

Title	KIFU Me Quickly : The system design of the local production for local consumption society becoming more efficient with adequate incentives
Sub Title	インセンティブにより効率化された地産地消型社会のデザイン
Author	日本電気株式会社(NEC Corporation) 当麻, 哲哉(Toma, Tetsuya) 三島, 邦子(Mishima, Kuniko)
Publisher	慶應義塾大学大学院システムデザイン・マネジメント研究科
Publication year	2011
Jtitle	Active learning project sequence report Vol.2011, (2011.) ,p.465- 531
JaLC DOI	
Abstract	<p>Given Theme: Our theme given by NEC was a system design to smooth the way for change drivers to attain regional and social well-being: an "efficient society" with adequate incentives¹, through local production and local consumption. Given examples of the theme in the proposal are Power supply, Water supply, Farm products, Logistics, Transportation, Resources, Health care life. Regarding the precise attention of NEC, it was revealed weakness of large-scale modern society of concentrated mass production, distribution, and consumption. It was clearly envisioned through the 311 earthquake of Japan that a pursuit of efficiency of mass production turns into the society, neither robust nor resilient against disasters. Considering such issues, we were expected to provide a novel system design to shift from the large scale society to a local based communities, with synergy and symbiosis approach of problem solving.</p> <p>Significance of Our Results : Our ALPS project has been a process of several divergence and convergence. We wrote this report for summarizing the project and conveying usefulness of various results that we obtained through ALPS, not only the suggesting results but also many lessons learned, methodologies and an integrated view from bird's-eye. At the end of the project, we would like to submit this report as the final and exquisite product the "last" and foremost accelerated and largest@divergence and convergence for the given theme: stages of our problem statements' improvement that provide a new picture of the whole and learning lessons as one important case study of ALPS</p> <p>Society and Something to Be More Efficient: To determine the scope and object for the theme is one of the most difficult and controversial part of our road-map. Although, regarding our brief understanding from the first sight, the object has been the society itself, and the focused matter has been whatever large-scale inefficiency in society. Thus, we need good incentive and trust structure with synergy and symbiosis that solves the defined matter.</p>
Notes	Student final reports Group G
Genre	Research Paper
URL	https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=KO40002003-00002011-0465

慶應義塾大学学術情報リポジトリ(KOARA)に掲載されているコンテンツの著作権は、それぞれの著作者、学会または出版社/発行者に帰属し、その権利は著作権法によって保護されています。引用にあたっては、著作権法を遵守してご利用ください。

The copyrights of content available on the KeiO Associated Repository of Academic resources (KOARA) belong to the respective authors, academic societies, or publishers/issuers, and these rights are protected by the Japanese Copyright Act. When quoting the content, please follow the Japanese copyright act.

Group G

Group G's Theme Proposed by NEC Corporation, Central Research Laboratories

ALPS "Symbiosis and Synergy" theme title: **The system design of the local production for local consumption society becoming more efficient with adequate incentives**

Proposer Organization's Name: **NEC corporation, Central Research Laboratories**

Contact Person's Name: **Masanobu Hashimoto** Contact Person's email: **m-hashimoto@ax.jp.nec.com**

【Back ground】

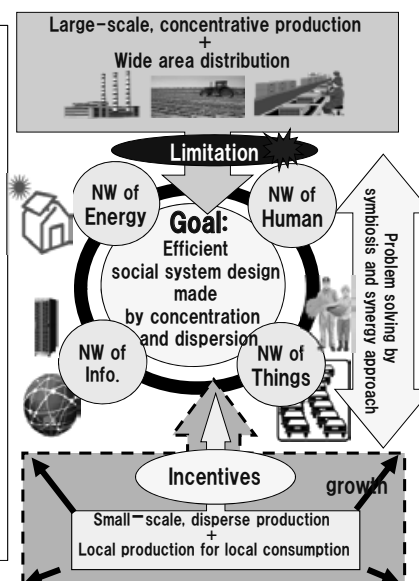
- The limitation of the stability of a social system with combination of the large-scale concentration and the wide area distribution has become clear by this East-of-Japan earthquake disaster
- Centralization phenomena sometimes obstruct the efficient use of a social overhead capital
- Stabilization and efficient use of social overhead capital by small-scale dispersion and local production for local consumption can be observed

【Key Questions】

- What are the incentives which accelerate the spread of small-scale distributed system and local production for local consumption system in a network of person, things (food, traffic system, materials etc.) information and the energy?
- What are the factor and the way which measure and control system efficiency by incentives?
- How to design new social systems, that include incentive providers, users and distribution methods, including related matters?

【Example of efficiency, accelerated by incentives】

- Self-sufficient movement of the farm produce followed by huge quake disaster and social anxiety
- Use the minor route to avoid chronic traffic jam in a main road
- Leveling and peak cut of social overhead capital by using holiday decentralization



ALPS Final Report 2011

Group G

Project Title:
KIFU Me Quickly

Theme:
The System Design of the Local Production for Local Consumption
Society Becoming More Efficient with Adequate Incentives

Proposer Organization: NEC Corporation, Central Research Laboratories

Proposer Organization's Supporter: Masanobu HASHIMOTO

Keio Mentor: Tetsuya TOMA & Kuniko MISHIMA

Members:
Akiko KOYAMA
Shugo HAMADA
Yuki ISHIYAMA
Kazumasa MATSUNAGA
Ai NISHIO

Graduate School of System Design and Management
Keio University

The system design of
the local production for local consumption society
becoming more efficient with adequate Incentives

“KIFU Me Quickly”



Proposed by NEC corporation
ALPS Group G

→“KIFU” means Donation in Japanese

Group-G Members

KOYAMA, Akiko
HAMADA, Shugo
ISHIYAMA, Yuki
MATSUNAGA, Kazumasa
NISHIO, Ai

ALPS Final Report

1. Executive Summary

Introduction

Given Theme: Our theme given by NEC was a system design to smooth the way for change drivers to attain regional and social well-being: an “efficient society” with adequate incentives¹, through local production and local consumption. Given examples of the theme in the proposal are Power supply, Water supply, Farm products, Logistics, Transportation, Resources, Health care & life.

Regarding the precise attention of NEC, it was revealed weakness of large-scale modern society of concentrated mass production, distribution, and consumption. It was clearly envisioned through the 311 earthquake of Japan that a pursuit of efficiency of mass production turns into the society, neither robust nor resilient against disasters. Considering such issues, we were expected to provide a novel system design to shift from the large scale society to a local based communities, with synergy and symbiosis approach of problem solving.

Significance of Our Results : Our ALPS project has been a process of several divergence and convergence. We wrote this report for summarizing the project and conveying usefulness of various results that we obtained through ALPS, not only the suggesting results but also many lessons learned, methodologies and an integrated view from bird's-eye. At the end of the project, we would like to submit this report as the final and exquisite product the “last” and foremost accelerated and largest@ divergence and convergence for the given theme: stages of our problem statements' improvement that provide a new picture of the whole and learning lessons as one important case study of ALPS

Society and Something to Be More Efficient: To determine the scope and object for the theme is one of the most difficult and controversial part of our road-map. Although, regarding our brief understanding from the first sight, the object has been the society itself, and the focused matter has been whatever large-scale inefficiency in society. Thus, we need good incentive and trust structure with synergy and symbiosis that solves the defined matter.

Summary of the report's contents

Methods and Results Used to Address the Problem

As mentioned above, our project has several problem stating improvements. Thus, I would like to show general and abstract processes with major methods and some interesting analytical results critical to explain the whole picture of our project., rather than introduce each detailed results and analysis of our project.

As of the consequence, we can classify to four phases for each object. The first and most important process was to decide an object: something to intervene and make efficient. Including idea generation and needs analysis, we employed various methods, yet, Brainstorming and KJ methods, which are used for finding creative ideas through generating large amount of ideas and categorizing them from the team, were often used to decide the object. In addition to those two methods, we used Scenario Graph, which is also generation method for creative ideas that connects related ideas and unrelated ideas with 5W1H labels. Some example generated were “International high-tech education to solve motivational issues in school” and “local community for elderly people and solving loneliness”. The second phase was to design a system and distinguish its main stakeholders. We often utilized CVCA and WCA, the methods depict relationship of stakeholders, flow of money, products, and 'wants' of people. These methods enable us to question its admissibility, such as “this guy pays for what?” “what's the motivation to do it?” or “will this stakeholder be really satisfied?” After that, we find people to interview and field to observe. However the analysis and results vary, this process is the most important to decide to continue or not to continue. Common examples of output results were positive feedback for a concept and detailed question in its feasibility in detail. Following that, the third level was construction of the system, using QFD and many other applicable methods, to carefully build a logic for requirements and functions with verification measures, especially for requirements of multi-stakeholders that might contradict each other. The final phase was to validate the system, where we used prototyping rapidly, interview, and observation. The whole results are listed below.

A complete picture of our whole ALPS project

Our main, specific results are followings. (Bold:name of suggesting system; italicized:object and user; underlined:content of system)

1. **Exchange for Motivation:** international education for *children*, utilizing Synergy & Symbiosis
2. **R65 dating service:** social service and role rewarding service for *elderly people*
3. **Pasmaho:** smart-phone like Pasm², simple and great usability for *high technology devices*
4. **Keep it for You:** digital optimization of *local shopping street*, correspondent with one's interests

Conclusions and Recommendations, Risk Assessment and Contingency Plan

As time goes by, we improved problem setting with analyzing good practice and lessons learned for the “local driven society”. Our final problem statement was to “how we can activate local catalysts and change drivers to find, for local enactment?”

- **Kifu me quickly:** micro-fundraising with keep small change of mass users for donation or investment. Namely, matching platform for *donation and investment* for *society*

Our final recommendation is about local financial service that local bank will take an important role. It shall encourage change drivers, such as entrepreneurs, NPO/NGOs, and/or local enterprise owners.

Regarding system feasibility and admissibility, we tailored for typical Japanese consumer behaviors (another usage of Scenario Graph): such as collaboration with prevailed point cards, and enterprise facilities like beer garden and amusement park. For the detail, please check Chapter 5.

1 For the actual proposal, see Appendix 1.

2 Pasm² is a IC card, using felica system, which you originally use for riding trains and buses in Tokyo area. And, it recently expand its use as e-money, so that you are able to buy in a convenience store and many other stores.

ALPS Final Report

Front-	
Page.....	1
1. Executive Summary.....	2
2. Table of Contents.....	3-4
3. Problem Statement.....	5-6
4. Analysis and Discussion of ALPS Methods.....	7-25
5. Design Recommendation.....	26-
6. Competitive Analysis.....	
7. ALPS Roadmap and Reflections.....	
8. Conclusion and Future Work.....	50-
9. Acknowledgments.....	
10. References.....	
11. Appendix.....	

Table Contents

1. Executive Summary

- Introduction
 - description of the problem
 - purpose of the report
 - scope of the project
- Summary of the report's contents
 - methods and results used to address the problem
 - conclusions and recommendations

2. Table of Contents

- Table of Contents
- Table of Figures
- Table of Tables

3. Problem Statement

- Given Theme
- Problem Statement 1: How to Solve Motivational Issues in Education?
- Problem Statement 2: How to Release People from Loneliness?
- Problem Statement 3: How to Solve the Issue of Usability and Digital Divide?
- Problem Statement 4: How to Activate Local Shopping Street?
- Final Problem Statement: How to Promote Emergence of Catalyzed Local Communities?

4. Analysis and Discussion of ALPS Methods

- Methods
 - Brainstorming
 - Scenario Graph
 - WCA
 - Interview, Observation
 - (Other Social Research)
 - To By Using
 - CVCA
 - 2x2 Matrix
 - Morphological Analysis
 - Pugh Selection
 - OPM
 - Scenario Prototyping Rapidly

ALPS Final Report

- Mind Map
- Project Priority Matrix
- Value graph
- QFD1
- FMEA
- Robust Conceptual Analysis
- Complexity/Cost Worth Analysis
- Function Structure map
- QFD2
- Design for Variety
- Environmental Complexity/Recyclability
- Serviceability
- Quality Score-carding
- Net Present Value Analysis
- Design Structure Matrix
- Design of Experiment

5. Design Recommendation

- Final Solution
- What is Innovative?: Distinction from Competitors

6. Competitive Analysis

- Competitors, in terms of Micro-Fundraiser, (Donation facilitator?)
- Competitors, in terms of Non-Profit Organization

7. ALPS Roadmap and Reflections

- 4 と似た感じ。

8. Conclusion and Future Work

- Final Solution and its effect on Society
-

9. Acknowledgments

10. References

11. Appendix

- NEC Proposal

ALPS Final Report

3. Problem Statement

Given Theme: How to Achieve a Smooth Way Heading to Small Disperse Efficient Society

The problem statement of the given theme was “System Design for achieve small disperse efficient society,” in other words, the scope is a society to become more “efficient” with adequate incentives, through local production and local consumption. Given examples (which could be benchmarks as existing products and process in a broad sense) in the proposal are power supply, water supply, farm products, logistics, transportation, resources, health care & life. Regarding the precise attention of NEC, it was revealed weakness of large-scale modern society of concentrated mass production, distribution, and consumption. It was clearly envisioned through the 311 earthquake of Japan that a pursuit of efficiency of mass production turns into the society, neither robust nor resilient against disasters. Considering such issues, we were expected to provide a novel system design to shift from the large scale society to a local based communities, with synergy and symbiosis approach of problem solving.

In the broad sense, people have strong attention to this issue since the earthquake widen the market as well as the number of competitors, whoever interested in society, supply, and people's life. As you can see, the given theme was so broad and ambiguous that our project requirements and constraints shall be 1. efficient small-scale dispersion and a novel system design for it, and 2. “something new” and “some thing fun” however it was not explicitly written or spoken, and 3. must have some synergy and symbiosis.

Problem Statement 1: How to Solve Motivational Issues in Education?

For the first problem statement, we decided an object with interests of the proposer and members using Brainstorming “*What shall be changed and become more efficient?*.”, and then, used Scenario Graph for connecting related ideas and unrelated ideas, from which we stated the first concept “connecting children from developing countries and those from Japan to 'exchange' interests and motivations.” These are the first problem statement of our project: how to solve motivational issues in education. The education motivation is one socially created (strong tendency in Japan), yet it shall be intrinsic to every child. And, we expected if we can solve or even remedy this issue, great synergy and symbiosis will be emerge. We started to figure out stakeholders, and soon, we find benchmarks as the graduate school next to us, KMD. Also, we considered educational institutes and learning support organization.

Problem Statement 2: How to Release People from Loneliness?

After the first presentation as a group, we started over since we felt we lack to state proposer. Therefore, we started with NEC Corporate Mission and interview. We defined new issue with “lack of exercising humanity,” especially, lack of social network and role, which is obvious for elderly people. We restated the problem statement as “how to release (elderly) people from loneliness.” Since the social welfare is conducted by the National Government, we thought it could be a good example of large-scale concentrated system into small dispersed communities.

Regarding the market, possible competitors are the National Government who conduct social welfare, NPOs, dating service, and local association and communities already existed.

Problem Statement 3: How to Solve the Issue of Usability and Digital Divide?

Following the problem statement above, we designed a dating service for elderly people, yet, we had difficulty of implementing the service into lives of elderly people. As of the new scope, we tried to design digital device, easy to use for elderly. This needs we figure out also came from interview and observation of elderly people on street.

We benchmarked related products such as smart-phone for elderly people, which became on sale right before our presentation, and something easy to use and naturally implemented into one's life, Pasma card. Requisites and constraints were that of extreme usability for elderly people.

Problem Statement 4: How to Activate Local Shopping Street?

We also expanded the service into life related precise ones. Not only elderly people but also people in general using the card type high tech device, Pasmaho, we designed above. We came up with collaboration with local shopping street, and we considered rivalries with supermarket such as Co-op, and convenience stores that largely distributed in Japan. In short, we stated problem as how to activate local shopping street. If we could solve it, production and consumption may transact

ALPS Final Report

more to the local communities.

Final Problem Statement: How to Promote Emergence of Catalyzed Local Communities

As time goes by, we feel having a trouble, feeling of being lost. Consideration is always the sense of the original theme given by NEC Corporation. Thus, we re-analyze the given theme, the words, and what we have done, as well as social good practice and lessons learned regarding massive concentration and individualization, including products such as PCs, printers, and phone.

Scope

We needed more appropriate object, something shall be small-scale dispersed and effective for “efficient society.” We repeated trial and error for precision, abstraction, and construction of the given theme. Finally, our restatement of the proposal became “a system design to smooth the way for change drivers to attain regional and social well-being: an 'efficient society' with adequate incentives through local production and local consumption.” It derived from the analysis what is really needed for society change drivers, and research on how social change was occurred. With the final problem statement of “how to promote emergence of catalyzed local communities that find and solve micro issues” We interviewed social entrepreneurs and local enterprises that what resources and support they really need.

Further problem statement as the issue was decomposed, capital support and human resource support were appeared in the scope. For example, interview from local banker expressed high risk to invest NPO and challenging organization.

If we can solve this problem, all problem statement above shall be resolved together. people can treat others more carefully and service providers such as NPOs that I mentioned before shall not be competitors but very powerful collaborators for us and the society.

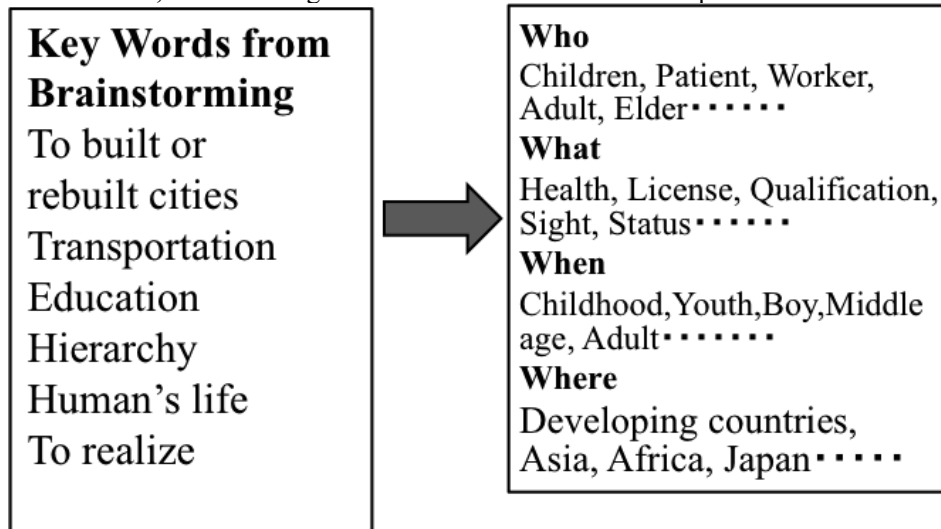
ALPS Final Report

4. Analysis and Discussion of ALPS Methods

Brainstorming

Performing our Brainstorming, we found Keywords “To built or rebuilt cities, Transportation, Education, Hierarchy, etc.”.

That is based, and we thought elements for next Scenario Graph.

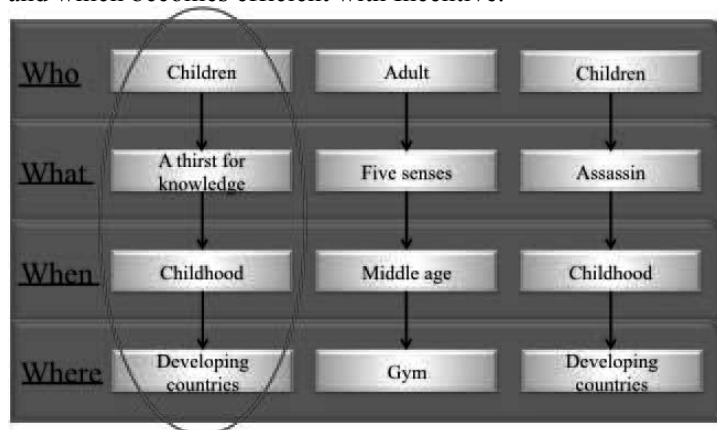


Scenario Graph

Performing our Scenario Graph, it occurred that we thought it Key Scenario.

That is “Education >> Children >> A thirst for knowledge >> Developing countries”.

So our first solution scoped Education that is for developing countries children who have a thirst for knowledge, and which becomes efficient with Incentive.



ALPS Final Report

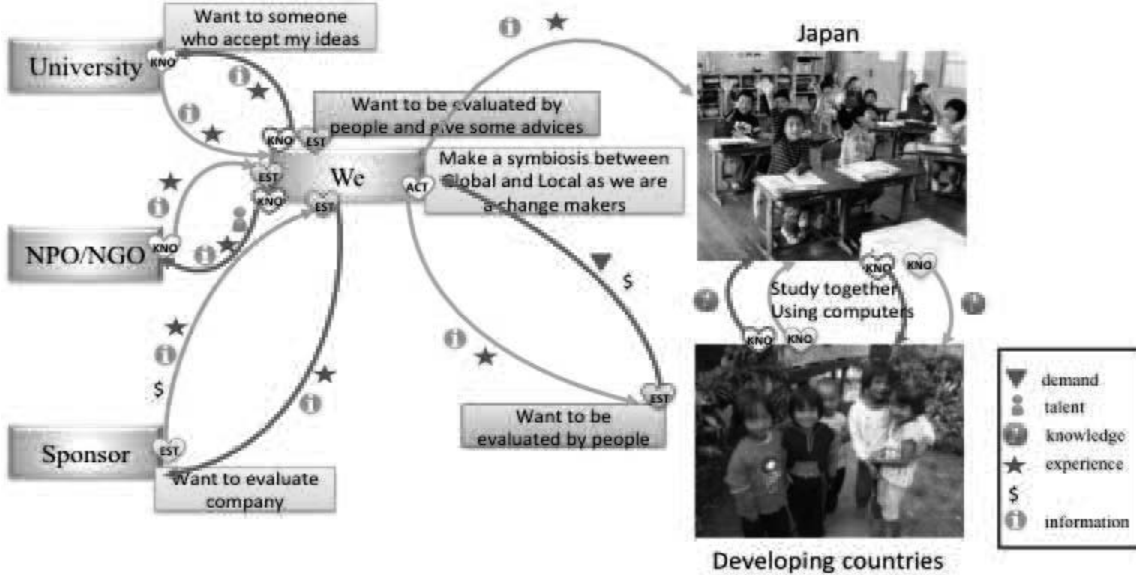
WCA

After 4 times interview, we had an idea. That name was “World Knowledge”.

That meant sharing knowledge across border in education, especially for developing countries.

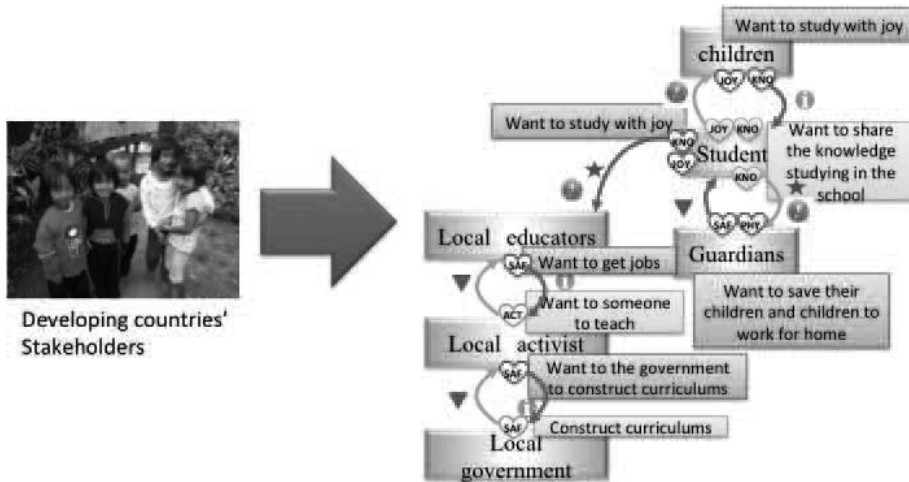
We made a CVCA and found it better to involve some new stakeholders.

The plan we thought was to connect “University, NPO/NGO, Sponsor in developed countries” for teaching to “Students in developing countries” for studying through “Local educator, activist, government”.



And also we found information circle between “Students”, “Children” and “Guardians”.

After their classes, students share those information and ideas with their younger brothers and sisters, and their parents. Then, they work together using those ideas. These interactive activities may make their life rich and convenient.



Like what we said, it is too difficult for us to solve developing countries education problems. First, those countries have infrastructure problems. For example, electric supply, Internet. In the near future, they may resolve the electric supply problem using solar power but for Internet they will not. Second, we didn't image how to work together with US. Third, this plane was so huge that we couldn't how to manage the cost especially.

ALPS Final Report

To By Using

From Interview and DATA Research, we we decided our goal.

Goal Statement

**To release elderly people from
loneliness**

**By providing a opportunity for
elderly people to social interaction**

**Using location-based service
hosted by NEC**

CVCA

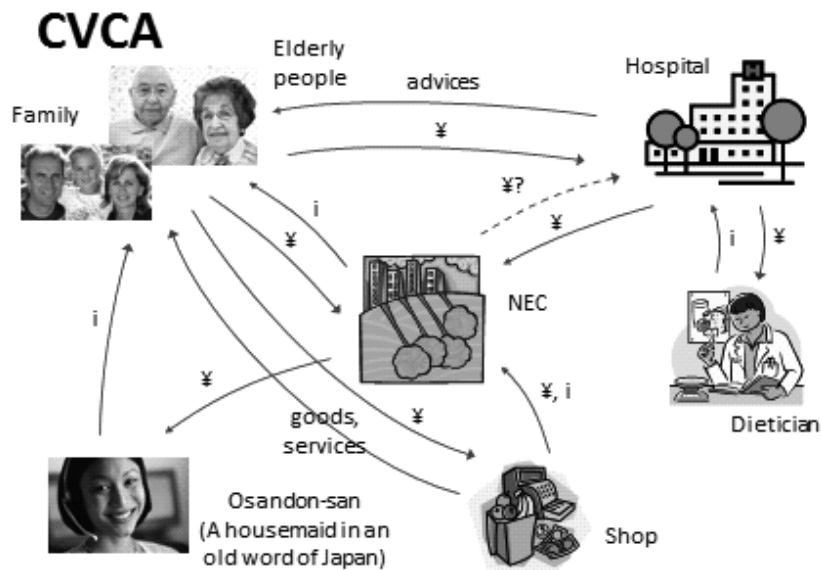
In order to grasp the stakeholder in "local base elderly-people encounter promotion service", we used CVCA and analyzed an inquiry of the stakeholder of this system, and relation between them. In early stages of analytic, stakeholders were the following five persons.

- Old ages and their families
- NEC
- Shops which want customers
- Hospitals
- Dietitian

After we thought those in detail, in order to manage this service more smoothly, we got the result that those who support elderly people were required. We added the stakeholder of the position "Osandonsan", which supports the elderly to CVCA. It included the operator of the pro well versed in IT, a volunteer good at operation of PC, a smart phone and the volunteer who wanted for the knowledge of its area of strength to be abundant, and to help others.

It was the greatest output of analysis by CVCA that the existence this "Osandonsan", who supported the elderly people, has been discovered. We show analysis by verification by examination and the prototype of a device, which are used for below.

ALPS Final Report



Morphological Analysis

This time, we thought the point that the smart phone for elderly people had not spread was taken into consideration. Based on that, we thought what kind of solution would be better and verified it with **Morphological Analysis • Pugh Selection**. About **Morphological Analysis**, it was made with the item of Intuitive Menu, Sound, Portability, Connectivity, Visual, respectively. As Visual, digital signage, TV, smart phone, tablet, and digital photograph frame were mentioned. Each solution became as it is shown in Fig. 4. It was not only solution like a tablet or a smart phone, but also we had the new idea using digital signage or television.

Based on each solution ideas used here, we decided the solution with **Pugh Selection**. Because we thought the elderly were users, first we added Viewing, Sturdy, and Familiar to the items. Second, as we thought how to spread, we considered the priority with Low material cost and Portable. This result became as it is shown in Fig 5. The solution using the television, which also has a problem of cost and a problem of carrying and has elderly people's socialness was dismissed. A tablet like iPad with a larger screen than a smart phone resulted in the conclusion that it is the operation device, which was most suitable for elderly people.

ALPS Final Report



Fig. 4 Morphological Analysis

Push Selection

Criteria	Concept			
	TV	ipad	digital signage	Cellular phone
Familiar	+	S	-	D
Low material cost	-	-	-	A
Portable	-	S	-	T
Viewing	+	+	+	U
Sturdy	S	+	+	M
Σ of +	2	2	2	
Σ of -	2	1	3	
Σ of S	1	2	0	
Overall	0	1	-1	

Fig. 5 Pugh Selection

OPM

Using the system over View as an example of this tablet, it was checked through **OPM level 0** for whether it is that iPad is filling the system or not. It turned out that the tablet fulfilled encounter, safety and relief.

ALPS Final Report

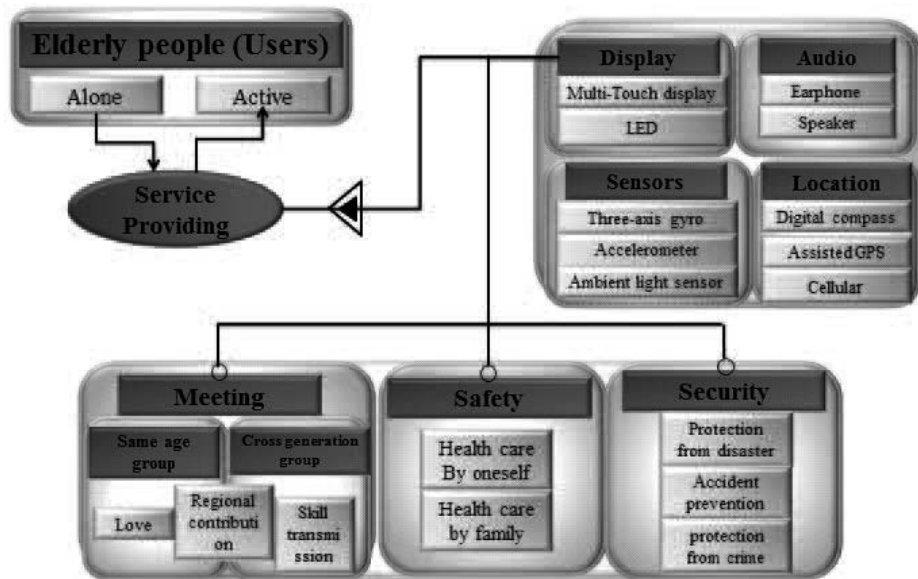


Fig. 6 OPM level 0

Benchmarking



Fig. 7 Raku-Raku Phone

Prototyping Rapidly

Here, we actually made a **prototype** as Fig. 8-1 and 8-2 by iPad. When creating a **prototype**, elderly people's operability was taken into consideration. We enlarged the button and the character on a display as much as possible such as the one of Docomo products. When many numbers of characters are needed, and it was going to store it in the size of one button, we noticed a dilemma that each character would become small.

ALPS Final Report

One of my members said “If elderly people do not understand how to operate the screen anymore, they would turn off the power and restart it from the beginning.” So, we decided that we always should display the button for returning to the start screen immediately.

We created the **prototype** so that a user might follow and stick to a function required as soon as possible, and almost all operations could be completed within three.



Fig. 8-1 prototype (the screen of navigation)



Fig. 8-2 prototype (main screen)

We interviewed for elderly people near Hiyoshi Station and centering on the Sugamo shopping center, if they actually would operate the created **prototype** near Hiyoshi Station and centering on the Sugamo shopping center (Fig. 9-1, 9-2).

ALPS Final Report



Fig. 9-1 Hiyoshi Station

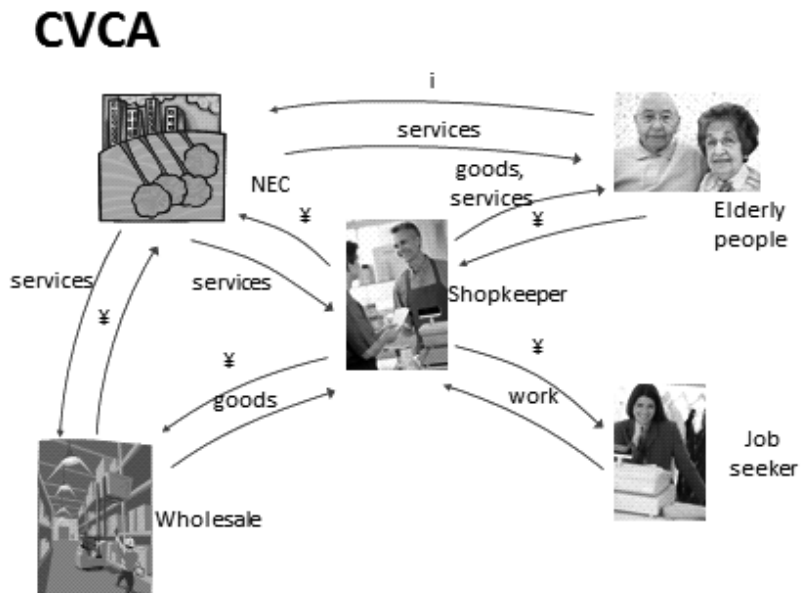


Fig. 9-2 the Sugamo shopping center

From verification to the elderly, we recognized that the novel design for shifting to the local-supply-and-local-consumption type social system of the small-scale distribution, which was a proposal theme of NEC, was not made. Then, we conducted further requirements analysis.

CVCA

Through the CVCA analysis, we noticed a system in which a store could gather many customers efficiently. So, finally we examined whether this portion would be promoted further and it would be tied to activation of a shopping center.



ALPS Final Report

WCA

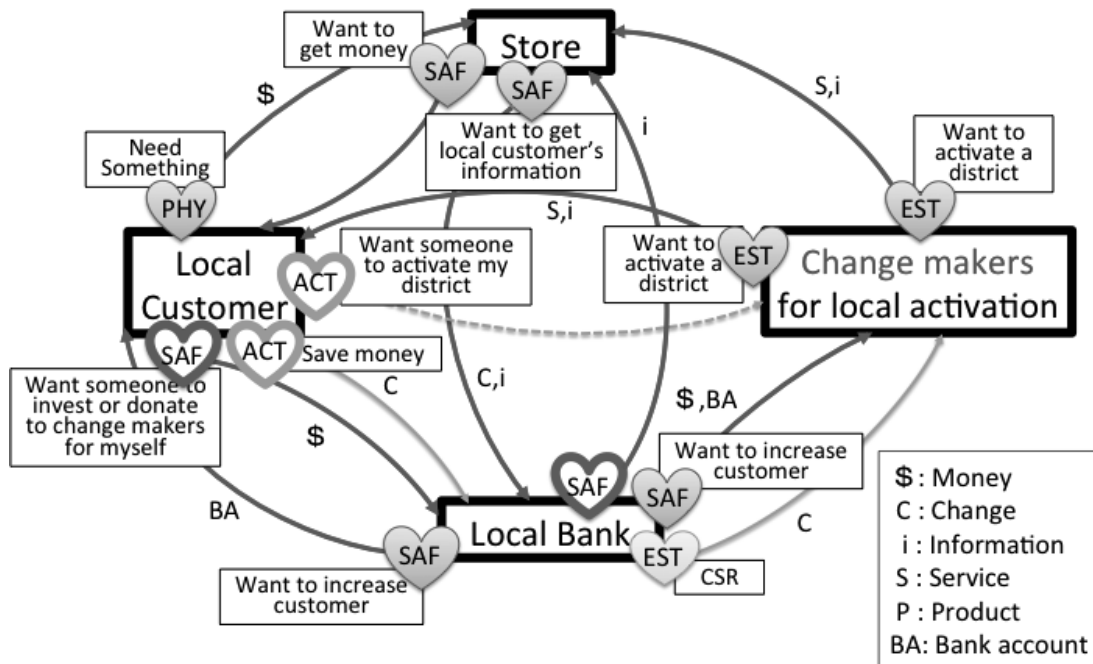
First, from our CVCA, we wanted to make clear a flow of Money and Information.

But our project's key element is Change makers for local activation such as NPOs.

So we thought that it is more useful for using WCA.

By performing our WCA, we defined most important thing from interview of 金融関連有識者. Our project the KIFU (Donation) system has INCENTIVES for all stakeholders not only money.

We called that incentives "4CAN (for local customers), 2Benefit (for local bank), 3GET (for local change makers), and 2Profit (for local stores)" (5章参照)



Goal Statement

After our WCA, we decided our goal.

To activate Local Change-Maker, such as NPOs, local enterprises, social organizations, and new ventures instead of the government, may give appropriate services, which people really need

By donate or invest them

Using KIFU (donation) system under the control of Local Bank

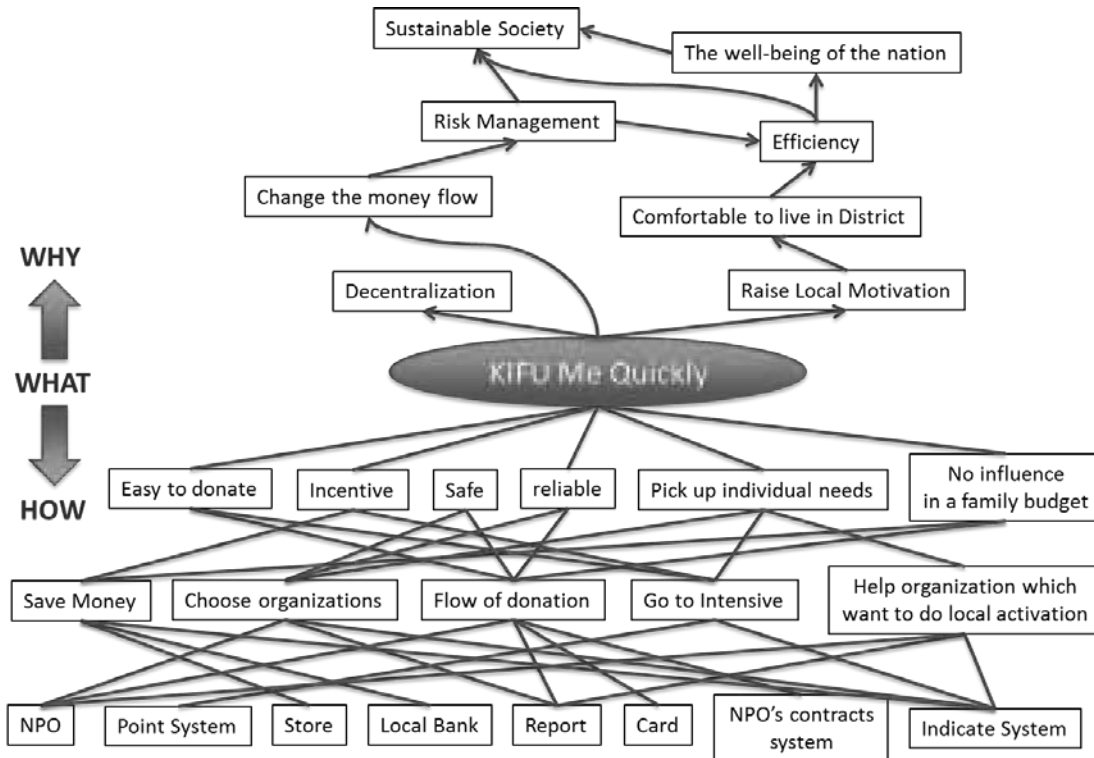
Value Graph

By performing our Value Graph, we abstracted major VOCs when customers wanted to do KIFU.

When a customer wanted to contribute, there were "Easy, Safe, Reliable, and Match their needs."

Then, we defined Engineering Metrics and Solution Elements for using QFD. But we had a question what we called that lists "Engineering Metrics".

ALPS Final Report



QFD

Referring to our Value Graph, we made **QFD** □, □.

Originally, we have had to use lists of “Engineering Metrics” in product making.

But KIFU Me Quickly is the social system. We had to change the name of lists instead of “Engineering Metrics”.

So we named “Incentive for Customer” instead of Engineering Metrics.

Moreover, we defined some competitors (KIVA, Keep the Change and ORICO Card) and how KIFU system is effectiveness rather than them.

ALPS Final Report

[illegible]

ALPS Final Report

PHASE II QFD		KIFU Me Quickly						
		Solution Systems or Enabling Functions						
		Phase I Relative Weights	NPO	Incentive system	Store	Local Bank	Report	NPO's contracts system
								Indicate System
Incentive for Customer								
Save Money	6%		9	1	9			
Choose Organizations	23%	9	3			9	3	
Tranceparent Donation Flow	27%	3	3		3	3	9	9
Go to Intensive	13%	1			9			
Help Organization which want to do Local Activation	4%	9	3		1	9	3	
Point	6%		9	9				
Card	20%			3	1			1
Raw score			3.4	2.8	1.2	2.8	3.3	2.7
Relative Weight			18%	14%	6%	14%	17%	14%

FMEA

Finally, FMEA is risk management tool for the system. Like use-case, it allows people to brainstorm the possible risk and hazard, as well as its influence and contingency plan.

ALPS Final Report

Kifu Me Quickly

FMEA

Number	action	Hazard	Influence	Hazard Assessment		Possible Risk	Contingency Plan
				Occurrence	Influence		
1	Make a partnership with a local bank	Not trusted	Failure to make a partnership with a local bank	4	5	20	need achievement or success record beforehand Get support of somebody trustworthy
2		Incentive is not attractive	Failure to make a partnership with a local bank	2	4	8	More incentive required
3		the estimated amount of money is too small for them	Failure to make a partnership with a local bank	3	4	12	involve points and other product that derives more profit for the bank
4	Make a partnership with local stores	Not trusted	Failure to make a partnership with a local store	1	5	5	need achievement or success record beforehand
5		Incentive is not attractive	Failure to make a partnership with a local store	2	4	8	More incentives provide some cash- back to the store or coupon that attract more customers to spend more money
6		Stores prefer cash	Failure to make a partnership with a local store	5	3	15	Give some incentives
7	gather organization of social change	Not trusted	Failure to gather organization to be investigated or donated	2	4	8	approach more organization
8		moral hazard	The service will not be trusted	1	5	5	strict check of quality and operation
9		insufficient financial management	The service will not be trusted	3	3	9	outsourced the management to the qualified institutes
10		insufficient customer management	The service will not be trusted	4	2	8	outsourced the management to the qualified institutes
11		insufficient customer management	The service will not be trusted	4	3	12	outsourced the management to the qualified institutes
12	Bankers, stores, and organizations gather customers	Not trusted	The system cannot gather money	2	5	10	let bank to embed the system as default
13		people don't want to keep the change	The system cannot gather money	4	2	8	educate customers the possibility of saving money
14		people don't want to use a card to buy a thing	The system cannot gather money	3	5	15	Let Donated organization to use the system with existed supporter, may need to give more incentives
15		People don't want to donate	The service will not work	4	3	12	Let Donated organization to use the system with existed supporter, may need to give more incentives
16		People don't want to invest	The service will not work	5	2	10	Let Donated organization to use the system with existed supporter, may need to give more incentives
17		Bankers hate additional work	The service will not work	3	3	9	Give some incentives
							incentives
17		Bankers hate additional work	The service will not work	3	3	9	Give some incentives

ALPS Final Report

Using FMEA, we find that the first and foremost barrier might be to make bank a partner. It shall be done with strategical approach to the bank. It may employ more incentives or issue oriented involvement.

Scenario Graph

Here, we considered the method through which this contribution system is spread in culture peculiar to Japan. We considered again "Store". Based on that, we considered Contribution Scenario with VOCs. That is, we verified the sustainability of the system.

1.Card Company – Credit or Prepaid or Cash or Debit Card

Whenever you make payment with a card, you contribute the fixed amount of money automatically.

2.Electric Railroad Company – IC Card (Suica, PASMO, ICOCA)

Whenever you take a train, the constant sum of the charges is contributed automatically.

3.Shop Owner – Point Card

You can contribute the point collected on the point card of a store.

4.Electric Company – Smart Grid

When you pay a fixed charge every month, the fuel and light prices which you did not use accumulate in a bank.

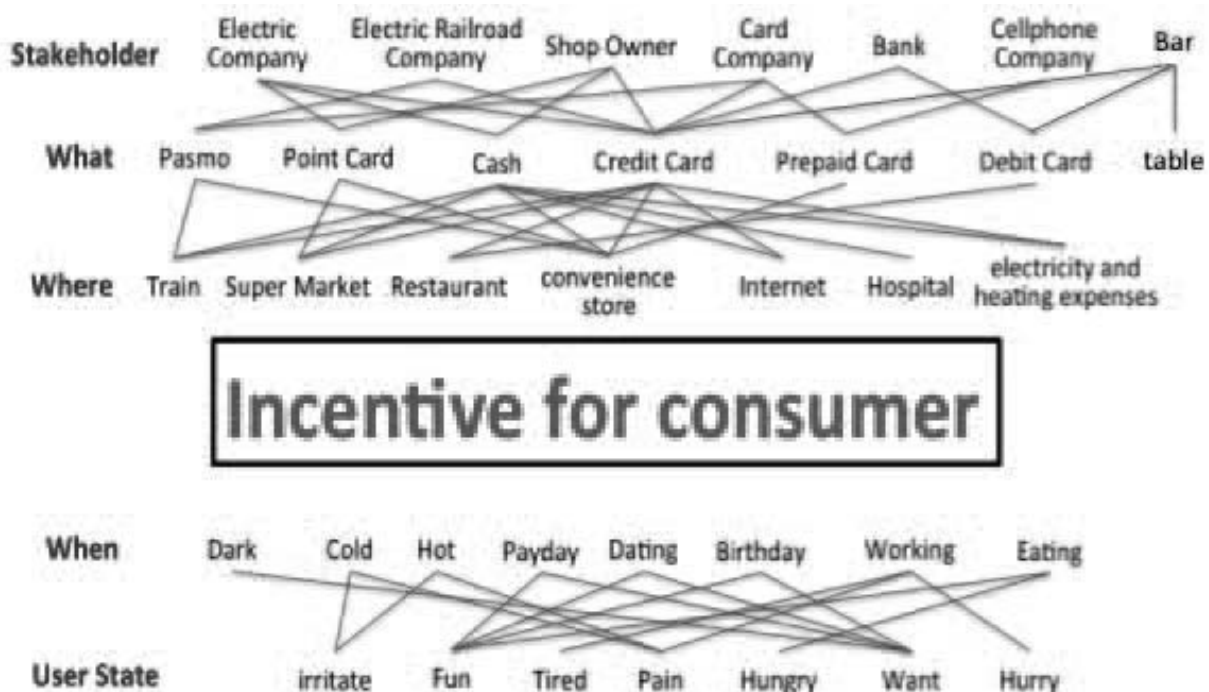
5.Cellphone Company – Cellphone (*Osaihu Keitai*)

When we pay a mobile phone, and when we use a wallet cellular phone, we contribute a constant sum automatically.

6.Bar – Table Charge

A part of charge of the table, which we chose is contributed for a specific organization.

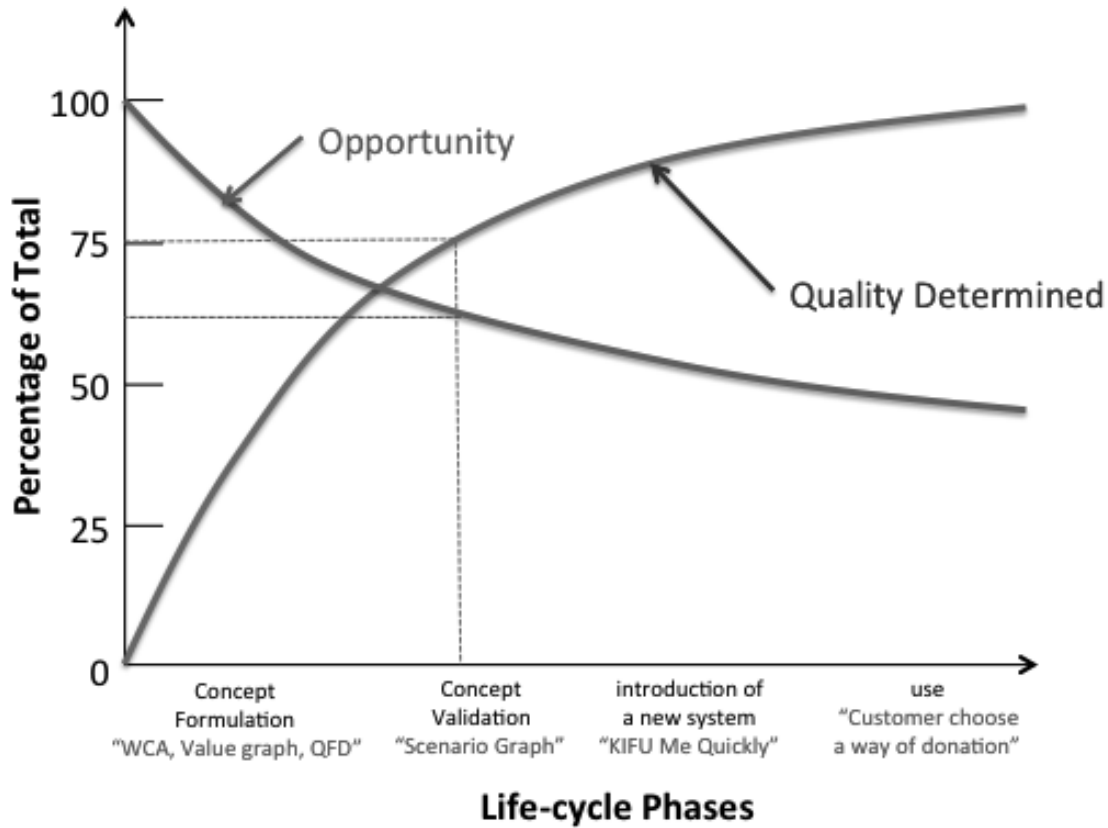
We are contributed for a specific organization at percentage of the targets which hit for darts.



ALPS Final Report

Robust Conceptual Design

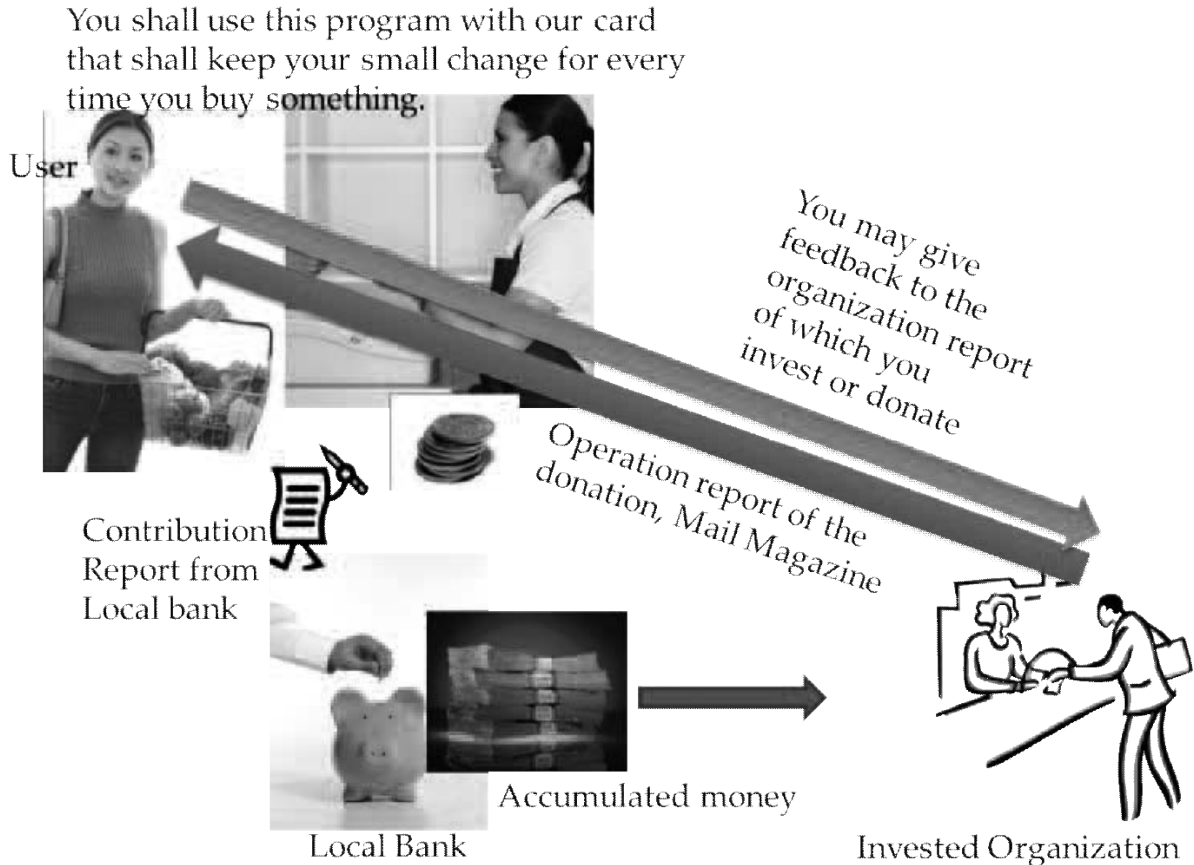
We used this tool to prove the robustness in Scenario Graph. Thereby, we avoid adopting only one method of any one contribution of Scenario Graph. We were able to indicate that making the system whose contribution was possible by various methods led to robustness.



ALPS Final Report

5. Design Recommendation

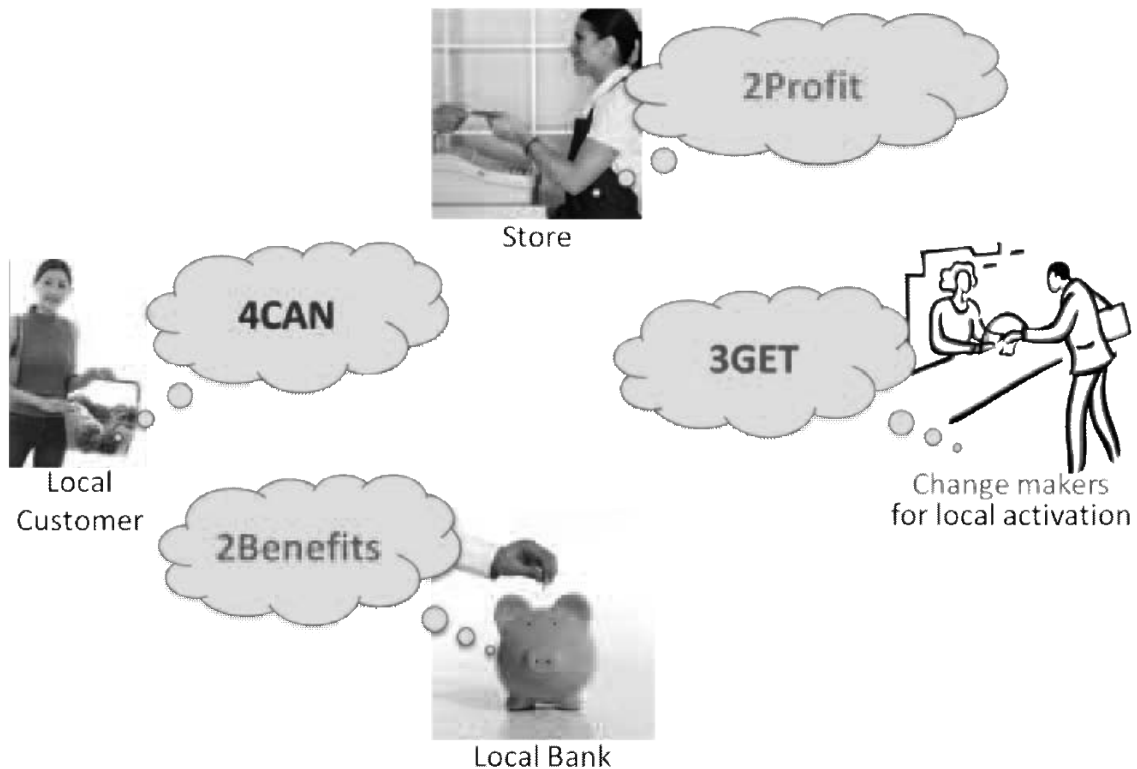
As we discussed in chapter 1 and 3, our final solution was a platform for donation and investment. There are many ways to do donation or investment, however, our recommendation will be more attractive and meaningful for all stakeholders.



Our important benchmark is Keep the Change[®] of Bank of America. Our specific feature is that we use the change for donation and investment. This solves several issues such as frustration of user of not-knowing where the money is going and how it will spend. Local banker, whose competitor, mega-bank, is too strong and they hardly get advantage over them or hardly distinguish themselves from other bank. Invested organization shall be more supported and able to reach people who are really interested in their challenging issues. Shops shall receive to identify customer with advanced information, interest, likability, etc.

For the implementation, we need a partnership to a local bank who shall have or want to have local network. Secondly, we may approach to local stores and implement Felica-like card payment system. If there is already the system implemented, we shall involve those other card-system holder as the business partner. Finally, we provide information and gather those who want to fundraise. Particularly those who have interest in social entrepreneurship and contribution. For them, bank shall substitute their advertisement and sales workforce, thus, their customer will be more diverse and have more accurate interest and knowledge of what they are doing as social contribution. If the organization need more money, they shall send business plan to the supporters and other customers through the bank system. The Bank may report the accuracy and credibility before and during the process.

There are INCENTIVES in EVERY Stakeholders



Summary for each incentives:

Customer

4. CAN save money
5. CAN do a social contribution easily
6. CAN chose organizations you want to donate
7. CAN get information about activity reports of organizations you donated and evaluate

Local Bank

5. Be in the cash
6. A social contribution & Local activation = Branding

Local Change Maker

- Get money
- Get support member
- Get an opportunity to inform their activity

Store

- Get information about customers individually used by POS system (to optimize)
- Personalizing customer

Considerable Risk of the system

- If the local bank is not interested in enactment local society
- Moral hazard of invested organization

ALPS Final Report

- Customer may have other reason of not-donating and not-investing.
- Japanese people may not feel comfortable with using cards

Contingency Plan

We tailored this system, the part of imported "keep the change□", for more attractive to Japanese customer. Such as collaboration with point cards, beer garden, and amusement park.

Technical Risk of this system

Between the IC card and card reader, interaction is performed the following procedures.

- Presence of the card check
- Mutual authentication of card and reader
- Data is read from the card
- judgment
- Writing data to the card
- Write confirmation

『Features of non-contact type IC card』

- When compared with contact-type, might can not read..
- No direct contact with the IC card reader. As a result, less likely to deteriorate.

Felica developed by Sony Corporation. Non-contact IC card is currently using its technology.

『Features of the Felica』

High Security: Felica is doing its own access control specifications. As commercial, the current has reached the highest level.

Multi-Application: Felica is possible to provide several different services that the service provider on a single chip.

Mutual authentication: When Felica communicate a cipher , Felica is changing the communications. Even if it is intercepted by a third party, possibility that information is exploited is very low.

that information could be misused is extremely low. In addition, Felica chip will be erased when trying to decipher the information inside to decompose.

Felica and contactless IC card have the above characteristics. Felica security is tight, so far no cases of such forgery. Risk due to the IC card itself is low, as mentioned risk is considered that disclosure of personal information. Even if you lose the IC card, **you** can be unavailable by phone. Risk due to the IC card is considered quite low.

ALPS Final Report

6. Competitive Analysis

KIVA

KIVA is a non-profit organization with a mission to connect people through lending to alleviate poverty. Leveraging the internet and a worldwide network of microfinance institutions, Kiva lets individuals lend as little as \$25 to help create opportunity around the world.

- Since Kiva was founded in 2005
- 644,342 Kiva lenders
- \$262 million in loans
- 98.93% Repayment rate
- KIVA works with 147 Field Partners
- 450 volunteers around the world
- 61 different countries

Making a loan on Kiva is so simple that you may not realize how much work goes on behind the scenes. Kiva works with microfinance institutions to provide loans to people without access to traditional banking systems.

- * 100% of every dollar someone lend on Kiva goes directly towards funding loans.
- * Lenders browse and choose an entrepreneur they wish to fund.
- * Kiva relies on a worldwide network of over 450 volunteers who work with KIVA's Field Partners, edit and translate borrower stories, and ensure the smooth operation of countless other Kiva programs.
- * 98.93% Repayment rate (2011/09)
- * Whether defaults are extremely low has been questioned on the ground that a field partner may pay Kiva for loans defaulted to the field partner in order to maintain the field partner's good credit with Kiva.
- * There are some cases which the field partners committed fraud.
- * It is not comparatively famous in Japan.
- * It is no advantage for donor using KIVA.

ALPS Final Report

Keep the Change®

● Saving while you spend.

Each time you buy something with your Bank of America debit card, we'll round your purchase to the nearest dollar amount and transfer the difference from your checking account to your savings account. You get to Keep the Change® and grow your savings. What could be easier?

● Save with everyday purchases.

Using Bank of America's debit card is always a smart way to spend. The money comes directly out of your checking account with no charge to you for this service. And now with Keep the Change, it's even smarter. Because every bag of groceries, every coffee and every tank of gas adds up to more savings for you.

For the first three months, Bank of America will match your Keep the Change® savings at 100%. That means for every Keep the Change® transfer, we'll contribute the same amount to your account - to make it even easier to save. This reward will be paid to your savings account.

1. Only Bank of America debit cards are eligible for the promotional match on Keep the Change round-up savings. Rewards cards do not qualify for this match.

2. The matching funds will be credited to your savings account, within 8 weeks after the month in which the first anniversary of your enrollment in Keep the Change savings service occurs. To receive the matching funds, your checking and savings accounts must be open and in good standing, and you must still be enrolled in the service. The promotional match will not exceed \$250.

* Incentive for customer accrues in saving money →we take this idea in our system!

* Debit card has not spread in Japan.

→we have to use another way of saving money. (Credit card, Cash card or Point card?)

ALPS Final Report

T-Point Card

T-Point Card is one of famous Common Point Card which can use many stores (a rental DVD shop, Café or Restaurant, a convenience store, etc.) in Japan.

If you do shopping and show T-Point Card that stores, T-Point is saved in response your payment.



Figure 6-1 T-Point Card

<https://tsite.jp/tm/pc/register/STKI0101000.do>

According to T-Site

● Donate to this point.

We could donate to organization that helped to stricken areas using T-Point (1point=¥1) when it was occurred 3.11.

A sum of points which donated is informed through the Internet Site (T-Site), and about a hundred million points gathered in March16. This activity continued until October31.

* Point is dealt with as money. → This is very easy to donate for customers!

* We have to donate connecting to T-Point Home Page through Internet. → time-consuming!

* 100% Donated Point went to stricken areas.

* It is not clear the money flow. → Where and How Donation is used?

* It is no advantage for donor using T-Point Card.

* We cannot decide where we want donate

ALPS Final Report

Cedyna (Old OMC Card)



①Cedyna Card AXU ③Atom Card ⑤ILEC Card ⑥Name Phil Card

<http://www.cedyna.co.jp/card/index.html>
According to Cedyna HP

●Donating while you spend.

The philanthropy type card in which a part of rental spending is automatically contributed only by using a card. It applies for an OMC card with the contribution function to the organization which wants to contribute you. If some shopping is done with the card which you acquired, a part of the sales will be contributed automatically to each organization. Although the kind of card has rich variety, a contribution place will be extracted to one in the case of card selection.

□ Cedyna Card AXU VISA

Cedyna card AXU which means that the earth shakes hands is an annual fee of 10,500 yen.
0.1% of the amount of card use is contributed to an environmental conservation group.

□ Atom Card MasterCard

The philanthropy type card which designed AstroBoy to the card face.
The annual fee for the 1st year is no charge, and the fee in the 2nd and afterwards is 1,050 yen.
Whenever it uses an Atom card, 0.3% of rental spending is contributed for each organization from Cedyna without a card member's burden.

□ ILEC Cards VISA, MasterCard, and JCB

The card which stands on a global view and keeps the lake environment in the world.
An annual fee is 1,312 yen.
At the time of the annual fee payment of an ILEC card, the donation of 250 yen to ILEC is pulled down automatically.
Moreover, Cedyna contributes the 0.5% amount equivalent of the amount of card use for ILEC.

□ Famous Fill Card VISA

The card for those who live in a town with orchestra and music.
An annual fee is 1,312 yen (however, 1,812 yen including the donation of 500 yen are charged).
The donation of 500 yen to famous fill is automatically pulled down at the time of annual fee payment.
Moreover, Cedyna contributes the 0.5% amount equivalent of the amount of card shopping use for

ALPS Final Report

famous fill.

- * Customers can choose the group that they want to donate . (However, groups are limited)
- * Deposit a certain amount is automatically debited every shopping.
- * Most cards cost an annual fee

ALPS Final Report

Orico Card



① Wild Bird Society Card ② Japan Society for the Prevention of Cruelty to Animals Card ③ Puppy Raiser Card



④ Stop Aids card

⑤ Gackt card

<http://www.orico.co.jp/cardorder/contribution/index.html>

According to Orico HP

● Donating while you spend.

The philanthropy card of Orico has the feature "the amount of money of the fixed rate of the amount of credit card use is contributed for an associate organization from Orico, and can use for various activities."

As an example which became the center of attention, there is a "Save Our Dears" card which Gackt produced.

A part of annual fee of the "Save Our Dears" card is used for charity activity of Asia.

In addition, Orico provides the conservation group and the social welfare organization with the activity fund through issue of the following philanthropy cards etc.

Although the kind of card has rich variety, a contribution place will be extracted to one in the case of card selection.

☐ Wild Bird Society Card

A contribution place is Wild Bird Society of Japan.

A donation tells regarding a wild bird and nature as important, or is used for nature conservation activities.

0.5% of the amount of card use is contributed from Orico to Wild Bird Society of Japan.

☐ Japan Society for the Prevention of Cruelty to Animals Card

Contribution places are a foundation and a Japanese animal protection organization.

A donation is used for animal protection activity.

0.3% of the amount of card use is contributed for Japan Society for the Prevention of Cruelty to Animals from Orico.

☐ Puppy Raiser Card

Contribution places are a foundation and Japan Guide Dog Association.

It is used for spread activities and training of a seeing eye dog.

0.5% of card usage amounts are contributed from Orico to Japan Guide Dog Association.

☐ Stop Aids Card

Contribution places are a foundation and Foundation for AIDS Prevention.

It is utilized for promotion of spread activities and the measure against AIDS of AIDS knowledge, etc.

0.5% of the amount of card use is contributed for Foundation for AIDS Prevention from Orico.

* There is no sustainability. (Donations pay for all Orico.)

* There is no direct benefit to donors.

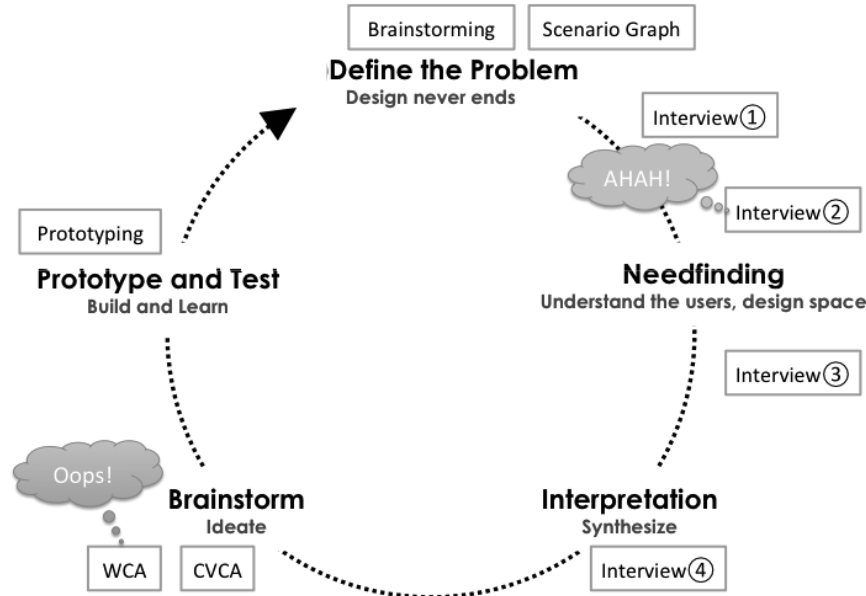
ALPS Final Report

7. ALPS Roadmap and Reflections

There are 3 phases (Education, Elderly person, KIFU society) in our roadmap.

7-1

Phase1: Focus on Education



7-1-1

The earliest, at July, our group G visited NEC as proposer. We held the first meeting, there. From Brainstorming and Scenario Graph, it occurred one idea. That idea's name was "World Knowledge". That was for Education, especially for developing countries.

For designing the system, we got 4 interviews.

7-1-2

Interview□: Gap Year

That is a forum that all NPOs in education come together and discuss. We thought,

- Incentive oriented education sounds like not preferable.
- What could be unique differences that apart our project from other existed services?
- How could you understand the "true" needs of the developing countries, and construct "trust" with the people?

Interview□(AHAH!): Graduated School Of Media Design Keio University

KMD (Graduated School Of Media Design Keio University) had a big project for education. That was "Global Education Project". That project utilizes satellite based Internet to provide Internet environments in a less expensive, easy to deploy, and more feasible way for the universities located in the regions where Internet environments are insufficiently developed; conducts research and development of the necessary technology for IT human resource development in Asia while using the environments; and proposes, through field experiments, a new educational methodology for universities in Japan as well as educational institutions abroad.

So, we got an idea "sharing knowledge across border in education", especially for developing countries.

Interview□: Art School in Cambodia

- Because of the severe life, it is difficult to gain attitude of self-devotion.
- "Children in the world shall have joyful Childhood."
- Every location have own historical background.
- Rate to go to high education, regional gap of economy and life itself.
- The priority of education is relatively low.
- This kind of activities tend to have problem with finance.

Interview□: NEC

- The humanities that NEC think of is about communications and interrelations between people, understand each others, and decrease loneliness and feeling of excluded.

ALPS Final Report

- Technology enable people to do something they like to do, however, we must consider about negative effect of new technologies.
- NEC treats issues of digital divide and practice of computers.
At this time, NEC wanted us international system design, especially Asian countries because NEC didn't have big market around there. Although Japanese market become shrinking, those Asian countries market become increasing rapidly. So, NEC hoped us to try to make new business model for Asian countries market.

7-1-3

After 4 times interview, especially bases on Interview□, we made a CVCA and WCA.

The plan we thought was to connect "University, NPO/NGO, Sponsor in developed countries" for teaching to "Students in developing countries" for studying through "Local educator, activist, government".

And also we found information circle between "Students", "Children" and "Guardians".

After their classes, students share those information and ideas with their younger brothers and sisters, and their parents. Then, they work together using those ideas.

We thought these interactive activities might make their life rich and convenient.

But in WCA, we had "Oops!"

7-1-4

But we had many problems about this idea.

First, it was connection. Who contacts with UN, another country's governments?

Second, it was too complicated for us to make it for this short period.

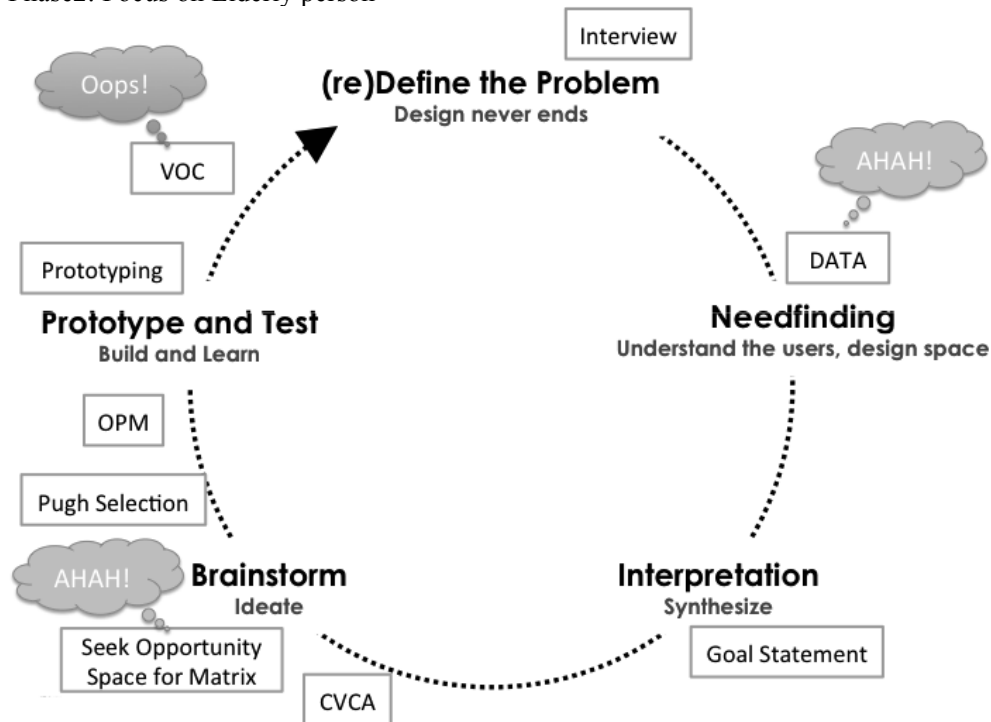
Third, this education system was not match our proposal (how and where is the local production for local consumption society? What is Incentive and whose Incentive in this system?)

So, we needed to talk with it. That is, it was right or wrong, and able or unable. Finally, we thought we should change our idea and make new one.

ALPS Final Report

7-2

Phase2: Focus on Elderly person



7-2-1

Back to NEC's Interview



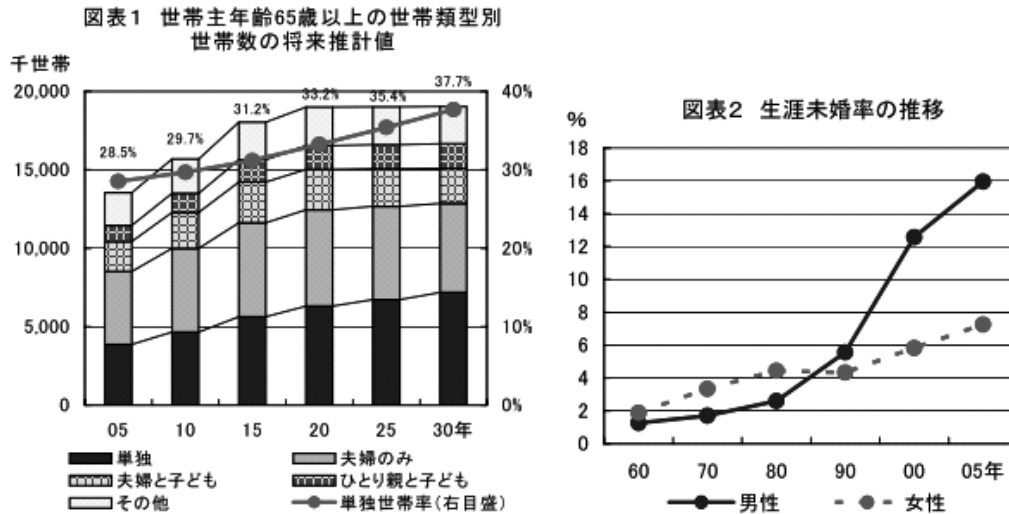
NEC defined “humanity” as “each personality; that is understood if each other understand deeply each one.” And we thought if our society lacked this mind, it would make an isolated society.

Recently, single elderly, only elderly home and unmarried person for their life are increasing. In this situation, these elders become isolated from their communities. Sometimes they committed suicide, and it becomes big social problem. (Fig. 1-1, 1-2) This problem may become more serious because those lifestyles will increase. Our society should do something quickly. So, we thought we should solve the lifestyle of those isolated elderly. We also thought that would make our community better.

ALPS Final Report

7-2-2

DATA Reserch (AHAH!)



*Fig.1-1 the estimation of the number of households

**Fig.1-2 the percentage of unmarried person for their life
From “Isolated elderly”

*[The left side is Fig. 1-1]

図表 1 = Chart 1

世帯主年齢 65 歳以上の世帯類型別世帯数の将来推計値

=The estimated record that the age of the head of the household is over 65 years old.

千世帯=1000 households

単独=living alone

夫婦のみ=only husband and wife

夫婦と子ども=husband and wife and a child or children

ひとり親と子ども=single-parent and a child or children

その他=others

単独世帯数=the percentage of living alone households(See the right side of this Fig.)

**[The right side is Fig. 1-2]

図表 2 =Fig. 2 男性=Male 女性=Female

[Www.nli-research.co.jp/report/gerontology_journal/2010/gero10_002.pdf](http://www.nli-research.co.jp/report/gerontology_journal/2010/gero10_002.pdf)

We estimated from the chart 1-3 that Kodokushi, which means when the elderly die no one noticed that, would increase.

The aging society is accelerating rapidly. The number of the households living alone or aged husband and wife is also increasing. Those may lead to the high possibility of the elderly Kodokushi.

Actually, you don't have the certain definite for Kodokushi. You also don't have the statistical date for Japan. The committee of Tokyo Medical Examiner showed a date. That indicated the number of death living alone elderly in their home increased from 1364 (2002=平成 Heisei 14) to 2211 (2008=平成 Heisei 20). That was 1.6times as many.

ALPS Final Report

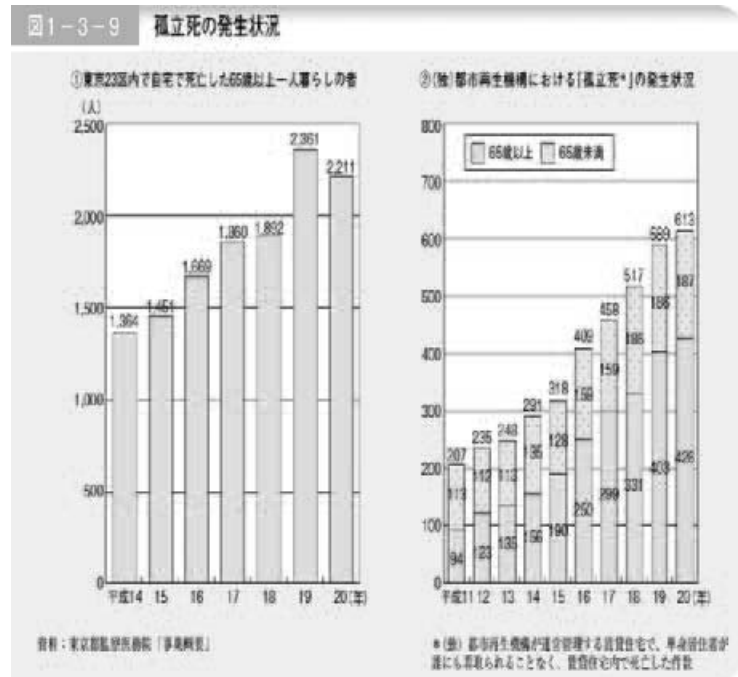


Fig. 1-3 the state of Kodokushi
(from the overview of the committee of Medical Examiner

“overview”)

<http://www.fukushihoken.metro.tokyo.jp/kansatsu/index.html>

図1-3-9=Fig.1-3-9

孤独死の発生状況=the state of Kodokushi

- 東京23区内で自宅で死亡した65歳以上一人暮らしの者=the person who died in their home, living alone, aged over 65 years old, living in the 23 Ward of Tokyo

(人)=(the number of people)

平成14=AD2002

(年)=year

資料=data

②(独)都市再生機構における「孤立死*」の発生状況=the state of Kodokushi researched by the Urban Renaissance Agency of the independent administrative corporation

* (独) 都市再生機構が運営する賃貸住宅で、単身居住者が誰にも知られることなく、賃貸住宅内で死亡した件数=the number of Kodokushi, who live alone in the rent houses or apartments run by the Urban Renaissance Agency of the independent administrative corporation

We thought we could also mention that dilution of relation with a local community could cause Kodokushi. From some articles, many elders didn't have contacts with each other; they didn't go often for neighbor friend's houses. Those situations have happened in modernization or urbanization. In Japan, those ideas have related with respecting privacies. You have thought that it is better not to contact much.

The exchange with people brings pleasure and joy to a life. According to investigation, 80 percent of the whole elderly people felt definite aim in life. On the other hand, only 40% of those who did not have a friend and only 60% of those who have not done association with the neighborhood felt so. Compared with foreign countries, contact frequencies with the child in elderly people who lives in separate houses were lower. Nevertheless, they felt happy when they had a meal and chatted with a child or grandchild, when they had a family happy circle or saw friends and when they met young friends. In Japan, those opportunities are much

ALPS Final Report

lower than foreign countries.

Recently, Japanese are recognizing the importance of the preparation from every day centering on the local community ignited by an East Japan great earthquake. Even if a catastrophic disaster like 3.11 occur, intervention of administration, such as a country, a local self-governing body, and the Self-Defense Forces, takes much time. That means when information stops, or information including a damage situation stops, we cannot expect assistance by administration. Plus, if we thought the case where the house was damaged and needed to live an evacuation life or so, we considered that there was the necessity that a local community should be strengthened. In fact, in Japan, the problem of dilution of a local community poses a problem in recent years. So, we thought the necessity for strengthening of a local community was pressing need. We performed brainstorming for “How to promote elderly people's exchange for the purpose of solitary dissolution”. We took some ideas as follows.

We thought we should solve or at least improve that situation. So, we carried out brainstorming. After that, we got these ideas.

- R65(over 65years old) Convenience store
- R65(over 65years old) Network of video game
- R65(over 65years old) Japanese style cabaret club, Casino
- Polygamy
- Technical tradition (Old play, Experience in a company, Technology)
- The community of a hobby (farming, Calligraphy, Game of go, Shogi, Dance and so on)

7-2-3

Goal statement

After we unified these ideas, we got a result. It was "local base elderly-people encounter promotion service" using the Cloud service of NEC. As for this system, elderly people are provided with encounter with the opposite sex, the encounter with people with the same hobby, and encounter with people who want the technology, which that person has through apparatus with a low user interface of a threshold. We promoted elderly people's exchange through this system, and there was an aim tied to strengthening of a local community, creation of elderly people's definite aim in life, and by extension, dissolution of solitary death.

Goal Statement

**To release elderly people from
loneliness**

**By providing a opportunity for
elderly people to social interaction**

**Using location-based service
hosted by NEC**

The Cloud service of NEC is the filtering service, which can acquire only information useful

ALPS Final Report

for a user, when the user registers the category of information needed beforehand. Not only that, this service has also managed a user's position information. When a user approaches the dispatch origin of information, it is possible to offer the information on that dispatch origin.

In order to grasp the stakeholder in "local base elderly-people encounter promotion service", we used CVCA and analyzed an inquiry of the stakeholder of this system, and relation between them. In early stages of analytic, stakeholders were the following five persons.

- Old ages and their families
- NEC
- Shops which want customers
- Hospitals
- Dietitian

7-2-4

CVCA

After we thought those in detail, in order to manage this service more smoothly, we got the result that those who support elderly people were required. We added the stakeholder of the position "Osandonsan", which supports the elderly to CVCA. It included the operator of the pro well versed in IT, a volunteer good at operation of PC, a smart phone and the volunteer who wanted for the knowledge of its area of strength to be abundant, and to help others.

It was for unacquainted elderly people to master this system to IT to the same extent as the elderly people who probably were not so. It became possible to realize that he was useful to society because elderly people were good at IT and the elderly people with abundant knowledge of life supported other elderly people. Thereby, his need for approval would be filled. It was the greatest output of analysis by CVCA that the existence this "Osandonsan", who supported the elderly people, has been discovered. We show analysis by verification by examination and the prototype of a device, which are used for below.

Be based on such an examination, we suggested the system that first we promote the exchange with the elderly, second this create their definite aim in life, and finally that reduce solitary death. As an incentive, which uses this system, we added health-care-administration service, Osandonsan service, etc. It became as it is shown in Fig. 2 in detail. That was, first the information, including the store, hospital, event, etc. of the area, passed along the Cloud filter; second it chose information, third the information sorted out reaches the elderly, finally based on that information, the elderly people could access the information addresser's place.

ALPS Final Report

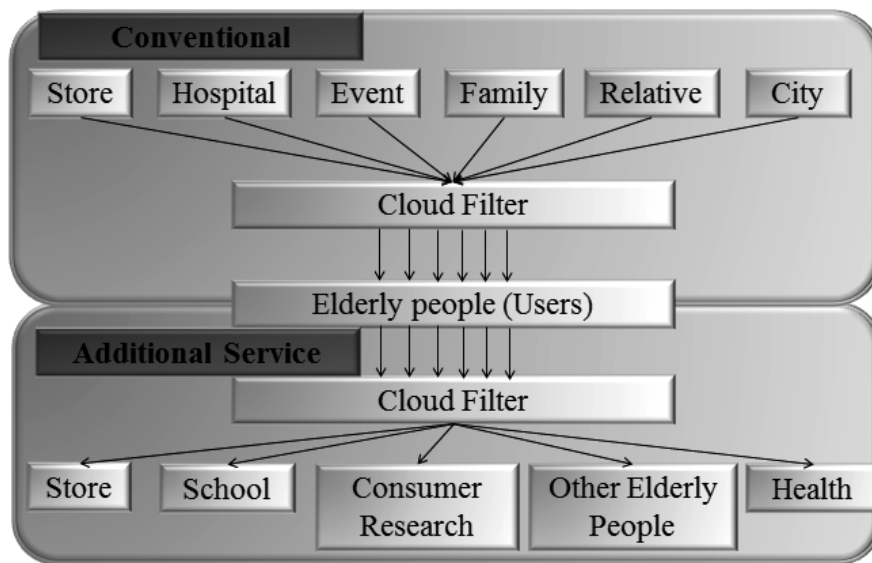


Fig. 2 the global image of the system

7-2-5

Seek Opportunity Space for Matrix (AHAH!)

When we built this system, we researched we investigated what kind of thing there is with the existing service. We showed the result as Fig. 3. As service of a youth's encounter, many net mate-hunting sites, such as Mach.com, are seen.

They are using the smart phone and diffused tablets, such as iPad, to access to such sites. Although there is a smart phone for elderly people, such as MIRACH, the spread is seldom progressing. About elderly-people-oriented encounter service, it hardly exists.



Fig. 3 Existing service and device

7-2-6

Morphological Analysis, Pugh Selection, OPM

This time, we thought the point that the smart phone for elderly people had not spread was taken into consideration. Based on that, we thought what kind of solution would be better and verified it with Morphological Analysis • Pugh Selection.

ALPS Final Report

A tablet like iPad with a larger screen than a smart phone resulted in the conclusion that it is the operation device, which was most suitable for elderly people.

7-2-6

Prototyping

When creating a **prototype**, elderly people's operability was taken into consideration. We enlarged the button and the character on a display as much as possible such as the one of Docomo products. When many numbers of characters are needed, and it was going to store it in the size of one button, we noticed a dilemma that each character would become small.

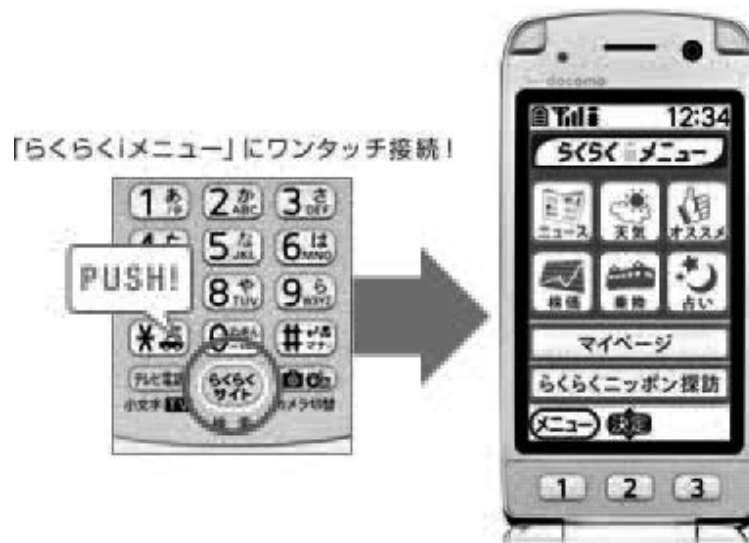


Fig. 7 Raku-Raku Phone

7-2-7

VOC (Oops!)

One of my members said “If elderly people do not understand how to operate the screen anymore, they would turn off the power and restart it from the beginning.” So, we decided that we always should display the button for returning to the start screen immediately.

We created the **prototype** so that a user might follow and stick to a function required as soon as possible, and almost all operations could be completed within three.

We interviewed for elderly people near Hiyoshi Station and centering on the Sugamo shopping center, if they actually would operate the created **prototype** near Hiyoshi Station and centering on the Sugamo shopping center (Fig. 9-1, 9-2).

ALPS Final Report



Fig. 9-1 Hiyoshi Station



Fig. 9-2 the Sugamo shopping center

As a result, the opinion of the following ①～⑥ had a large number.

- ①If the character of a screen is larger; it is easier to read.
- ②Elderly people do not know about a touch display.
- ③Many elderly people are worried about health.
- ④They would like to carry out shopping near their houses.
(They cannot go shopping by car etc. to a distance.)
(They want a neighboring shopping center to regain.)
- ⑤They don' t want new friends. They want to keep old friendships.

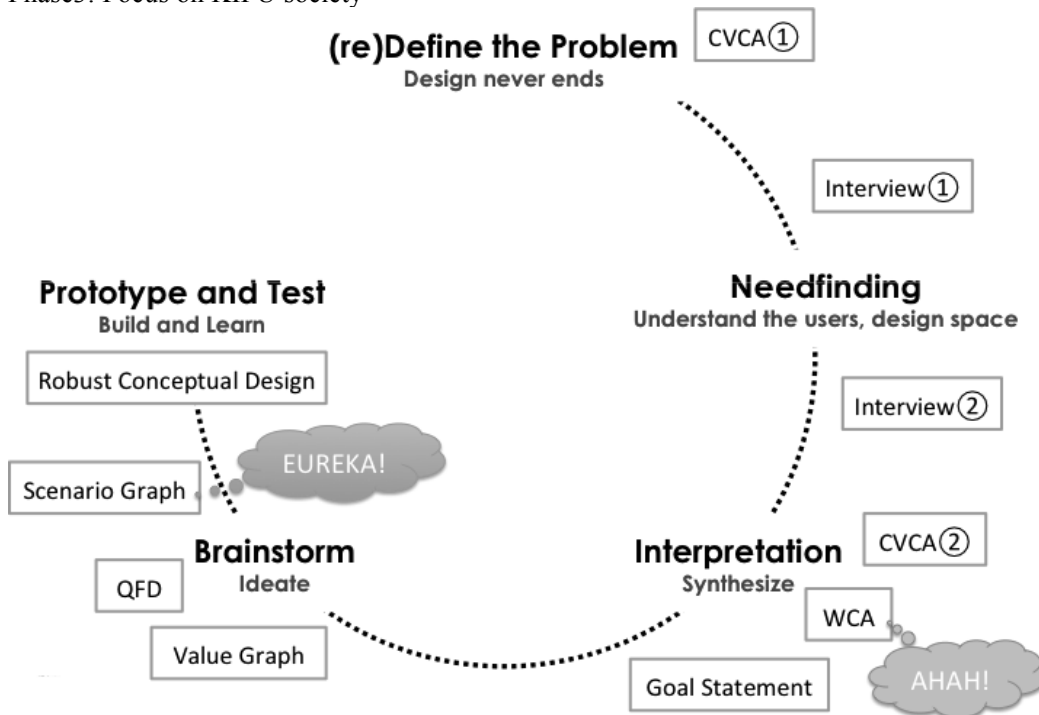
Actually, they didn't want new friends but they want to keep old friendship. It is also a fact that it became clear that the needs of the service about the health regarded as additional service were also unexpectedly great (①～③) . It became clear that the user of this system we assume, i.e., elderly people, seldom needed such service (⑤).

From verification to the elderly, we recognized that the novel design for shifting to the local-supply-and-local-consumption type social system of the small-scale distribution, which was a proposal theme of NEC, was not made. Then, we conducted further requirements analysis.

ALPS Final Report

7-3

Phase3: Focus on KIFU society



7-3-1

First, we improved the system of encounter promotion service of the elderly people of a local base. Second, we decided with the other way to tackle NEC's proposal "local-supply-and-local-consumption type social system design of small-scale distribution." Through the CVCA analysis, we noticed a system in which a store could gather many customers efficiently. So, finally we examined whether this portion would be promoted further and it would be tied to activation of a shopping center.

We also explored possibilities other than the local base elderly-people encounter promotion service ". We examined various ideas from the viewpoint pulled one step.

We asked ourselves.

"When we shifted to a small-scale distributing system from a large-scale central system, it was considered whether the system which could solve a problem would exist. Based on that system, can't we carry out realization the local supply and local consumption by it?"

Through asking ourselves, we noticed "Bank of America の Keep the Change". This is a system that saves automatically a part of change in the payment of a debit card to another account. We examined whether this would be connected by activation of the area. We thought whether we would be tied to activation of not only a shopping center but also an overall community by investing or contributing change in daily shopping. Conventionally, it is thought that the investment and contribution for such regional vitalization were rather a large-scale intensive system. When reconstructing the conventional system in the small-scale dispersive form, we thought whether it could become a system of independence of the area. Then, we took out Micro Fundraising.

Interview□: Local banker

Interview□: Specialist of Finance

ALPS Final Report

7-3-2

WCA (AHAH!)

As we discussed in chapter 1 and 3, our final solution was a platform for donation and investment. There are many ways to do donate or investment, however, our recommendation will be more attractive and meaningful for all stakeholders.

By performing our WCA, we defined most important thing from interview of Specialist of finance. Our project the KIFU (Donation) system has INCENTIVES for all stakeholders not only money. We called that incentives “4CAN (for local customers), 2Benefit (for local bank), 3GET (for local change makers), and 2Profit (for local stores)”

Customer

- CAN save money
- CAN do a social contribution easily
- CAN chose organizations you want to donate
- CAN get information about activity reports of organizations you donated and evaluate

Local Bank

- Be in the cash
- A social contribution & Local activation = Branding

Local Change Maker

- Get money
- Get support member
- Get an opportunity to inform their activity

Store

- Get information about customers individually used by POS system (to optimize)
- Personalizing customer

7-3-3

Scenario Graph (EUREKA!)

Here, we considered the method through which this contribution system is spread in culture peculiar to Japan. We considered again "Store". Based on that, we considered Contribution Scenario with VOCs. That is, we verified the sustainability of the system.

1.Card Company – Credit or Prepaid or Cash or Debit Card

Whenever you make payment with a card, you contribute the fixed amount of money automatically.

2.Electric Railroad Company – IC Card (Suica, PASMO, ICOCA)

Whenever you take a train, the constant sum of the charges is contributed automatically.

3.Shop Owner – Point Card

You can contribute the point collected on the point card of a store.

4.Electric Company – Smart Grid

When you pay a fixed charge every month, the fuel and light prices which you did not use accumulate in a bank.

5.Cellphone Company – Cellphone (Osaihu Keitai)

When we pay a mobile phone, and when we use a wallet cellular phone, we contribute a constant sum automatically.

6.Bar – Table Charge

A part of charge of the table, which we chose is contributed for a specific organization.

We are contributed for a specific organization at percentage of the targets which hit for darts.

ALPS Final Report

We used this tool to prove the robustness in Scenario Graph. Thereby, we avoid adopting only one method of any one contribution of Scenario Graph. We were able to indicate that making the system whose contribution was possible by various methods led to robustness.

7-4 Feedback

- If we could do the project again from the beginning, we had to more take care of Define the Problem. This process is very important for us. Because our proposal was a little ambiguous theme. So, we have to do more research what is problem, what is customer want by more VOC, Interview or another tools.
- Mentor and Sub mentor system was good for us because it would be more good solution that there was person who thinks project objectivity.
- We enjoyed solving freely, no restriction
- But we are some confused about final report because the requirements are suggested using tools that we didn't study in ALPS.
- We want to know more tools defining problems. Especially our proposal suggests starting to define problems in society. There are more few tools to discover problems than to solve the problem, and that is a factor our project does not work well.

ALPS Final Report

8. Conclusion and Future Work

Conclusion

The system shall solve the stated problem of our theme, the system to smooth the way for change drivers to attain regional and social well-being: an “efficient society” with adequate incentives, through local production and local consumption of financial and people's support.

The revealed weakness of large-scale modern society will also be resolved since this system is expected to straighten people's network and interest toward social issues, in which condition, the society shall be much robust and resilient against disasters. In addition to that, this system shall enact local based communities, with synergy and symbiosis, as following.

Based on the system, we can work well with many symbiosis and synergy. Such as, primary industry and tertiary industry can work well with symbiosis and synergy, urban area and region can work well with symbiosis and synergy, and local government, local bank and NPO to help each other to act more success, such as profit, popularity, activating, and/or getting support.

Symbiosis and synergy



Possible Largest Contribution in the Future

The system “KIFU Me Quickly” is a system to make good flow towards local change drivers. Yet, through interviews, we find the father and great possibilities to influence Japanese financial structure among Japanese banks that shall emerge tremendous symbiosis and synergy of money. It is said because financial operation in most local banks in Japan have been the massive concentration on the Japanese National Debt. This concentration shall be resolved with this local production and local consumption, namely, local recycling money flow.

The Japanese National Debt per GDP has been ranked in the number one position in the world. It means If a possible financial crisis directly attacks Japan, all the Japanese bank and people who buy the Japanese Debt shall be stricken since all the stakeholders bonding each other very tightly. By March 2011, Japanese Balance of Government Debt became 768,000,000,000,000 yen, and domestic investors occupy 95.4% of the whole, and mostly the financial institute, banks, are the holder of the Debt. In other words, it is too much concentration for operation and weak to any disaster and crisis. It also implies that if the Japanese Debt goes down, all Japanese banks go down that sacrifice all people rely on the bank. Under such conditions, savings of most Japanese people shall disappear with it.

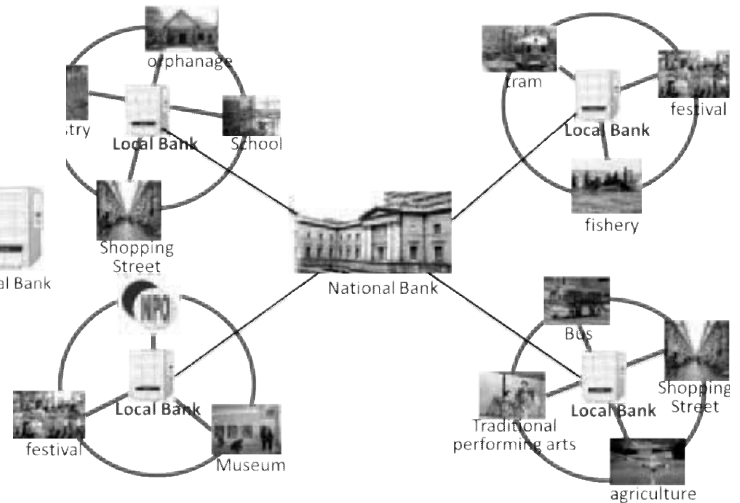
Originally, the social role of bank should be investing and push the economic mood and stability. However, through the long term depression, the flow, as blood vessel metaphor, has been stagnated. Through our system, it shall be smoothed with active and local consumption that also

ALPS Final Report

AS IS



To Be



activate profitable value production in the society.

Future Work

For more validity, we shall work on more broad people, and ask more people in general, such as concessionaire about the system. And we need to verify and validate implementing plan and contingency plans as well.ledgments

ALPS Final Report

1. Acknowledgment

We were indebted to many people through this project. Therefore, I would like to be thankful to the following people.

First, we are thankful to every staff of ALPS. Especially, we are thankful to Mr. Hashimoto, Mr. Emura, and all NEC members, who watched us by the warm eye. We appreciate Mr. Toma of the mentor, who encouraged us. We appreciate Ms. Mishima of a sub mentor who offered new ideas to us. We are thankful to Mr. Yasui who gave us many hints. We are thankful to Mr. Maeno who told us that WCA was surely helpful. We are thankful to Mr. Haruyama, Mr. Kurt and all the professors, who were indebted through the whole period.

Second, we are thankful to external people who cooperated. We are thankful to people who received our interview. We are thankful to the member of Gap-Year Symposium, the participants in educational NPO, Harada George (Alliance Forum Foundation), Accenture, the member of SDM educational seminar, Mr. Marcus (KMD), the elderly living near Hiyoshi, the elderly coming to Sugamo, Mr. Tokuyama (Kansai urban), Mr. Yokoo (Saba bank)

Finally, we really appreciate many others.

10. References

"<http://ci.nii.ac.jp/naid/40018925233>"NPOHYPERLINK

ALPS Final Report

"<http://ci.nii.ac.jp/naid/40018925233>"□HYPERLINK

"<http://ci.nii.ac.jp/naid/40018925233>"□□□□HYPERLINK

"<http://ci.nii.ac.jp/naid/40018925233>")

馬場 英朗 , 田中 弥生

日本評価研究 11(1), 47-59, 2011-05

ALPS Final Report

11. Appendix

ALPS "Symbiosis and Synergy" theme title: **The system design of the local production for local consumption society becoming more efficient with adequate incentives**

Proposer Organization's Name: **NEC corporation, Central Research Laboratories**

Contact Person's Name: **Masanobu Hashimoto** Contact Person's email: **m-hashimoto@ax.jp.nec.com**

【Back ground】

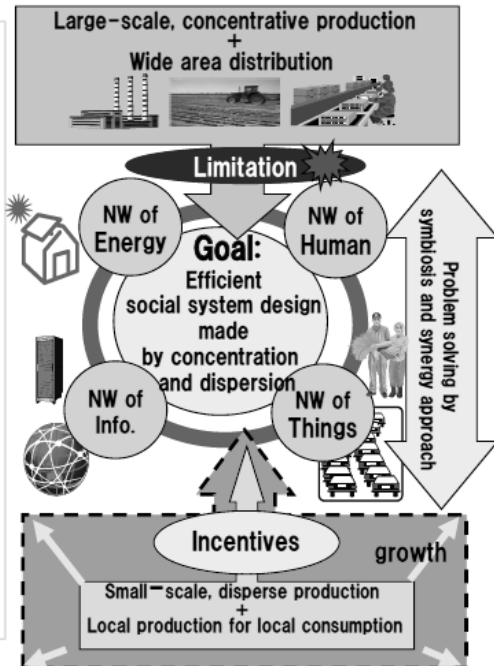
- The limitation of the stability of a social system with combination of the large-scale concentration and the wide area distribution has become clear by this East-of-Japan earthquake disaster
- Centralization phenomena sometimes obstruct the efficient use of a social overhead capital
- Stabilization and efficient use of social overhead capital by small-scale dispersion and local production for local consumption can be observed

【Key Questions】

- What are the incentives which accelerate the spread of small-scale distributed system and local production for local consumption system in a network of person, things (food, traffic system, materials etc.) information and the energy?
- What are the factor and the way which measure and control system efficiency by incentives?
- How to design new social systems, that include incentive providers, users and distribution methods, including related matters?

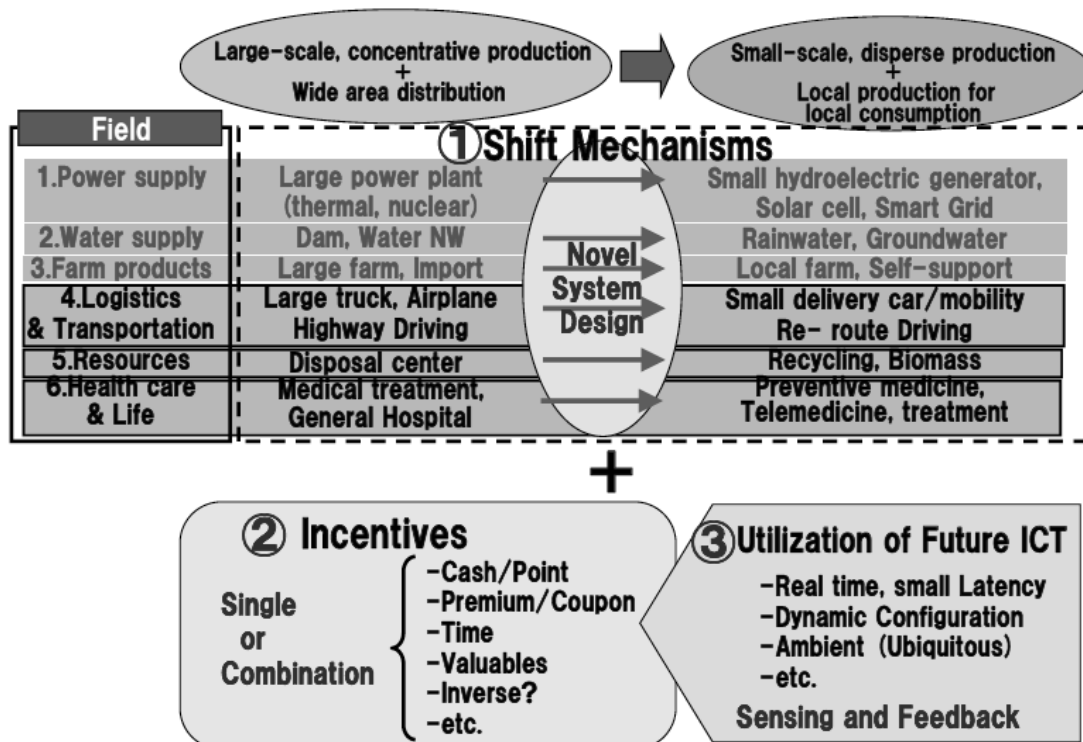
【Example of efficiency, accelerated by incentives】

- Self-sufficient movement of the farm produce followed by huge quake disaster and social anxiety
- Use the minor route to avoid chronic traffic jam in a main road
- Leveling and peak cut of social overhead capital by using holiday decentralization



ALPS Final Report

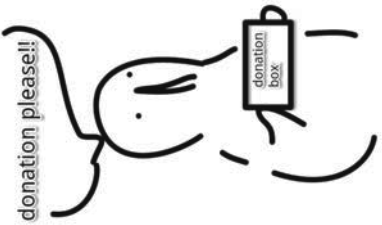
Incentive Driven Local Society



Group G's Final Presentation Slides

The system design of
the local production for local consumption society
becoming more efficient with adequate Incentives

“KIFU Me Quickly”



Proposed by NEC corporation
ALPS Group G

→“KIFU” means Donation in Japanese

ALPS “Symbiosis and Synergy” theme title: The system design of the local production for local consumption society becoming more efficient with adequate incentives
Proposer Organization's Name: NEC corporation, Central Research Laboratories
Contact Person's Name: Masanobu Hashimoto Contact Person's email: m-hashimoto@ax.jp.nec.com

The local production for local consumption society means
not only foods*
but also a network of person, things, information and the energy
in our society.

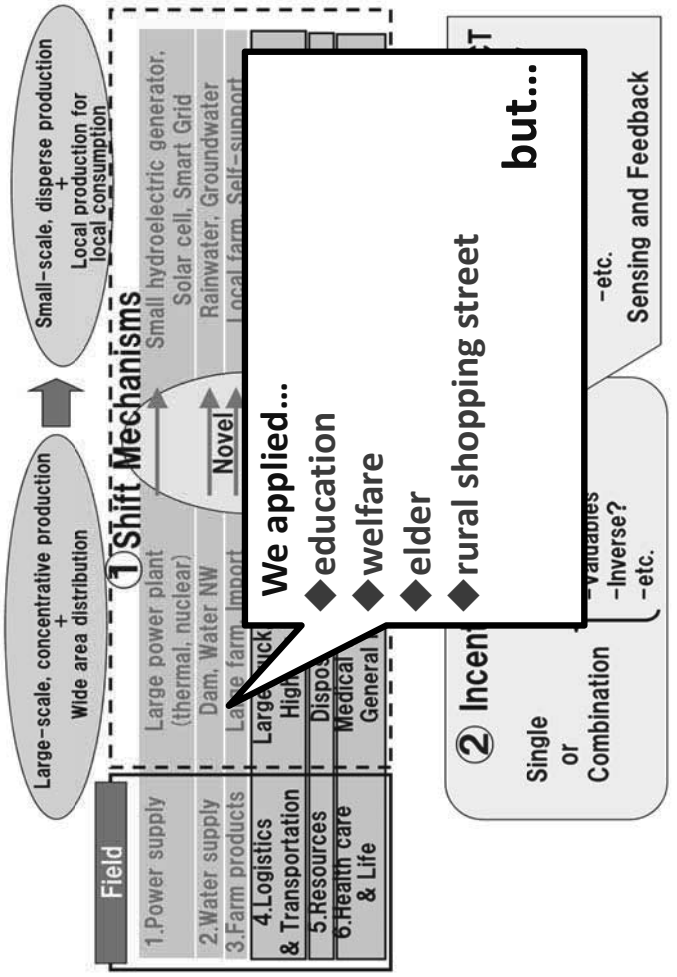
* foods : Domain of agriculture, the marine products industry etc.
* things : traffic system, materials etc.



[Example of efficiency, accelerated by incentives]
• Self-sufficient movement of the farm produce followed by huge quake disaster and social anxiety
• Use the minor route to avoid chronic traffic jam in a main road
• Leveling and peak cut of social overhead capital by using holiday decentralization

Video
[ALPS G CM.m2ts](#)

Incentive Driven Local Society



Every solution don't work well...
by V&V

...**Why????**

Large-scale to small-scale

- Why? : weakness and efficiency
- How? : is the centered issue to discuss.

Why-not and How to Achieve??

- The large-scale society can't deal with various needs from people
- Present national service system leans to total optimization (a pension system, nursing-care insurance system, an education system, etc.)
- It is necessary to lead national service system into small scale dispersion

We recognized three significant and common reasons.

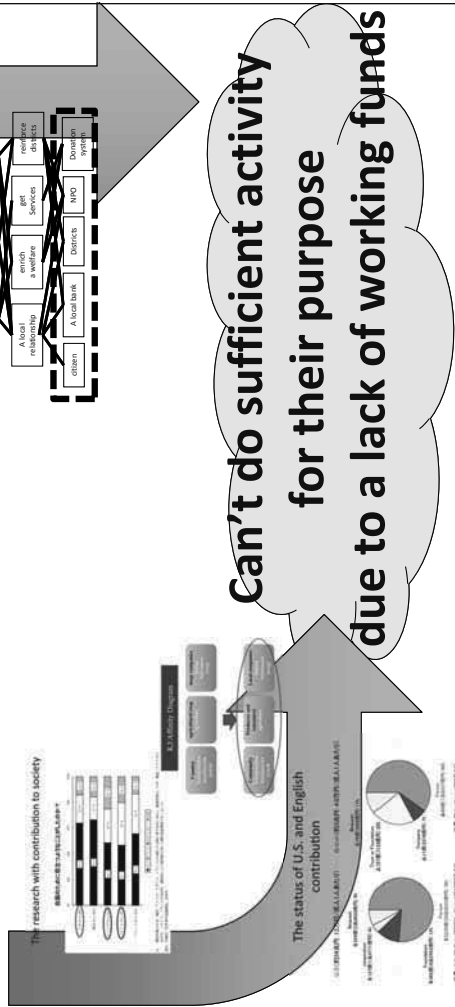
1. due to no enough understanding of the keywords, “Large-scale, concentrative production” and “Small-scale, disperse production”
2. People have so various needs that one service hardly resolve.
3. Business models are often questioned with its financial matter.

For the ALPS 5,
we restarted problem defining and requirement
analysis...!!!!!!!

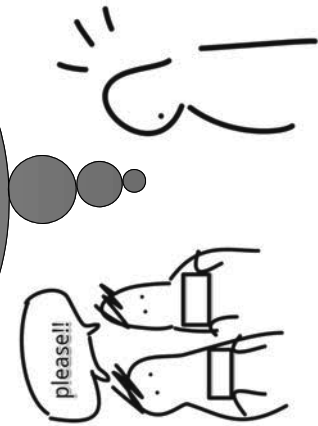
Our focus: to activate Local Change-Maker,

such as NPOs, local enterprises, social
organizations, and new ventures
who, instead of the government, may give
appropriate services which people really need

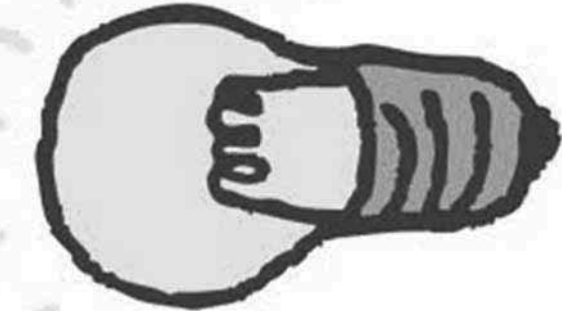
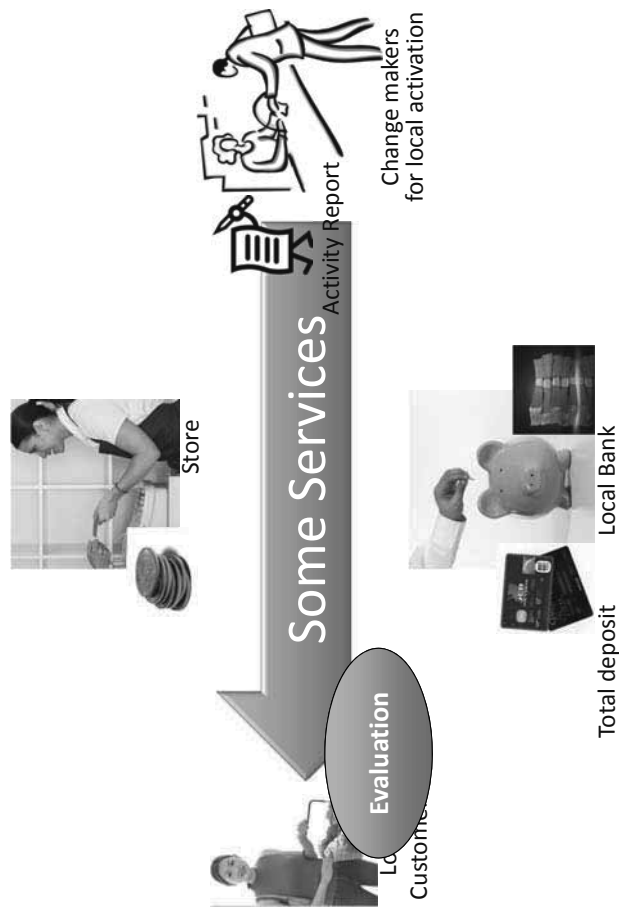
Research,
observation and interview
to the local change-maker
about their needs



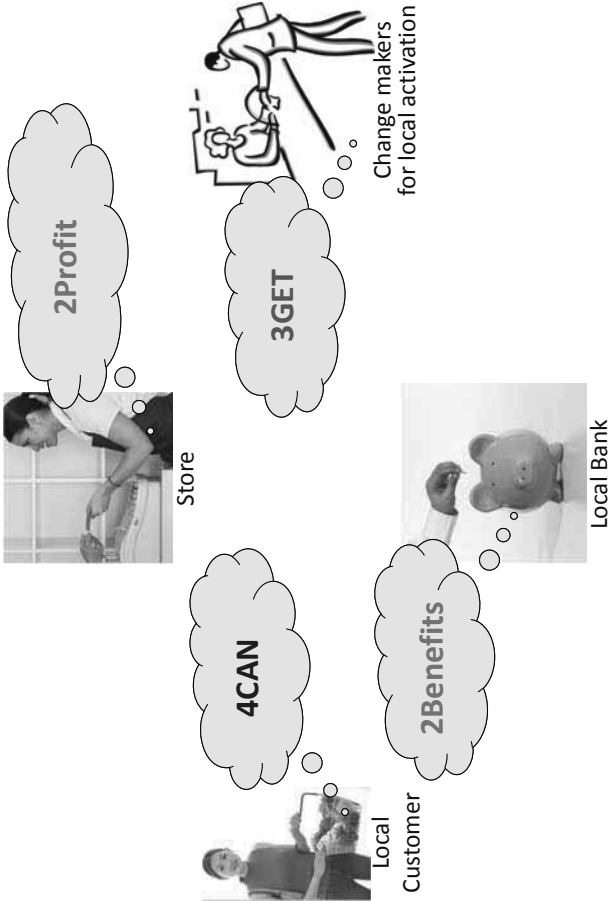
Is your donation really effective??
It is time consuming, no compliance, and so many constraints exist.
Also, for the org., it is temporary, unstable, and costly.
As the consequence, nothing is really effective and efficient.
It shall be Effective & efficient, Direct and Full compliance.



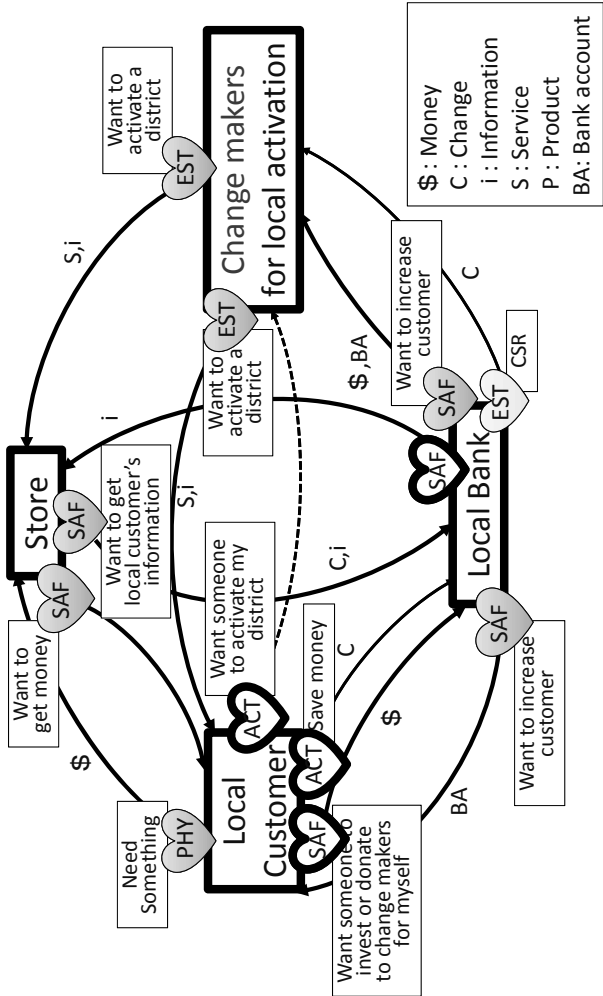
“KIFU Me Quickly” System



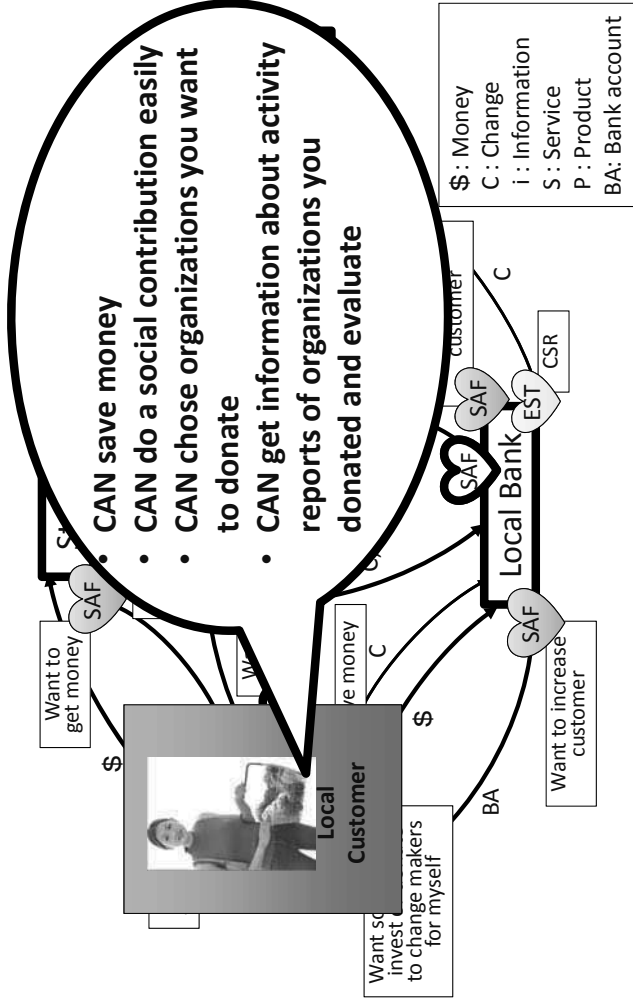
There are INCENTIVES in EVERY Stakeholders



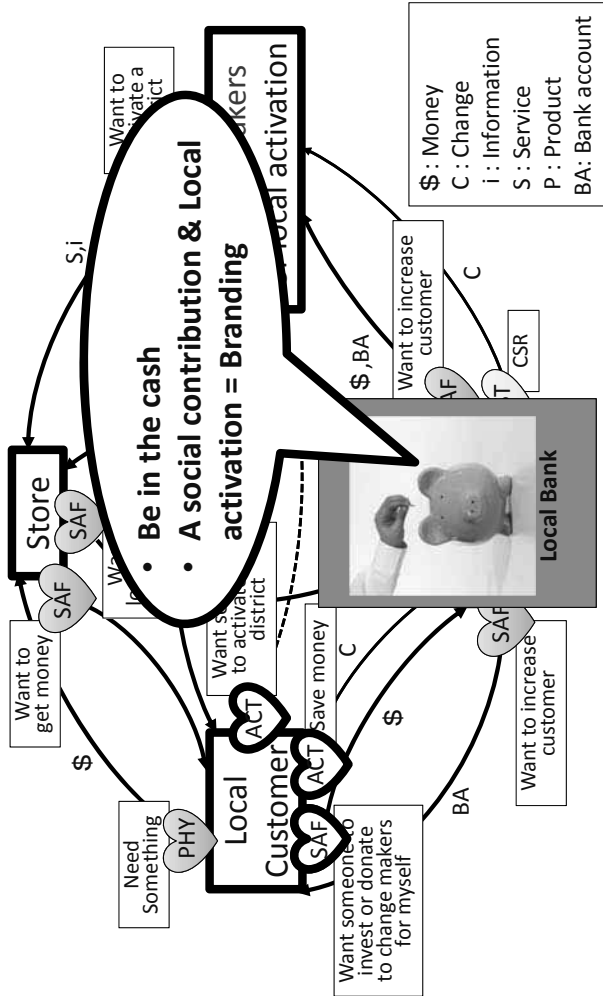
WCA



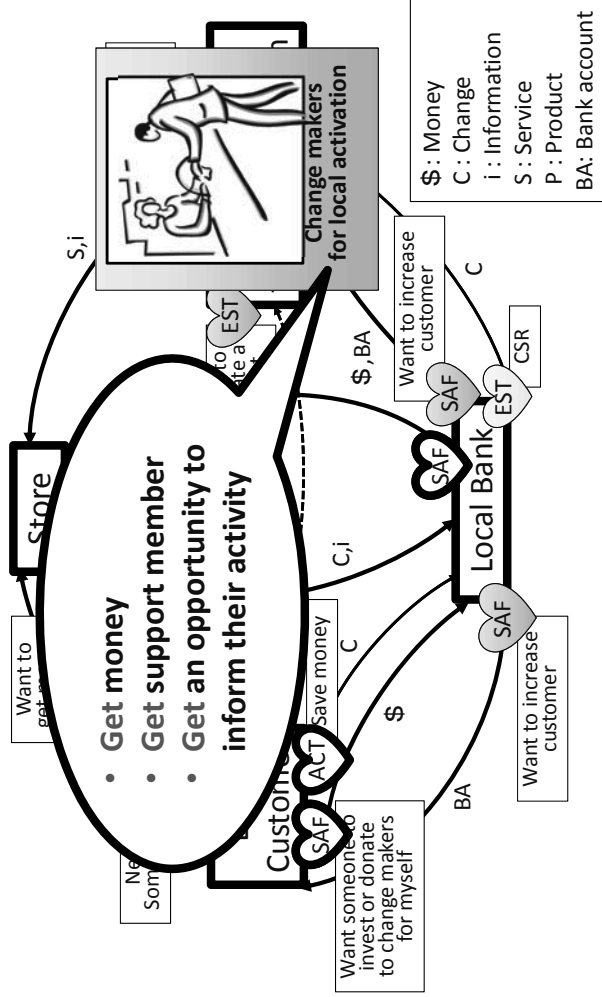
Incentive for Customers : 4CAN



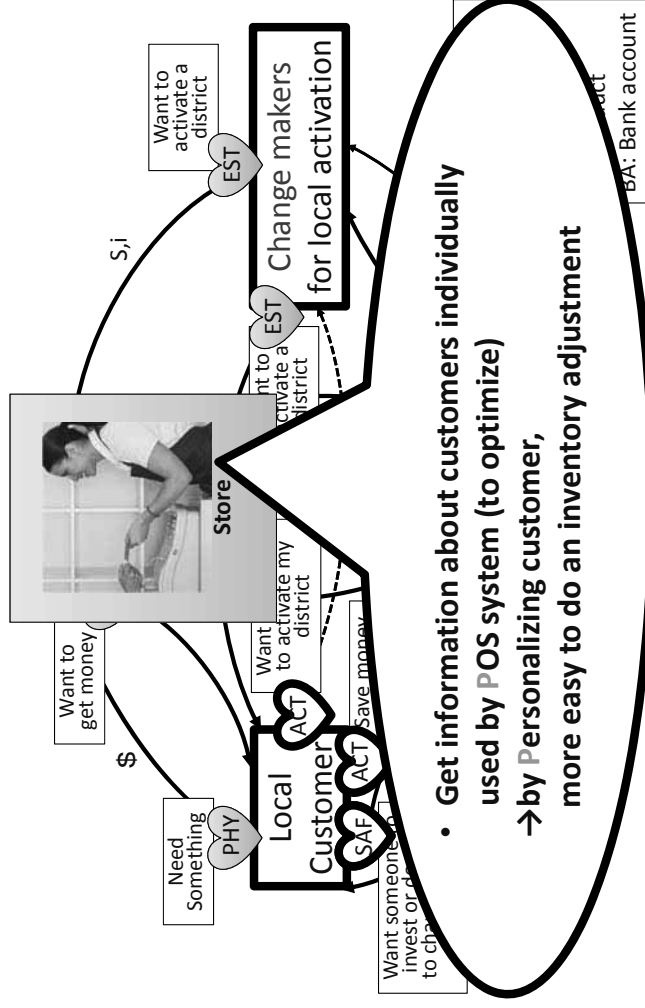
Incentive for Local Bank : 2Benefits



Incentive for Change Makers : 3GET

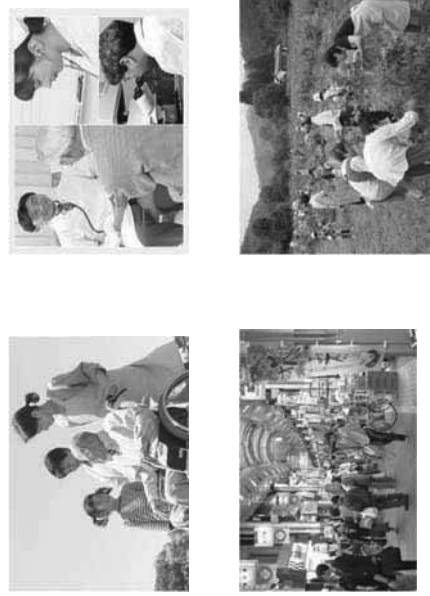


Incentive for Local Stores : 2Profit

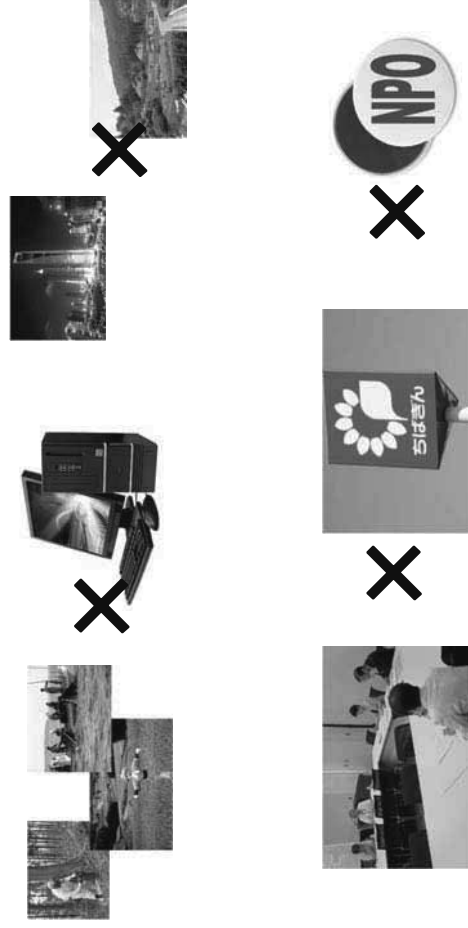


What will be solved by "KIFU"?

Sustainability of the social system
with a small scale dispersion
by Local Change Makers



Symbiosis and synergy



Moreover...

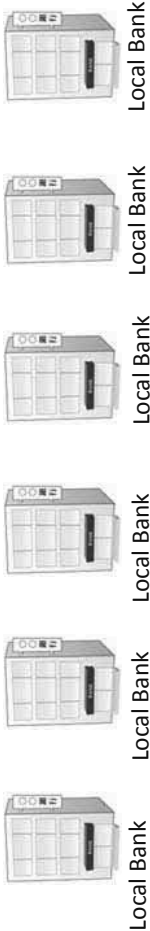
Local Bank

X

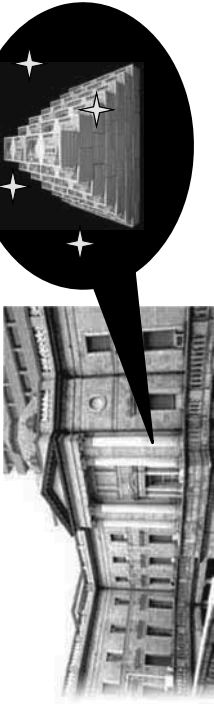
Local Change Makers

we found That is BIG Symbiosis and Synergy
from V&V

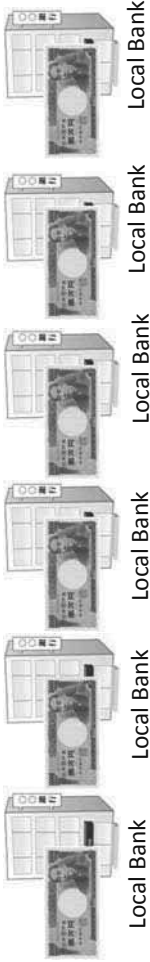
AS IS



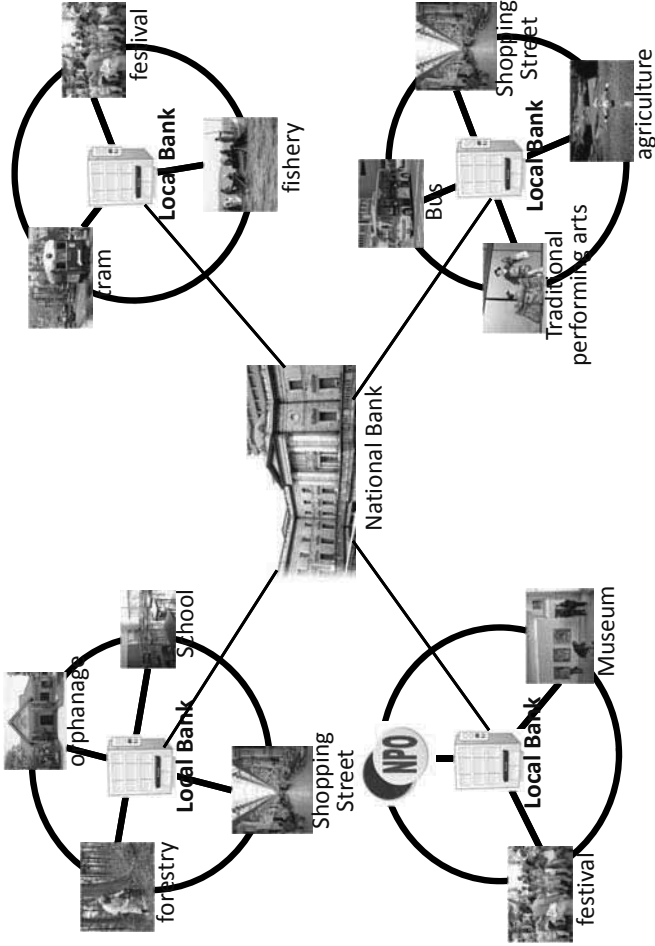
AS IS



National Bank



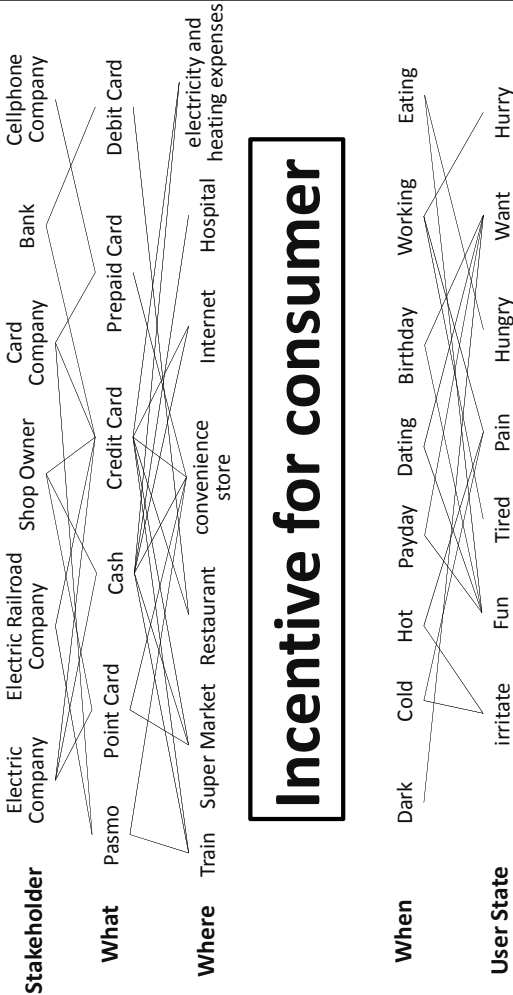
To Be



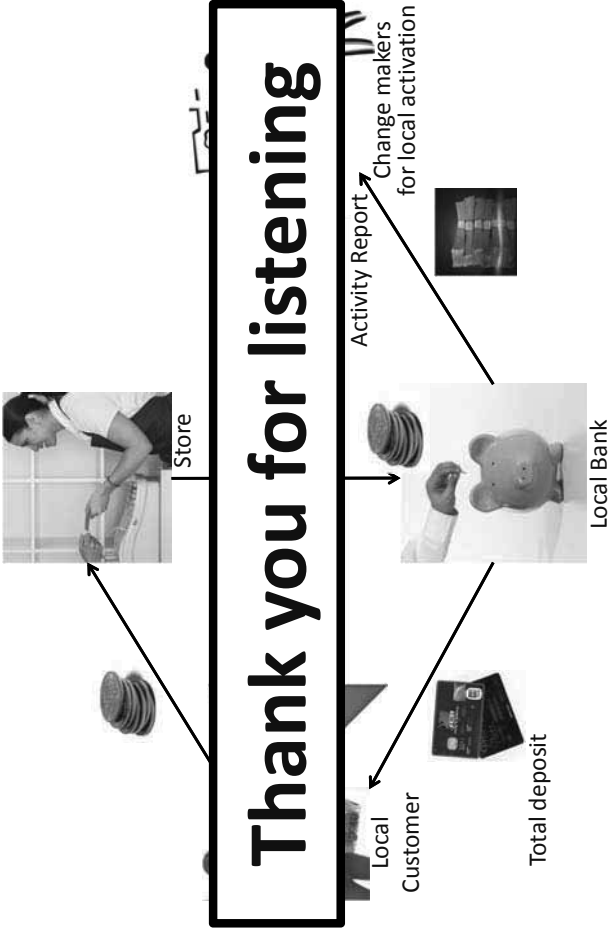
Further Specification...

We created
the prevailing process
which match consumer
behavior in JAPAN

The spread of KIFU Me Quickly process



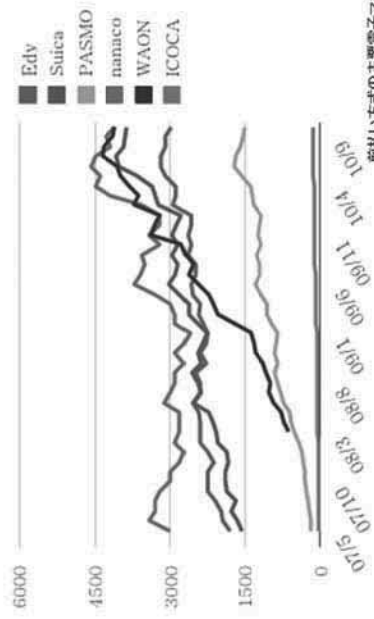
“KIFU Me Quickly” System



Appendix

E-money number of available and penetration

主な前払い式電子マネーの月間利用件数 (...



前払い方式の主要電子マネーの普及状況
(2008年1月28日付け日経流通新聞より)

	発行枚数	月間利用件数	利用可能店舗数
Edy	4,520万枚	2,400万件	110,000店
Suica	2,437万枚	2,447万件	57,270店
PASMO	1,105万枚	921万件	49,500店
nanaco	702万枚	2,800万件	22,572店
WAON	680万枚	1,300万件	36,000店
ICOCA	428万枚	89万件	48,900店

<http://blog.livedoor.jp/nz6jp/archives/51493246.html>



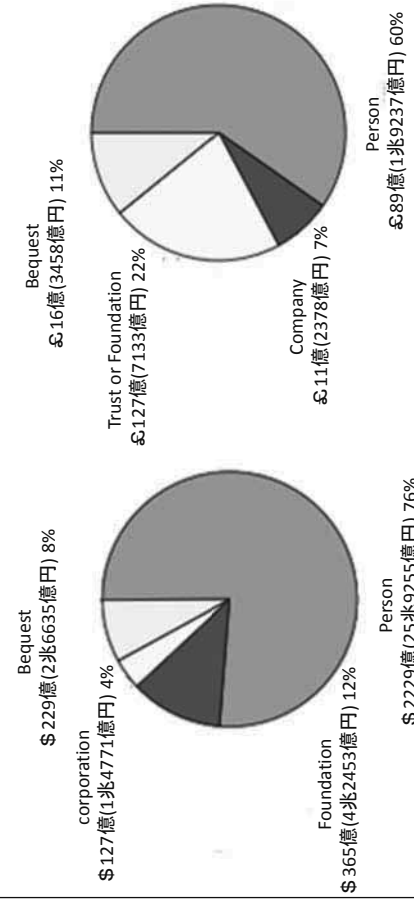
ESTIMATE CONTRIBUTION

- An e-money user spends 696 yen on average in each shopping.(2007)
- The total sum of their shopping about 810,000,000 yen.
(日本銀行決済機構局 決済システム等に関する調査論文 2008)
- If you contribute 4 yen as change (700-694=4yen) with each shopping,
4 × 810,000,000=3,240,000,000 yen
集めることが出来る。
that will produces a large amount of contribution.

【KIFU】

The status of U.S. and English contribution

U.S.(約34兆円：13万円/成人1人あたり) British (約3兆円：4.0万円/成人1人あたり)

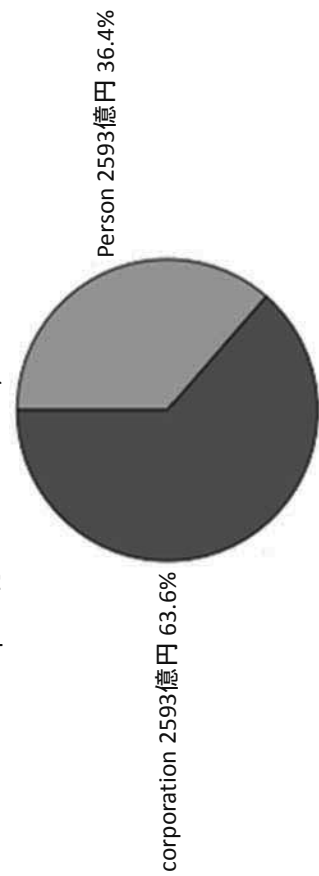


出典：Julia McGuire(2006)& GivingUSA(2007)より

出典：Philanthropy(2007)より

The status of Japanese contribution

Japan (約7千億円：2.5千円/成人1人あたり)

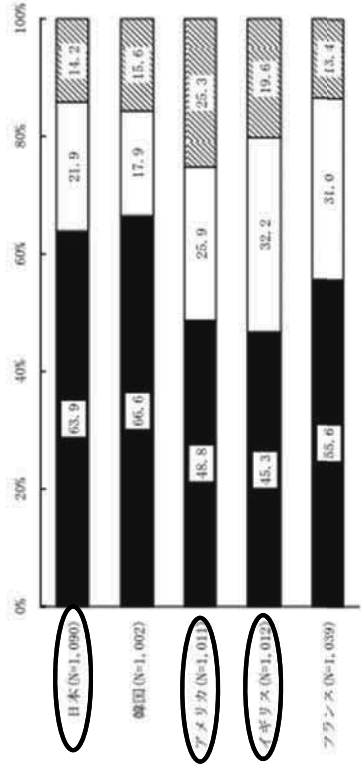


出典：内閣府経済社会総合研究所 (2008) より

- ◆ 日本は、米国・英国に比べて寄付金の総額においてもかなり少ない。
- ◆ 日本は法人寄付額による割合が多く、米国・英国に比べて個人による寄付額が少ない。

The research with contribution to society

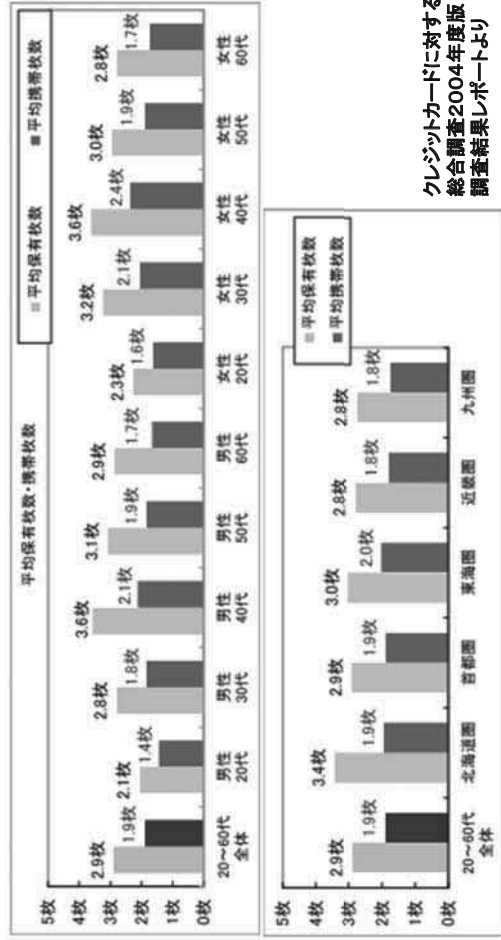
自国のために役立つようなことがしたのか？



注：調査対象は日本、韓国、アメリカ、イギリス、フランスの18歳から24歳の青年各約1,000人。調査時期は、日本、韓国、アメリカが2007年、イギリス、フランスが2008年。調査員による質問紙を用いた個別面接調査であった。
資料：内閣府「世界青年意識調査」2009年

Average number of credit card

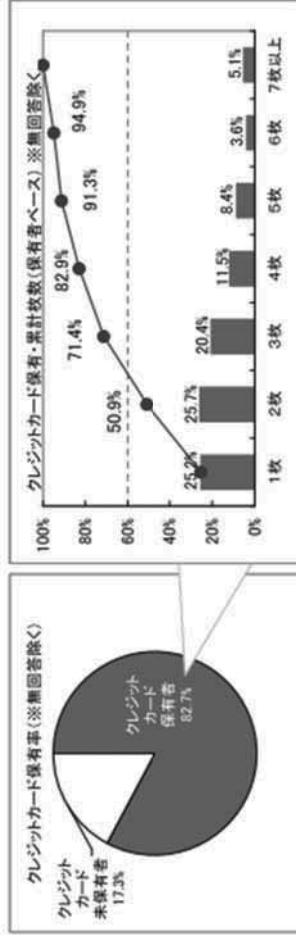
カード平均保有枚数は29枚
保有枚数が多いのは男女共に「40代」で3.6枚



クレジットカードに対する
総合調査2004年度版
調査結果レポートより

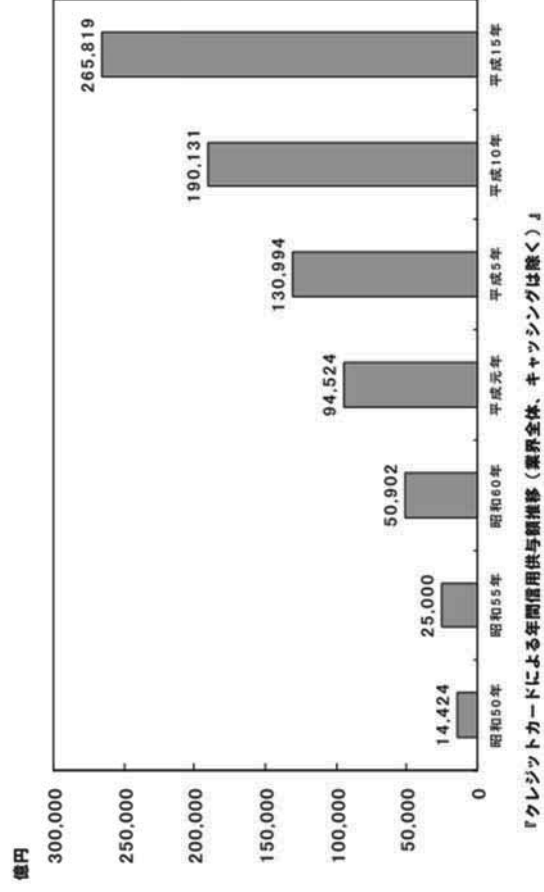
Ownership ratio of credit card

クレジットカード保有率は82.7%



クレジットカードに対する総合調査
2004年度版 調査結果レポートより

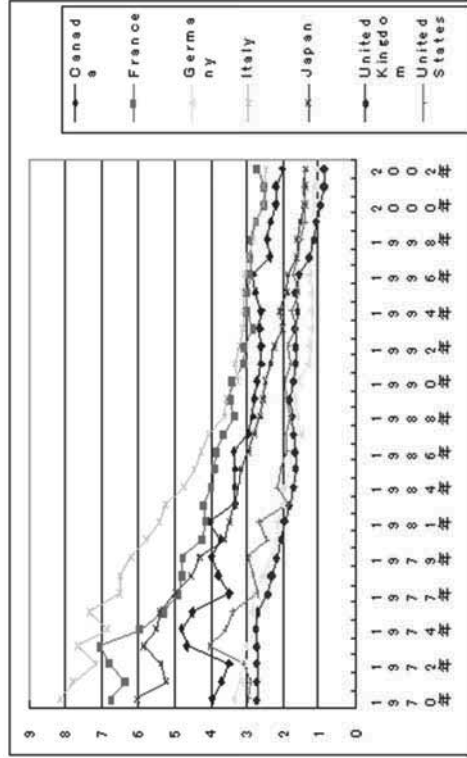
Credit card of spending trends



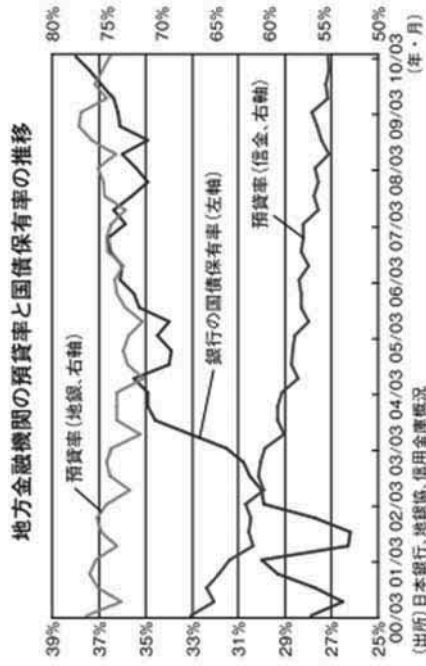
『クレジットカードによる年間信用供与額推移 (業界全体、キャッシングは除く)』

日本クレジットカード協会より

第一次産業のGDP比率(国連データ)



Regional banks of government bond prevalence



システムに関する質問対策

- デビットカードは日本では普及していない
- カスタマーのIncentiveが弱い(やらない理由を排除してプラスのIncentive)
- 日本で日本人は寄付をしないのか(リサーチ会社が1000人にアンケートしたやつでる)
- 顔が分かるローカル、レポートもらう、つり銭と投資
- プロトタイプは？

銀行

- KIVA(自己責任で信用担保されていない)
- アメリカ的考え:騙されてもいいか→日本人の寄付しない理由に繋がっている
- 爽やか財団(NPO向けの融資団体)めちゃくちゃ興味あったり企業を顧客にしている→一般のOLさんだったり

We found some keywords...

District & NPO

