



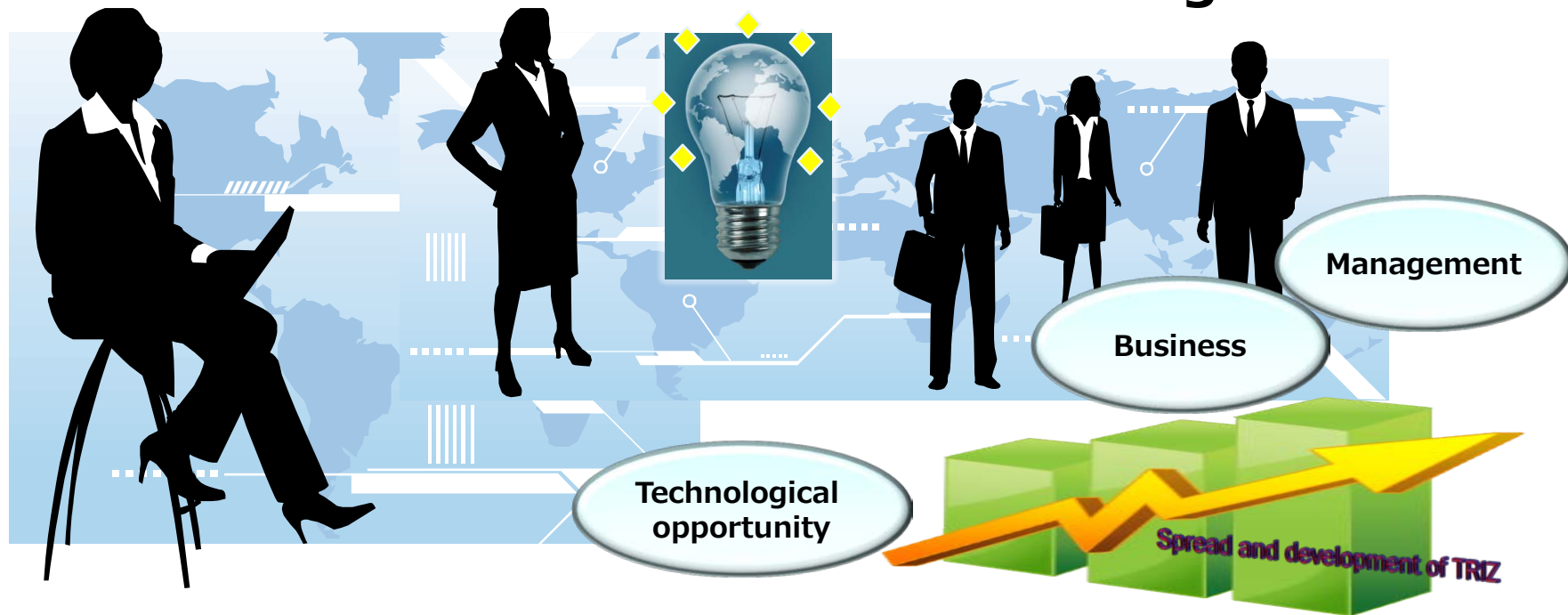
Methods and Examples of Applying the Business Management Related Evolution Trend Proposed by Darrell L. Mann

**- Translating the Evolution Trends from the World of TRIZ into the Daily
Business and Management -**

Incorporated Nonprofit Organization Japanese TRIZ Society Business and Management TRIZ Research Subcommittee

- | | |
|-------------------|-----------------------------------|
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What are the business and management TRIZ research subcommittee meeting?



- It aims at the research that uses TRIZ and the construction of the guidance for the problem of the business and the management field. It is acting for the spread and the development of TRIZ.
- The third bounce, it searches for **the method of medication** of the business management system evolution trend.

Research of business management system evolution trend


It is noticed a current activity.

- Idea of TRIZ of the second bounce "Hot-selling product and service" and analysis by technique.
- A basic frame to create "Hot-selling product and service" system is designed.


The 8th TRIZ symposium 2012

発明原理から別のアイデアを考えてみる

改良・改善すること
受取人: いつ荷物が配達されるのか詳しく教えてほしい



対立すること
受取人: 荷物が届く時間帯を意識して行動しなければ...



発明原理とサブ原理

- 原理 1. 分割**
A. システムあるいは物体を独立した部分に分割する。
- 原理 10. 先取り作用**
B. 配置に時間をとれず最も効率よい場所から作業に入れるよう、作業を前もってアレンジしておく。
- 原理 15. ダイナミクス**
C. システム、物体、プロセスが融通の利かない状態であるならば、適応性のある柔軟なものにしない。
- 原理 25. セルフサービス**
B. 捨てられた(または失われた)資源、エネルギー、物質を利用する。

別のアイデアは?

- 受取を分割、受取人に代わって受け取ってもらえる。
- 事前に会員登録、最も都合良い受取トレンドが設定できる。
- 複数通販を利用したときの別々の配送を1回にまとめて配送する。
- 過去の配達履歴を利用して、配達時間帯を提案する。

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Japan TRIZ Society Business and Management WG

The 8th TRIZ symposium 2012

次の進化レベルのアイデアを考えてみる

たとえば「自由度」、1つの自由度⇒2つの…⇒3つの…

➢ 関わる人: 宅配業者 ⇒ + 発送人 ⇒ + ドライバー ⇒ + 受取人 ⇒ + ?

➢ サービスの選択肢: 地域 ⇒ + サイズ ⇒ + 種類 ⇒ + 時間 ⇒ + 付加機能 ⇒ + ?

関与する人 / サービス	1st level	2nd level	3rd level	4th level	5th level	6th level
関わる人	宅配業者	発送人	ドライバー	受取人	+	+
サービスの選択肢	地域	サイズ	種類	時間	+	+

【自由度】関わる人

- > 収集・受取の代行 (商店・駅など)
- > 近隣のコミュニティ
- > 受取人の行動先の人 (通勤、旅行など)

【自由度】サービスの選択肢

- 配達時間帯、所要時間(特急)
- 取扱いの丁寧さ
- 保険金額
- 梱包条件(ラッピングなど)

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It is a necessity in the tool that improves effective and convenience for tailoring as for "Evolution Trend".

Result of research activities of the third stage

1. Presentation of explanation collections of comprehensible evolution trends

The content of the definition of the evolution trend and the evolution level is plainly and Japanese expressed.

2. Presentation of method of medication to business management system tool

A basic structure of the strategy tool and the management tool to be often used daily is maintained, and the effectiveness is improved. In addition, the method of medication to improve convenience is examined.

SECI model/balance score card/ SWOT

3. Introduction of application example of evolution trend

The project of a new business by the technical service and the case with the start-up are considered.

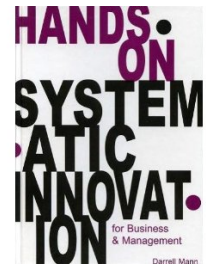
Business management system evolution trend

From the book related to TRIZ for the business and the management field

Book : HANDS ON SYSTEMATIC INNOVATION for Business & Management

Author : Darrell Mann

Publisher: Edward Gaskell Publishers 2004 year's publication



- Evolution trend of 32 (Japanese)

<ol style="list-style-type: none"> 1. Customer expectation 2. Focus of purchase of customer 3. Recognition to self-assembler 4. Knowledge 5. Ability 6. Process idea 7. Strength of system 8. Mono-ivory shell jackrabbit (similarity) 9. Mono-ivory shell jackrabbit (diversity) 10. Mono-ivory shell jackrabbit (increase of difference) 	<ol style="list-style-type: none"> 11. Division 12. A decrease in decline 13. Improvement of use of various senses 14. Increase of transparency 15. Increase of degree of freedom 16. Connection 17. Removal of boundary 18. Trim 19. Control 20. Hierarchy of needs 	<ol style="list-style-type: none"> 21. A decrease in man's relations 22. Interaction with another 23. Listen/communications 24. Strengthening of asymmetric diversity 25. Marketing research 26. Adjustment of activity 27. Adjustment of rhythm 28. Viewpoint of design 29. Nonlinear 30. Structural evolution (increase in dimension) 31. Improvement of flexibility 32. Vertical/horizontal business cycle
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Explanation collections of comprehensible evolution trends

Point and device of examination

- ① The name at the evolution trend and the evolution level writes plainly and Japanese.
- ② It is CPR(Customer/Process/Resources) aspect and each layer as for the evolution trend.
- ③ The evolution level examines the explanation corresponding to each stage referring to the reason for the jump.

Name at evolution trend and level

Each layer of CPR aspect

Evolution trend Explanation of level solving

32種類の進化トレンドとその解説

進化/パターンの「Reason for Jumps」	C-カスタマー、P-プロセス、R-リソース(人、モノ、カネ、情報、ブランド)の観点	顧客期待は時間とともに高まる
24 顧客関与の増加/カスタマイゼーション	<p>1. 顧客期待 C</p> <ul style="list-style-type: none"> 単一機能 複合機能 サービス機能 経験機能 無能機能 変革機能 	<p>顧客期待は時間とともに高まる</p> <ul style="list-style-type: none"> 単一機能製品が提供されている(スチール、アルミニウム、スズ、化学製品、一般薬品、フィルター、CD、ビデオ等) 複合機能製品が提供されている(車、電話機、テレビ、DVDプレイヤー、洗濯機等) 製品にサービスが付加されたシステムが提供されている(衣服クリーニング、ファーストフード、休日パッケージ、宅配、カーレンタル、契約解除等) 製品やサービスを用いた経験(ディズニー、アドベンチャースポーツ、マクドナルド等)が提供されている 経験を通じた変革(自己を変革させたいという欲望を満たす)が提供されている(主体の変換)
23 競争の優位化/顧客要求に追いつく技術能力	<p>2. 顧客の購入の焦点 C</p> <ul style="list-style-type: none"> 性能 信頼性 利便性 価格 	<p>購入の焦点はシステムのSカーブの位置に対応し時間(成熟)とともに移行する</p> <ul style="list-style-type: none"> 速さ、強さ、明るさ、容量などの性能面に購入動機がフォーカスされる(製品本来の機能) 安全性、性能・機能の安定性など信頼性を購入の焦点としている 多機能性、使い勝手などの利便性を購入の焦点としている 品質で想定される価格より、より安価な価格を購入の焦点としている
リスク管理/変更の受容力	<p>3. 自己組織化に対する認識 P</p> <ul style="list-style-type: none"> 自己組織化の無自覚 自己組織化を自覚 ガイドされた自己組織化 自律的な自己組織化 自律的な能力成長(自己創出) 	<p>組織構造は自己組織化に向けて進化する</p> <ul style="list-style-type: none"> 組織はすべての人間活動システムが複雑で、無秩序であることを気づかないでいる 組織は人間活動システムの複雑性、無秩序について気づいている 組織は人間活動システムを管理するプロセスを開始している(QCサークル、権限委譲、ボトムアップなど) 組織はいくつかの人間活動システムが自律的な活動を遂行し、相互に連動して調整のとれたものになっている 組織は自己存続に向けて、自己組織化する構造体になっている
データ解釈と活用	<p>4. 知識 R</p> <ul style="list-style-type: none"> データ 情報 知識 知恵 	<p>データは、情報化され、さらに知識・知恵に進化する</p> <ul style="list-style-type: none"> 生データの収集や表示がされている データに構造、意味、解釈が付加されて情報となっている 利用可能なデータの蓄積、無関係な情報の排除、時間管理の付加により知識(形式知)となっている 形式知にコンテキストに対処する暗黙知が追加され、特定の状況、環境において知識が正しく活用されている
システム化	<p>5. 能力 R P</p> <ul style="list-style-type: none"> 無能の無自覚 無能の自覚 有能の自覚 有能の無自覚 	<p>新しいスキルや職務、顧客などの経営資源を得るための学習プロセスは進化する</p> <ul style="list-style-type: none"> 意識していない、できない 意識しているのにできない(できないている) 意識してできる(できている) 意識しなくてもできる(できている)
あらゆる改善	<p>6. プロセス思考 P R</p> <ul style="list-style-type: none"> 試行錯誤状態 単一プロセスの形成 複合プロセスの形成 複合プロセスの最適化 	<p>業務や思考などのプロセスを進化させる(プロセスが貴重であるという組織の認識による)</p> <ul style="list-style-type: none"> 成功モデルの出現をみる前の段階で、試行錯誤により業務や思考を遂行している 特定状況での業務や思考の遂行プロセスを決め、実行すべき手順書として、従うことが期待されている ある機能や機能遂行プロセスは、それぞれの状況に対応して設計されている 変化する状況に対応するために個々の業務や思考プロセスを設計するプロセスがある

It is exhibiting in the TRIZ society corner.

Method of medication to business management system tool

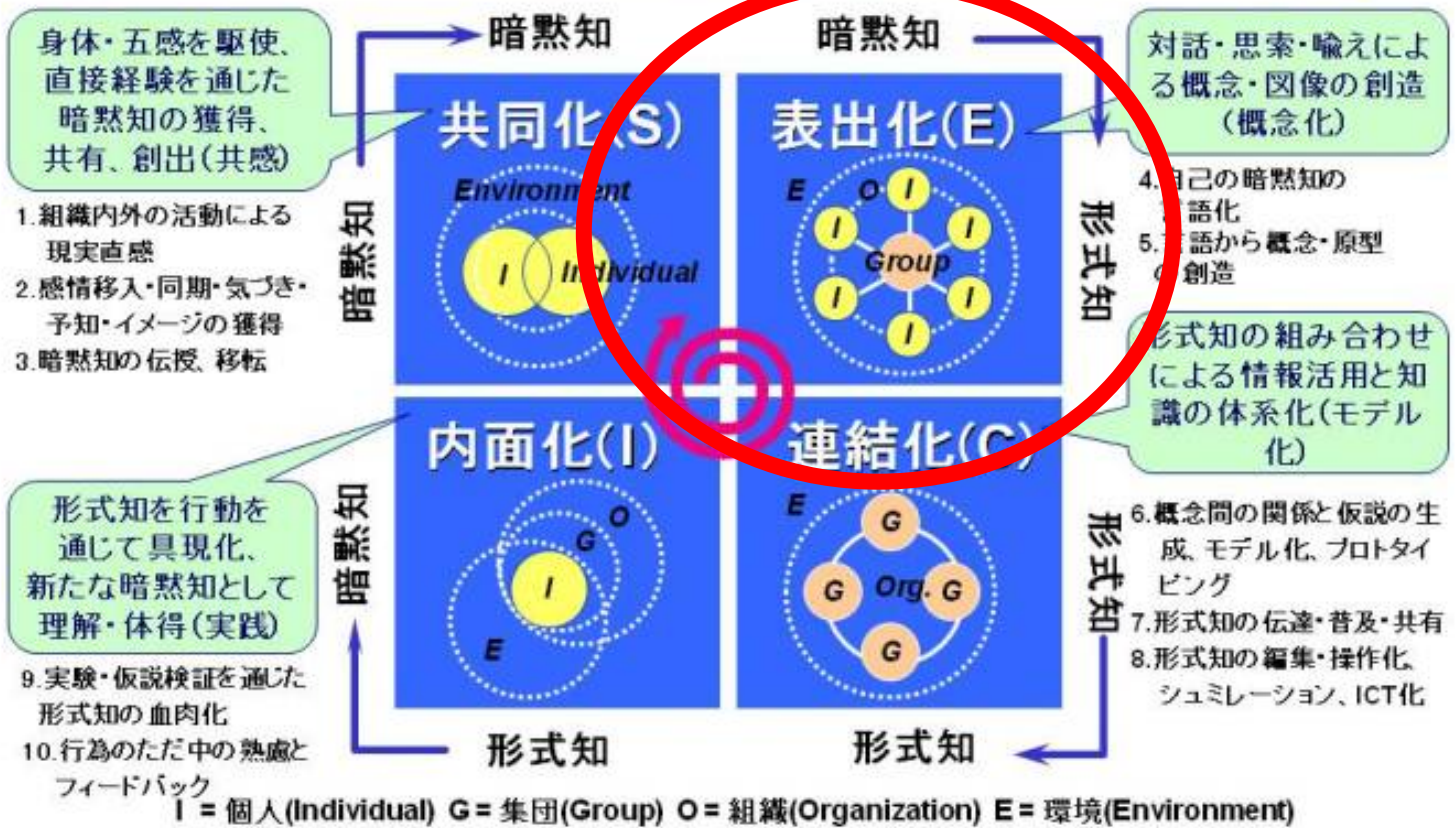
It is a combination in the business management field with the tool with high use frequency.

- The SECI model's application to "**Making to Expression**"
It uses it as a trigger that promotes the succession of wisdom in the organization.
- Application of balanced scorecard to "**Four Aspects**"
It uses it to examine the target of the management strategy like the business process and the personnel training, etc. that grows up.
- **Application to SWOT**
An outside environment and an internal resource are understood, and it uses it as a cut that discusses strategy.

The SECI model's application to "**Making to Expression**" ~ Trigger of succession of wisdom in organization ~

It applies to "Make to the expression" of the SECI model.

組織的知識創造プロセス - SECIモデル -



S= 共同化(Socialization) E=表出化(Externalization) C=連結化(Combination) I=内面化(Internalization)

"Making to expression" and business system evolution trend

Mode of knowledge transformation	Trigger that presses expression		TRIZ business & management evolution trend			
Making to expression (Externalization)	Place-making	Conversation	1. Customer expectation	2. Aspect of purchase of customer	7. Strength of system	12. A decrease in decline
			16. Connection	17. Removal of boundary	22. Interaction with another	23. Listening /communications
			26. Adjustment of activity	31. Improvement of flexibility		
		Meditation	4. Knowledge	5. Ability	9. [Monobaipori] (diversity)	11. Division
			19. Control	27. Adjustment of rhythm	32. The vertical/horizontal Business cycle	
			3. Self-assembler Recognition that confronts [ni]	8. [Monobaipori] (similarity)	13. Use of various senses On ..drinking.. [muka]	15. Increase of degree of freedom
	Own Tacit knowledge Making to language	[**] food	25. Marketing research	29. Nonlinear		
	Conceptualization	Chart image Creation	6. Process idea	10. [Monobaipori] (increase of difference)	14. Increase of transparency	18. Trim
			20. Hierarchy of needs	21. Man's relations ..drinking.. decrease	24. Strengthening of asymmetric diversity	28. Viewpoint of design
			30. Structural evolution (increase in dimension)			

Image of application

Place-making: Conversation

Method of **participation** in conference that shares information in organization

[1] Customer expectation: ① Single function → ② compound function → ③ service function → ④ experience function
→ ⑤ revolution function

- It attends the conference. ...① Only it attends and, at first, it doesn't make remarks.
- It is influenced by other people present, and it comes to make remarks positively seeing the appearance. ...②
- It comes to be able to understand the content of the conference, and clerk's role comes to be left. ...③
- It is assumed the standpoint where the conference is controlled and holds the conference as a chairperson. ...④
- The necessary number of men is collected when it is necessary, and it comes to arrange the conference holding. ...⑤

Making of own tacit knowledge language : example

Method of **expression** in explanation

[15] Increase of degree of freedom: ① One degree of freedom → ② Two degree of freedom →
③ Three degree of freedom → ④ Four degree of freedom → ⑤ Five degree of freedom → ⑥ Six degree of freedom

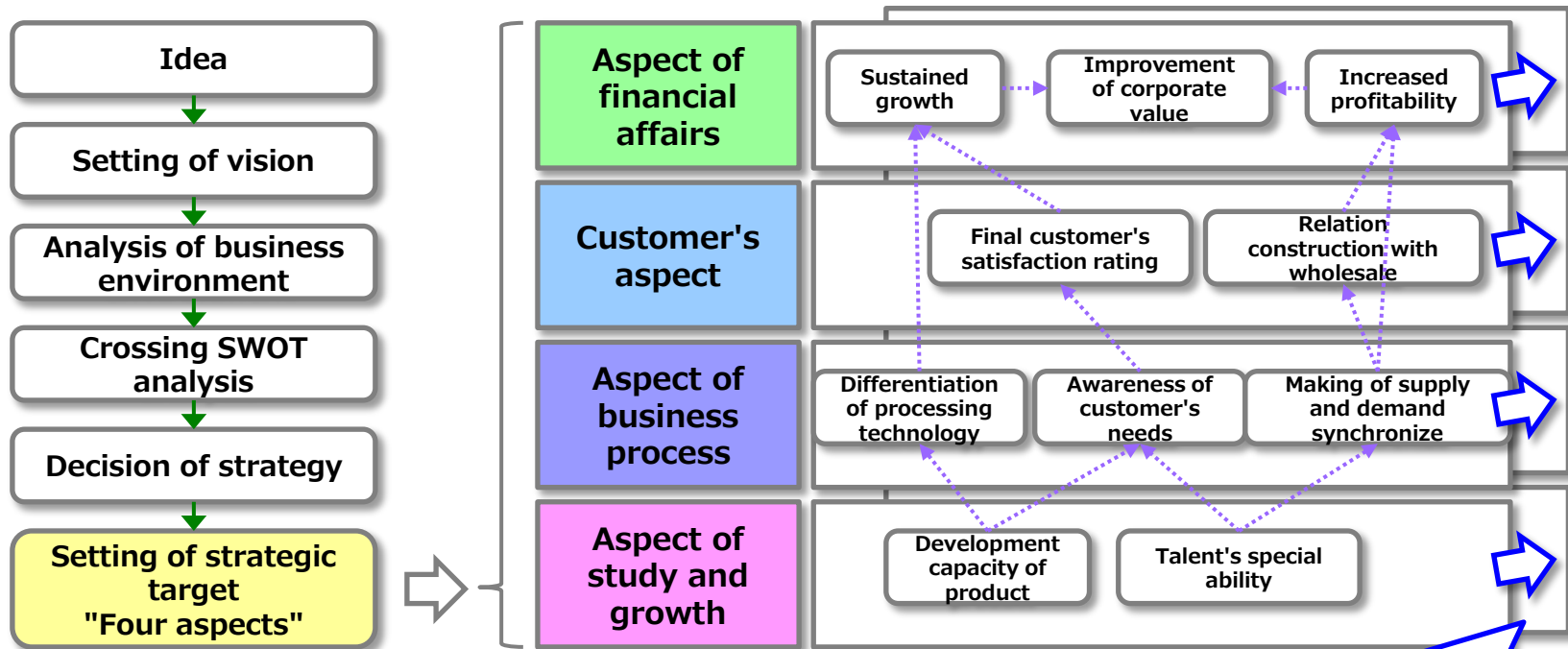
- It talks in the word that passes only in a very small organization. ...①
- It explains in a local language that passes in its company. ...②
- Newly it defines and it explains the word to the customer a word general ..understanding... ...③
- It is possible to explain by using the word and the expression that passes globally. ...④

Application of balanced scorecard to "Four Aspects"

~Examination of target of management strategy that grows up~

It applies to "Four aspects" of the balanced scorecard.

- The balanced scorecard is a management system for the strategy management. (2001年)
- It aims at the achievement of achievement and the target of the vision, and it works out one's strategy from four aspects.
- It uses it for the examination of ..growth very.. target such as the business process and talent "Evolution trend".



Flow until strategy target setting

"Four aspects" Image

Application of evolution trend

"Four aspects" and business system evolution trends

It proposes to consider "Evolution", to plan the following target, and to examine it.

Four aspects	Evolution	TRIZ business & management evolution trend		
Aspect of financial affairs	Business structure	11. Division	24. Strengthening of asymmetric diversity	32. The vertical/horizontal Business cycle
	Business development	8. Mono-ivory shell jackrabbit (similarity) Relating element	9. Mono-ivory shell jackrabbit (diversity) Another element	10. Mono-ivory shell jackrabbit (increase of difference)
Customer's aspect	Customer request	1. Customer expectation	2. Focus of purchase of customer	20. Hierarchy of needs
	Value offer	13. Improvement of use of various senses	21. Man's relations A decrease	
	Customer understanding	17. Removal of boundary	19. Control	25. Marketing research
Aspect of business process	Organizational strength	3. Recognition to self-assembler	16. Connection	
	Business accomplishment power	6. Process idea	7. Strength of system	
	Workforce optimization	18. Trim	26. Adjustment of activity	27. Adjustment of rhythm
	Business quality	29. Nonlinear	30. Structural evolution (increase in dimension)	
Study and growth ..drinking.. aspect	Ability	4. Knowledge	5. Ability	
	Design power	28. Viewpoint of design	31. Improvement of flexibility	
	Growth willingness	12. A decrease in decline	22. Interaction with another	
	Communications power	14. Increase of transparency	15. Increase of degree of freedom	23. Listening /communications

Image of application: Seijho Ishii (Case 1)

It succeeds as a city type high-level supermarket in the technique for selling the sticking to commodity with high quality by a proper price.

Aspect of financial affairs

- [24] Strengthening of asymmetric diversity : ①Symmetrical system→②Partial asymmetry→③Harmonizing asymmetry
- It converted from the technique that looks like rival supermarket① (Branch shop strengthening and price cutting.
 - The shop-making of a part of supermarket that had been matched to the environment of city was advanced. …②
 - Business model with proposal and relation of Lifestyle of consumer different from price intention . …③

Customer's aspect

- [2] Focus of customer purchase : ①Performance→②Reliability→③Convenience→④Price

- Goods in stock that did not exist in stocking with the commodity of high-value-added and the other companies were offered from all parts of the world. …①
- It concentrates on the development of the Private Brand commodity, and the high-quality commodity-making of sticking to that seems to be Seijho Ishi is pursued. …②
- A small-scale, familiar store is developed with the region where the supermarket is not opened easily. …③

Image of application: Seijho Ishii (Case2)

Aspect of business process

[18] Trim : ①Complex system→②Removal of secondary component of subsystem
→③Removal of secondary subsystem→④System that trims

- The emphasis commodity was narrowed, the commodity with a high additional value was decided, and it promoted the sales emphatically by all shops.
- It was valued to stop the discount sales, and to sell it only by the commercial value. ...②

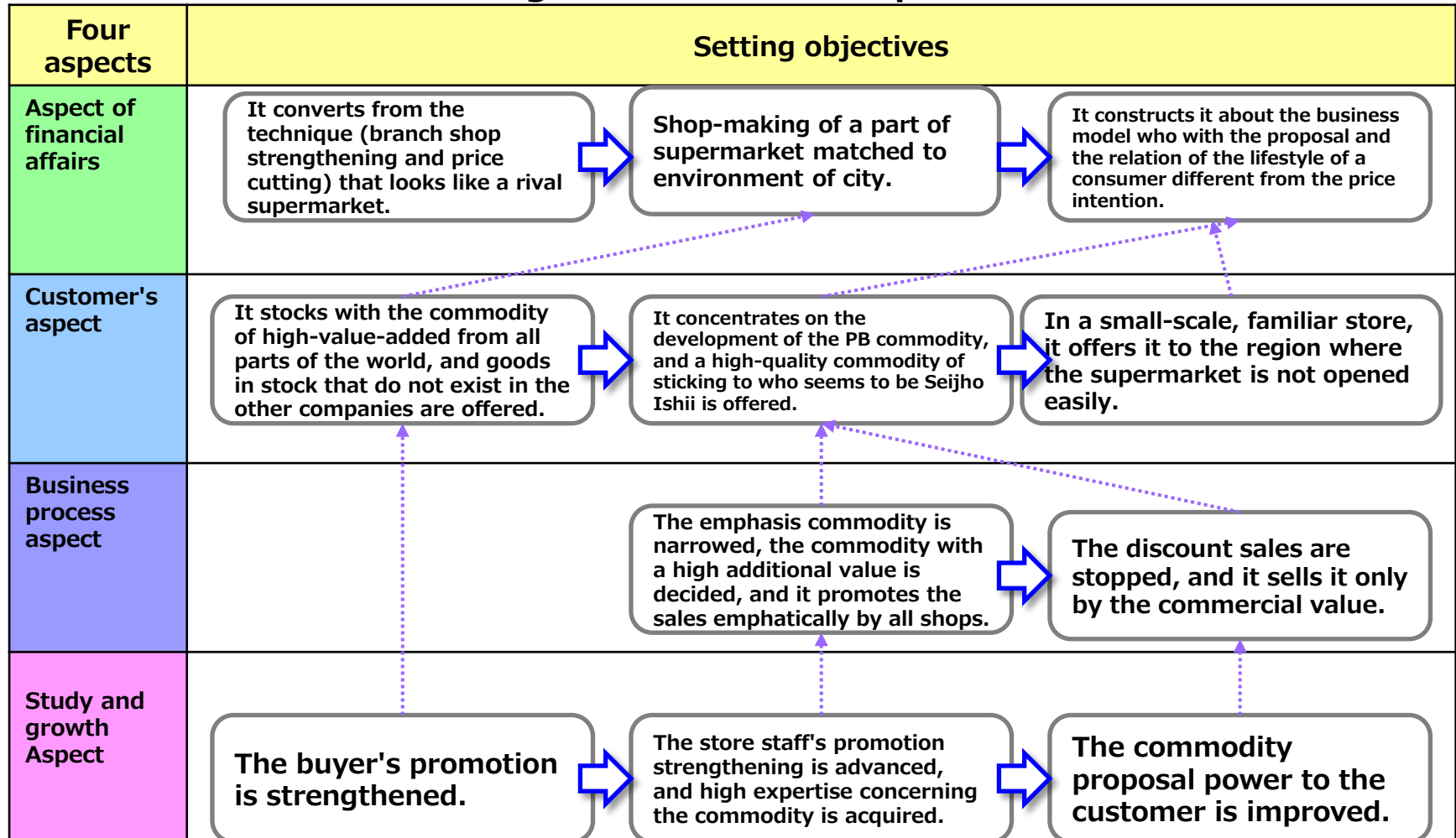
Aspect of study and growth

[4] Knowledge : ①Data→②Information→③Knowledge→④Wisdom

- The buyer's promotion was strengthened.
- The store staff's promotion strengthening was advanced. High expertise concerning the commodity was acquired. ...③
- In addition, the commodity proposal power to the customer has been improved. ...④

Image of application: Seijho Ishii (Case3)

It is understood that the strategy is managed by the evolution of the personnel training and the business process.



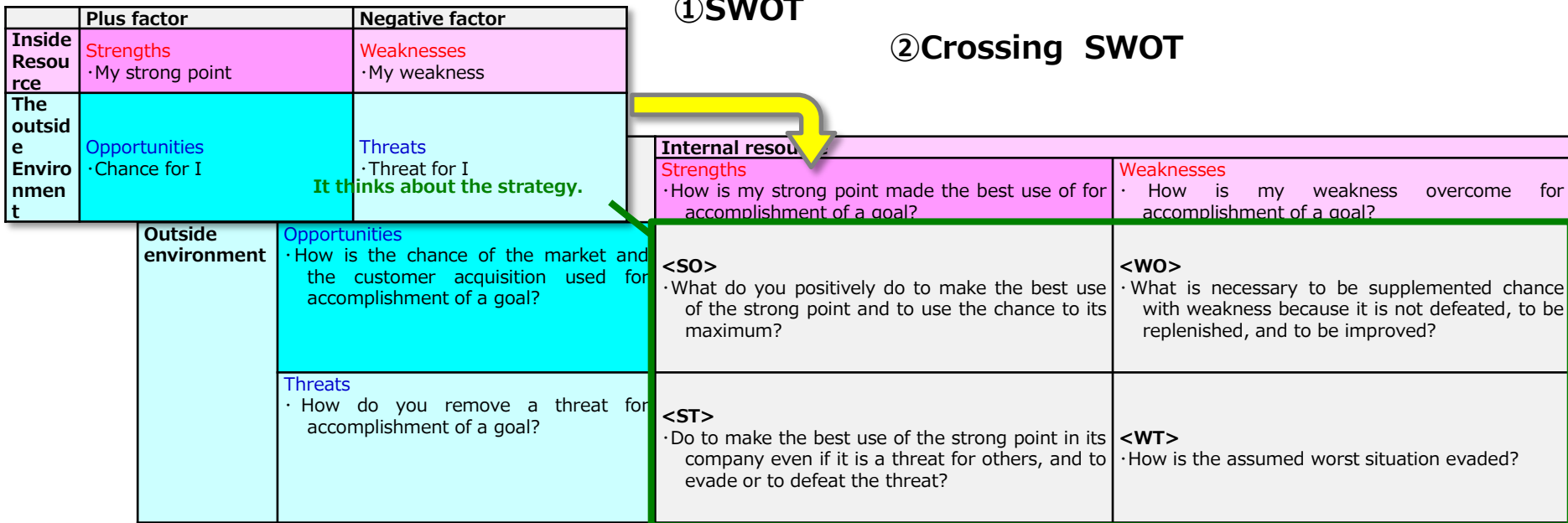
Application to **SWOT**

~Cut of analysis and strategy examination of outside environment and internal resource~

The strategy is planned with SWOT.

The evolution trend is applied to SWOT that plans the management strategy from an environmental analysis.

- ① To each factor of an internal resource and the outside environment, Whether it is a plus factor or a negative factor is classified. Strengths and Weaknesses that organization possesses, Opportunities and Threats as the influence on the organization are analyzed and arranged.
- ② Strengths and Weaknesses as internal resource factor And, it chances and the threat as the outside environment factor. These are combined mutually.
<SO> Strong point and chance **<WO>** Weakness and chance **<ST>** Strong point and threat **<WT>** Weakness and threat, After four kinds of areas are clarified, the strategy is planned.



Outside environment factor, internal resource factor, and crossing SWOT

Assume **5F** and **PEST** to be an internal resource factor as an outside environment factor and **VRIO** and **7S**. The trend of 32 kinds of evolution is associated while referring.

- **5F(Force)** : Pressure of new entry, Pressure of substitute, Pressure of supplier, Purchaser's pressure, Pressure of other organization of a like nature
- **PEST** : Politics, Economics, Society, Technology
- **VRIO** : Value, Rarity, Inimitability, Organization
- **7S** : 3S of hardness
 Strategy, Structure, System
 4S of software
 Shared Value, Skill, Staff, Style

•4S of software in I of VRIO and 3S of hardness to O of VRIO
 It is considered that it is almost equivalent.

Internal resource
 • **VRIO** (Value, Rarity, Inimitability, Organization)
 • **7S** (3S of hardness : Strategy, Structure, System, 4S of software : Shared Value, Skill, Staff, Style)

<p>Strengths</p> <ul style="list-style-type: none"> • My strong point? • How is my strong point made the best use of for accomplishment of a goal? 	<p>Weaknesses</p> <ul style="list-style-type: none"> • My weakness? • How is my weakness overcome for accomplishment of a goal?
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<p><SO : Maxi-Maxi></p> <ul style="list-style-type: none"> • What do you positively do to make the best use of the strong point and to use the chance to its maximum? 	<p><WO : Mini-Maxi></p> <ul style="list-style-type: none"> • What is necessary to be supplemented chance with weakness because it is not defeated, to be replenished, and to be improved?
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<p><ST : Maxi-Mini></p> <ul style="list-style-type: none"> • Do to make the best use of the strong point in its company even if it is a threat for others, and to evade or to defeat the threat? 	<p><WT : Mini-Mini></p> <ul style="list-style-type: none"> • How is the assumed worst situation evaded?
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Outside environment
 • **5F (Five Force)**
 • **PEST (Politics, Economics, Society, Technology)**

<p>Opportunities</p> <ul style="list-style-type: none"> • The chance for I? • How is the chance of the market and the customer acquisition used for accomplishment of a goal? 	<p>Threats</p> <ul style="list-style-type: none"> • The threat for I? • How do you remove a threat for accomplishment of a goal?
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Outside environment, analysis technique of internal resource, and evolution trend

External/inside	Analysis technique of environment/resource	Point of analysis	TRIZ business & management evolution trend		
Outside environment	5F (Five Forces) (Market and competition)	<ul style="list-style-type: none"> •New comer's threat •Threat of substitute •Bargaining power of supplier •Purchaser's (customer) bargaining power •Competition with other organization of a like nature 	1. Customer expectation	2. Focus of purchase of customer	19. Control
			23. Listening/ Communications	24. Strengthening of asymmetric diversity	25. Marketing research
	PEST	•Politics			
		•Economics			
		•Society	14. Increase of transparency	20. Hierarchy of needs	
•Technology	21. A decrease in man's relations				
Internal resource	VRIO/ 7S(soft4S, hard3S)	•Value			
		•Rarity			
		•Imitability /Inimitability •7S(soft4S)	4. Knowledge	5. Ability	12. A decrease in decline
			13. Improvement of use of various senses	18. Trim	22. Interaction with another
			26. Adjustment of action (activity)	27. Adjustment of rhythm	31. Improvement of flexibility
		•Organization •7S(hard3S)	3. Against the self-assembler. Recognition	6. Process idea	7. Strength of system
			8. Mono-ivory shell jackrabbit (similarity)Relating element	9. Mono-ivory shell jackrabbit (diversity)Another element	10. Mono-ivory shell jackrabbit (increase of difference)
			11. Division	15. Increase of degree of freedom	16. Connection
			17. Removal of boundary	28. Viewpoint of design	29. Nonlinear
			30. Structural evolution (increase in dimension)	32. The vertical/horizontal Business cycle	

Evolution trend in crossing SWOT

		<p>内部資源 V : Value R : Rarity I : Imitability or software 4S (Shared Value, Skill, Staff, Style) : <4>Knowledge, <5>Ability, <12>A decrease in decline, <13>Improvement of use of various senses, <18>Trim,<22>Interaction with another,<26>Action activity adjustment,<27>Adjustment of rhythm,<31>Improvement of flexibility O : Organization or Hard 3S (Strategy, Structure, System) : <3>Recognition and maturity level model to self-assembler<6>Process idea<7>Strength of system、<8>Mono-ivory shell jackrabbit (Similarity) Relating element、<9>Mono-ivory shell jackrabbit (Diversity) Another element,<10>Mono-ivory shell jackrabbit (increase of difference),<11>Division<15>Increase of degree of freedom,<16>Connection<17>Removal of boundary,<28>Viewpoint of design,<29>Nonlinear,<30>Structural evolution、<32>Vertical/horizontal business cycle</p>	
		<p>Strengths</p> <ul style="list-style-type: none"> • My strong point? • How is my strong point made the best use of for accomplishment of a goal? 	<p>Weaknesses</p> <ul style="list-style-type: none"> • My weakness? • How is my weakness overcome for accomplishment of a goal?
<p>Outside environment 5F : Market and competition (five forces) : <1>Strengthening aspect of purchase of customer expectation and <2> customer, <19> control, <23> listening/communications, and <24> asymmetric diversity and <25> marketing researches P : Politics E : Economics S : Society : <14>Increase of transparency, <20>Hierarchy of needs T : Technology : <21>A decrease in man's relations</p>	<p>Opportunities</p> <ul style="list-style-type: none"> • The chance for I? • How is the chance of the market and the customer acquisition used for accomplishment of a goal? 	<p><SO : Maxi-Maxi></p> <ul style="list-style-type: none"> • What do you positively do to make the best use of the strong point and to use the chance to its maximum? 	<p><WO : Mini-Maxi></p> <ul style="list-style-type: none"> • What is necessary to be supplemented chance with weakness because it is not defeated, to be replenished, and to be improved?
	<p>Threats</p> <ul style="list-style-type: none"> • The threat for I? • How do you remove a threat for accomplishment of a goal? 	<p><ST : Maxi-Mini></p> <ul style="list-style-type: none"> • Do to make the best use of the strong point in its company even if it is a threat for others, and to evade or to defeat the threat? 	<p><WT : Mini-Mini></p> <ul style="list-style-type: none"> • How is the assumed worst situation evaded? ?

Application image: Strategy of VW Co. (1)

参考 : The TOWS Matrix ---A Tool for Situational Analysis, Heinz Wehrich, Professor of Management, University of San Francisco, http://www.usfca.edu/fac_staff/wehrich/docs/tows.pdf

<p>Internal resource</p> <ul style="list-style-type: none"> Economic value, scarcity, 4S of imitation possibility or software, organizational ability or 3S of hardness 	<p>Evolution trend related to internal resource (note)Example of analyzing strategy that comes for VW Co. to produce 1973-75 in the United States at that time in year</p> <p>I: Improvement of <31> flexibility</p> <p>O: <32> vertical/cycle of the horizontal business that viewpoint of removal or increase of <11> division and <15> degree of freedom, <16> connections, and <17> boundaries and <28> designs and nonlinear <29> and <30> structural evolves</p>	
<p>Outside environment</p> <ul style="list-style-type: none"> It competes with the market, and it is technical the political, economical, social. 		
<p>Evolution trend related to outside environment:</p> <p>Strengthening aspect of purchase of 5F:<1 > customer expectation and <2> customer, <19> control, <23> listening/communications, and <24> asymmetric diversity and <25> marketing researches</p> <p>S:<14> <20> hierarchy of needs that increases transparency</p> <p>T:A decrease in <21> man's relations</p>	<p>Internal Strengths:</p> <ol style="list-style-type: none"> Strong R&D and engineering <5> Strong sales and service network <22> Automation feature efficient production/<28> 	<p>Internal Weaknesses:</p> <ol style="list-style-type: none"> Dependence (Some ..the other.. models had not succeeded so much)<9 It is large in one model. > It is the cost rise <7> in Germany Experience < ..it is.. 4><5 It erects a plant in the United States. > of the United States labor union
<p>External Opportunities:</p> <ol style="list-style-type: none"> Growing up to the rich market is <20> that needs a car that is more high-level to have a lot of options Offer attractive <24> of assembly hall construction in the United States It is Chrysler, and small engine is necessary <24> in American Motors 	<p><SO : Maxi-Maxi></p> <ol style="list-style-type: none"> (O1, S1, S2) <20><5><22> that develops, produces many varieties that have various options of range of products, and composes different price class (Dasher, Scirocco, Rabbit, and Audi system) (O2, S1, S2, S3) <24><5><22><28> that makes the best use of experience of research and development, engineering, and production/automation and constructs assembly factory It is Chrysler and the engine for AMC is construction (O3, S3) <24><28> 	<p><WO : Mini-Maxi></p> <ol style="list-style-type: none"> (affiliate from Rabbit to Audi)It is development (O1, W1) against a different price level <20><9> as for the compatible model (O2, W2, W3) <20><7><4><5> that erects a plant in the United States to correspond to cost rise of Germany, and employs manager in the United States with correspondence experience of the United States to labor union
<p>External Threats:</p> <ol style="list-style-type: none"> Exchange rate: Cutting down of dollar to Deutsch Marks (DM) (E: Economy) Competing <24> with automaker in Japan and the United States Fuel shortage and price (E: Economy) 	<p><ST : Maxi-Mini></p> <ol style="list-style-type: none"> (T1, T2, S1, S3) <24><5><28> to which influence of exchange rate is decreased by constructing factory in the United States Rabbit(T2, T3, S1, S2) <24><5><22> that has advanced design technique and competes for instance Improvement (T3, S1) <5> of fuel consumption performance by development of injection of fuel and low fuel cost diesel engine 	<p><WT : Mini-Mini></p> <p>A. The weak point is made a strong point and the weak point is overcome (strategy to face SO).</p> <ol style="list-style-type: none"> (T2, W1) <24><9> to which threat of competition is decreased by developing flexible product line <p>B. Possibility of option that has not been experienced with VW:</p> <ol style="list-style-type: none"> It is engaged in the joint work of Chrysler and AMC. Withdrawal from American market

Application image: Strategy of VW Co. (2)

Some comments on strategy item of each section and evolution trend to which it pays attention:

SO2: It corresponds to attractive offer (O2) of the assembly hall construction in the United States with strong development power, sales force, and production capacity (S1, S2, S3) as the weapon.
Viewpoint of interaction of strengthening <24> asymmetric diversity, <5> ability, and <22> another and <28> designs

WO1: It is expected to grow up to the rich market (O1).

(W1) that has greatly depended on one model up to now renews this, and develops the model compatible for a different price level.

<20>Hierarchy of needs <9> Mono-buy-poli (Diversity) Another element

ST1: The factory is constructed with strong development power and production capacity (S1, S3) as the weapon in the United States for (T2) exposed to the competition with a foreign manufacturer, and the influence of the exchange rate is decreased.

Viewpoint of strengthening <24> asymmetric diversity, <5> ability, and <28> design

WTA1: It has greatly depended on one model up to now for (T2) exposed to the competition with a foreign manufacturer (W1). It corresponds to the threat of the competition by renewing this and developing a flexible product line.

<24>Strengthening of asymmetric diversity : ①Symmetrical system→②Partial asymmetry→③Harmonizing asymmetry

... The United States production is started, the point that is the weak point on the competition with the manufacturer of another country is renewed, and it stands dominant.

<9>Mono-Buy-Poli (Diversity) Another element : ①Single system→②Duplexed system→③Multiplex system→④Uniting multiplex system
... It adjusts to the buyers' demand and desires by constructing a more flexible production line.

Awareness when evolution trend is applied to SWOT

- It is not the one that the evolution trend of 32 corresponds to 5F and PEST each item as the outside environment without omission. It is similar to VRIO and 7S each item as an internal resource.
- A lot of evolution trends might concentrate on limited outside environment factor or internal resource factor. You might represent and apply to a part of trend that considers small number of people or priority from a lot of evolution trends.
 - For instance, from nine kinds in "I" of VRIO, from 14 kinds in "O", five kinds are represented.
- There is a possibility that the location as an outside environment or an internal resource changes **when the level improves** according to the evolution trend. It was assumed a fixed treatment this time.
 - O It classified it according to the organizational ability. <3.Recognition to self-assembler>, I It classified it into a difficult imitation. <4.It is a content that corresponds to organizational ability (O) at the stage where both of knowledge are low the level. However, it corresponds to difficulty the imitation (I) as the level rises.
- It pays attention to **an internal resource** in the background of the outside environment condition, and the level improvement of the evolution trend concerning an internal resource is done. This is basic of the strategy and the strategy plan.
- Do not forget to work on the level improvement plan of the evolution trend corresponding to **the outside environment** on the other hand. That is, the strategy that pushes up the evolution level of the evolution trend more than the competitor is executed. And, it is also possible to make them convert the threat at the chance.
- As for the weakness related to **an internal resource**, it is similar.

Introduction of application example of Evolution Trend

- project of new business by technical service and start-up -

Evolution trend use and practice of TRIZ

~Proposal of new business and activity for achievement~

【 Background 】

A technology excellent by the reorganization of the business is disregarded.

【Target】

A new business model is constructed by using the buried technology.

-Sales of 200 million yen or more a year. -

【 Activity the number of men 】

Five project members

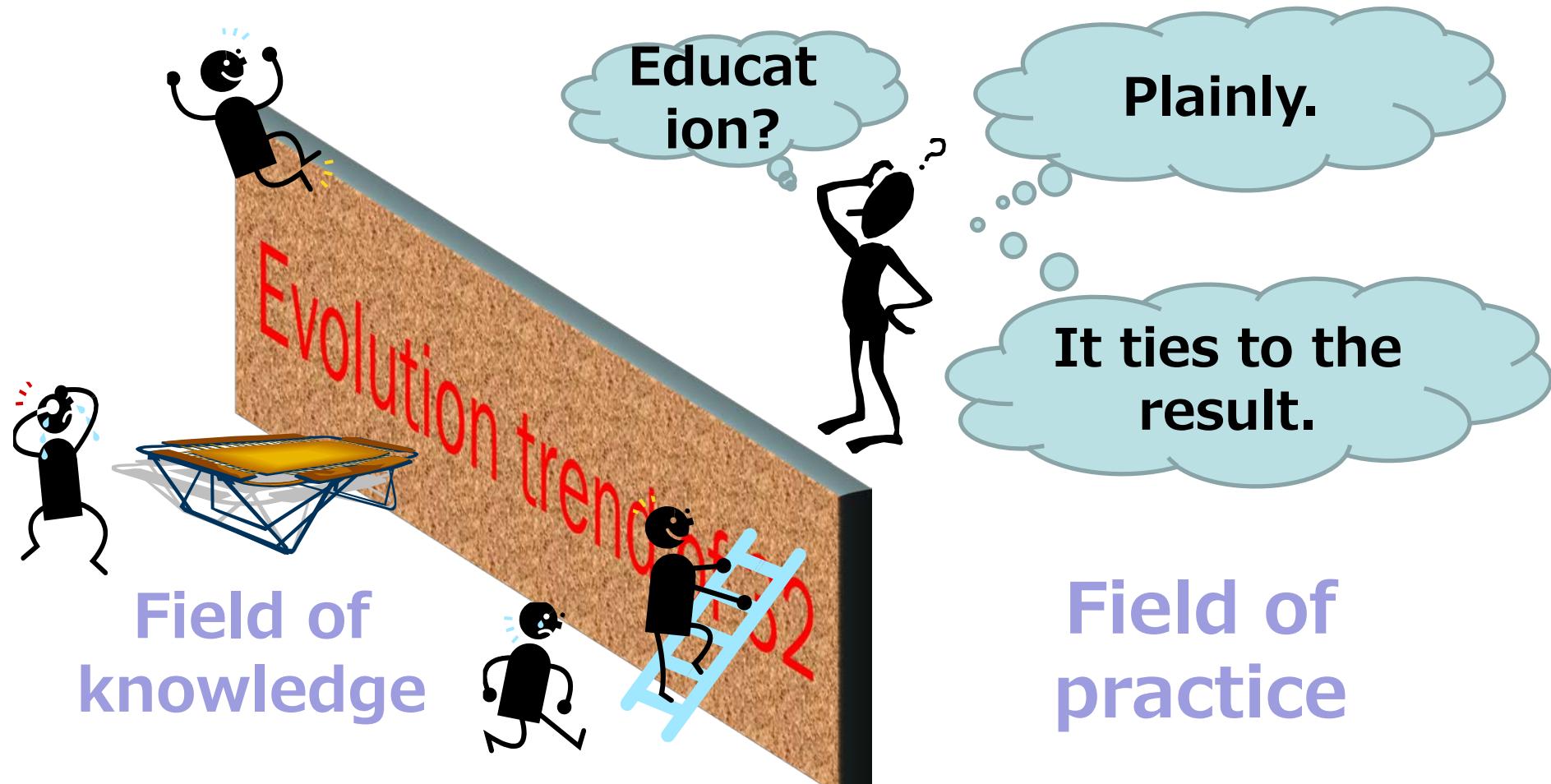
【 Period 】

December, 2013 - June, 2014



The evolution trend of 32 is used.
"Area and art" that can demonstrate the strong point is created.

Wall of TRIZ tool when practicing it



"Tie to the result with a convenient tool" device is necessary.

Device to tie to result plainly

~Way that can be used without finding of TRIZ~

STEP-1


Definition of evolution trend and comprehensible explanation making (subcommittee meeting)

STEP-2

Level conversion of evolution trend to its own theme (in-house member)

STEP-3

Market environmental analysis axis (3C) is added to 32 evolution trend axes.

32 Evolution trend	Explanation	Evolution level	Customer	Company	Competitor-A	Competitor-B	Competitor-C
No.1 No.32							

STEP-4

Level analysis of 3C axis by **checklist** of 32 items (market dominant its company focus)

STEP-5

SWOT analysis in dominant its company an area (business substance making).

STEP-1 Definition of evolution trend of 32 and comprehensible explanation making

32種類の進化トレンドとその解説

1. 顧客期待		顧客期待は時間とともに増加する。
・単一機能製品	←単一機能製品(スチール、アルミニウム、スズ、化学製品、一般薬品、フィルター、CD、ビデオ等)が提供されている	
・複合機能製品	←複合機能製品(車、電話機、テレビ、DVDプレイヤー、洗濯機等)	
・サービス機能付加	←製品にサービスが付加されたシステム(衣服クリーニング、ファーストフード、休日パッケージ、宅配、カーレンタル、契約掃除等)が提供されている	
・経験	←製品やサービスを用いた経験(ディズニー、アドベンチャースポーツ、マクドナルド等)が提供されている	
・変革	←経験を通じた変革(自己を変革させたいという渴望を満たす)が提供されている	
2. 顧客の購入の焦点		購入の焦点はシステムのSカーブの位置に対応し時間(成熟)とともに移行する。
・性能	←速さ、強さ、明るさ、容量などの性能面に購入動機がフォーカスされる。	
・信頼性	←安全性、性能・機能の安定性など信頼性を購入の焦点としている。	
・便利さ	←多機能性、使い勝手などの便利さを購入の焦点としている。	
・価格	←品質で想定される価格より、より安価な価格を購入の焦点としている。	
3. 自己組織化に対する認識		組織構造は自己組織化に向けて進化する。
・自己組織化の無自覚	←組織はすべての人間活動システムが複雑で、無秩序であることを気付かないでいる。	
・自己組織化を自覚	←組織は人間活動システムの複雑性、無秩序について気付いている。	
・ガイドされた自己組織化	←組織は人間活動システムを管理するプロセスを開始している。(QCサークル、権限委譲、ボトムアップなど)	
・自律的な自己組織化	←組織はいくつかの人間活動システムが自律的な活動を遂行し、相互に連動して調整のとれたものになっている。	
・自律的な能力成長(自己創出)	←組織は自己存続に向けて、自己組織化する構造体になっている。	
4. 知識		データは、情報化され、さらに知識・知恵に進化する。
・データ	←生データの収集や表示がされている。	
・情報	←データに構造、意味、翻訳が付加されて情報となっている。	
・知識	←利用可能なデータの蓄積、無関係な情報の排除、時間管理の付加により知識(形式知)となっている。	
・知恵	←形式知にコンテキストに対処する暗黙知が追加され、特定の状況、環境において知識が正しく活用されている。	
5. 能力		新しいスキルや職務・顧客などの経営資源を得るための学習プロセスは進化する。
・無能の無自覚	←幸せな無知。われわれは博識でも、巧みでもない。私たちは知らないことを知らないでいる。	
・無能の自覚	←知りたことがあるが、どうしていいかわからないということを発見。能力の無さを自覚している。	
・有能の自覚	←われわれはスキルを獲得し、していることに集中しなければならない。能力を自覚している。	
・有能の無自覚	←最後にわれわれはスキルをブレンドして環境に適応していることを必ずしも自覚していない。	
6. プロセス思考		業務や思考などのプロセスが、組織の認識による
・試行錯誤	←成功モデルの出現をみる。	
・プロセスマッピング	←特定状況での業務や思考の可視化が期待されている。	
・多重プロセス	←ある機能や機能遂行プロセスが複数ある。	
・プロセスのプロセス(最適化)	←変化する状況に対応するためのプロセスがある。	

Subcommittee meeting activity

It changes to the expression that can easily image the evolution level.

STEP-2 It summarizes it to the evolution trend of 32 that agrees with its own theme.

32種類の進化トレンドとその解説

1. 顧客期待	顧客期待は時間とともに増加する。
・単一機能製品	モノの輸送
・複合機能製品	専用梱包材による製品の輸送
・サービス機能付加	故障時の初期診断と修理、輸送代行
・経験	故障診断、修理への立会い
・変革	製品の機能、仕組みの知識
2. 顧客の購入の焦点	購入の焦点はシステムのSカーブの位置に対応し時間(成熟)とともに移行する。
・性能	診断、修復の早さ
・信頼性	診断と故障箇所の一貫性
・便利さ	人とモノの動きの無駄を排除
・価格	お金の動きの無駄を排除
3. 自己組織化に対する認識	組織構造は自己組織化に向けて進化する。
・自己組織化の無自覚	購入(～設定～使用～故障～修理～廃却)することが目的
・自己組織化を自覚	購入し、使用する(サービスを受ける)ことが目的
・ガイドされた自己組織化	購入方法、使用方法に合った目的を形成
・自律的な自己組織化	製品と生活の合致性に基づいた製品サービスの選択
・自律的な能力成長(自己創出)	合致レベルを向上させる意欲、思考の芽生え
4. 知識	データは、情報化され、さらに知識・知恵に進化する。
・データ	漠然とした評判や、関連不明な症状と修理内容
・情報	整理された評判、関連づけられた症状と修理内容
・知識	メーカー、症状、原因、修理内容の関連性
・知恵	予防、未然防止策の思考

Intelligence sharing and vector suiting with in-house member

STEP-3~4 About the product amends service

Market circumstances (3C) level is checked by the trend aspect of 32 items.

32種類の進化トレンドとその解説

3C分析(32項目の市場環境)

		顧客	自社	他社-A	他社-B	他社-C
1. 顧客期待		顧客期待は時間とともに増加する。				
・単一機能製品	モノの輸送					
・複合機能製品	専用梱包材による製品の輸送		★自社工場			★自社工場
・サービス機能付加	故障時の初期診断と修理、輸送代行	★補償サービス利用増		★外注対応	★外注対応	
・経験	故障診断、修理への立会い					
・変革	製品の機能、仕組みの知識					
2. 顧客の購入の焦点		購入の焦点はシステムのSカーブの位置に対応し時間(成熟)				
・性能	診断、修復の早さ	Customer	Company	Competitor-A	Competitor-B	Competitor-C
・信頼性	診断と故障個所の一致性	★窓口故障受付、代替機		★一次診断のみ	★一次、二次診断	
・便利さ	人とモノの動きの無駄を排除		★一次、二次、三			★一次、二次、三次
・価格	お金の動きの無駄を排除					
3. 自己組織化に対する認識		組織構造は自己組織化に向けて進化する。				
・自己組織化の無自覚	購入(~設定~使用~故障~修理~廃却)することが目的	Customer	Company	Competitor-A	Competitor-B	Competitor-C
・自己組織化を自覚	購入し、使用する(サービスを受ける)ことが目的					
・ガイドされた自己組織化	購入方法、使用方法に合った目的を形成	★機能のフル活用	★補償範囲	★補償範囲	★補償範囲	★補償範囲
・自律的な自己組織化	製品と生活の合致性に基づいた製品サービスの選択					
・自律的な能力成長(自己創出)	合致レベルを向上させる意欲、思考の芽生え					
4. 知識		データは、情報化され、さらに知識・知恵に進化する。				
・データ	漠然とした評判や、関連不明な症状と修理内容	Customer	Company	Competitor-A	Competitor-B	Competitor-C
・情報	整理された評判、関連づけられた症状と修理内容	★クチコミ情報、評価		★同等品の準備	★現品対応	
・知識	メーカー、症状、原因、修理内容の関連性		★現品対応と次			★現品対応と次製
・知恵	予防、未然防止策の思考					
5. 能力		新しいスキルや職務・顧客などの経営資源を得るための学習				
・無能の無自覚	故障のことは考えない	Customer	Company	Competitor-A	Competitor-B	Competitor-C
・無能の自覚	故障は買い替えの時期と考える					
・有能の自覚	故障の際の保証内容を考える	★補償サービスの着脱	★故障確率によるDR	★故障確率によるDR	★故障確率によるDR	★故障確率によるDR
・有能の無自覚	保証も含めて製品と考える					

The feature of its own strong point and the other companies is objectively caught.

STEP-5 The beginning is examined about strengths, weaknesses, opportunities and threats analysis = measure in a dominant area.

補償ビジネス戦略のリスク分析

外部環境 内部環境	機会(O)		脅威(T)		
	O1: 製品普及率増加 O2: サービス需要 ¥500億/年規模で5~6年は継続 O3: 技術レベル		T1: 企業の買収、合併による市場独占 T2: 他社コンサルビジネス強化 T3: 関連特許の侵害		
強み(S)	強みを活かし機会を活かす		技術 着想	強みを活かし、脅威を避ける	技術 着想
S1: 条件制御の精度 S2: 高難易度技術 S3: 技術の総合コンサル	S1 O1 既存技術で将来製品展開	1 5	S1 T1	1 1	
	S1 O2 特殊技術で " "	1 3	S1 T2	1 3	
	S1 O3 制御技術改善コンサル	1 3	S1 T3 メーカー責任による改造、販売	1 3	
	S2 O1 特殊領域のサービス	1 1	S2 T1	1 1	
	S2 O2 高難易度製品補償	3 3	S2 T2	1 1	
	S2 O3 適用製品規模拡大コンサル	1 5	S2 T3 メーカー責任による改造、販売	1 3	
	S3 O1 適用製品規模拡大コンサル	1 5	S3 T1	1 1	
	S3 O2	1 1	S3 T2	1 1	
	S3 O3	1 1	S3 T3 メーカー責任による改造、販売	1 5	
弱み(W)	弱みを克服し、機会を活かす		技術 着想	弱みを克服し、脅威を避ける	技術 着想
W1: 外販ネットワーク無し W2: 製品詳細情報の入手 W3: 権利範囲	W1 O1	1 1	W1 T1	1 1	
	W1 O2	1 1	W1 T2	1 1	
	W1 O3	1 1	W1 T3	1 1	
	W2 O1	1 1	W2 T1	1 1	
	W2 O2 方法、条件確認	1 3	W2 T2	1 1	
	W2 O3 新規技術コンサル	1 5	W2 T3 メーカー責任による改造、販売	1 5	
	W3 O1	1 1	W3 T1 新技術開発と権利化による競争力強化	5 1	
	W3 O2	1 1	W3 T2 " "	5 1	
	W3 O3 メーカーへのコンサルPKG化	1 3	W3 T3 " "	5 1	

現状技術で対応 1
最新技術で対応 3
新たな技術開発必要 5

新規着眼で期待大 1
新規着眼で期待中以下 3
新規性に欠け、期待小 5

The business strategy measure with high precision is extracted.

Summary ① ~Proposal activity passage of its own new business~

C analysis near development tendency phase of 32

The concentration point is extracted from other companies and its own level.

Risk evasion of business strategy by strengths, weaknesses, opportunities and threats analysis

補償ビジネス戦略のリスク分析

		機会(O)		脅威(T)	
外部環境		O1: 製品普及率増加 O2: サービス案変 ¥5000/年規模で9~6年は継続 O3: 技術レベル		T1: 企業の買収、合併による市場独占 T2: 他社コンサルビジネス強化 T3: 関連特許の侵害	
内部環境					
強み(S) S1: 条件制御の精度 S2: 高精度技術 S3: 技術の総合コンサル		強みを活かす/機会を活かす	技術/着目	強みを活かす/脅威を避ける	技術/着目
	S1	O1 既存技術で付帯製品展開	1 5	S1 T1	1 1
		O2 特殊技術で "	1 3	T2	1 3
		O3 制御技術改善コンサル	1 3	T3 メーカー責任による改直、撤示	1 3
	S2	O1	1 1	S2 T1	1 1
		O2 特殊領域のサービス	3 3	T2	1 1
		O3 高精度製品提供	1 5	T3 メーカー責任による改直、撤示	1 3
	S3	O1 適用製品規模拡大コンサル	1 5	S3 T1	1 1
		O2	1 1	T2	1 1
		O3	1 1	T3 メーカー責任による改直、撤示	1 5
弱み(W) W1: 外販ネットワーク無し W2: 製品詳細情報の入手 W3: 権利範囲		弱みを克服し、機会を活かす	技術/着目	弱みを克服し、脅威を避ける	技術/着目
	W1	O1	1 1	W1 T1	1 1
		O2	1 1	T2	1 1
		O3	1 1	T3	1 1
	W2	O1	1 1	W2 T1	1 1
		O2 方法、条件抽換	1 3	T2 メーカー責任による改直、撤示	1 5
		O3 新規技術コンサル	1 1	W3 T1 新規技術開発と権利化による競争力強化	5 1
	W3	O1	1 1	T2	5 1
		O2	1 1	T3	5 1
		O3 メーカーへのコンサルPKG化	1 3	"	5 1
		現状技術で対応	1	新規着眼で期待大	1
		最新技術で対応	3	新規着眼で期待中以下	3
		新たな技術開発必要	5	新規性に欠け、期待小	5

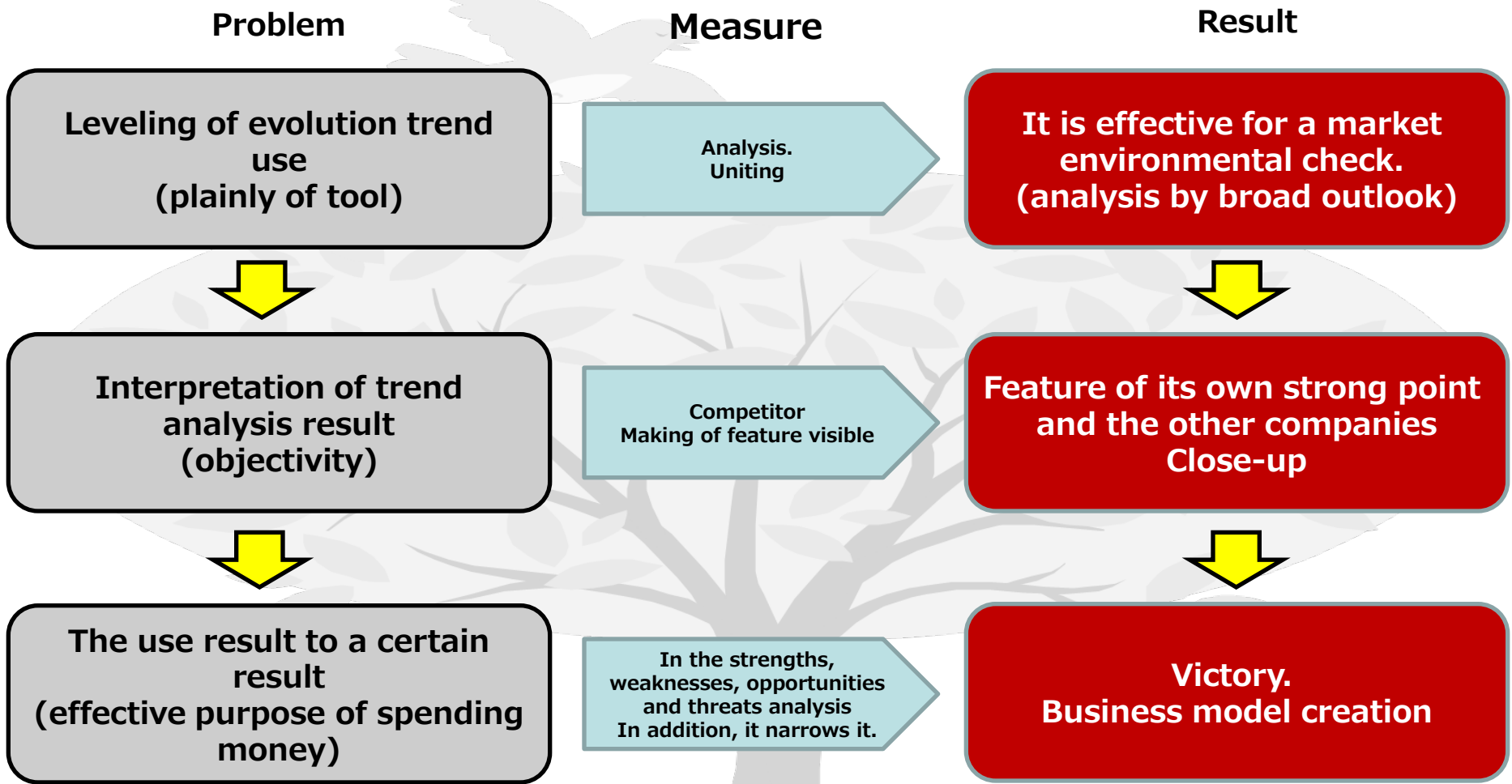
Business model proposal, continuance, development, and trial calculation completion of return on investment

《Result》

- It is a novelty, return on investment, and continued aspect and a popular value.
- To the stage of the further investigation and environmental considerations for the start-up



Summary② ~Effectiveness as business creation tool~



It is effective for "Consideration suiting between members" and "Business creation".

Impressions

- "It uses it. It applies." is uselessness at time.
- Arranging in the right place in the scenario that ties to the result, and using it are important.
- The hurdle falls at a dash when showing it to "Face of the tool" that exists in a corporate culture and the custom.
- "Evolution trend of 32" "3C analysis x" is more effective than it expects it to its own positioning grasp.

Recommendation

The evolution trend is adapted from the world of TRIZ and it brings it in in daily life of the business and management.

- With the tool of the business management system, when I want to include reformative conception, when **the evolution trend** is built in as an element of the tool, it is good.
- The policy is narrowed with the tool of the business management system. It is important in the object to consider attempting **the improvement** of a concrete evolution trend.
- The device to be shown to "Face of the tool" that exists in its **own corporate culture and the custom** is effective.

Why don't you join to the Business and Management TRIZ Research subcommittee meeting ?

- **Please participate in the research subcommittee meeting, and propose various topics of research.**
 - The theme that researches can be brought in without reserve.
 - The research area and the theme extend naturally if the number of members increases.

- **There is a result outlet of research activities, and the business use can be expected.**
 - Because it is a cooperation of labor research, awareness and a new finding can be expected to be obtained.
 - Study results can be announced in the TRIZ symposium.
 - Can it notice during the research, and the use of cultivated TRIZ idea and tool to practice be expected.

- **About the management of the society**
 - Member individual's result of review and idea are brought together in the meeting.
 - It becomes a meeting at half a day once every two months.
 - A basic venue becomes Tokyo.
 - Inquiry even to Japanese TRIZ society (info@triz-japan.org), please.

Thank you for listening.

**Incorporated nonprofit organization
Japanese TRIZ society**

**Business and Management TRIZ
Research Subcommittee**