Title	Create a new business model for city farming henry & potter : Environment-friendly agriculture management abroad by Japanese city farmers
Sub Title	
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Abstract	1.1 Introduction This report shows that ALPS team F's proposed system to support the business of city farmers and to be exported to other countries. The system could improve the city farming business by eliminating the information gap between consumers and farmers; at the same time we would apply the system to other countries where there would be the same information gap problem as Tokyo in the near future. 1.1.1 Description of problem The role of city farm is not only to provide food, but also to create a friendly environment. Despite that, they are continuing to decrease in numbers. On the other hand, a part of consumers living in a city are becoming more and more aware of the safety and quality of vegetables and not the price. However, those consumers are not aware of city farmers living nearby that are capable of providing that service. 1.1.2 Solution Our proposed system provides consumers, who are looking for safe and high quality vegetables which meet the demands of consumer, with information of city farmers regarding locations of stores, quality of vegetables, and also process of production. On top of that, through the feedbacks they would then give each other, farmers would understand the needs of consumers more and the consumers would learn more about the vegetables they buy. 1.1.3 the Scope of the project Stakeholders of the system are as follows: urban farmers, consumers, direct selling shops, and government. The range of project consists of: the whole value-chain of agriculture, whole value-chain of urban farming, agricultural situation in the city, urban problems, agricultural situation in local areas, agricultural situation abroad, urbanization problem in developing country, consumers" eating habits and culture, and consumers" attitude and awareness towards food. Below is the CVCA of our stakeholders and the flow of values of our proposed system. 1.2 Summary We used VOX, VOC, PUGH, CVCA, and QFD to show our solution concept. 1.2.2 Conclusion and Recommendation Our system would yield a calculated NPV of 5,300,000 yen in four years. We would start from Tokyo, and then expand it into Kanto area, Kinki area, and Tokai area. Rapidly developing countries in Asia would also gain benefit from the use of our system, and their NPV would even become more Robust.
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Group F

Group F's Theme Proposed by Innoplex / Nomura Agri Planning & Advisory Co., Ltd

ALPS "Symbiosis and Synergy" theme title:

Environment-friendly Agriculture Management Abroad by Japanese City Farmers

Proposer Organization's Name: Innoplex / Nomura Agri Planning & Advisory Co., Ltd
Contact Person's Name: Makaru FUJIMOTO, Yasuhiro MATSUO (Innoplex), Aoi FUJITA (NAPA)
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Abstract of your project theme :

- In Japan, City farmers should seek new business model in order to sustain their business
  - Their fields are usually small.
  - Consumers wants to preserve agriculture in urban area (Fig.1).
  - Sustaining the agricultural business, it should be organized by environment-friendly ways.
  - Domestic market has been shrinking/is going to shrink, and foreign market is next option for their business.
  - The export of agricultural products itself is sometimes difficult, because of each country's quarantine policy.
- Farmers abroad should acquire new agricultural technology for reacting to increasing demand
  - In emerging countries, because of their rapid economic development, the risk of tight food supply has been growing.
  - As governments/world as a whole have severe regulation on environment, farmers are also required to have environment-friendly agriculture management.

Fig. 1: Consumers wants to preserve agriculture in urban area.

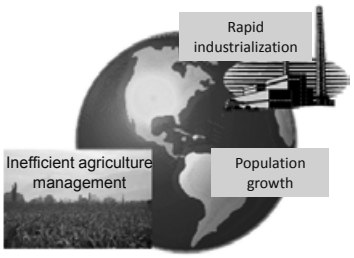

Fig. 2 : New agriculture system is needed abroad.

ALPS Final Report 2011

Group F

Project Title:

Create a New Business Model for City Farming Henry & Potter

Theme:

Environment-friendly Agriculture Management Abroad by Japanese City Farmers

Proposer Organization: Innoplex / Nomura Agri Planning & Advisory Co., Ltd

Proposer Organization's Supporter: Makaru FUJIMOTO, Yasuhiro MATSUO (Innoplex) & Aoi FUJITA (NAPA)

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Final Report of ALPS2011-F team

Create a New business Model for City Farming
Henry & Potter

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2011/12/04

1. Executive summary

1.1 Introduction

This report shows that ALPS team F's proposed system to support the business of city farmers and to be exported to other countries. The system could improve the city farming business by eliminating the information gap between consumers and farmers; at the same time we would apply the system to other countries where there would be the same information gap problem as Tokyo in the near future.

1.1.1 Description of problem

The role of city farm is not only to provide food, but also to create a friendly environment. Despite that, they are continuing to decrease in numbers. On the other hand, a part of consumers living in a city are becoming more and more aware of the safety and quality of vegetables and not the price. However, those consumers are not aware of city farmers living nearby that are capable of providing that service.

1.1.2 Solution

Our proposed system provides consumers, who are looking for safe and high quality vegetables which meet the demands of consumer, with information of city farmers regarding locations of stores, quality of vegetables, and also process of production. On top of that, through the feedbacks they would then give each other, farmers would understand the needs of consumers more and the consumers would learn more about the vegetables they buy.

1.1.3 the Scope of the project

Stakeholders of the system are as follows: urban farmers, consumers, direct selling shops, and government. The range of project consists of: the whole value-chain of agriculture, whole value-chain of urban farming, agricultural situation in the city, urban problems, agricultural situation in local areas, agricultural situation abroad, urbanization problem in developing country, consumers' eating habits and culture, and consumers' attitude and awareness towards food.
Below is the CVCA of our stakeholders and the flow of values of our proposed system.

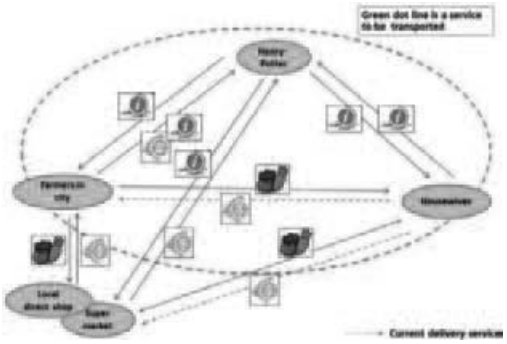


Figure Ⅰ.CVCA (first phase)

1.2 Summary

We used VOX, VOC, PUGH, CVCA, and QFD to show our solution concept.

1.2.1 method and results

Method	Result
VOX	City farming industry and its data environment
VOC	Information gap between farmers and consumers Where to focus our attention to improve city farming industry.
PUGH	The merits of our system in terms of the industry.
CVCA	Relationship between our system and stakeholders.
QFD	Functions of our systems

1.2.2 Conclusion and Recommendation

Our system would yield a calculated NPV of 5,300,000 yen in four years. We would start from Tokyo, and then expand it into Kanto area, Kinki area, and Tokai area. Rapidly developing countries in Asia would also gain benefit from the use of our system, and their NPV would even become more Robust.

2. Table of contents

3. Problem Statement

Main theme of ALPS 2011 is “Synergy and symbiosis”. Based on the theme, proposer companies from agricultural business told us the topic of our project, “Improving city farming business and exporting of the related technology to overseas”. We stared by thinking how to improve current city farming system economically before applying it in other countries. Some useful information were provided by the Department of Agriculture and city farmers themselves. As we expected, the number of city farmer and the sales volume of city farming have been decreasing rapidly, and the area of idle farmland in cities has been increasing rapidly.

As the next step, we interviewed city farmers and consumers to make sure that information we got from farmers and government were correct. From this interview, we found two major insights.

The first one was finding a point we should tackle to enhance city farmer’s business. We developed profit structure shown in Fig.2. The profit from “Another business” shown in Fig.2 includes citizen farmland business or farm experience business. Since “Another business” cannot contribute to improve city farmer’s ability of producting vegetables, we decided to exclude it from our system. Instead, we focus on the cost. After the interviews, we found out that it was very difficult to reduce the initial or fixed costs. The reason was that most city farmers were family based. It would not be realistic to reduce more manpower because the initial numbers of workers was already very low. The other reason was that reducing land tax or rental was also very difficult because that was preset by the law. As a result, we thought that the best way to improve this situation was to go for an increase of the sales volume or price.

Figure Ⅱ　Cost Structure

The second insight was related to our target consumers. Most of them were housewives. From the interview, they could be further divided into two groups. The first group was housewives who cared most about the price of the vegetables on top of other aspects. The second group was the total opposite of the first group, they did not care how much the vegetables were as long as they were safe and of high quality. The second group of housewives cared a lot about their children, and was usually in their twenties to fifties. It was from the second group of consumers that we found out about the mismatch of information providing. City famers focused on promoting the short distance between farms and markets, resulting in fresh vegetables. Information regarding the use of pesticides and fertilizers, and the growing methods and procedures used were seldom mentioned. On the consumer's side, they wanted to know more about the safety information of the vegetables, and the dates and processes of harvest.

Finally, we came up with several ideas from the results of the VOC:

1. City vegetable: Original vegetables only available in Tokyo. We thought that by branding it and increasing the price, we could somehow raise sales.
2. Supplement: We targeted consumers with high health awareness and office ladies and used healthy vegetables as a selling point to open a new market.

3. Veggieball:
   Sell dishes using city grown vegetables at selected places (stadiums). The dishes would be unique to each stadium and the sports team and local farmers would work together. By doing this we could raise the sales volume and unit price of vegetables due to the extra processing steps needed.
4. Supporting system: Information service provider. The aim was to provide the right information to both farmers and consumers, both before and after sales.

We chose the supporting system as a result of our Pugh selection and went ahead to make a prototype for that. Information most wanted by consumers were also available from farmers, however, in order to gain access to them consumers must go to the actual farmlands or direct sales stores. It was at that point of the current system we thought that a web based service provider would be a perfect solution. Due to the fact that most vegetable buyers are females in their thirties and above, information provider that could also be accessed easily by cell-phones was a priority. On the farmer' side, papers were common means to show information. For aged farmers, they still prefer the method of phone or fax; therefore we would have to implement that into our system too. Young generation and second generation farmers are more technology aware, therefore the use of internet to collect information is also doable. At this point we used this concept of supporting system we had and again tried to get farmers' VOC.

City farmers of course wanted to increase sales volume with the supporting system. Some of them thought that it would be no problem providing the information wanted by consumers. However, the use of internet opened up the information to too big an audience and some of them were a bit skeptical of it. Therefore in order to carry out the supporting system, we had to think about both the interface for consumers and also the interface for farmers. For aged farmers, we had to provide the use of older methods such as fax. For young generations the use of internet would be ok. We would also like to add recommended vegetable recipes onto the web information provider. There is already a website called "Cookpad" that is doing the recipe sharing service. So we had to come up with an idea to work together with them. Our role as a supporting system was to provide functions left out by Cookpad. One of the areas of improvement was the buying function. After gaining information of the vegetable users could go ahead and buy it right at the spot to save time. We had a meeting with the person in charge of Cookpad. Their website focused heavily from the perspective of the consumer.

Ways to help the city farmers and the industry were very low on the priority list. Because of that they showed a great interest in our supporting system, despite not fully understanding how our system could create a smart, educational relationship between farmers and consumers. To solve that we had to collect more realistic information needed to make this supporting system. As a result, we decided to first exclude Cookpad from our system.

Our last concern of the supporting system was in what way we could present the quality information wanted by consumers. In the beginning, we thought about prioritizing the most sought after information by the consumers. However, by using common, professional writings or radar charts would not be the best way for our main customers, who were females above the age of thirty. Therefore we thought about using the graph popular in the wine industry used to show how dry a wine is. In our case, we would show customers the use of pesticides and fertilizers with the same graph. After that, from the information we obtained from Grunavi Inc.'s VOC, we further refined our way of presenting vegetable quality information. In the end we also added a time table of the planting procedure. For example at what stage what kind of pesticides or fertilizers were used because of what reason. To satisfy both buyers and providers, we also provided information of seasonal recommendations on the same graph, and concluded that this would be the best way for us to present vital, sought after information to both of them.

4. Analysis

Tools used to solve our problems: VOX, VOC,PUGH, CVCA, and QFD. VOX was the key to our insight and source of information. Use-case used in our design recommendation was used to clarify the range of our system.

4.1 VOX

With VOX, we got information and statistics data about urban farming based on 'census of Agriculture and Forestry ' and Agricultural white paper. Based on white paper, we found out that city farming has been shrinking. We found out the reason city farmers were decreasing.

4.2 VOC

We tried to get VOC after getting VOX. As our next step, we interviewed with Nerima prefecture and department of agriculture to check difference with VOX and VOC. Next, we were specifically interested in farming industry in Nerima and Itabashi. We got more information regarding the current situation of Nerima though interviews.

In order to listen to people's opinions from production plants, we carried out field work and interviews at four direct sales stores under JA Tokyo Aoba: Sogo-Engei Center Fureai no Sato、farmers shop Gokuremura, Shiakuji famers' center, and farmers' shop Nirinso. We also interviewed fifteen farmers who sell vegetables at direct sales stores.

For consumers, we interviewed housewives: mainly the ones at Tsukuba's stores and Sogo-Engei Center Fureai no Sato.

From all the interviews and fieldwork we had mentioned above, we found out about two gaps between city farmers and consumers.

<u>First gap</u>:

・Consumers (20' s～30' s, woman, with kids who have particular interest in quality of vegetable)

They want fresh and high quality vegetables, but they don't know where to buy fresh vegetables

・City farmers

They have great confidence in freshness and quality of their vegetables

They don' t have sufficient channels to sell their vegetables

Second Gap

・Consumers

They are very conscious of food safety.

For example Agricultural chemical, Fertilizer, Radiation, Process etc

・City farmers

They want consumers know their vegetables quality

They don't know what kind of quality consumers really want

Priority1	Consumers	City Farmers
1st	Agricultural chemical	Harvest date
2nd	Harvest date	Planting date
3rd	Process	Seeds and saplings

Figure Ⅲ Priority

List of VOC

・Consumers

DATE	Gender	AGE	Address	Requirement	Request
9/17	female	30S	Tsukuba	freshness (close place of production) characteristic menu	place of production near the street
9/17	female	30s	Tsukuba	process of production	information of activity
9/17	female	30s	Tsukuba	look well (freshness, classic)	It is hard to find out store information other than supermarkets. Even if one managed to go to a direct sales store, chances are the products are all sold out.
9/17	female	30s	Sakuragawa	price	It is hard to find out store information other than supermarkets. Even if one managed to go to a direct sales store, chances are the products are all sold out.
9/17	female	30s	Moriya	Domestic	Other than supermarkets, it is hard to find out information of direct sales stores.
9/17	female	30s	Nerima	Freshness (harvest date and transportation distance)	Nothing specific
10/28	female	50s	Nerima	Freshness (harvest date, travel distance), shape of the product	If I know the location of stores, I would go and buy personally. And I do not use delivery services.
10/28	female	40s	Nerima	Freshness (harvest date, travel distance), price, safety (plating procedures)	Organic vegetable or not. Radiation pollution information.
10/28	female	40s	Nerima	Freshness (harvest date, travel distance), price. Produced locally or not.	Organic vegetable or not. Radiation pollution information.
10/28	female	40s	Nerima	Freshness (harvest date, distance travel), price, safety (planting procedures)	Organic vegetable or not. Radiation pollution information.

・City farmers

Date	Occupation	Name	Age	Interview location	Requirement	Request
9/8	Normal worker	Unknown	Unknown	Nerima ward office	Unlike traditional farmers, we are able to adjust the distance from consumers, and also the price of our products.	Direct sales to consumers. Traditional ways of sales are ok too.
9/8	Sales	Unknown	Unknown	JA direct sales	Local produced vegetables sell more.	Sometimes locally produced vegetables are hard to find.
9/15	Farmer	Unknown	Unknown	Nerima	None	We want to maximize profit above everything. We can do that through JA or other ways.
9/15	Farmer	Unknown	Unknown	Nerima	Short distance between famers and consumers, to satisfy the needs.	Long working hours.
9/15	Farmer	Nakaigawa	Unknown	Nerima	It is important to follow the harvest schedule of farmers to ensure the quality and taste.	Lots of limitations/rules.
9/15	Farmer	Aihara	Unknown	Nerima	Feedbacks from consumers are what kept us going.	Taste does not change with the shape of the vegetable.
9/15	Farmer	Watado	50代	Nerima	Easy to satisfy needs of consumers living nearby.	Dust from cities. Children play around farms and damage them. Price of lands.
10/28	Farmer	Aihara	50代	Nerima	Advantage of city farmers is the distance from city. Freshness can be maintained easily.	The procedures needed to prepare information requested by consumers are troublesome.
10/28	Farmer	Watado	50代	Nerima	Advantage of city farmers is distance from city. Freshness can be maintained easily compared to traditional farmers.	Overly complicated system is not welcomed. However recipe recommendations is a good idea.

FigureⅣ　VOC LIST

4.2 PUGH SELECTION

We used VOX as a reference to create ideas to improve business opportunities of city farmers.

1) City vegetable:

Purpose: increase sales amounts of vegetable

Approach: raise unit price of vegetable

Branding Tokyo vegetables. We wanted to increase sales by increase the price of Tokyo brand vegetables.

2) Supplement:

Purpose: increase sales amounts of vegetable and sales volume

Approach: raise unit price of vegetable by using food processing

We wanted to develop new consumer segment by selling supplement made from vegetable. We thought that office-ladies who had interests in maintaining a healthy lifestyle would be our best target segment. Moreover we aimed to enter into the market by collaborating with company. By adding a processing step to make vegetable in supplementary food, we could raise the unit price of vegetables

3) Veggieball:

Purpose: increase sales amounts of vegetable and sales volume

Approach: raise unit price of vegetable by using faculty and food processing

Sell dishes using city grown vegetables at selected places (stadiums). The dishes would be unique to each stadium and the sports team and local farmers would work together. By doing this we could raise the sales volume and unit price of vegetables due to the extra processing steps needed.

4) Support system:

Purpose: increase sales volume

Provide information for both farmers and consumers. At the same time feedback would also be generated, and improvements could further be made to make information flow more accurate and faster. The sales volume of vegetables could be improved by this system.

The above four ideas were evaluated with Pugh. The five categories used to evaluate would be as follows. As a result of the Pugh selection, the support system had the best fit with our theme as a solution. Opinions from our mentor and sponsor companies also matched with the pugh selection.

	Direct sales shop	Support system	Vegii ball	Tokyo vegetable	Vegii sapri
Stakeholder	D	S	+	S	+
Impact or creative	A	+	+	+	S
Feature	T	+	+	+	S
Reliability	U	+	−	S	S
Cost	M	S	−	−	−
Time	D	+	−	−	−
Flexibility	A	+	+	+	+
Profit	T	+	+	+	+
Price for customer	U	+	+	+	+
Quality of taste	M	S	+	S	−
Repeatability	D	+	−	S	S
Eco friendly	A	+	+	S	S
number of customer	T	+	+	+	+
amount of production	U	S	+	−	S
	M	+10	+6	+2	+2

Figure Ⅴ　PUGH selection

4.3　CVCA

In order to identify the key stakeholders, the flow of value between all stakeholders, and to evaluate the feasibility of the business model, we exercised CVCA. For the feasibility of our business model part, we developed two CVCA models. (Fig.1, Fig.2)

Fig.1 shows the CVCA of our first step. Our business core, and the relationship in terms of value and information between consumers, farmers, and H&P was shown. H&P receives quality information, production location, and recommended menu from city farmers. City farmers will also receive information on the direct sales stores and supermarkets. After receiving the information, H&P will sort them, and then upload them onto our web service for consumers. After buying vegetables from the web, consumers can leave comments and ratings on the site. Those comments will help the farmers tremendously in planning their next production and improvements. As a result, city farmers can provide the exact products that the consumers want.

Our main source of income would be the site access fee and also part of the purchase fee of vegetables. Feedbacks from consumers would be processed and sorted into high quality information. We included that amount of money in Fig.1 with brackets. Vegetables purchased through our web service will be delivered by delivery companies appointed by us.

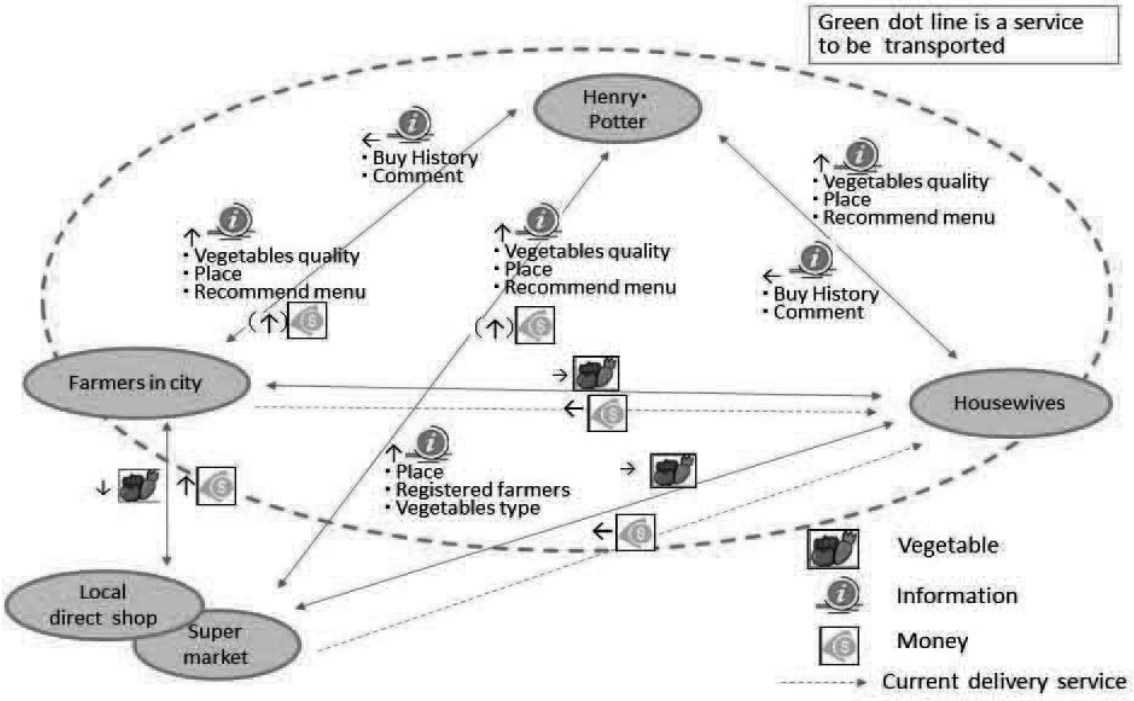


Figure Ⅵ　CVCA (first step)

Fig.2 shows our second step. Local farmers not in cities are added. Local farmers can also provide information the way city farmers do. Products of local farmers might not be as revolutionary as the city farmers', but area only specialties might still be very attractive to consumers. Therefore they could deliver the products directly to consumers without going through the procedure city farmers need. Same as Fig.1, local farmers will also be able to see feedbacks from consumers through our web service.

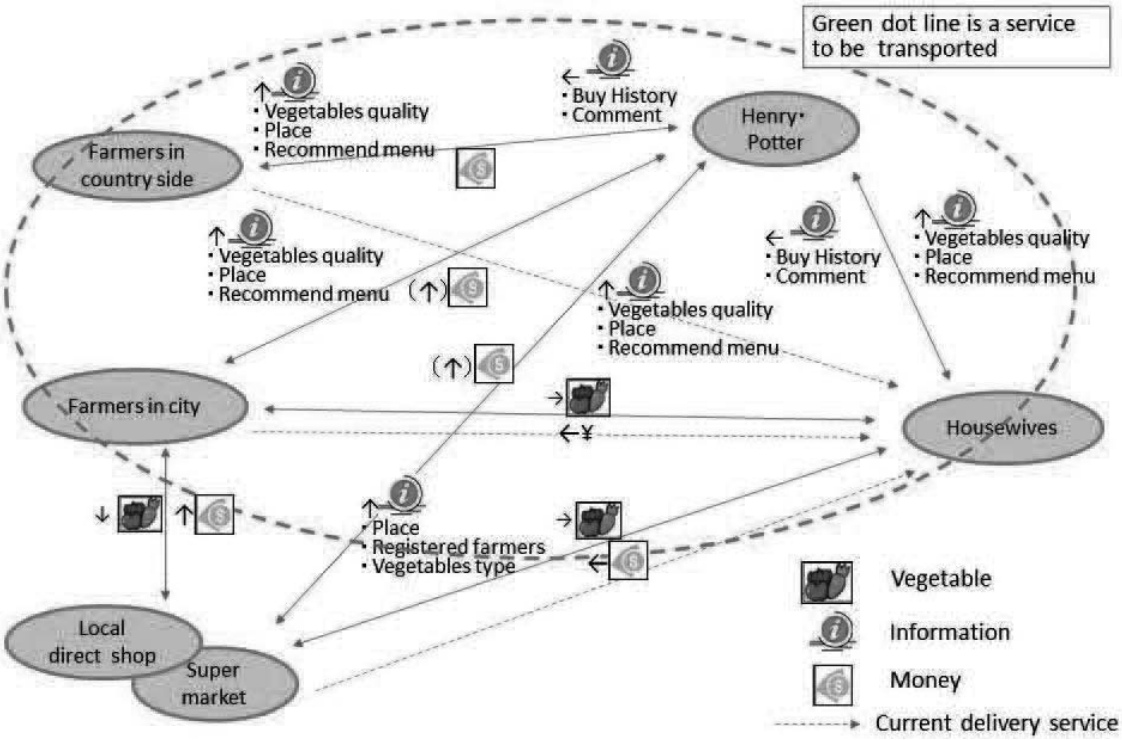


Figure Ⅶ CVCA (second step)

For our future plan, we would like to export this information sharing system (Green dot lines in the graph) to foreign countries. Growing cities particularly in Asia might be the best choices. Vegetable information, planting process, and special menus developed in Japan will also be provided to oversea customers. As a result both technical information and food will be exported.

4.4 QFD

4.4.1 QFD phase 1

We think that important stakeholders are city farmer and consumer, especially housewives. In order to clarify and identify requirements of them, we conducted QFD as seen in Figure Ⅷ and Ⅸ. The first requirement of customer is safety about vegetables, especially about agrichemical. The second is the quality about vegetables, especially the date of harvest. The third is the process of vegetable production.

By using QFD phase 1, we could understand the necessary engineering characteristics for our system and the rate of relatively importance in each engineering characteristics. When we fill in the space of this table, we referred VOX of consumer and city farmer.

customers' request	importance as customers	Engineering characteristics										
		satisfaction rate				make the information more easier to see	provide the information about vegetables	provide the information about city farmer	promote purchase behavior of consumer	get decrease city farmer's time and effort	easy for consumer to operate	can be easy to access
		taste	relatively	atmosphere	price							
safety about radioactive substance	9	3		1		3	3		9	1	3	
low price	3				9				3			
near consumer's house	3	9		3				1	3			9
know the detail vegetable info	9		9		3	9	9	3	9	3	9	9
good fertilizer	3	3			3	1	3	3	1	1	3	1
safety about agrichemical	9	1			1	9	3	3	1	1	3	1
Tasty	9	1		1	3	3	1		9		3	
high nutrition value	1				1	3	1				1	
know the process of production	1		3			3	3	3	3	9	1	
know the recommend of city farmers	3		3			9	3	9	3	3	3	3
the opportunity for showing quality	9		3	9		3	9	3	9	3	9	3
can find the new channel for selling	3		1	3	3	1			3			
know the needs of consumers	9		9	3		9			1			3
contribution to the society	1			9						3		
self-actualization	3	1		3				3				
get more money	3				9	3	1	3		1		
point		84	204	162	136	372	250	141	384	99	263	183
relatively importance		0.04	0.09	0.07	0.06	0.16	0.11	0.06	0.17	0.04	0.12	0.08

FigureⅧ QFD phase 1

4.4.2 QFD phase 2

Also, we conducted QFD phase 2 as shown in Figure 2. By using QFD phase 2, we could identify the correspondence between engineering characteristics and part characteristics.

engineering characteristics		relatively importance	parts characteristics						
			smart phone	PC	Application	FAX	location information elements	filling in comments elements	vegetable information showing elements
satisfaction rate	Taste	0.04						3	3
	Relatively	0.09	3	3		3	3	1	3
	Atmosphere	0.07			1				3
	Price	0.06				3		1	
make the information more easier to see		0.16	9	3	1		1	1	3
provide the information about vegetables		0.11	1	1	3		3		3
provide the information about city farmer		0.06	1	1	3		9		3
promote purchase behavior of consumer		0.17						3	
Get decrease city farmer's time and effort		0.04				9	1		
easy for consumer to operate		0.12	9	3	3			3	1
can be easy to access		0.08	3	3	9	3	3	3	1
	point		3.2	1.52	1.82	1.05	1.58	1.54	1.79
	relatively importance		0.26	0.12	0.15	0.08	0.13	0.12	0.14

Figure ix QFD phase 2

4.5 Use Case

We utilized use case in order to find out the function of the support system, and how it interacted with stakeholders. In addition, we made boundary of our system clear.

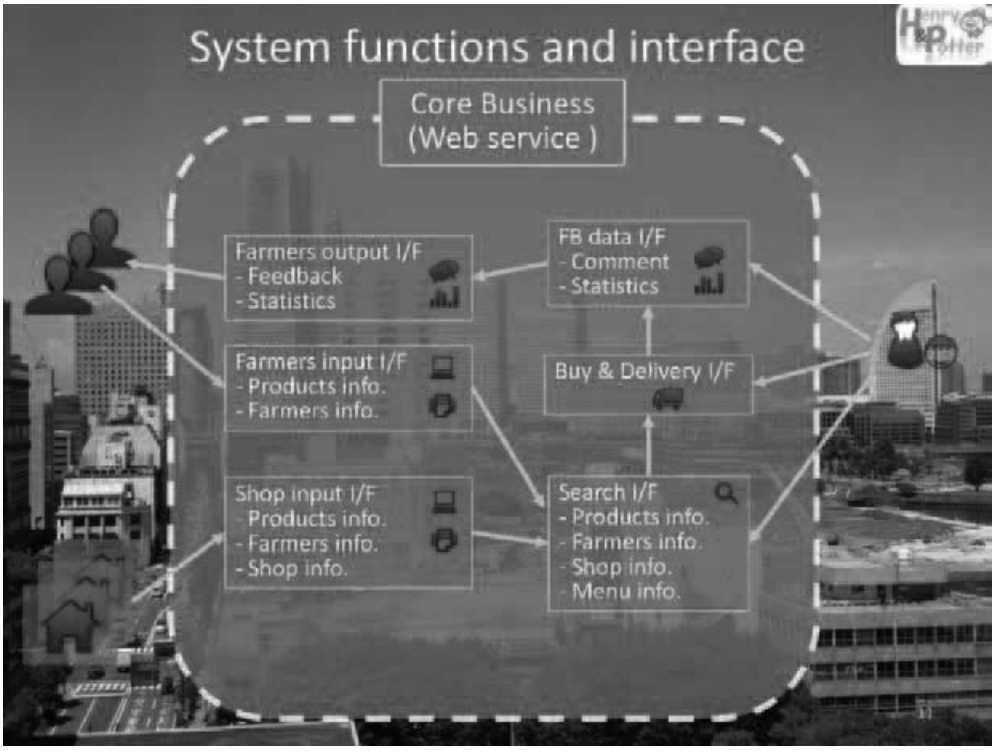


Figure x Use Case

5. Design recommendation

5.1 Overview

In order to make our support system easy to understand, we clarified the relationship between the use case based on the boundary of our system and stakeholders. On top of that by using the prototype we made we created the supporting system interface for the consumers. We also interviewed famers after showing them our prototype, and the process was successful.

5.2 Use Case

We utilized use case in order to find out the function of the support system, and how it interacted with stakeholders. It was a blueprint of our system, and it defined the quality of the system. Furthermore it separated the difference between our ideas in detail by zooming in onto the merits of each idea and the competitiveness of them.

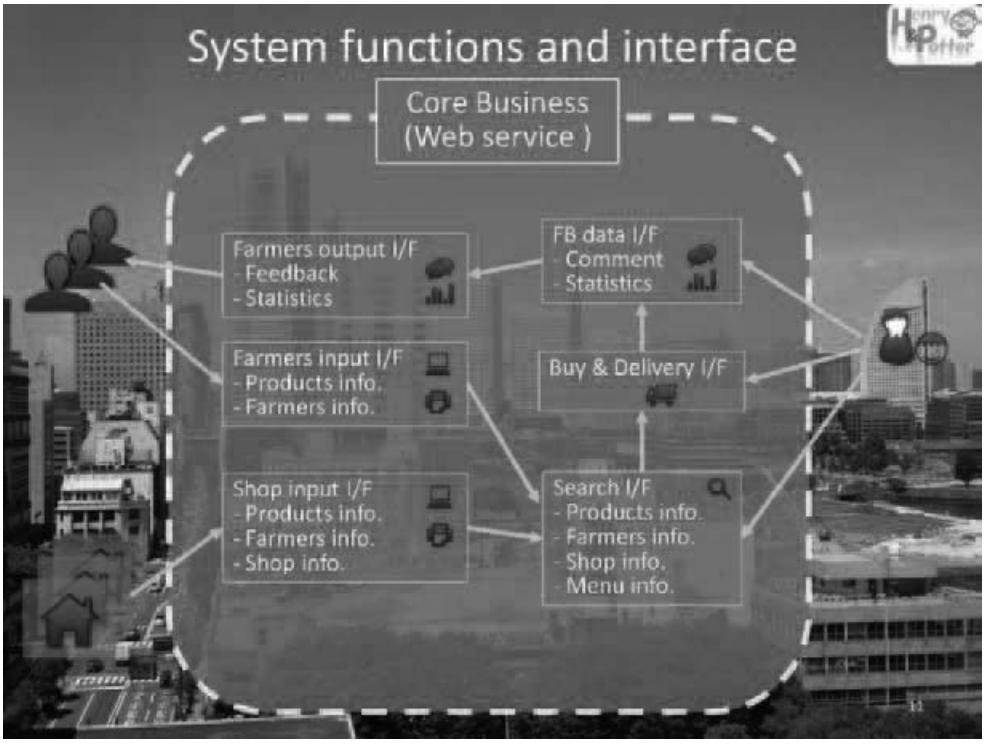


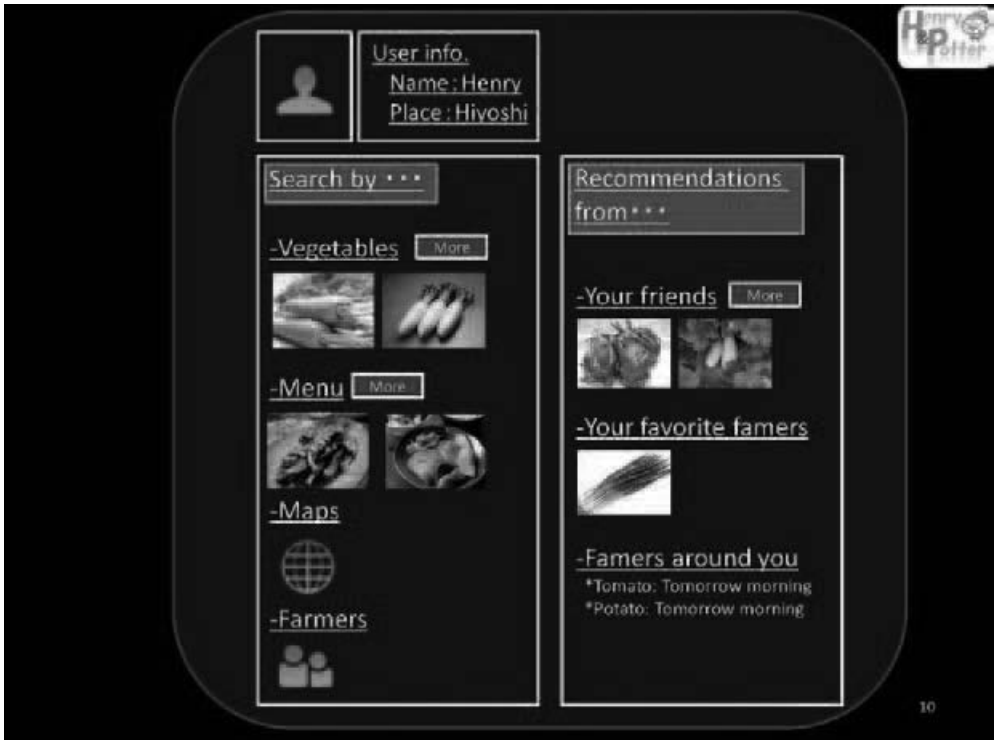
Figure x Ⅰ Use Case

5.3 Prototype

We thought that some sort of internet based interface was required to solve problems for consumers and farmers. We simulated how our web service user would be using this prototype. Below is an image of what our web service would look like.

In our case, we chose to use smartphones as our example of prototype.

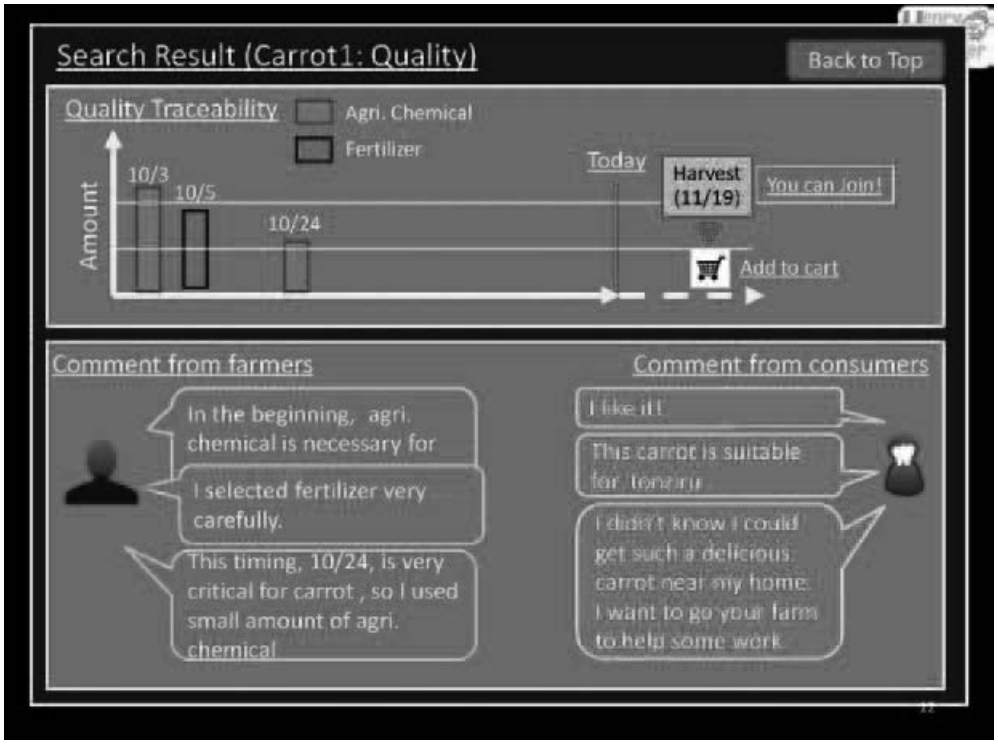
Clicking on the button will bring you to our supporting system menu. Searching can be done from vegetables, menu, location, and producer etc.

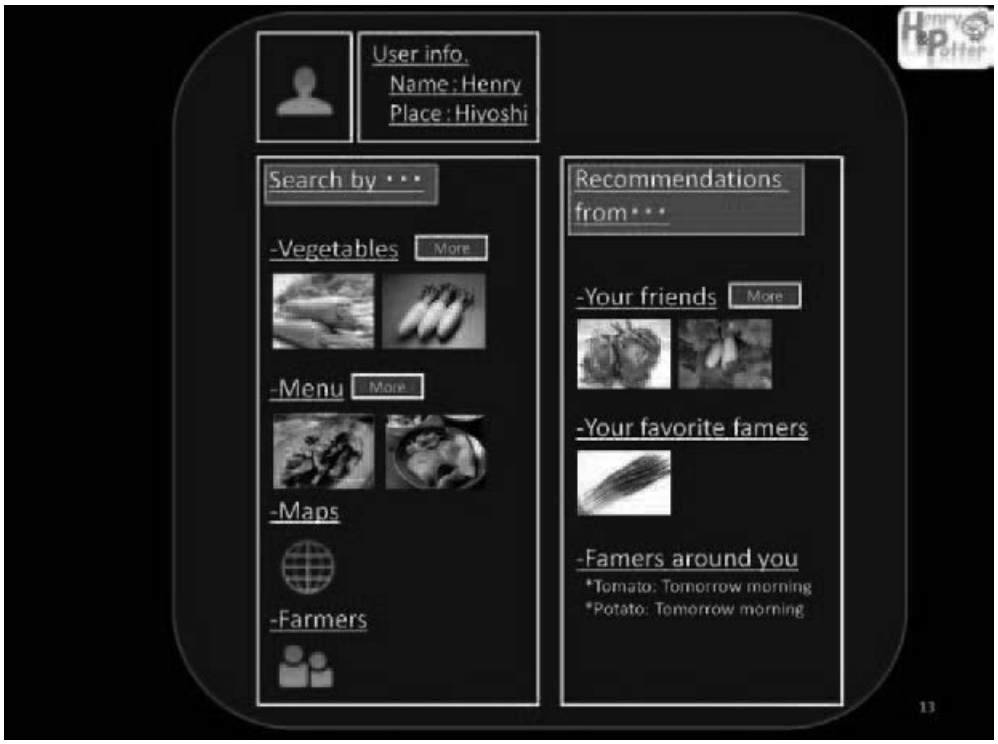


After searching by location of the consumers…

By clicking on the quality information button, users can know more about the usage of pesticides and fertilizers. Also the methods used and the whole planting procedure can be seen, and harvest date can be traced. Below on the corner of the

screen is the history of purchase and feedbacks. New users can use those functions for their own benefits.





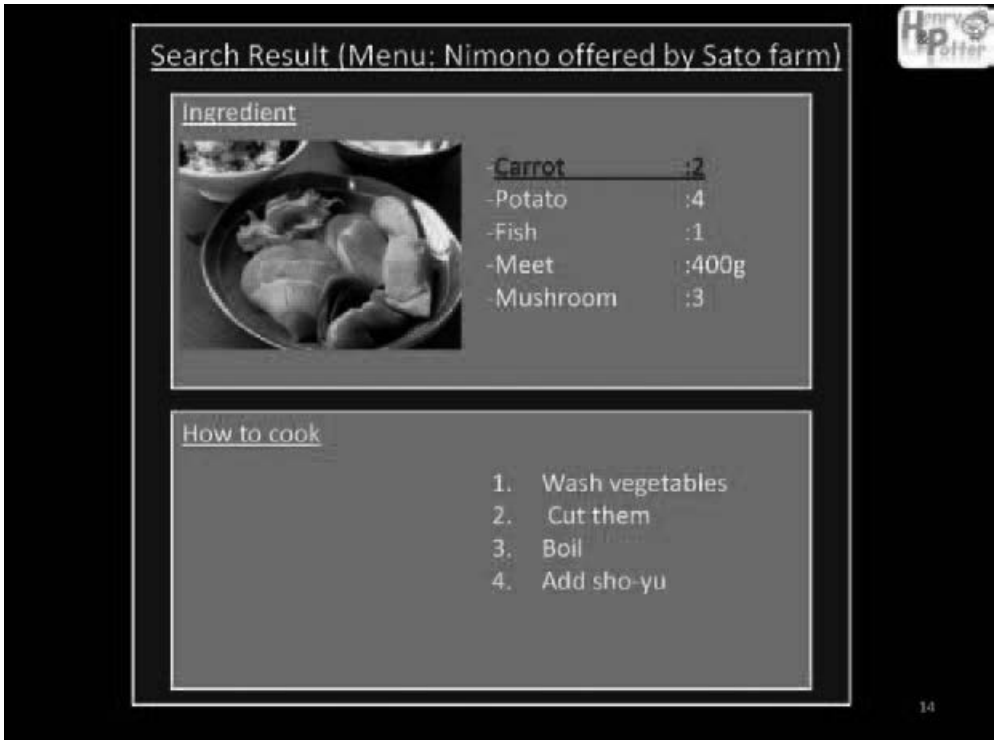


Figure x Ⅱ Prototype

5.4 Vox~Farmer's View

To make sure that our support system was feasible, we interviewed farmers. Because our system could raise the sales of farmers and at the same time satisfy consumers' need of information, we received positive feedbacks. Farmers also provided us with a few good insights on how to actually present their information. Due to aging city farmers, faxes and phones are the major way of carrying out business operations. As a result, they mentioned that it would also be a good idea if we included fax and phone as a mean of providing information for now, and slowing shifting into the use of internet for future generations.

5.5 Quality information

Our supporting system's differential point is that we eliminate the information gap between city farmers and consumers. We would change and evolve the system's interface of showing the product quality information according to the consumers' needs from time to time. Easy to understand charts will not be the only methods we will use, but also providing them insights and suggestions from city farmers themselves. By achieving all that, we aim to create a farmers' version of Gurunabi. Lastly we also want to show a timeline of what kind of chemicals are used at what stage of the planting process, and when is the best time to try out what kind of vegetables. Those are all information the consumers can get simply by browsing our interface.

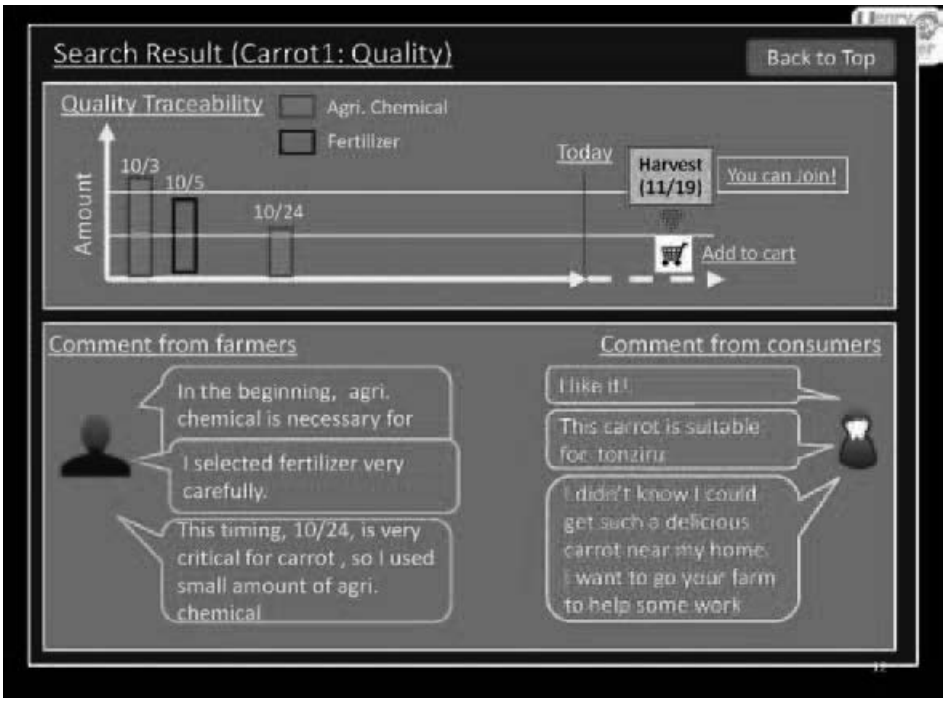


Figure x Ⅲ　Quality information

6. Competitive analysis

6.1 Overview

We evaluated the economic feasibility and difference of our system using the design recommendation. We thought about how attractive our plan was, the sustainability, NPV, positioning map, and the general competitiveness of our support system. We could turn profit after two years, and in five years the NPV would become positive. And the positioning map helped us to conclude that our system was indeed different in

6.2 Revenue ,Cost

6.2.1 Number of customers

Assumed location was Tokyo to begin with. For consumers, we assumed that ten percent of housewives would be interested in our system, then ten percent of those interested would use our service, then forty percent of those users would pay for more detailed services. We performed simulations for areas outside of Tokyo in Kanto, Kinki, and Tokai.

	TOKYO area(1st year～)				
No.	list		detail		
1	number of household in Tokyo	6,400,000	2011y		
2	number of household(live with family)	2,300,000	statistics	36	%
3	consumer who have a paticular interes	230,000	10% estimated of NO.2	10	%
4	user forecast of our model	23,000	10% estimated of NO.3	10	%
5	registrant of our model	9,200	40% estimated of NO.4	40	%
	YOKOHAMA,KAWASAKI,SAITAMA,CHIIBA(3rd year～)				
No.	list		detail		
1	number of household in 4 area	2,120,000	2011y		
2	number of household(live with family)	763,200	statistics	36	%
3	consumer who have a paticular interes	76,320	10% estimated of NO.2	10	%
4	user forecast of our model	7,632	10% estimated of NO.3	10	%
5	registrant of our model	3,053	40% estimated of NO.4	40	%
	OSAKA,SAKAI,KOBE(4th year～)				
No.	list		detail		
1	number of household in 3 area	2,310,000	2011y		
2	number of household(live with family)	831,600	statistics	36	%
3	consumer who have a paticular interes	83,160	10% estimated of NO.2	10	%
4	user forecast of our model	8,316	10% estimated of NO.3	10	%
5	registrant of our model	3,326	40% estimated of NO.4	40	%
	NAGOYA,HAMAMATSU				
No.	list		detail		
1	number of household in 3 area	1,300,000	2011y		
2	number of household(live with family)	468,000	statistics	36	%
3	consumer who have a paticular interes	46,800	10% estimated of NO.2	10	%
4	user forecast of our model	4,680	10% estimated of NO.3	10	%
5	registrant of our model	1,872	40% estimated of NO.4	40	%

Figure x Ⅳ　　Number of customers

6.2.2 Cost calculation

The cost result was shown in the graph. Personnel cost was a big part of the operation cost. Prices of all products were the same in all areas. All costs non-related to the core business were excluded at the moment.

6.2.3 Revenue calculation

The profit result was shown in the graph. Due to initial investments of equipment, we had a negative income for the first year. However for the second year income would become positive. Starting from the third year, expansion of the service would begin (Yokohama, Kawasaki, Saitama, Chiba etc.). Customers would be able to access our web-based service from anywhere in the country. Due to the fact that our service would utilize location information providing functions, we had to start from places where there were stable network service and residents. Big areas like Tokyo, Yokohama, Saitama would act as stations and points of information relaying for residents around. Then we would move on into Kinki and Tokai areas.

	subject	detail	volume	unit	unit-price	amount	note1	note2
Tokyo area								
Initial cost	equipment	web site	1	set	500,000	500,000		
		business expense	1	set	100,000	100,000		
		labor	2	month	250,000	500,000		
	publicity	pubulicity	1	set	1,200,000	1,200,000		
						0		
		sum				**2,300,000**		
running cost	**1Y**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	3	man	2,632,000	7,896,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**14,046,000**		
running cost	**2Y**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	6	man	2,632,000	15,792,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**21,942,000**		
running cost	**3Y**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	12	man	2,632,000	30,268,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**36,418,000**		
running cost	**4Y**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	12	man	2,632,000	30,268,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**36,418,000**		
running cost	**4Y**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	12	man	2,632,000	30,268,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**36,418,000**		
running cost	**5Y**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	14	man	2,632,000	36,848,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**42,998,000**		
running cost	**5Y**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	14	man	2,632,000	36,848,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**42,998,000**		
running cost	**8Y**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	17	man	2,632,000	44,744,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		

	subject	detail	volume	unit	unit-price	amount	note1	note2
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**50,894,000**		
running cost	**8Y**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	17	man	2,632,000	44,744,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**50,894,000**		
running cost	**8Y**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	17	man	2,632,000	44,744,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**50,894,000**		
Yokohama,Kawasaki,Saitama,Chiba area								
running cost	**1Y**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	1	man	2,632,000	1,579,200	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**7,729,200**		
running cost	**2Y**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	1	man	2,632,000	2,632,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**8,782,000**		
running cost	**3Y**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	1	man	2,632,000	2,632,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**8,782,000**		
running cost	**4Y**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	1	man	2,632,000	2,632,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**8,782,000**		
running cost	**5Y**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	1	man	2,632,000	2,632,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**8,782,000**		
running cost	**6Y**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	1.5	man	2,632,000	3,948,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		

	subject	detail	volume	unit	unit-price	amount	note1	note2
		sum				10,098,000		
running cost	7Y							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	1.5	man	2,632,000	3,948,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				10,098,000		
running cost	8Y							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	1.5	man	2,632,000	3,948,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				10,098,000		
Osaka,Sakai,Kobe area								
running cost	1O							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	0.5	man	2,632,000	1,316,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				7,466,000		
running cost	2Y							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	1	man	2,632,000	2,632,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				8,782,000		
running cost	3Y							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	1	man	2,632,000	2,632,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				8,782,000		
running cost	3Y							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	1	man	2,632,000	2,632,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				8,782,000		
running cost	3Y							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	1	man	2,632,000	2,632,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				8,782,000		
running cost	3Y							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	1	man	2,632,000	2,632,000	1year×90%(rate of operation)	329×8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				8,782,000		
running cost	3Y							
	equipment	web-site maintenance	1	set	150,000	150,000		

	subject	detail	volume	unit	unit-price	amount	note1	note2
		labor	1	man	2,632,000	2,632,000	1year × 90%(rate of operation)	329 × 8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**8,782,000**		
Nagoya,Hamamatsu area								
running cost	**1N**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	0.5	man	2,632,000	1,316,000	1year × 90%(rate of operation)	329 × 8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**7,466,000**		
running cost	**2N**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	1	man	2,632,000	2,632,000	1year × 90%(rate of operation)	329 × 8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**8,782,000**		
running cost	**3N**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	1	man	2,632,000	2,632,000	1year × 90%(rate of operation)	329 × 8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**8,782,000**		
running cost	**3N**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	1	man	2,632,000	2,632,000	1year × 90%(rate of operation)	329 × 8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**8,782,000**		
running cost	**3N**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	1	man	2,632,000	2,632,000	1year × 90%(rate of operation)	329 × 8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**8,782,000**		
running cost	**3N**							
	equipment	web-site maintenance	1	set	150,000	150,000		
		labor	1	man	2,632,000	2,632,000	1year × 90%(rate of operation)	329 × 8,000(daily pay)=2,632,000-
	publicity		1	set	1,000,000	1,000,000		
						0		
	labor	manager	1	year	5,000,000	5,000,000		
						0		
		sum				**8,782,000**		

	1year				2year	2%			3year	4%			4year	4%			5year	4%			6year	4%	
TOKYO	expenses		revenue		expenses		revenue		expenses		revenue		expenses		revenue		expenses		revenue		expenses		revenue
	Initial cost	2,300,000			initial cost	0			Initial cost	0			initial cost	0			Initial cost	0			initial cost	0	
	running co	14,046,000	revenue	13,800,000	running co	21,942,000	revenue	27,600,000	running co	36,418,000	revenue	55,200,000	running co	36,418,000	revenue	55,200,000	running co	36,418,000	revenue	55,200,000	running co	42,998,000	revenue
		16,346,000	0	13,800,000		21,942,000		27,600,000		36,418,000		55,200,000		36,418,000		55,200,000		36,418,000		55,200,000		42,998,000	
			118.4%	−2,546,000			79.5%	5,658,000			66.0%	18,782,000			66.0%	18,782,000			66.0%	18,782,000			62.3%
								3,112,000				21,894,000				40,676,000				59,458,000			
						4%																	
YOKOHAMA	expenses								expenses		revenue		expenses		revenue		expenses		revenue		expenses		revenue
SAITAMA	Initial cost								Initial cost	2,300,000			initial cost	0			Initial cost	0			initial cost	0	
CHIBA																							
KAWASAKI	running cost								running co	7,729,200	revenue	4,580,000	running co	8,782,000	revenue	18,300,000	running co	8,782,000	revenue	18,300,000	running co	8,782,000	revenue
										10,029,200	0	4,580,000		8,782,000		18,300,000		8,782,000		18,300,000		8,782,000	
											219.0%	−5,449,200			48.0%	9,518,000			48.0%	9,518,000			48.0%
																4,068,800				13,586,800			
OSAKA	expenses												expenses		revenue		expenses		revenue		expenses		revenue
SAKAI	Initial cost												initial cost	2,300,000			Initial cost	0			initial cost	0	
KOBE																							
	running cost												running co	7,466,000	revenue	4,990,000	running co	8,782,000	revenue	20,000,000	running co	8,782,000	revenue
														9,766,000	0	4,990,000		8,782,000		20,000,000		8,782,000	
															195.7%	−4,776,000			43.9%	11,218,000			43.9%
																				6,442,000			
NAGOYA	expenses																expenses		revenue		expenses		revenue
HAMAMATSU	Initial cost																Initial cost	2,300,000			initial cost	0	
	running cost																running co	7,466,000	revenue	3,400,000	running co	8,782,000	revenue
																		9,766,000	0	3,400,000		8,782,000	
																			287.2%	−6,366,000			65.1%
advertisement	Tokyo																			5,000,000			
	Yokohama etc.																						
	Osaka etc.																						
	Nagoya etc.																						
	Tokyo profit																						
	Yokohama profit																						
	Osaka profit																						
	Nagoya profit																						
marketing suppor	income																			50,000,000			
	profit																			45,000,000			
revenue sum				13,800,000				27,600,000				59,780,000				78,490,000				151,900,000			
profit sum				−2,546,000				5,658,000				13,332,800				23,524,000				78,152,000			

	7year	4%			8year	4%			9year	4%			10year	4%		
	expenses		revenue		expenses		revenue		expenses		revenue		expenses		revenue	
	Initial cost	0			initial cost	0			Initial cost	0			initial cost	0		
69,000,000	running co	42,998,000	revenue	69,000,000	running co	50,894,000	revenue	82,800,000	running cos	50,894,000	revenue	82,800,000	running co	50,894,000	revenue	82,800,000
69,000,000		42,998,000		69,000,000		50,894,000		82,800,000		50,894,000		82,800,000		50,894,000		82,800,000
26,002,000			62.3%	26,002,000			61.5%	31,906,000			61.5%	31,906,000			61.5%	31,906,000
85,460,000				111,462,000				143,368,000				175,274,000				207,180,000
	expenses		revenue		expenses		revenue		expenses		revenue		expenses		revenue	
	Initial cost	0			initial cost	0			Initial cost	0			initial cost	0		
18,300,000	running co	8,782,000	revenue	18,300,000	running co	10,098,000	revenue	22,900,000	running cos	10,098,000	revenue	22,900,000	running co	10,098,000	revenue	27,500,000
18,300,000		8,782,000		18,300,000		10,098,000		22,900,000		10,098,000		22,900,000		10,098,000		27,500,000
9,518,000			48.0%	9,518,000			44.1%	12,802,000			44.1%	12,802,000			36.7%	17,402,000
23,104,800				32,622,800				45,424,800				58,226,800				75,628,800
	expenses		revenue		expenses		revenue		expenses		revenue		expenses		revenue	
	Initial cost	0			initial cost	0			Initial cost	0			initial cost	0		
20,000,000	running co	8,782,000	revenue	20,000,000	running co	8,782,000	revenue	20,000,000	running cos	8,782,000	revenue	20,000,000	running co	8,782,000	revenue	20,000,000
20,000,000		8,782,000		20,000,000		8,782,000		20,000,000		8,782,000		20,000,000		8,782,000		20,000,000
11,218,000			43.9%	11,218,000			43.9%	11,218,000			43.9%	11,218,000			43.9%	11,218,000
17,660,000				28,878,000				40,096,000				51,314,000				62,532,000
	expenses		revenue		expenses		revenue		expenses		revenue		expenses		revenue	
	Initial cost	0			initial cost	0			Initial cost	0			initial cost	0		
13,500,000	running co	8,782,000	revenue	13,500,000	running co	8,782,000	revenue	13,500,000	running cos	8,782,000	revenue	13,500,000	running co	8,782,000	revenue	13,500,000
13,500,000		8,782,000		13,500,000		8,782,000		13,500,000		8,782,000		13,500,000		8,782,000		13,500,000
4,718,000			65.1%	4,718,000			65.1%	4,718,000			65.1%	4,718,000			65.1%	4,718,000
−1,648,000				3,070,000				7,788,000				12,506,000				17,224,000
25,000,000				40,000,000				80,000,000				100,000,000				15,000,000
5,000,000				15,000,000				30,000,000				50,000,000				80,000,000
5,000,000				15,000,000				30,000,000				40,000,000				60,000,000
								10,000,000				15,000,000				20,000,000
22,500,000				36,000,000				72,000,000				90,000,000				13,500,000
4,500,000				13,500,000				27,000,000				45,000,000				72,000,000
4,500,000				13,500,000				27,000,000				36,000,000				54,000,000
0				0				9,000,000				13,500,000				18,000,000
10,000,000				50,000,000				90,000,000				100,000,000				200,000,000
9,000,000				45,000,000				81,000,000				90,000,000				180,000,000
165,800,000				240,800,000				379,200,000				444,200,000				518,800,000
91,956,000				159,456,000				276,644,000				335,144,000			22.4%	402,744,000	116,056,000

6.3 NPV

Discount rate was used in the calculation of NPV. From the calculation, our NPV would become positive in four years. (We set our discount rate at twenty percent because of the venture nature of our business)

Rate 20%

Year	initial investment・NPV	notes
0	-14,300	initial investment
1	-16,421	NPV of 1st year
2	-9,585	NPV of 2nd year
3	-3,189	NPV of 3rd year
4	5,303	NPV of 4th year
5	50,826	NPV of 5th year
6	62,330	NPV of 6th year
7	118,580	NPV of 7th year
8	216,236	NPV of 8th year
9	264,986	NPV of 9th year
10	321,320	NPV of 10th year

6.4 RISK

We could realize a positive NPV in four years, given that everything goes as planned. We thought of three major risks that we would face. The first one was a sudden drastic change in cost. Disasters like the Japanese earthquake would cause a lot to change including market, farms, and logistics and so on. The second one was commercial and media related costs. They were not included in our current table. Also we assumed that that our customers would grow according to the effect of our ads. The third risk was increasing competition. We had to make sure to evolve our system to differentiate from other potential rising companies.

6.5 Strategy

We had a brief talk with a company that succeeded in the commercial/media area to see what we could do with our system. We added recipe recommendation on top of quality and location information into our system. As mentioned before, Cookpad already established a customer base with their cooking information web service. So we held a meeting with them. We hoped to learn from their method how to create this

interaction between customers and raise their satisfaction. Through their website large numbers of customers could gain access to our service, and that's an advantage that we would like to exploit. Also we hoped that we could act as an add-on for Cookpad. For example whenever customers on their site wanted to know more about a specific vegetable, they would be linked to our service where information of vegetable and farmers were available. Then they could go ahead and buy it directly from the site. From the idea mentioned above, we thought that we could work together with Cookpad. In reality however, Cookpad did not really want to go too deep into the area of working with farmers and helping them sell their vegetable. They focused more on the consumers' view. As a result they were not very interested in collaborating with farmers and apply this information presenting system. Still we learnt a lot from the interviews regarding the positioning of our system, and we built the positioning map according to the result of the interviews.

6.6 Positioning map

By using positioning map, we could identify the position of our model and the difference with other companies. We choose 'the distance with consumers and city farmers' and 'accessibility to detail information of vegetable quality' as axis of positioning map. Positioning map made us show the characteristics of our business. The definition of accessibility is the time and effort which have to pay

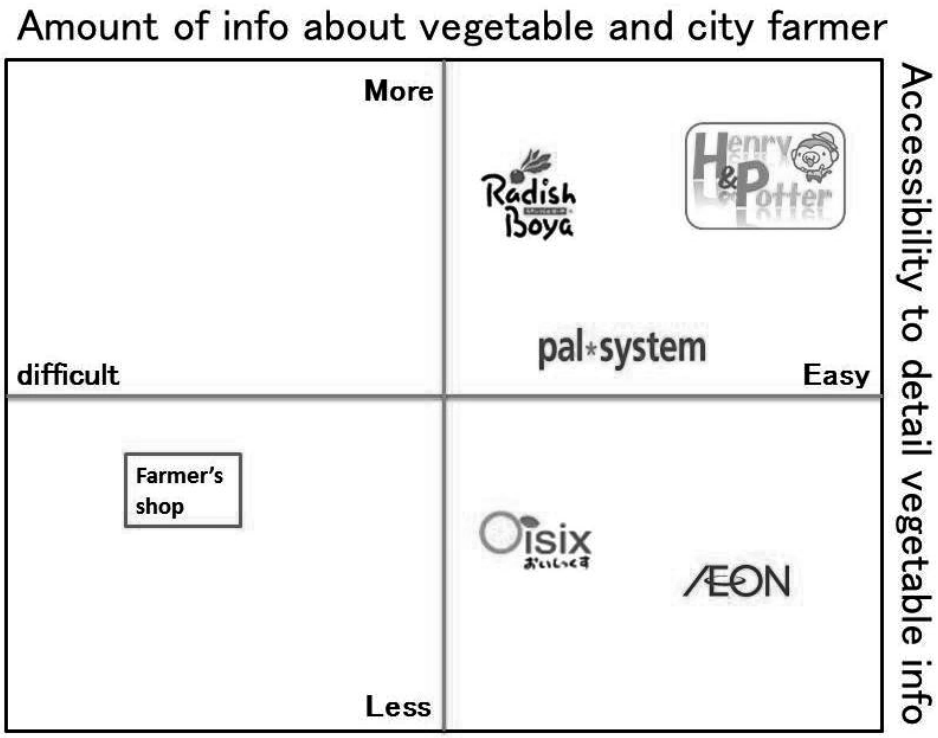


Figure x Ⅴ　　Position map

Criteria:

・Amount of information about vegetable and city farmer:

Information about:① farmer who provide consumer with vegetable

②vegetable

③recommended cooking

Information about competitive company made reference to their web-site.

・accessibility to detail vegetable information:

① Accessibility to mobile phone

② Accessibility to SNS

7. Roadmap

7.1 Overview

The tools that we used were CVCA、WCA、VOC、Prototyping、KJ method, Use Case Analysis、Scenario Graph、and VOX.

If we do ALPS again, our Roadmap would be as follow:

Because our team was consisted of half students and half workers, it was very hard for us to setup meeting times. We managed to avoid a lot of “Oops” moments, but just right before the last presentation we made a huge change in direction of our idea, and that was also our Eureka moment. We think there must be little confused moment if we had followed the new tools. Below is our team roadmap.

7.2 Roadmap

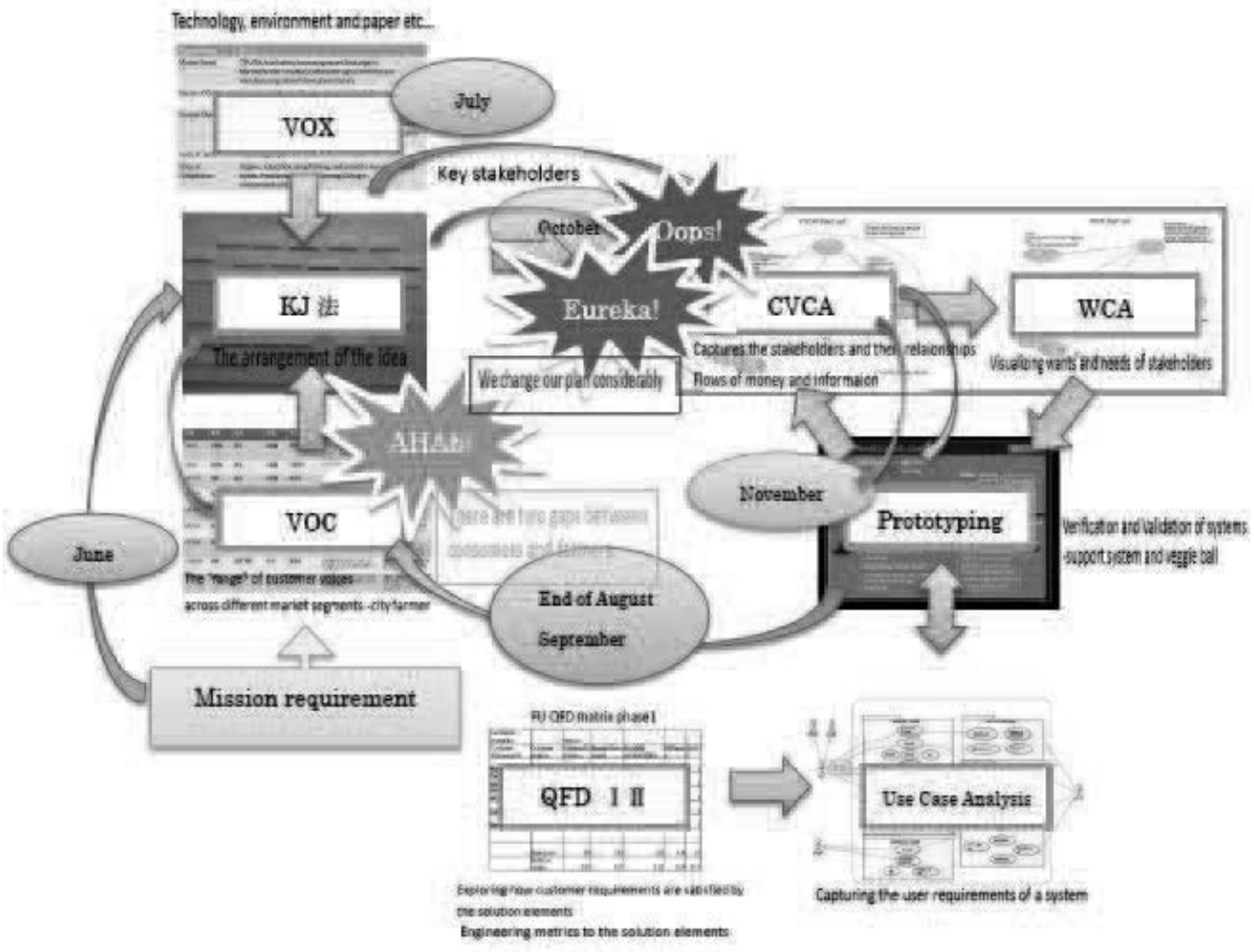


Figure x Ⅵ Roadmap

7.3 Roadmap re-created

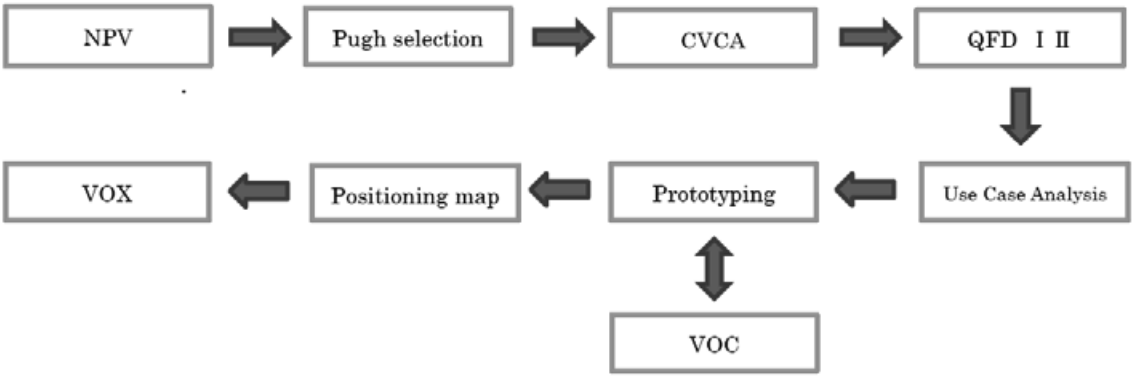


Figure x Ⅶ　　Roadmap re-created

7.4 decision making of changing our idea

We made a few changes of idea for our project. As explained in the Pugh selection, Veggieball and the support system were both two strong options. Veggieball emphasized the relationship between sports team and local farmers. Vegetables bought by sports teams would be prepared into dishes in the stadium by fan club members. Dishes would be unique to each stadium, and teams and local farmers could establish a symbiosis system. Support system would be used to strengthen communication between farmers and consumers. It would provide the right information for the right person in terms of quality information and market information. Once needs from both sides were clarified, sales number would also go up.

We interviewed sports supporters in stadium to get an idea of their image of Veggieball. They thought that it was a very good idea, and we then thought about interviewing the management of the team. However, before we could do that, we concluded that the support system would be a better idea. The reason was that the support system would be at the center of our system, thus became a better fit for our team goal. The Veggieball concept could work even without city farmers, and while we were discussing the stakeholders and users' needs for that system, we found out that we were slowly excluding farmers as one of the stake holders. In conclusion, the support system became superior to the Veggieball system, and decided to go from there and refine it.

DATE	Occupation	Name	Age	Interview location	Requirement	Request
10/9	Student	Mori	Unknown	SDM	Want to increase friendship and number of fans in Ehime area.	Happy with the current situation
10/9	Student	Mori	Unknown	Saitama stadium	Amount of rice	Happy with the current situation
10/9	Company worker	Unknown	Unknown	Saitama stadium	Cheap stadium food	Stadium food are too oily, and the menu never changes. Also there is no water or tea.
10/9	Sales personnel	Unknown	Unknown	Saitama stadium	Recruiting volunteer	
10/18	Housewife	Unknown	Unknown	Domiya	Cheap, healthy, comfort food	Stadium food are too oily, and the menu never changes. Also there is no water or tea
10/18	Tsukemono store	Someya	Unknown	Domiya	Delicious, and warm food and drink during winter.	No sodas.

Figure x Ⅷ　　VOC LIST

7.5 Feed back

City Farming-nice problem analysis

Curious: What happened to stadium sales model?

Good job on understanding the exchange of money inside your system!

Nice job with the VOCs and Letting us hear what they actually said. It demonstrates that you did some good interviews.

Good discussion of VOC analysis → defining the ooportunity (Connecting veggie customer with provider)

Some kind of farmer/produce/batch history database (you have born-on dates for your produce).

How will you convince the farmer to capture and enter this data? Have you tesed this use case? + it has some user review functions ;

Business model ; who is paying? Farming? How much will you change them?

There seems to be a natural advantage to having food come from close by, because it makes freshness easier to accomplish, & less transport cost and impacts.

Found a good niche!

The product resembles the concept of some very successful website in the Netherlands. E.g. werk spot brings together people who want construction job done and construction job done and construction companies. The latter pay a fee to use the website. versvanhetweb is a site by Westland Greenhouse farmer to sell their produce locally though the web.

Could the farmers take a picture of every batch of carrots? Could there be an action component built in?

What kind of resources would it take to set up a web-based market?
What are next steps?

8. Conclusion and future work

8.1 conclusion and future work

In order to solve the city farming industry, we decided to first tackle the problems of lack of communication and miscommunication, and as a result we created the support system. We had a few assumptions when we did the calculations. We assumed that there were 9200 households that we had to satisfy. Total sales in Tokyo only would be 55,000 thousand yen. NPV of our company would go from negative to positive in four years, and at the tenth year it will reach 320,000 thousand yen.

As explained in our prototype, this system would not only be applicable in Tokyo. Anywhere where producers were close to consumers could use our system. This support system aimed to reduce distance between farmers and consumers and utilized the functions of internet. Cities with rising consumers' awareness and weakening city farmers would benefit from this system.

Furthermore, developing countries in Africa or Asia would also benefit from this system. As their cities modernized, they would face the same problem as Tokyo in a matter of time where farmers decreases and consumers' awareness increases. For example we interviewed a person living in Hoh Chi Ming City, Vietnam. We found out that their VOC was very similar to Tokyo's. Also their use of PCs and smartphones are increasing steadily, sitting at about 30% at the moment. Our web-based system would fit perfectly into that environment.

The economical and time sustainability of this system was that both farmers and consumers could gain important information according to their preferences, and become "smart" sellers and buyers. The result would be a smart community in which both consumers and famers became more efficient and educated along the way, and as time goes on, the "smart" thinking would slowly become automatic, thus reducing the gap between communication, time, and money.

8.2 Specify goal, data, needed resource

8.2.1 Goal

Customers of the producing farmers (Tokyo, Kanto, Kinki, Tokai of about seventeen thousand people) will benefit from the system and get the information they want the most.

8.2.2 Data

Needed resource

・human resource

employee(operation -10Year) 21(man)

area manager(-10Year) 4(man)

・facility resource

Web-site

Operation room

・initial cost

14.3million yen

8.3 contingency plan

Due to the nature of farm products, disasters such as earthquakes, nuclear meltdown, and economic instabilities would greatly affect the market. In order to minimize damages, it would be best if we could have a unified standard of safety for countries involved in this system. We could not control people's decisions and actions, but we could make sure that when there is a problem, people could still get what they need the most.

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http://www.city.chiba.jp/toshi/toshi/machidukuri/rinkai/soga_top.html
http://ja.wikipedia.org/wiki/%E3%83%95%E3%82%AF%E3%83%80%E9%9B%BB%E5%AD%90%E3%82%A2%E3%83%AA%E3%83%BC%E3%83%8A
Game between Chiba and Ehime and its event
http://www.so-net.ne.jp/JEFUNITED/tools/cgi-bin/view_news.cgi?action=view&nid=5709

http://www.jsgoal.jp/photo/_prog/detail.php?c=00075861&search[team2]=467&search[stadium]=65

J’ goal : http://www.jsgoal.jp/search/all.php?keyword=tourism&x=0&y=0

Arena of Fukuda Denshi : http://www.j-league.or.jp/stadium/fukuari/

Arena of Fukuda Denshi（discussion for team member）:
http://ja.wikipedia.org/wiki/%E3%83%95%E3%82%AF%E3%83%80%E9%9B%BB%E5%AD%90%E3%82%A2%E3%83%AA%E3%83%BC%E3%83%8A#.E3.82.A4.E3.83.AC.E3.83.96.E3.83.B3.E6.87.87.E8.AB.87.E4.BC.9A

②Prototype

・Human Interface　Lectured by Pro.Ogi　9/29

・Telefarm：Agri-business by using WEB ,case method

http://www.telefarm.net/about/opportunity.html

③VOC

・Agriculture direct sales stores and its village market

http://mizuhonomuraichiba.com/

・Direct sales stores next door：119-2,Onogawa Tsukuba city, Ibaraki prefecture

・JA Tokyo Aoba（http://www.ja-tokyoaoba.or.jp/）（September0915access）

・ Map of direct sales stores http://chokubai.ja-tokyoaoba.or.jp/（September09152011access）

④Future discussions

・Discussion for New Energy—Biomass power system (2003.3)

Institute of Applied Energy

http://www.iae.or.jp/publish/pdf/2002-2.pdf

・System design of the symbiosis community composed of city and rural areas using the biomass energy technology as the core element

Author：Takashi Yamamoto 2009

11. Appendices

[Urban farming]

・agriculture around the city

Minister of Agriculture, Forestry and Fisheries

Food, Agriculture and farm area Basic Act

[Decreasing urban farming]

・plan for developing agriculture for Nerima prefecture

・ urban farming of Kawagoe

[Increasing inactive lands]

・Research for inactive lands　Minister of Agriculture, Forestry and Fisheries

・present situation and tasks of inactive lands　Minister of Agriculture, Forestry and Fisheries

[View point of urban farmer]

・monitoring about information of production and distribution: Minister of Agriculture, Forestry and Fisheries

・monitoring about relationship with consumer and farmer: Minister of Agriculture, Forestry and Fisheries

[view point of consumer]

・monitoring about information of production and distribution: Minister of Agriculture, Forestry and Fisheries

・monitoring about sense of security of foods: Minister of Agriculture, Forestry and Fisheries

・monitoring about relationship with consumer and farmer: Minister of Agriculture, Forestry and Fisheries

[cost structure of urban farming]

・statistics research about farm management: Minister of Agriculture, Forestry and Fisheries

・census for agriculture and forestry: Nerima prefecture

・plan for developing agriculture for Nerima prefecture

[Information about quality, information about crops]

・monitoring about information of production and distribution: Minister of Agriculture, Forestry and Fisheries

・food traceability: Minister of Agriculture, Forestry and Fisheries

[Utilization of PC by farmer]

・research for situation of utilization of PC by farmer:　Minister of Agriculture,

Forestry and Fisheries

[Consumer who have a particular interest with vegetable]

・research for local production for local consumption :Minister of Agriculture, Forestry and Fisheries

・factual investigation of local production for local consumption: Minister of Agriculture, Forestry and Fisheries

[direct sale store for vegetable]

・report about direct sale store for vegetable and productive structure of agriculture: THE NIPPON AGRICULTURAL RESEARCH INSTITUTE

・economic assessment for direct sale store for vegetable: Agriculture, Forestry and Fisheries Research

Group F’s Final Presentation Slides

ALPS Team-F:Henry & Potter

Create a New business Model for City Farming

K. Matsuura, Y. Hotta, Henry
S. Sakamoto, Y. Miyamoto, M. Kato

1

Can you imagine a society where city and farming are united?

Many people understand that there would be a bright perspective.

2

City farming

Support city life in various aspects

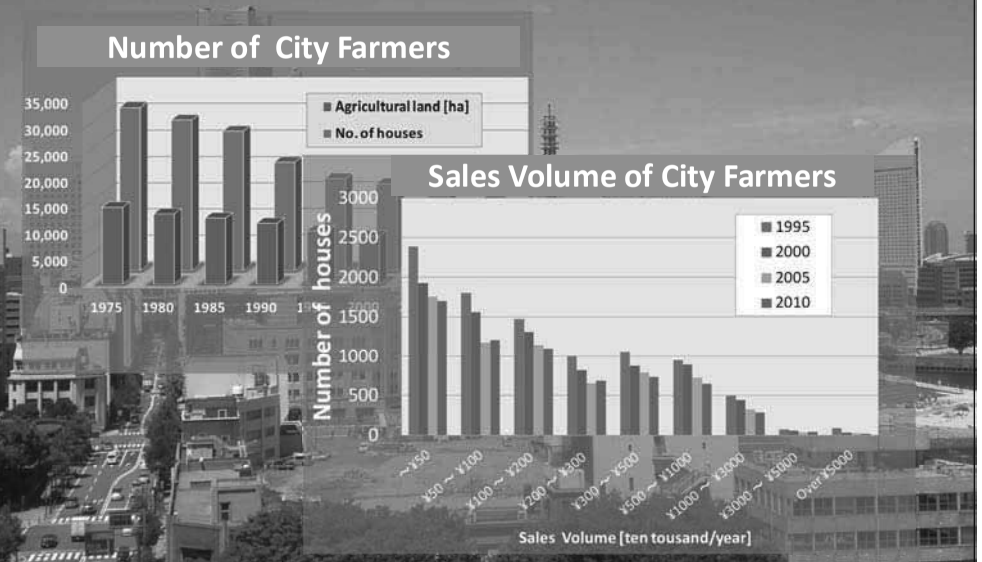
- Food Supply/Safety
- Relaxation & Community
- Protect City Environment

3

However……

4

City farming has been shrinking.



Why shrinking?

City farmer's vegetables are so delicious.
They are confident of their vegetables quality.

The reasons are hidden in
the voice of customers (VOC).

Consumers

I want delicious and safety vegeta… 30's/fe…

I don't know where to buy the vegetables made by city fa… 30's/…

I'm not satisfied with the information of vegetables, especially about quality. …with children

Freshness is the most important.
40's/female/with children

City farmers

I want customers to know the quality of our vegetables 50's…

I can provide fresh vegetables because my farm is… 5…

I don't know what kind of information that customer really want to know.
50's/male/Nerima-ku

I'm looking for new channel to sell my vegetables
50's/male/Nerima-ku

Information Gap

Consumers

(20's～30's, woman, with kids)
(who have particular interest in quality of vegetable)

・Want fresh and high quality vegetables, but they don't know where to buy fresh vegetables
・Very…
- Ag…
- Fe…
- Ra…
- Pr…
- et…

City farmers

・Have great confidence in freshness and quality of their vegetables
・Don't have sufficient channels…
…their
…of
…lly want

Priority1	Consumers	City Farmers
1st	Agricultural ch…	Harvest date
2nd	Harvest date	Planting date
3rd	Process	Seeds and saplings

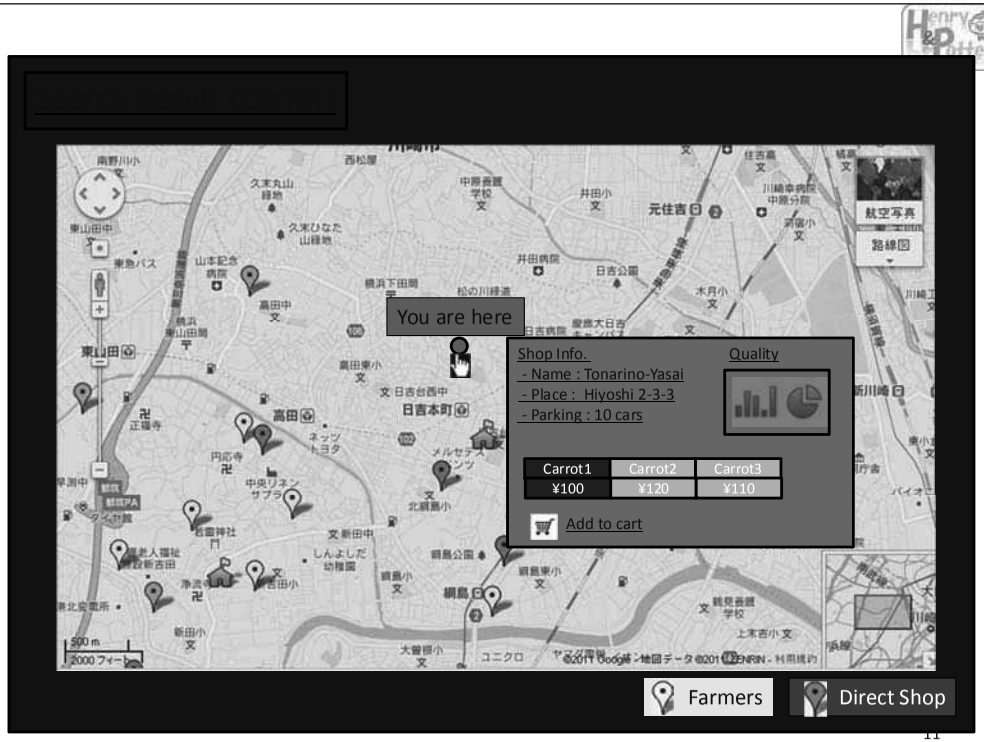
miss-match

Create a new business system to fill the gap!

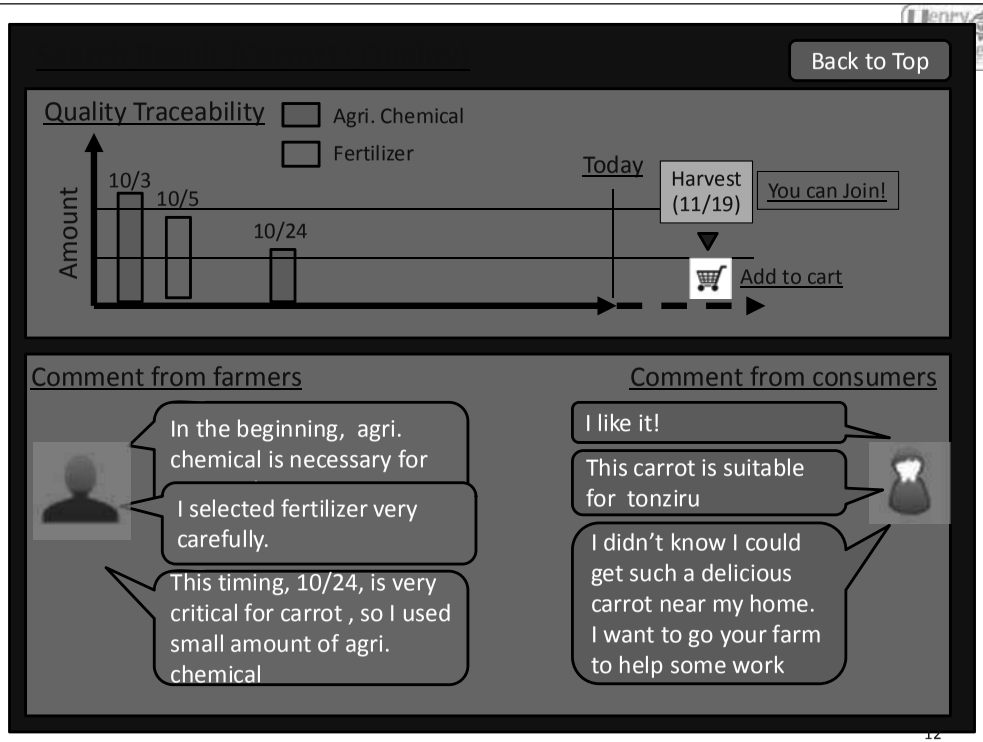
9


Search by・・・
More
More
Recommendations from・・・
More

10

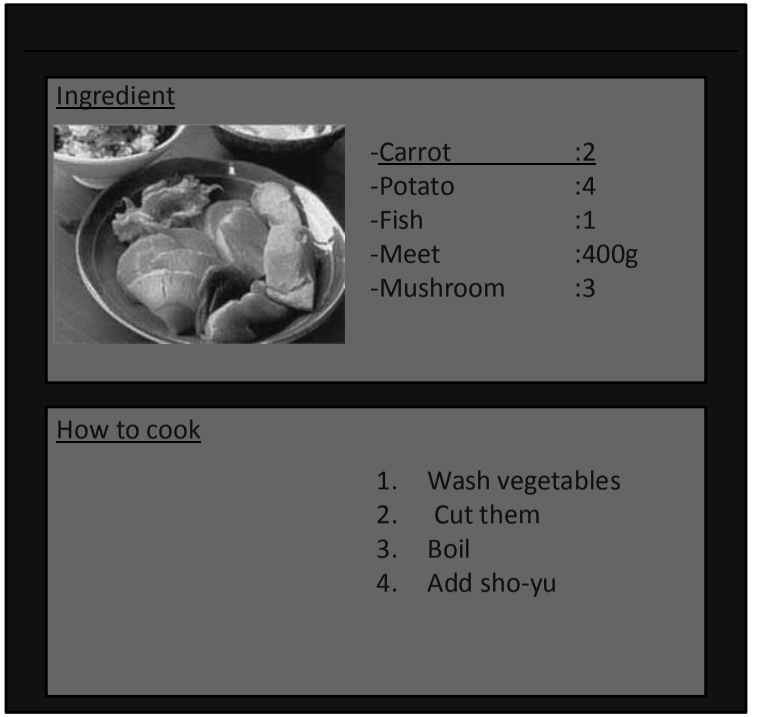

You are here
Shop Info.
- Name : Tonarino-Yasai
- Place : Hiyoshi 2-3-3
- Parking : 10 cars
Quality
Carrot1
¥100
Carrot2
¥120
Carrot3
¥110
Add to cart
航空写真
路線図
Farmers
Direct Shop

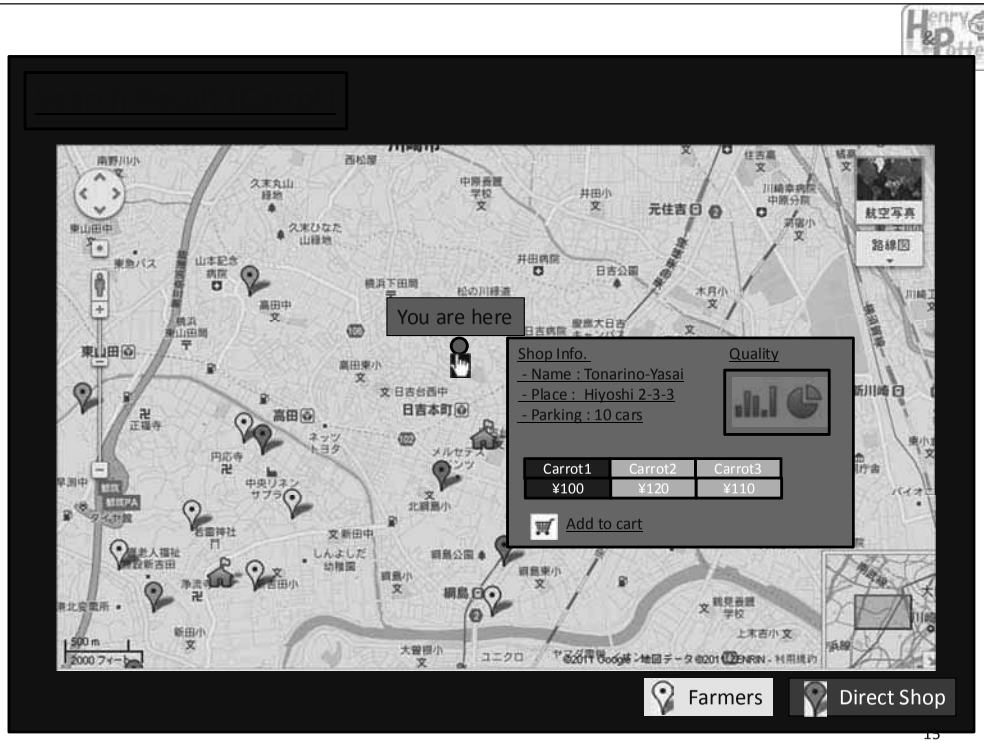
11

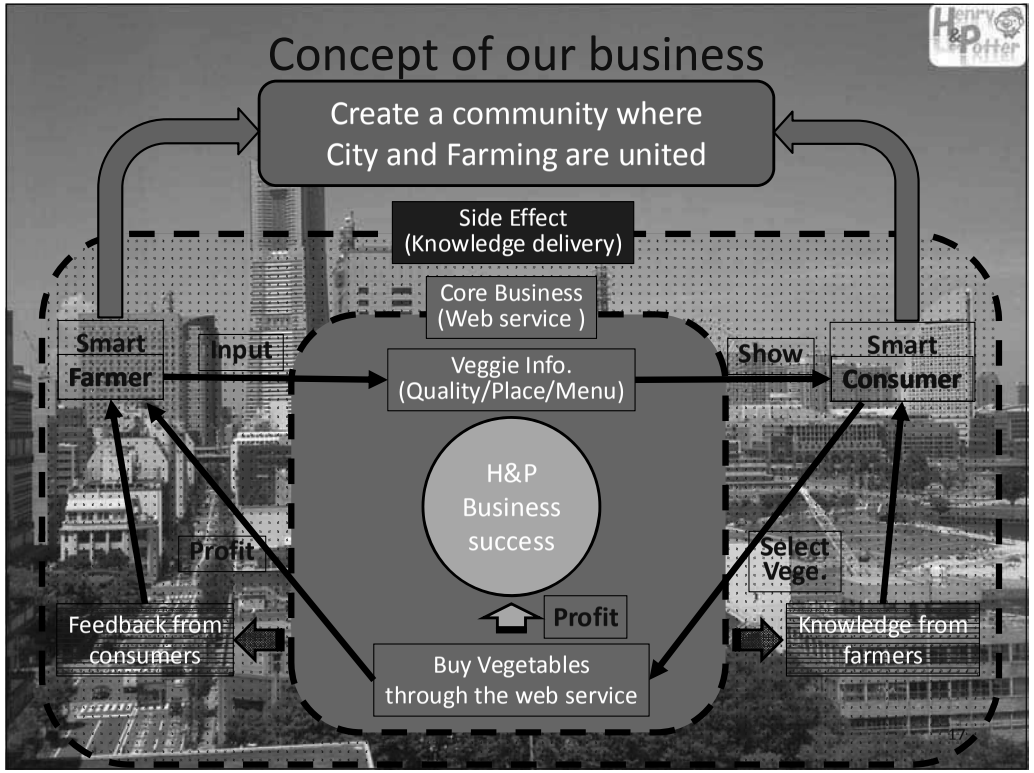

Back to Top
Quality Traceability
Agri. Chemical
Fertilizer
Amount
10/3
10/5
10/24
Today
Harvest (11/19)
You can Join!
Add to cart
Comment from farmers
In the beginning, agri. chemical is necessary for
I selected fertilizer very carefully.
This timing, 10/24, is very critical for carrot , so I used small amount of agri. chemical
Comment from consumers
I like it!
This carrot is suitable for tonziru
I didn't know I could get such a delicious carrot near my home. I want to go your farm to help some work

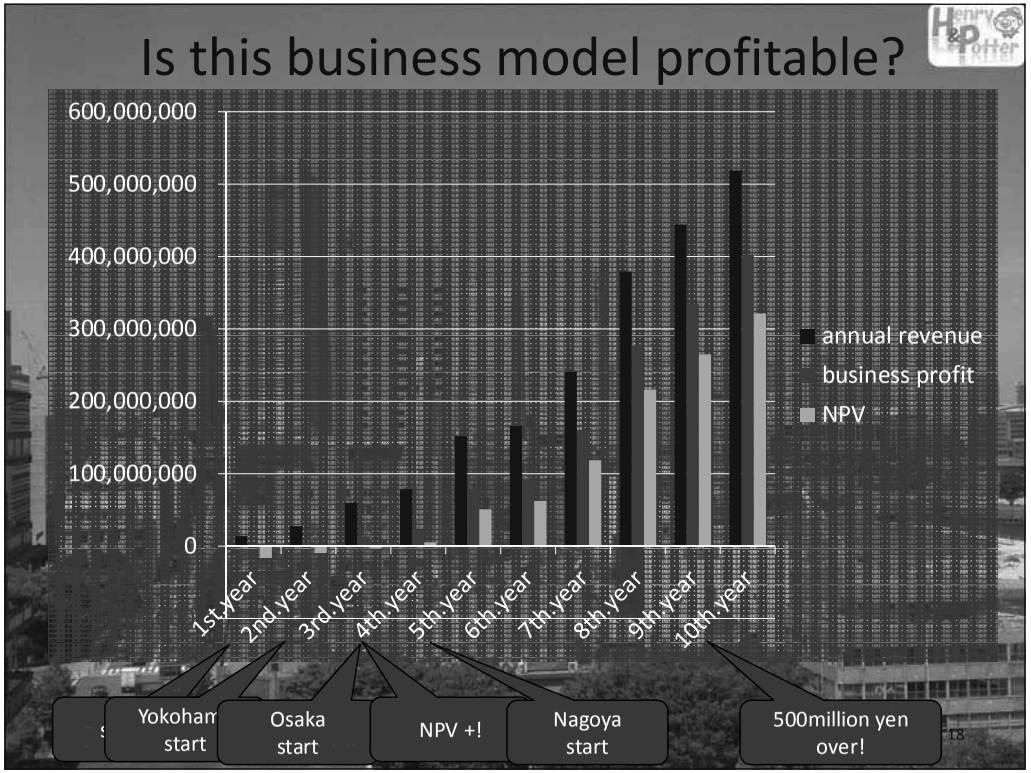
12

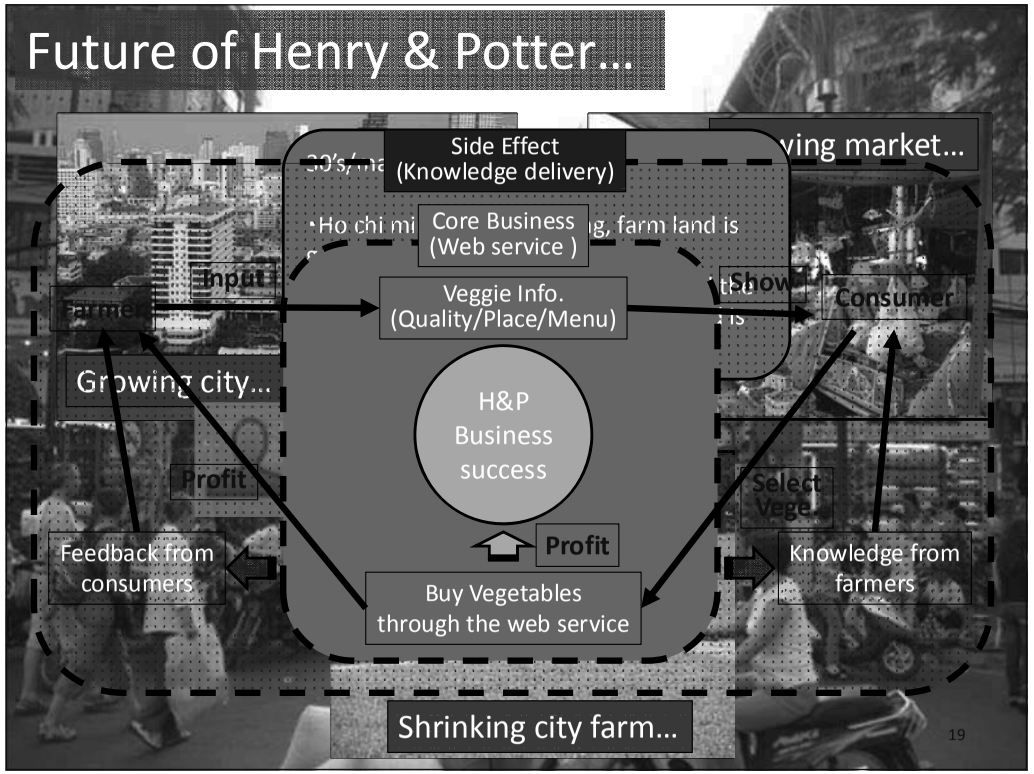

Search by・・・
More
More
Recommendations from・・・
More
13

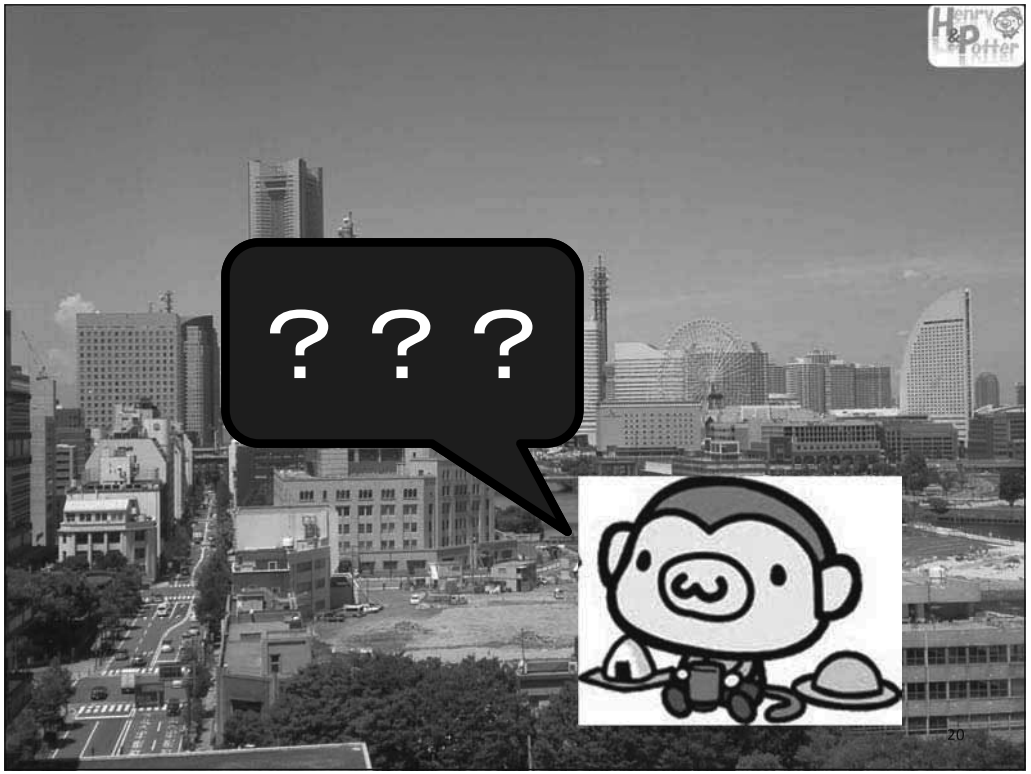

Ingredient
-Carrot :2
-Potato :4
-Fish :1
-Meet :400g
-Mushroom :3
How to cook
1. Wash vegetables
2. Cut them
3. Boil
4. Add sho-yu
14

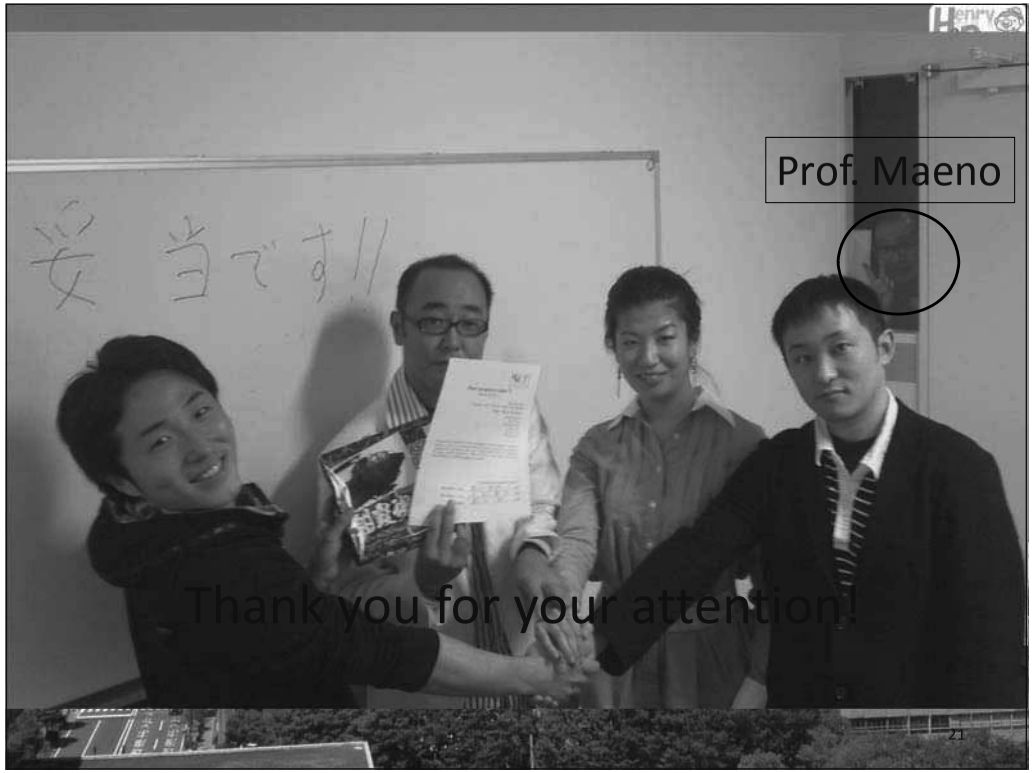

You are here
Shop Info.
- Name : Tonarino-Yasai
- Place : Hiyoshi 2-3-3
- Parking : 10 cars
Quality
Carrot1 ¥100
Carrot2 ¥120
Carrot3 ¥110
Add to cart
Farmers
Direct Shop
15


Concept of our business
Create a community where City and Farming are united
Side Effect (Knowledge delivery)
Core Business (Web service)
Smart Farmer
Input
Veggie Info. (Quality/Place/Menu)
Show
Smart Consumer
H&P Business success
Profit
Select Vege.
Profit
Feedback from consumers
Knowledge from farmers
Buy Vegetables through the web service
17


Is this business model profitable?
600,000,000
500,000,000
400,000,000
300,000,000
200,000,000
100,000,000
0
annual revenue
business profit
NPV
1st.year
2nd.year
3rd.year
4th.year
5th.year
6th.year
7th.year
8th.year
9th.year
10th.year
Yokoham start
Osaka start
NPV +!
Nagoya start
500million yen over!
18


Future of Henry & Potter…
Side Effect (Knowledge delivery)
Core Business (Web service)
Input
Veggie Info. (Quality/Place/Menu)
Show
Consumer
Growing city…
H&P Business success
Profit
Select Vege.
Profit
Feedback from consumers
Knowledge from farmers
Buy Vegetables through the web service
Shrinking city farm…
19


? ? ?
20


Prof. Maeno
Thank you for your attention!
21