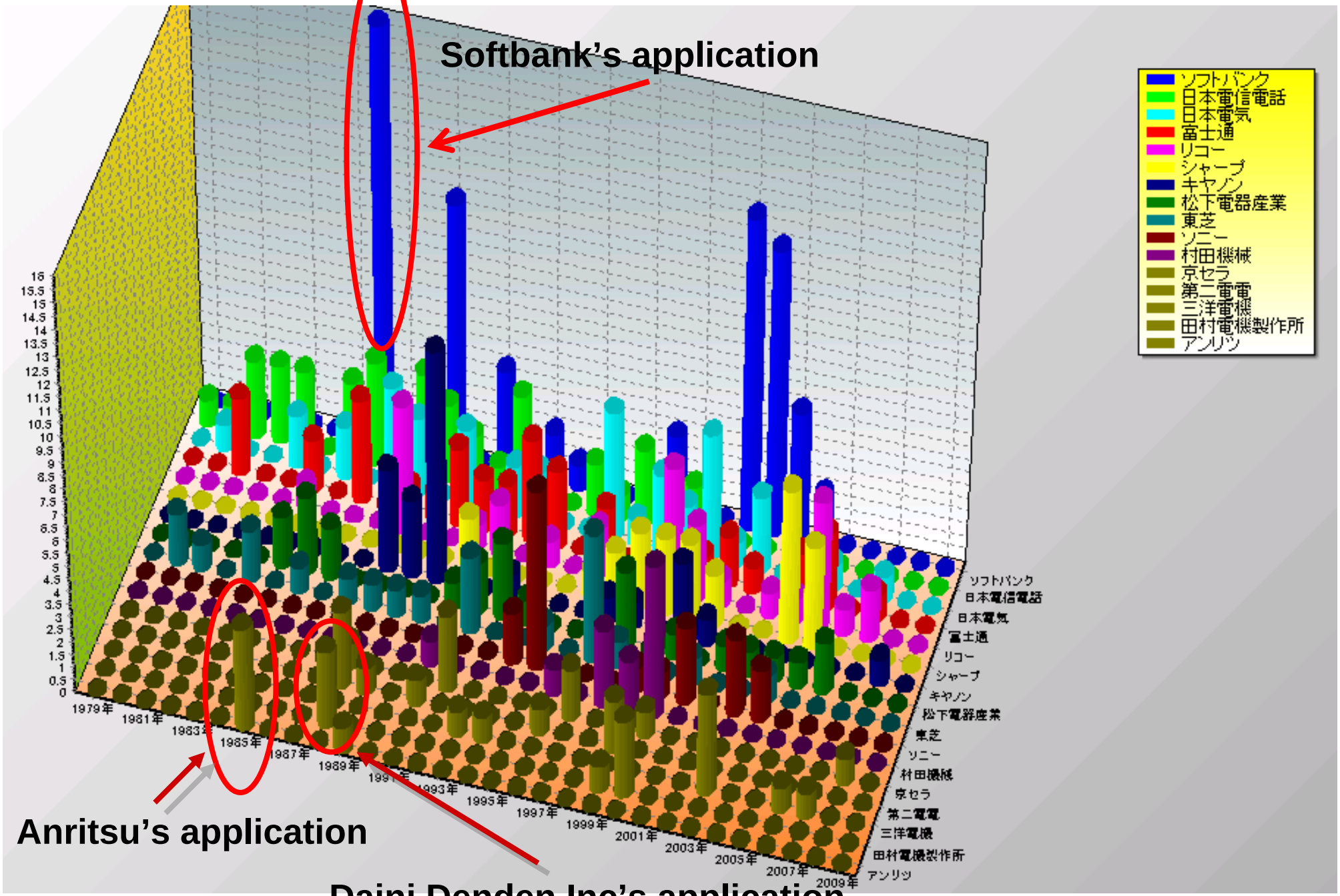
From http://www.forval.co.jp/

Mr. Son's vigorous activity of invention (filed 138 pplications.)

Anritsu Corporation obtained a basic patent on LCR!

It's instantly noticeable by citation analysis.




Softbank's application
Anritsu's application
Daini Denden Inc's application
ソフトバンク
日本電信電話
日本電気
富士通
リコー
シャープ
キヤノン
松下電器産業
東芝
ソニー
村田機械
京セラ
第二電電
三洋電機
田村電機製作所
アンリツ
1979年
1981年
1983年
1985年
1987年
1989年
1991年
1993年
1995年
1997年
1999年
2001年
2003年
2005年
2007年
2009年

Which patent claim is larger? Why is that?

[Patent No.] 1762896 Applied on Jun. 28th, 1985
[Invention] ACR terminal
[Inventor] Ryouichi Kamashita, Isao Yamaoka [Patent owner] Anritsu

[Patent claim] ACR terminal equipped signal delivery means which adds dial unit, dial signal memorizing means, usage fee memorizing means with usage fee table, dial number identification means which distinguish area code, usage fee searching means which retrieve data from the usage fee table, telecommunication network selection means which selects low cost communication line, identification number readout number means which reads the number from the identification number memorizing means, and
read identification number to top of dial signal sequence and sends to communication line.

[Patent No.] 2727323 Applied on Apr. 26th, 1988
[Invention] LCR adapter
[Inventor] Misyumasa Kishimine, Sanshiro Hukada
[Patent owner] Daini Denden

[Patent claim] With LCR adapter which selects the lowest cost trunk circuit, rank trunk circuits of various telephone service companies from the lowest cost and store 1 carrier selecting information table to memory. When there is an unusable carrier or it is encountered due to unconnected carrier, switching equipment trouble, or congestion, Reformat the carrier selecting information table. It is LCR adapter which is characterized by trunk circuit selection.

[Patent No.] 2673231 Applied on Nov. 26th, 1986
[Invention] Selection number auto dialing device for telecommunication network
[Inventor] Masayoshi Son [Patent owner] Softbank

[Patent claim]
It is Selection number auto dialing device for telecommunication network. 1st memory means storing area code, 2nd memory means storing selection signal from the telephone, and hooked off . Judgment means which judges if the area code of selected signals conforms with the information of the 1st memory means, and the case these are matched. The means to store an identifying signal to the 2nd memory means by adding the signal to the selection number, and calling means based on the information in the 2nd memory means. then put the phone off the hook again if timeout signal is input before calling. it is Selection number auto dialing device for telecommunication network featuring recall means based on the information in the 2nd memory means.

Strategy is different from the one for patent acquisition and patent infringement negotiation !

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What was Anritsu Corporation's strategy?

Patent strategy application

Little collective will power

[Business strategy]

Anritsu Corporation had a business under NTT at that time seeking departure from dependence on NTT and dealing with NCC. Moreover its business was on a learning curve with having measurement device field as a main business development. There was no business plan to manufacture and sell LCR.

- **Providing intellectual property rights to carrier such as NCC (customer) is unacceptable.**
- **The above is acceptable if submitting sales letter to LCR manufacturer to negotiate about license.**
- **LCR manufacturer requests carrier for arbitration ⇒ Carrier pressures board members and the negotiation was abandoned.**

[R&D strategy]

- **There is no development project for ACR/LCR devices.**
- **There is no technical capability to grasp infringement item structure.**
- **Later ACR/LCR devices is built into a digital PBX.**
- **Lack of budget and technical knowledge for reverse engineering off the shelf telephone device ⇒ insufficient evidence.**

[Intellectual strategy]

- **Corresponding to revisions of the laws, preparing for patent acquisition, and promoting the acquisition.**
- **Sending a sales literature to LCR manufacturer after the patent is approved.**
- **Development division's response to reverse engineering request was muted that negotiation to the dept. was broke off.**

Patent strategy = (Strength of patent right) x (Violation detectability) x (Litigation ability + Negotiating ability) ⇒ Unskilled

Trinity management of business, technology, and intellectual property strategies is
Learn from a schemer, Masayoshi Son President of Soft Bank corp.

Background of NCC box development and negotiation

[Business strategy] Motivation ⇒ idea to repay ¥10B debt

Forecasting!

- See liberalization of telecommunication line as an opportunity. ・Downside of NTT (Daini Denden Inc., Japan Telecom Co. Ltd., and Teleway Japan) is product promotion.
  - Difficult to calculate which company's price is the lowest.
  - Troublesome to provide 4 digit number of selected line to phone numbers.

Notice issues?

- Improvement of those soft spots might be a business chance! Business alliance of Softbank Corp. and Shinnihonkouhan Corp. ⇒ Merging principle 5
- Business model construction, free distribution of NCC Box.
  ⇒ Preliminary counteraction principle (free)

[R&D strategy]

Forecasting!

- Development issues: Operability ・Actualization of auto selection idea for lowest price phone line.
- TRIZ reference: Preliminary action principle 10 (creating price table),
  Local quality principle 3 (detecting top of phone number and selecting the lowest price),
  Merging principle 5 (line number + phone number).
- Operation sequence: Phone number input ⇒ Fee calculation ⇒ Lowest price phone line search ⇒ Line selection ⇒ 4 digit line number onto top of phone number ⇒ Transmission of dial signal
- 2 months and a half of quick turnaround (development – completion)

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[Intellectual property strategy]

- Invention concept ⇒ Contact to patent office ⇒ Patent search
  ⇒ Immediately create a statement per se ⇒ Apply for patent

Continually apply patent on line selection field and ensure consistency :

Conclusion of confidentiality agreement .

Foreseeing !

▪Set up meeting with NCC: Conclusion of confidentiality agreement

On Dec. 24, 1986, Brought NCC Box and visited Kazuo Inamori, chairman of Kyocera Corporation and a owner of Daini Denden Inc.
Interview was conducted with Mr. Inamori and 20 other executives
VS Mr. Okubo (32) and Mr.Son (29).
Mr. Inamori's condition: Purchasing 500Kpcs. For ¥2B ▪Exclusive delivery
VS Mr. Okubo and Mr. Son : Selling to other companies & paying loyalty

★ Within the day, a contract indicating adapter is sold only to NCC is signed

The next day : Claim for returning the contract. Mr. Inamori : Upset but returned the contract.
⇒ NCC developed the same type of adapter
⇒ Blessing in disguise principle 22

Foreseeing !

Mr.Okubo and Mr. Son OEM Sales Contract was achieved with Japan Telecom、Made a sale by Japan Telecom.
⇒ Hundreds million yen as a royalty to Mr.Son Datanet, Mr.Okubo Shinnihonkouhan
With this case, Mr. Son become a tough negotiator.

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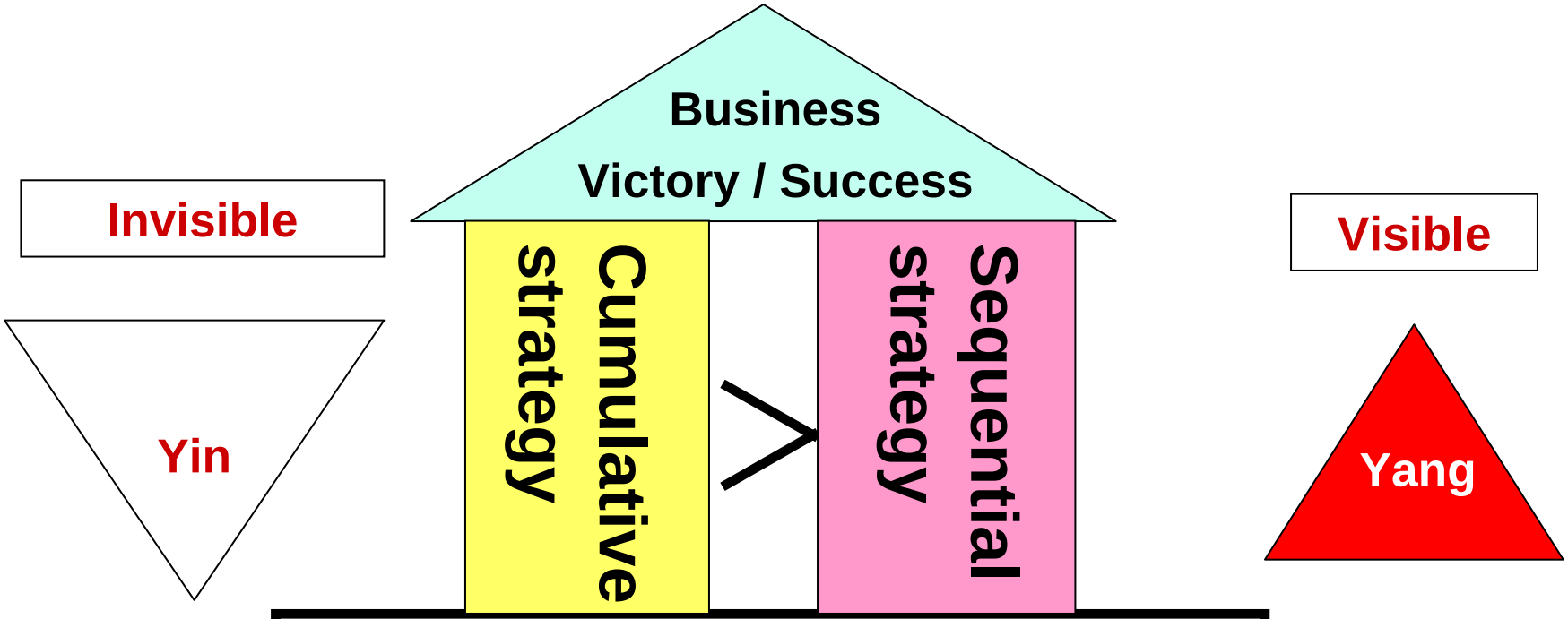
Atsuo Inoue's book, "Aim high! Masayoshi Son bio."

Strengthen cumulative strategy and retry!

• Never give up • Keep on going • Consistency • Foreseeing



Spirit, Courage, Principle, Creation, Independent mindedness, Belief, Ideal,

Vision, Goal, Plan, Visualization, Numerical conversion, Measurement, PDCA

Just 1 patent may worth 100K of patents.

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Conclusion

Only when visible sequential strategy and invisible cumulative strategy are balanced well, trinity management of business, R&D, and intellectual property strategies exerts effect as a comprehensive strategy.

As it is in the saying, At the end of the day, men of arms on the field determines war, the sum of devotion of each and every one of intellectual property connoisseur in the field to improve skill and its practice determines winning or losing in the business world where just 1 patent may win over 1Mpcs of patents.

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There are so many problems piled up in the world.

People with TRIZ shoulder a mission to solve them!

> **Same as other developments, advance in technology also complies with dialectic way of thinking. TRIZ is dialectic process for invention.**
>
> **Genrikh Saulovich Altshuller**

The ultimate objective of an invention is to actualize the peace and well-being of mankind.

One for all, All for One.

PATBRAIN

Thank you very much for your kind attention.
We will have a group discussion regarding this presentation. Please feel free to join us.

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