



3 additional strategic areas of using TRIZ to grow your business

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Abstract

Summary

To get higher level of financial benefit from TRIZ, we have use it to solve strategic problems for business growth. We introduce how our company (GEN3) has been successfully applying TRIZ to invent game-changing products, find new adjacent markets and innovate business models – with brief introduction of the methodology and real examples.

Motivation / State of the Art

Traditional main area of TRIZ application was improving existing technology or product in existing market – improving useful functions or reducing harmful effects or cost by changing small part of existing technical system. But in modern TRIZ there is a trend to use TRIZ in different areas :

1. creating and designing a new product in existing market
2. finding or creating a new (adjacent) market using existing product or technology
3. creating a new business by innovating the business model.

Experimental

We introduce how our company (GEN3) has been successfully developed and applied modern TRIZ in each of these area – with brief introduction of the methodology and real case examples.

Results and Discussion

We believe that for more profitable and strategically important use of TRIZ, we have to use TRIZ in these relatively new 3 areas and we have to improve our TRIZ methodology to make it fit better in each of these areas.

Contents

- ▶ Abstract

- ▶ Where to apply TRIZ ?
 1. Improving Existing Business
 2. New Market Development
 3. New Product Development
 4. New Operation Development

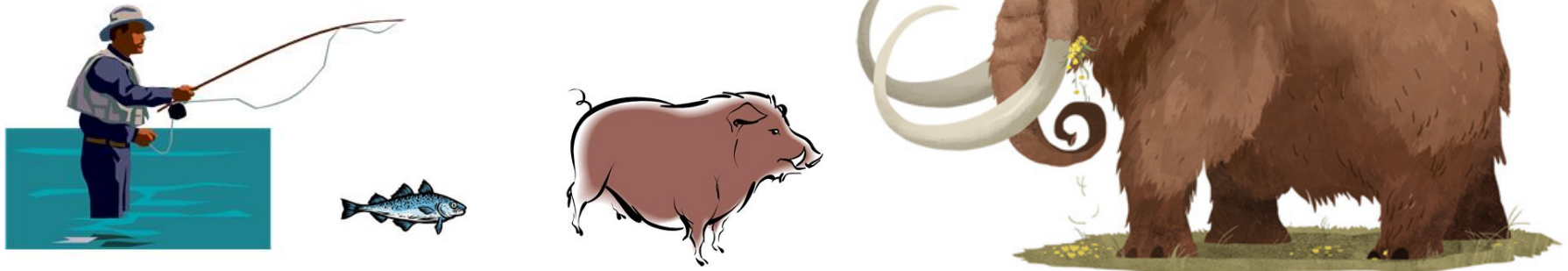
- ▶ Different ways to adopt TRIZ to your organization

- ▶ Conclusion

- ▶ Reference

For Higher Business Impact of TRIZ ?

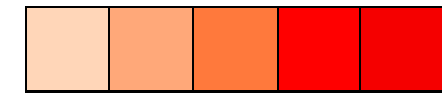
- ▶ You have to use TRIZ to solve bigger problems.
 - Strategic Problems
 - CEO or executive level Problems
 - Business Problems (often nontechnical)



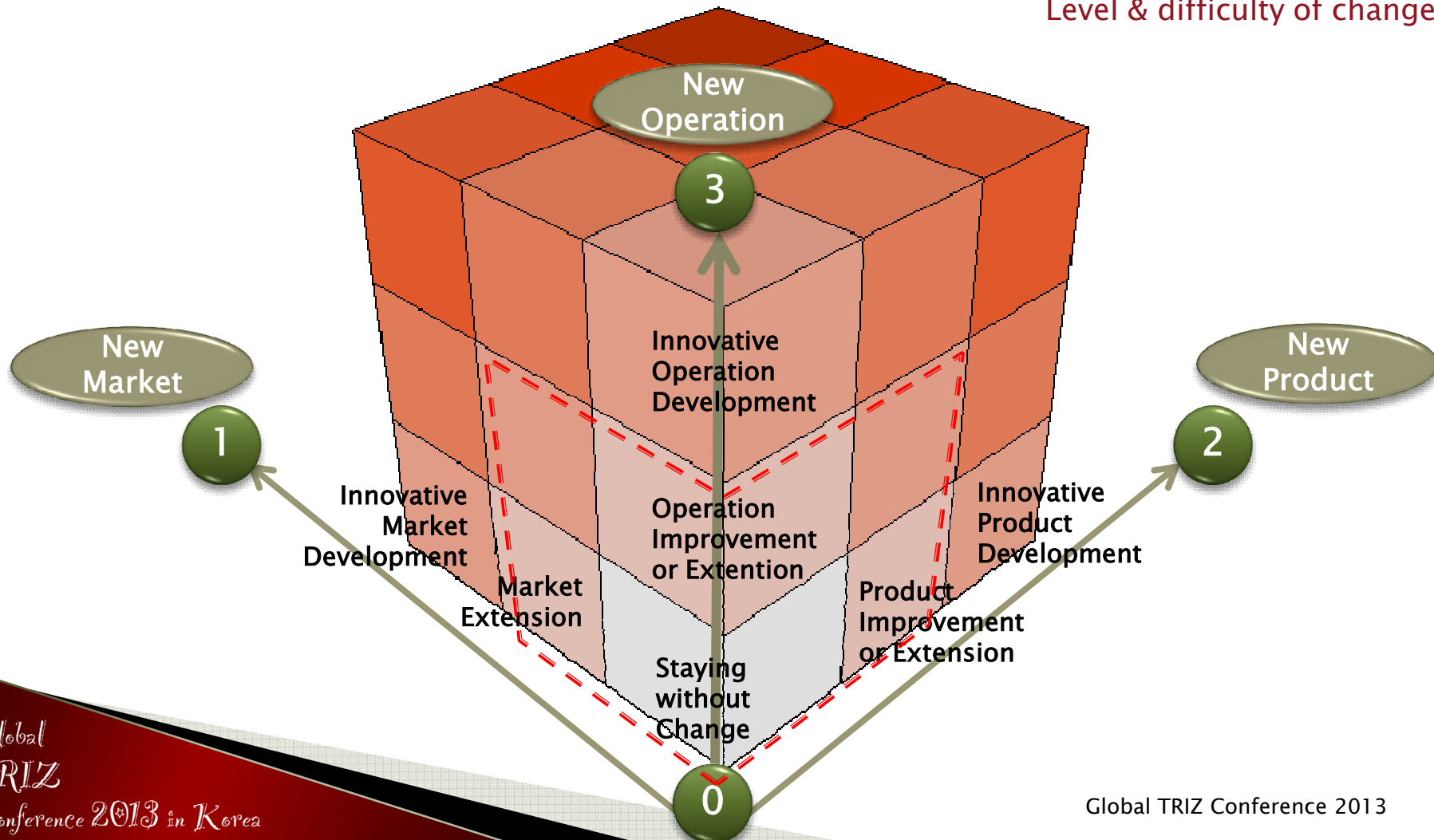
- ▶ To solve them, you may need to change your tools & approach.
 - Different Roadmaps & Tools for different problems
 - Broader and Higher Level of innovation skill & knowledge
 - Higher level of investment for innovation
 - Extended resources for innovation (Open Innovation)

Where to use TRIZ ?

- ▶ Growth Cube (Modified from Ansoff Matrix)



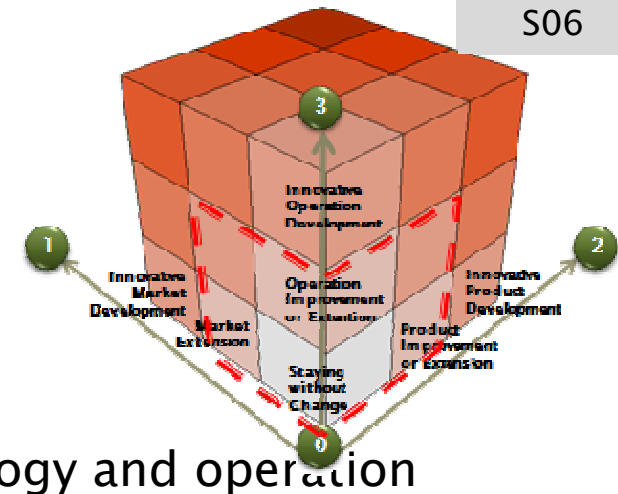
Level & difficulty of change



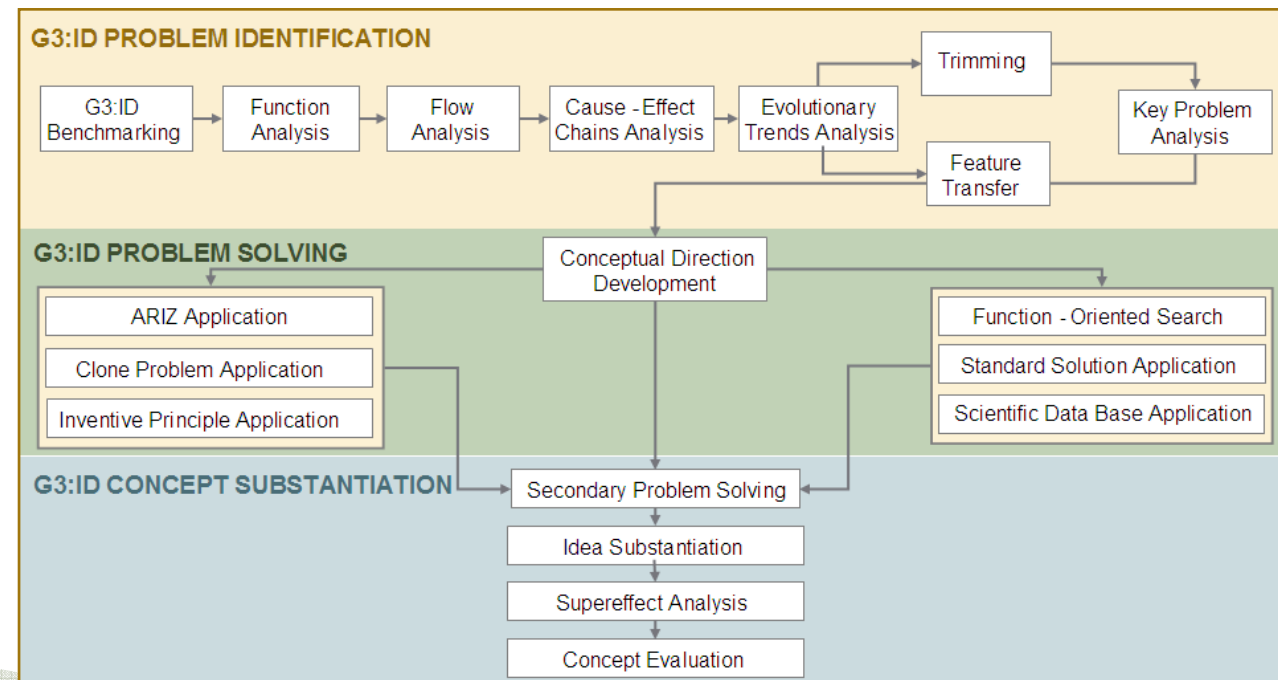
0 Improving Existing Business

▶ Project Types

- Product Improvement or Extension
- Market Sustaining and Extension
- Trouble Shooting or Improvement of technology and operation

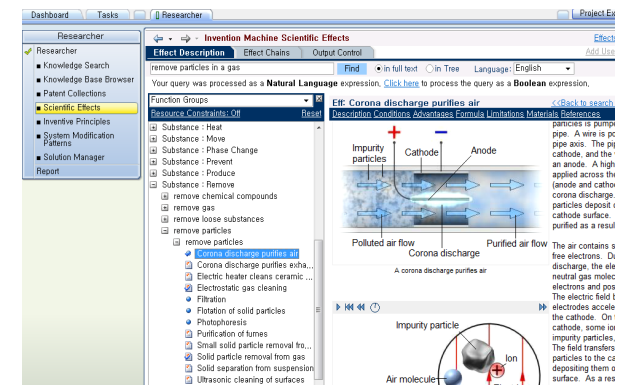
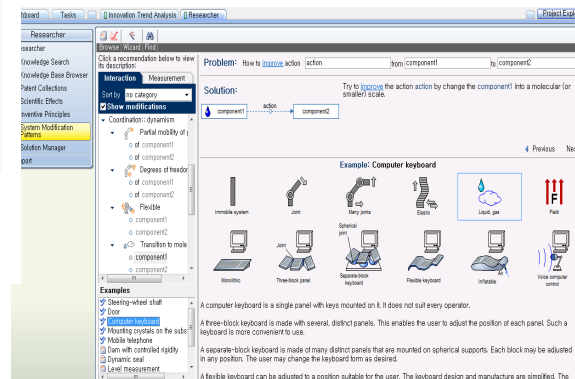


▶ Methodology ^[3]: GEN3 TRIZ's Problem Solving Roadmap



Selected methods^[3] used often (but not only) for 0

- ▶ Cause–Effect Chain Analysis
- ▶ Trends of Evolution of Technology
- ▶ Function Oriented Search
- ▶ One have to determine the right problem to be solved, which often may not be the initially stated problem.
- ▶ We believe that products and technologies evolve according to evolutionary trends that are objective and predictable.
- ▶ GEN3's Function–Oriented Search is a problem–solving tool that uses functional criteria to help identify existing technologies in leading areas of science and engineering.



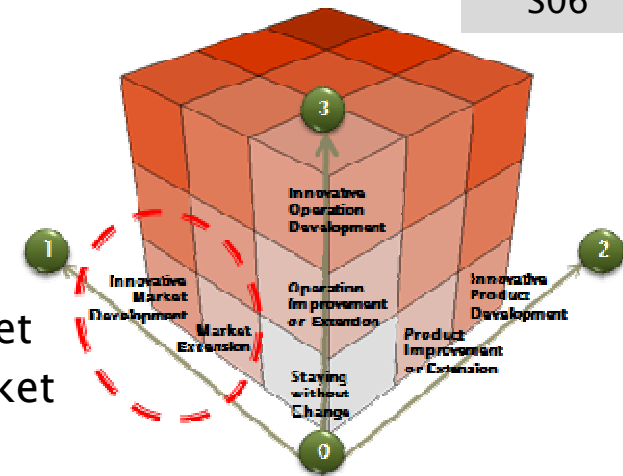
1 New Market Development

▶ Project Types

- Selling existing product/technology to new market
- Selling part of product or technology to new market

▶ Selected methods ^[3] useful often for

- ▶ Reverse Function Oriented Search (RFOS)
- ▶ Inverse Function–Oriented Search is an analytical tool that identifies new potential areas of application for an existing technology



▶ Main Parameter of Value (MPV)

We define innovation as a significant improvement in at least one Main Parameter of Value (MPV) – those factors that drive customer purchasing decisions. GEN3 is uniquely adept at uncovering MPV's and translating them to underlying technical parameters that become the focus of innovation efforts. Maintaining this alignment with MPV's helps to ensure that technical innovation programs will yield economic value.

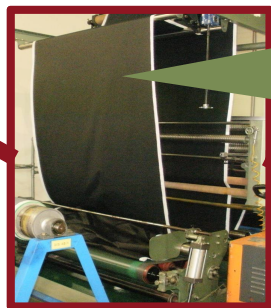
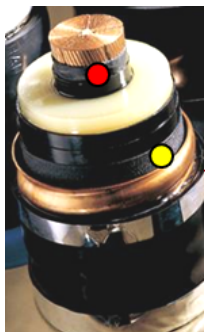
Project Type : New market development

Methods : Reverse Function Oriented Search (RFOS)

▶ Client

A manufacturer of tapes for electric power cables

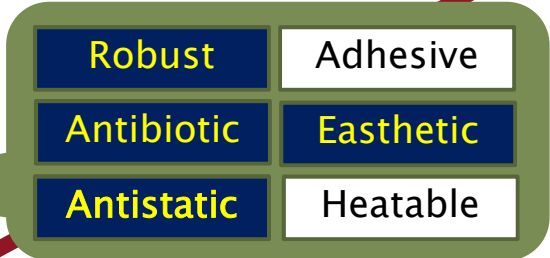
- ▶ needed a new business strategy with minimal investment & technology change



▶ Approach

- ▶ Find adjacent markets for client's existing product or technology

- ▶ Identified the most sellable properties & Functions of client's existing product or technology



▶ Result

- ▶ Found 10 new market ideas
- ▶ a few selected

7. Floor Heating System / Electric Heater

면발열체를 장판 밑에 까는 구조의 난방시스템

Robust	Adhesive	Beauty
Antistatic	Antibiotic	Heatable

장점

- 간편하고 저렴한 시공
 - 기존 바닥판 위에 신속 간편하게 설치
 - 복합리질, 벽판 등 별도 시공 불필요
- 친환경, 건강, 쾌적
 - 유해오염물질 (악취, 유해가스, 습증, 전자파 등)
 - 흡연, 음식 찌꺼기, 전자파 차단, 곰팡이나 냄새 제거
- 높은 에너지 효율
 - 전기 열선이나 기름 보일러보다 수실 % 저감
 - 급속 난방, 추운 난방 가능

Needs

기존 난방장치인 기름 보일러와 같은 비용에 설치 가능하도록 비싸고 환경이나 건강에도 안 좋으며 비효율적 난방도 전기료가 많이 든다.

Concept

표이오수 전도성 열선체가 일정한 정전압을 갖는 일체형, 전선과 함께 설치하여 전기난방시스템으로 적용 가능

4. Bed or sofa with conductive & beautiful fabric

전도성 전선을 침대나 소파, 이불 등에 사용하여 정전기 방지

Robust	Adhesive	Beauty
Antistatic	Antibiotic	Heatable

Needs

기존의 침대나 소파, 이불은 정전기가 발생하기 쉬워서 불편함을 유발하고 전선으로 인한 중독을 유발할 수 있음.

Concept

침대, 소파나 이불을 전도성 전선으로 하면 정전기를 방지하여 불편한 상태에서 잠을 잘 수 있음. 이러한 용도로 PE 자체의 내구성과 탄력성 등이 잘 맞을 수 있음. 이물질 문제가 있다면 커버를 추가 가능

2 New Product Development

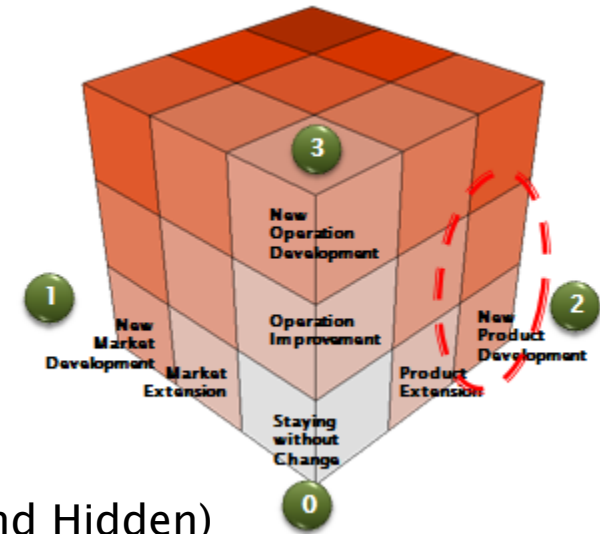
▶ Project Types

- Developing new product for existing customer
- Selling part of product or technology to new customer

▶ Selected methods [3] often useful for

- “Voice of the Product”

(Objective Functional Parameters of Value – Latent and Hidden)



Example of Innovative New Product Development

- ▶ TRIZ has been playing important role in great success stories of R&D of Korean big companies like Samsung since late 1990's [4].

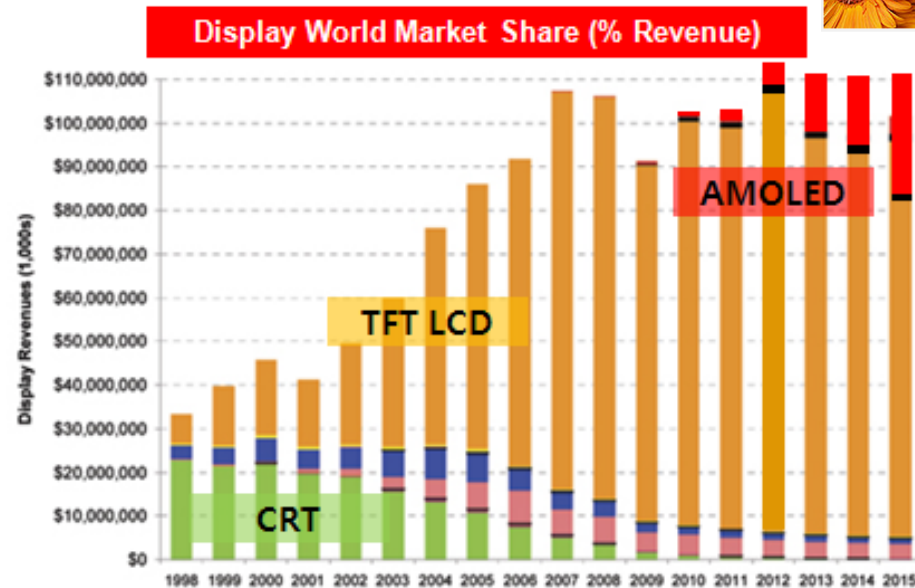
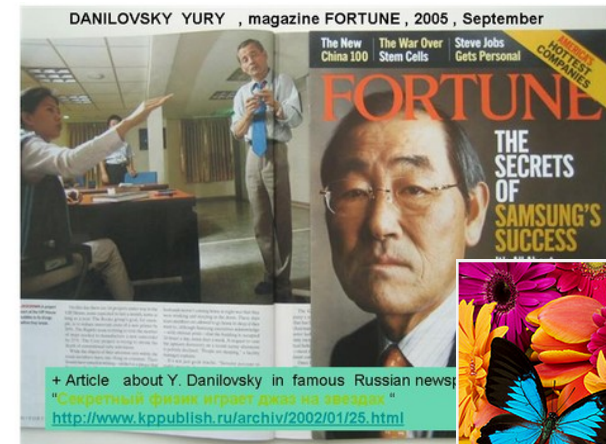


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How Samsung Became Such a Formidable Competitor

2. Methodical innovation and education.

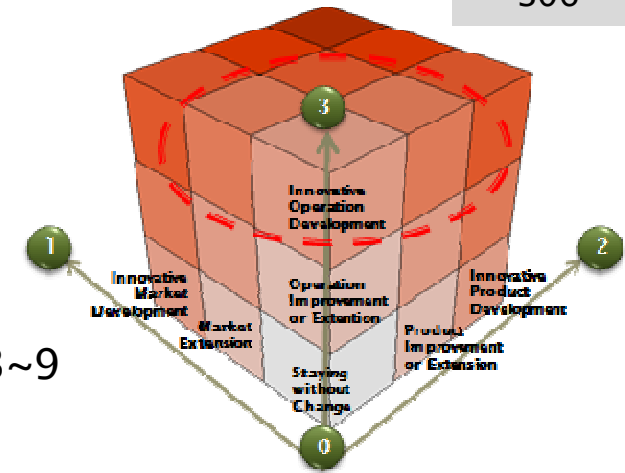
The SDI AMOLED program, like SAIT, had to introduce a new innovation method, TRIZ. TRIZ was introduced by Russian experts like Lenyashin – [a topic I have covered elsewhere](#). It is essentially a method for envisioning desirable endpoints and then working the engineering problems back from that.



3 Operation Innovation

▶ Project Types

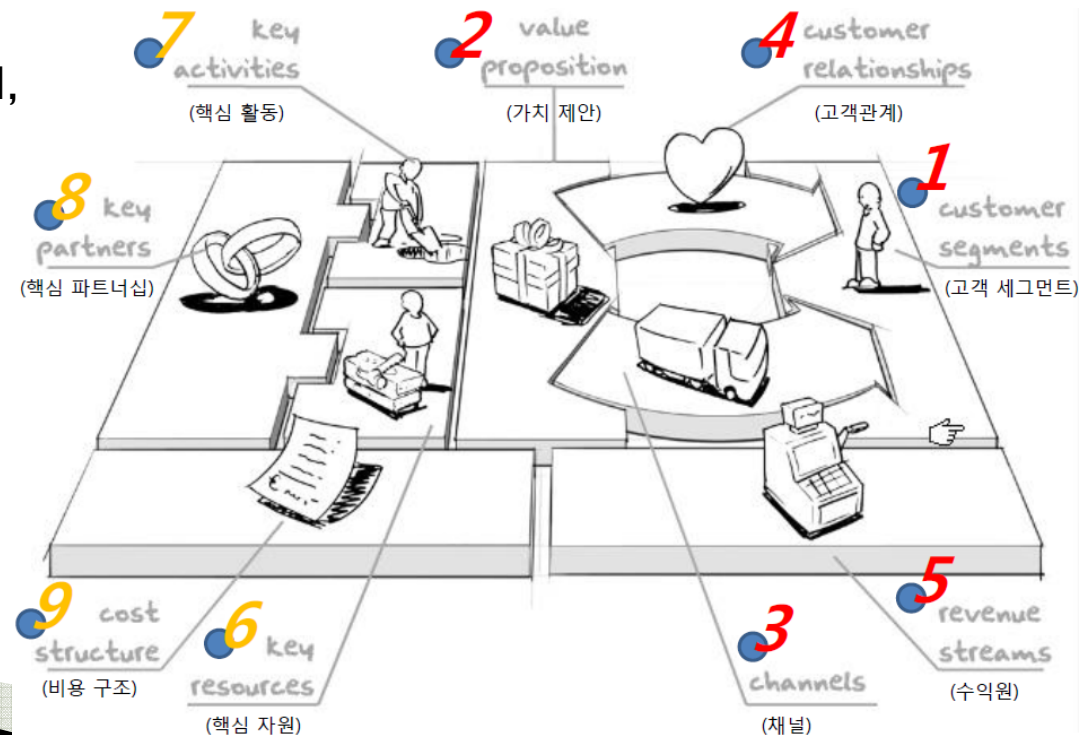
- Radical Innovation of Operation
- Business Model Innovation by changing element 3~9 of Business Model below



▶ Selected Tools often used for

3

- All TRIZ tools are applicable. (Esp. those for non-technical, business problems)
 - IFR/Contradiction/Resources
 - Cause Effect Chain etc.
- Many non-TRIZ tools for Business Strategy
 - Business Model Canvas
 - Blue Ocean Strategy etc.



Ways of adopting TRIZ to your organization

- ▶ There are different ways of adopting TRIZ to your organization
- ▶ GEN3 Korea provides four different kinds of such services :

Services	Project ExecutionBy	Duration
Training only	None	Training is 3, 5, 10 days for Levels 1,2,3 (Custom Training Possible)
Project Coaching	Employee + TRIZ Consultant	2~3 months per project
GEN3 Korea TRIZ Consulting Project	GEN3 Korea TRIZ Consultants (2 Russian Masters + Korean TRIZ Consultants)	2~3 months per project (depend on the project)
GEN3 Partners's Systematic Open Innovation (Global) Service	GEN3 Global TRIZ Consuling Team + 8,000 Global Knowledge Netwok + Smart Lab & Supporting Systems in Russia & USA. (On Site Project Management by GEN3 Korea TRIZ Consultants)	Normally about 3 months (depend on the project)

Conclusion

- ▶ For bigger profit, use TRIZ for bigger strategic & business problems.

- ▶ There are four main strategic areas of TRIZ applications
 - Improving existing business
 - Developing new market
 - Developing new product
 - Developing new operation

- ▶ To solve these, we need new tools & approach
 - Different Roadmaps & Tools for different problems
 - Different Level of skill & knowledge of using the tools
 - Different level of investment for innovation
 - Extended resources for innovation (Open Innovation)

- ▶ There are 4 ways to deploy TRIZ into your company

Reference

- [1] Litvin, Simon S. : NEW TRIZ-BASED TOOL — FUNCTION-ORIENTED SEARCH (FOS). In: TRIZCON (2005)
- [2] Osterwalder A.; Pigneur, Y. : Business Model Generation. Wiley, 2010
- [3] GEN3 Partners Inc. (www.gen3partners.com)
- [4] <http://www.forbes.com/sites/haydnshaughnessy/2013/03/29/how-did-samsung-become-a-high-growth-company/>




Thank you

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