

SERVICE SYSTEMS AND INNOVATIONS IN  
BUSINESS AND SOCIETY COLLECTION

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Jim Spohrer and Haluk Demirkan, *Editors*



## **Service Design and Delivery**

*How Design Thinking Can  
Innovate Business and Add  
Value to Society*

**Toshiaki Kurokawa**



**BUSINESS EXPERT PRESS**

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## Abstract

This book explains the *design thinking* approach both for designing new services and delivering the services. This approach itself can be applied to areas other than *pure services*, because it contains the innovative and intrinsic ingredients that can be applied to any human activity. Chapter 1 introduces mindset and preparation for service design.

Introduction on design thinking and design thinking toolkits are provided in Chapter 2, which you can try in your service. Both IDEO's Design Thinking for Educators Toolkit and Innovation Leadership Board's *Playbook for Strategic Foresight and Innovation* are discussed in detail.

Chapter 3 provides a societal approach which is often neglected in the service design. A short break is provided at Chapter 4, entitled "Intermezzo," summarizing the contents of preceding chapters and presenting additional and refreshing perspectives on service design with the design thinking approach.

Prototyping and testing the service design is the theme of Chapter 5. Chapter 6 provides some case studies so that you can check what you have learned. I picked up real cases from local areas.

In Chapter 7, we summarize the contents of this book. The summary and conclusion can be used as a quick reference for the contents of the book.

## Keywords

case study, design thinking, design thinking mindset, design thinking toolkits, IDEO, Playbook for Strategic Foresight and Innovation, prototyping, service delivery, service design, service evaluation, service science, societal approach



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# Foreword

Helping the reader to design a service with the design thinking approach is the purpose of this book. *Service design + design thinking* would be a unique and fruitful combination as you will experience with this book.

I expect a wide range of readers as most authors do, however, my main target would be those who are thinking of providing their own services; they are the primary readers. College students who intend to start their service either for private business or for social activities are typical examples of such readers. Business people in various professions are also the target readers as providing service is one of main activities in manufacturing, engineering, education, consulting, and so on.

Design thinkers, design engineers, and design professionals who are interested in making and delivering services are another group of readers. They can check how their capabilities can be applied to service areas with this book.

Casual readers who are just interested in service design or design thinking are also welcome since I was one such several years ago. Curiosity is a good guide to start a new endeavor that may bring you new exciting experiences.



# Acknowledgments

I thank Jim Spohler for giving me an opportunity to write this book. I also thank the following people and organizations: IDEO for permission to use their Design Thinking Toolkit, Tamara Carlson for permission to use the *Playbook for Strategic Foresight and Innovation*, Shuichi Yoshida, Chieko Suzuki, and Tsutomu Uematsu for letting me write about them in the case studies, John Hill for reading and correcting the early draft, and Shigeki Takahashi for introducing Chieko Suzuki to me. I also thank Scott Isenberg for editorial work on the book. Finally, I would like to thank my wife Yoko, my parents Tadao and Yasuko, and my sister Sachiko Ibe along with my children, Hiroshi, Makoto, and Megumi.



# CHAPTER 1

## Introduction

*Survive! Just think to survive!*

—My father's words

When I was a teenager, I happened to tell my father that unless I could contribute to some great endeavor, I didn't see my life as worth living. Tadao, my father, got very angry at me and told me that coming back home and seeing his mother again had been his primary focus during the war. He told me "if you start to think it is okay to die, you surely will die."

Now that I am in my 60s, I understand very well what Tadao felt, and also why he got so angry with my words. However, as a young man, I thought my father would agree that a life only matters when it serves a greater purpose. Tadao had been a sergeant in the Imperial Army of Japan, where the training books taught every soldier that serving the Emperor was the most important purpose in life, more important than your own life.

Devotion is the key to success in all things. If you go deep into the meaning of the word, *devotion*, you will realize that you need to devote *your* life to serve a purpose. The late Mr. Daikichi Kamada, wrote about my father Tadao in his book (1995). During the war, when Daikichi could barely walk, Tadao scolded him "Do not give up, keep walking and you will live to see your wife and daughter again!"

In business, too, the situation is the same. We need devotion in order to succeed, even when it would be easier to just give up and stop trying.

This book is devoted to service design—an approach to apply design thinking to develop efficient service within the field of *Service Science Management and Engineering* (SSME) (Hefley and Murphy 2008).

However, if you have something you really need to do, something more important, please throw this book out, and just devote *your* time to doing it. It is better to *do the thing* rather than delay. It is you who can change the world around you, not anyone else.

If I am such a strong believer in *doing over reading*, then you may very well ask why I am writing this book and for whom.

When we are not quite convinced that we know what to do, then reading can be very helpful. What is that great endeavor that you can devote *your* life to accomplish? I hope as you come to understand design thinking, you will see it as a way to find *your* great endeavor.

## The Goal for Your Service

In October 2013, my colleagues and I ran a workshop for school kids between the ages of 9 and 12 to help them draw up a guiding map of life-time goals. You may recall what kind of dreams you had as a child, and you may or may not have achieved your childhood dream. If you have abandoned your old dreams, you may feel you have replaced them with better dreams or simply settled for more realistic goals and routines.

Goal setting is the most important thing in your business life, and this book can help you learn to set better goals. However, goal setting is a delicate and really difficult activity. When you look back at your childhood dreams, and compare them against what dreams you have now, most of you will find how much your goal has changed from your childhood days.

We know some people have achieved their childhood dreams, and some of you, readers of this book, may still be pursuing your childhood dreams. Have you ever thought about why people change their goals, and also whether it was good or bad for them to change their life-long goals?

Goal change—or pivoting—is an interesting subject in business schools. Lots of people and companies achieved their success by intelligently changing their original goals. However, there are also lots of stories about the people who achieved their life-long goals through their effort and persistence.

To study service design and delivery, I would sincerely advise you to check your goal in life, because your service depends on your heart—how much you think of the service, how much you think of the people who will appreciate your service, and how much you think of the people who helped you to deliver your service.

Service design and delivery depends a lot on technologies, techniques, and materials that you will learn in this book and others; it also depends on the people who design, implement, and deliver your service, but most importantly, service design and delivery depends on *you*.

Service is one of the activities with a very long history. However, service as an industry is a rather new concept—it was first considered as the third sector of industries by Colin Clark in his book *Conditions of Economic Progress* published in 1940—and is growing rapidly almost everywhere. The Service Industry itself was not born in 1940 just like America was not born in 1492 when Christopher Columbus reached the Bahamas.

The question is why service was not perceived as an industry until 1940 or until Clark proposed it. One of the reasons would be that the activity of service is perceived as an individual action, rather than as an industrial or collective activity. And you must understand that these personal traits still attach to the service design and delivery in our own context. That is the reason why I emphasize that it is your personal goals that influence your services.

If your goals are not related to your services or your services do not contribute to the achievement of your goals, you should change them, or better yet, redesign them so that you have a more natural and smooth situation for the elevation of your services. Design thinking will be one of the approaches to achieve that harmonization.

## Our Society in the Near Future

When you rethink your life's goals, you may need to consider the society of the future. This leads to two important questions:

- How would the society of the near future affect service?
- How will you design, develop, and implement services to accommodate that future society?

You may choose your goal simply because you are devoted to it. That is, you may not care what your social environment for the service will



be. The only thing you care about is to achieve your goal. Your service, however, may not be designed taking into consideration our social environments. Your service needs customers, and you and your customers will have a social relationship.

There is a joke about relationships between people:

There was a philanthropist who gave a poor man \$1,000 every Christmas. On one Christmas day, the man went to the philanthropist, who handed him \$500 saying “I do not have enough money this year because the wedding of both my daughters occurred. You must put up with this at this time.” Then the man got angry changing the complexion, and yelled, “Use your money for your daughters’ wedding. Do not use my \$500.”

As you can readily see from the joke, the relationship between people changes as time goes by. If one were to consider the charity in the joke as a service, it would yield different results for the \$1,000-year and the \$500-year. This is one of the most difficult parts of the service design and delivery. If you assume the ever-changing status of the service recipient, it will be so easy for you to give up your design for the best service because you know that it is impossible to have a *best* design that is suited to the ever-changing environment of your customers.

What you can have is the best adaptable design or the best responsive design that works well for the first recipients of the service and delivers the best service to later recipients as well. This approach looks similar to the *best-effort* one, where you try your best to deliver the best possible service you can, but you cannot tell whether that service will be accepted as the best or not.

Yet another tricky part of service design and delivery is that the evaluation of the service by the service recipient will also vary over time. Sometimes, they appreciate your service very highly at first, but gradually forget the initial excitement and later rate your service as intermediate and not so high. In other circumstances, the recipients will not initially appreciate your service as very different from what they were expecting, but later begin to understand what you tried to deliver and praise your service.

Alan Kay once said “The best way to predict the future is to invent it.”<sup>1</sup> We can modify his words as “The best way to deliver the best service is to design the future for the service-recipients so that they can appreciate our service in the best way.”

## Your Business Prospects

Since we have been talking about discipline in services you may wonder how these disciplines relate or affect your business. You have been working to achieve your goals all your life. You have studied what your social environment is likely to be in the near future. Now is the time to think about how your personal goals and the future’s social environment are connected to your business.

Now, let me ask you how you perceive or understand your business. After reviewing your personal goals and your future societal environment, I am sure you will look at your business from a perspective different from the one you had.

Of course, it may depend on your role in your business. You may:

- Be designing your new business;
- Have started your new business;
- Be in charge of the business department of your company;
- Be one of the senior managers of the business unit of your company; or
- Be a newcomer who just joined the business department in your company.

Things will vary depending on the situation and your role, and your service needs to change according to your role in the business. From the customers’ perspective, services and products are packaged into one

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<sup>1</sup> Alan Kay, at Xerox PARC meeting in 1971: “Don’t worry about what anybody else is going to do.... The best way to predict the future is to invent it. Really smart people with reasonable funding can do just about anything that doesn’t violate too many of Newton’s Laws!”

entity so that they will not distinguish the service from the products they receive.

According to the trends in the industry sector, the service sector is growing in almost every country. So some people forecast that the product sectors will also include more and more services around their physical products.

What we see in business planning and business forecasting is a mixture of wishful thinking and an extension of the past. This process can produce beautiful numbers for internal executives, but will not always realistically reflect the future activities of customers.

In a way, a rule of thumb will be enough to give you preliminary guidance for your business prospects. What you need is to run the check-and-see cycle so that the real response to your activity can be measured, and you can modify your services so that more output is produced.

## Focus on Your Services

Now, let us return to your services. Can you describe your service? Who are the stakeholders of your services? On whom does your service depend? Are there people who will be affected by your service but do not realize it?

We can make a long list of questions like the above on your services. Yet, you may find some questions you have forgotten to ask because your service has many features and many links to people and related activities.

Also, there are an infinite number of pitfalls waiting for you. There are deviations and seductions that counter your devotion to your services. I myself once was so addicted to computer games that I could not think of anything other than playing them. It was a kind of addiction that was a dangerous seduction. However, there will be lots of subtle deviations from your devotion, and they will steal time and energy from you.

It is interesting that in the theory of innovation or generation of great new ideas, you really need focus and devotion to solve the problem; however, the idea itself will come to you when you relax your intense concentration to find the solution. Interestingly, but in general, you cannot mix the devotion and the deviation to form a kind of portfolio or plan a schedule that allocates time to focus on the service and time to do other things. No, this kind of mixture would produce a mess.

So, in a way, you need to establish your style of focusing on your service, like monks and nuns in the monastery. Yes, you need some discipline in your life, and there are taboos on things you should not engage in. This kind of daily routine in your lifestyle really contributes to high productivity as well as safeguards your mental health, even though, again, you still need to do or look at your work from different perspectives. This is the tricky part.

In focusing on your service, it is important to visualize your customers, both present and future customers. It is also important to think about the people who do not become your customers. We are so easily confined to thinking only of our customers we have today. The most difficult part of the phrase, “Listen to your customer,” is to identify the right customer for you. The current customers will surely inform you of lots of problems and create lots of opportunities, but they cannot tell about the future customers of your future services.

One of the approaches to focusing on your service is to purify your service, that is, try to extract the very essence of your service. In other words, try to delete any aspect that is not the very essence of your service. This process is also called abstraction or simplification. The emphasis of abstraction is to model your service at a higher level so that the details are hidden from your viewpoint. Ultimately, your service should be described by one word or one phrase. Simplification, on the other hand, is focusing on the elimination of any detours or ingredients that are not the essential components of your process. If you delete any activity but the effect remains essentially the same as before, then you have simplified your service.

These approaches to your service have an effect similar to purifying your lifestyle so that you will do the very essential activities with maximum effect. In your service, it is to make your service simpler, and more available, and possibly make your customer happier.

Just like chemical compounds and their effect on the human body, your service may contain lots of elements, and you cannot tell which elements are the essential elements of your service that are praised by your customers. Again, this is tough, because these complexities are dependent on your relationship with your customers. A person is a multifaceted entity: Your customer may appreciate many aspects in your service, and

that sort of multiplicity might be the appealing point of your service. Yet, it is worth a try to purify or to pinpoint the essence of your service; this will give you some insights about your service and your customer.

Sometimes it is hard to identify your customer. For example, if we pick up the phrase “service for the country,” the recipient of your service is not so easy to identify. If the situation is the army service, what actually happens is that you will become a soldier or a cog in the wheel of the army, so that the direct service recipient is your boss.

In this chapter, we have discussed your service from various points of view—your ultimate goal, the value to our society, business prospects, and the principle of how you bring service into life.

As you have understood what you want to do, (which, by the way, is actually a tough thing speaking from my experience), we move to design your service. The approach for designing the service is called *design thinking*. I will explain it in the next chapter.

## CHAPTER 2

# Design Thinking Approach

*There was a Japanese military officer in our troop who was catholic and could speak Spanish and English. He was well respected by the Filipinos. However, as things went wrong for Japanese army, and the Filipinos started to revolt against Japanese army, he was put in a difficult situation due to his own group's suspicion.*

—My father's words

We have looked at our services in Chapter 1, now we can think about designing our services. “But, what and how?” would be your question. And we will work upon a relatively new approach called *design thinking*, which is different from design, especially the familiar form of graphic arts design. So, let me first explain what design thinking is.

### What is Design Thinking?

To describe what design thinking is a tough job. That is not to say the job of explaining design thinking is very difficult. I can tell you that the approach of design thinking is like the approach of a child who tries to reach out for what it wants—with no prejudice, positive acceptance, an attempt to understand the situation, and working toward the goal all by itself. The difficulty is in the precision of the explanation, the coverage of your intention, and the historical facts.

There are ongoing debates about who first coined the phrase, design thinking. You can check on web search engines with a question like “who coined the phrase design thinking?” as I will not waste your time showing data that can be obtained from the web.

However, design thinking today or the design thinking I am talking about comes from the design consulting company, IDEO.

You can find the following description at IDEO's web page, <http://www.ideo.com/about/>

## Our Approach: Design Thinking

*“Design thinking is a human-centered approach to innovation that draws from the designer’s toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success.”*—Tim Brown, president and CEO

Thinking like a designer can transform the way organizations develop products, services, processes, and strategy. This approach, which IDEO calls design thinking, brings together what is desirable from a human point of view with what is technologically feasible and economically viable. It also allows people who aren’t trained as designers to use creative tools to address a vast range of challenges.

Design thinking is a deeply human process that taps into abilities we all have but get overlooked by more conventional problem-solving practices. It relies on our ability to be intuitive, to recognize patterns, to construct ideas that are emotionally meaningful as well as functional, and to express ourselves through means beyond words or symbols. Nobody wants to run an organization on feeling, intuition, and inspiration, but an over-reliance on the rational and the analytical can be just as risky. Design thinking provides an integrated third way.

The design thinking process is best thought of as a system of overlapping spaces rather than a sequence of orderly steps. There are three spaces to keep in mind: *inspiration*, *ideation*, and *implementation*. Inspiration is the problem or opportunity that motivates the search for solutions. Ideation is the process of generating, developing, and testing ideas. Implementation is the path that leads from the project stage into people’s lives.

Under this system, IDEO uses both analytical tools and generative techniques to help clients see how their new or existing operations could look in the future—and build road maps for getting there. Our methods include business model prototyping, data visualization, innovation strategy, organizational design, qualitative and quantitative research, and IP liberation.

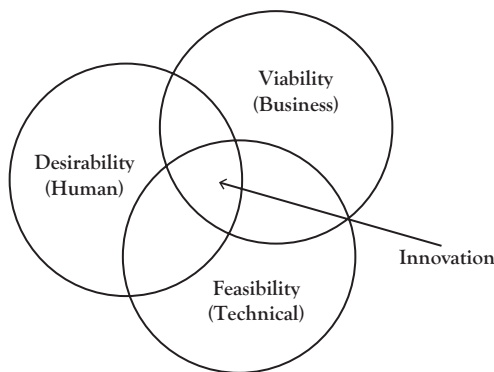
All of IDEO's work is done in consideration of the capabilities of our clients and the needs of their customers. As we iterate toward a final solution, we assess and reassess our designs. Our goal is to deliver appropriate, actionable, and tangible strategies. The result: new, innovative avenues for growth that are grounded in business viability and market desirability.

Most people agree on these three elements of design thinking or innovation, and so we can write the formula:

$$\text{Design thinking} = \text{Business} + \text{Human aspects} + \text{Technology} \quad (2.1)$$

But the meaning of the Formula 2.1 and the Figure 2.1 may not be clear enough. What does the + mean, for example? IDEO describes the operation as *integration*. But, how we can integrate these three elements? If we study the business, human, and technology aspects, then can we say we have integrated the three elements? No, I am afraid that would not be enough. I would rather recommend study of business, human, and technology aspects all at the same time, but again, that also would not be enough.

There would also be the question whether the design thinking and Innovation are one and the same, or is design thinking an approach to Innovation, or does design thinking have elements other than Innovation.



**Figure 2.1** The three elements of design thinking or innovation

Source: <http://www.ideo.com/about/>



Bruce Nussbaum, once an advocate for design thinking at *Business-Week*, posted an article entitled “Design Thinking Is a Failed Experiment. So What’s Next?” (Nussbaum 2011) which you can read at <http://www.fastcodesign.com/1663558/design-thinking-is-a-failed-experiment-so-whats-next>, and is now promoting *Creative Intelligence*. And his point is that it is creativity that drives innovation, so you can avoid design and directly jump to creativity.

From my understanding, design thinking is a viable and proven approach for innovation; however, it might have other facets such as emotional and aesthetic responses as well, and of course there can be many other approaches to innovation. Moreover, an individual can give a different name to his or her own idea on an approach similar to design thinking.

However, you should be careful. Freek Vermeulen, Professor at the London School of Business says in his book, *Business Exposed: The Naked Truth About What Really Goes on in the World of Business*, (Vermeulen 2010) that through his own analysis of the data, those companies that tried innovations did not have better performance nor better survival rate compared to those who do not put in a big effort on innovation. He himself commented on this result as an inconvenient truth because he believes personally that innovation is necessary for our society even if it is not profitable for the company; so he does not like to see corporations stop trying to innovate.

The same kind of observation may apply to design thinking. One thing is clear, that design thinking is not the silver bullet to bring you bright new products and services in time. Design thinking is useful to find out new ideas, but other things are also needed to make them useful and dependable, and there have been cases where some ideas that you obtained through the design thinking approach were eventually not useful.

## Design Thinking Mindsets

With my experience, design thinking is also an approach for improving mindsets. I have talked about dedication in your service. It is the mindset that you really need to develop and maintain to provide great service. Well, perhaps that would be going too far. You need other things such as technologies, teamwork, and customers as well. Still, your mindset is your

greatest asset, and one of the great things in design thinking is that it will enrich your mindset.

First of all, let us look at the formula again.

$$\text{Design thinking} = \text{Business} + \text{Human aspects} + \text{Technology} \quad (2.1)$$

will tell you that you must think of business and human aspects and technology for your service. But, this formula does not tell you what kind of mindset is necessary or desirable to take the design thinking approach.

In fact, an appropriate mindset can help to perform any activity most suitably. For example, if you are providing entertainment services, you need the mindset to enjoy your service and your situation with your customers. On the other hand, if you are in the care-taking service either for infants or elderly people, you must be very careful that it does not exclude your enjoying your job, and so the mindset should be appropriately directed.

In an educational institution, for example, students, especially in Japan, have a mindset of following the instructions given by the teacher. The design thinking mindset, however, needs to be different. You need to question what you are told. You need to discover the realities hidden under what you see. You need to understand the deep truth of the problem. Yet you must also make every effort to understand your customer and your colleagues. You need to empathize with the situation.

The design thinking mindset is open to explore any possibilities, any viewpoints, and any objections. There will be quite diverse aspects of the problem from the business, human, and technology angles. Later on, you will focus on, or converse about possible solutions in order to satisfy the business, human, and technology requirements; however, at the phase where you are tackling and inspecting the problem, you should be open to any possibility.

Yes, in a sense, one has to learn to develop this mindset, but it is not following just one set of instructions. You need to learn from almost everything as a baby learns. You should be curious about anything on the table. Any business plan that sounds ridiculous can be picked up. Any human aspect such as a handicap, age, or disability can be considered. Any technology that sounds crazy can be tried.

Why is this kind of mindset not discussed much in the context of design thinking? In a way, when you take the design thinking approach, your mindset is ready for this open and exploratory approach with the well-planned introductory system. You are given very concrete problems and you are told that you have complete freedom to take any approach you like.

Yet, sometimes, people may tend to stick to some standardized approach even toward so-called design thinking. For example, some university courses for design thinking need both a syllabus and evaluation criteria, which, in a way, do not match the design thinking approach because the participants should be innovative to overcome any pre-determined approach and the evaluation has also to be diverse and so cannot be prescribed in detail.

## Design Thinking Toolsets

Our mindset is important, but we need toolsets as well to support the activities and mindsets. Now, what kind of tools will be used for design thinking? If you check the web for toolset or toolkit for design thinking, you will find many documents including books entitled *Tools*, *Toolset*, and *Toolkit*.

In some areas, tools are simply instructions to learn and study, and then, hopefully, you try to do as instructed or suggested. If you are making a desk by yourself, the toolset should be measures, saws, planes, and hammers. You may need a diagram or a handbook for home carpentry, but they are usually not called *tools*.

This type of usage of the word tools might be specific to one kind of *thinking*, as these instructions can be the only tools for thinking aside from the theories and experiments to support the instructions. And if you regard design thinking as a special style of thinking, these instructions, guidelines, and books provide enough tools to acquire the style. However, even though I have advocated a design thinking mindset in the preceding section, design thinking is not just a mindset but acting, or more precisely put, a trying and reviewing.

Experience is another aspect of design thinking, so some people dislike the phrase design thinking, and use other words such as innovation

and creativity. Yet, the essential approach in design thinking is the same, and I like this phrase partly because I have liked *thinking* from my boyhood, and partly because the word *design* has clearer and more colorful images than innovation or creativity.

Now, back to the design thinking toolsets. Among the many available both on online and offline, I recommend the following two toolsets (it is just a coincidence that both are not called a toolset):

1. IDEO's Design Thinking for Educators Toolkit, available at <http://www.ld-grid.org/resources/methods-and-methodologies/ideo-toolkit>.
2. *Playbook for Strategic Foresight and Innovation* published from Innovation Leadership Board, available at [www.innovation.io/playbook](http://www.innovation.io/playbook).

The first one is made by IDEO in collaboration with Riverdale Country School in New York City. It is targeted at teachers and school managers of elementary schools, K-12 kids' educators. Actually, this contains very good cases for service design in the area of K-12 education. However, the process part can be applied in any area, so the toolkit eventually addresses the process for design thinking in general.

The design thinking process part is summarized by the following five phases as shown in Figure 2.2.

The great thing with this process toolkit is that it is also divided into a few steps with very detailed instruction, degrees of difficulty, time to be spent, how you team up and so on. I can summarize these steps as given in Table 2.1.

So, there are totally 41 steps grouped into six processes from the before process to evolution or from preparation to evolution of your activity to meet the challenge. IDEO's book is 81 pages long and contains lots of cases. When you read the book, you can understand how the design thinking approach is taken and adopted to solve various problems in educational services.

One of the important things with these processes and steps is that they are not one-way or linearly developed. You need to go forward and backward, or you need to jump to other steps to see if the current step is in a good state or not. For example, to pick up a precise, approachable,

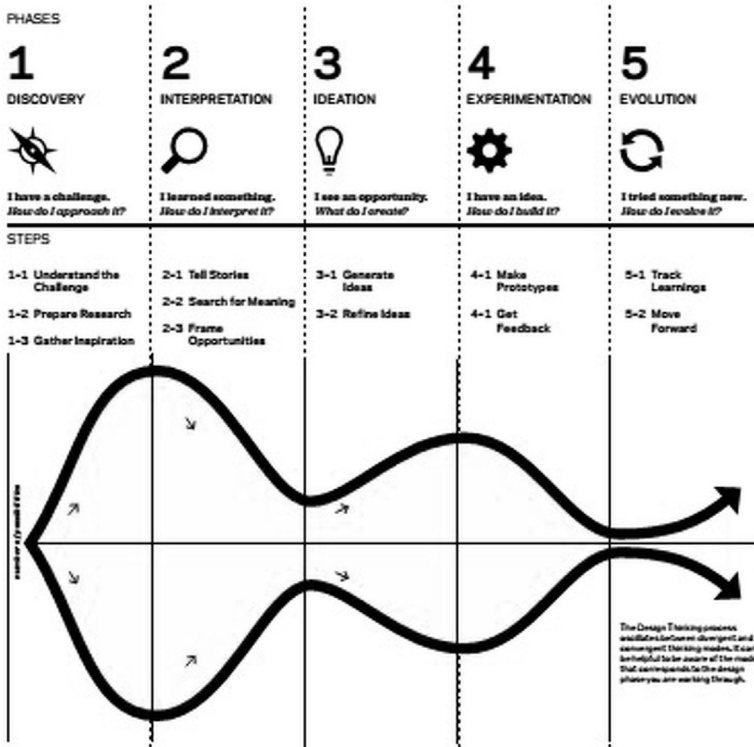


Figure 2.2 Design thinking process

Source: IDEO's Design Thinking for Educators Toolkit, page 16

and valuable problem in the very initial step of “define a challenge” is very difficult, and you learn in the middle of the process or sometimes during the feedback phase, that the problem you picked is a wrong one and there is another better problem to tackle. And this is entirely okay, as this is the learning process in discovery.

Also, if you sum up the number of hours needed to process all these steps, you will realize that you need at least 17 to 32 hours, but this number is just for the work at each step. And if you consider the need for about a week of field study, you surely need several weeks’ time to complete your project.

You must have noticed that the design thinking approach also uses lots of existing techniques such as interviewing and brainstorming. The prototyping step would be most suitable for the traditional meaning of the word *design*; however, the spirit of the designer is spread through all

**Table 2.1** *Design thinking process steps*

Steps	Phase	Time	Difficulty	No. of people	Summary of my advice
Define a challenge	Before process -1	30–60 min	5	2–3	Initial step and very important, do not be afraid to fail.
Create a project plan	Before process-2	20–30 min	5	1–2	Time should be allocated for output, but prepare for the unexpected.
Review the challenge	Discovery-1, understanding the challenge-1	10 min	1	2–3	Team building is the key. Digest with your own words.
Share what you know	Discovery-1, understanding the challenge-2	30–45 min	1	2–3	This is fun. Other people have quite interesting ideas.
Build your team	Discovery-1, understanding the challenge-3	20–30 min	2	2–3	Sharing is the key. It is tough to understand others.
Define your audience	Discovery-1, understanding the challenge-4	20–30 min	2	1–3	Find out the key audience, and learn with them.
Refine your plan	Discovery-1, understanding the challenge-5	20–30 min	2	2–3	Calendar making and establishing deadline.
Identify sources of inspiration	Discovery-2, prepare research-1	20–30 min	2	2–3	Find out extreme sources and listen to their stories.
Select research participants	Discovery-2, prepare research-2	20–45 min	2	1–3	Interaction design. Enjoy with your team.
Build a question guide	Discovery-2, prepare research-3	20–30 min	3	2–3	Design an interview with questionnaires and team roles.

*(Continued)*

Table 2.1 Design thinking process steps (Continued)

Steps	Phase	Time	Difficulty	No. of people	Summary of my advice
Prepare for fieldwork	Discovery-2, prepare research-4	15–20 min	1	1–3	Prepare for interview at participant's site.
Immerse yourself in the context	Discovery-3, gather inspiration-1	30–60 min	2	2–6	Experience. Observe and capture the emotion.
Seek inspiration in analogous settings	Discovery-3, gather inspiration-2	20–90 min	3	2–3	Similar but different settings from your challenge.
Learn from experts	Discovery-3, gather inspiration-3	1–2 h	3	2–3	Convenient to acquire large volume of knowledge. Keep space for your own ideas.
Learn from users	Discovery-3, gather inspiration-4	45–90 min	4	2–3	Variety of approaches for learning from users.
Capture your learnings	Interpretation-1, tell stories-1	20–30 min	2	2–3	Teamwork and documentation. Focus on surprises and frustrations.
Share inspiring stories	Interpretation-1, tell stories-2	30–60 min	3	2–3	Team's story building around each member's experience.
Find themes	Interpretation-2, search for meaning-1	20–50 min	4	2–5	Clustering all information. Headlines and meaningful sentences.
Make sense of findings	Interpretation-2, search for meaning-2	25–60 min	5	2–5	Link themes and dig deeper to the essence. Need to jump into the core.
Define insights	Interpretation-2, search for meaning-3	45–90 min	5	2–3	Condense the findings, reconnect to the original challenge. Get a new viewpoint.

Create a visual reminder	Interpretation-3, frame opportunities-1	20–45 min	4	2–3	Visualization helps communication with others and crystallizes your own ideas.
Make insights actionable	Interpretation-3, frame opportunities-2	15–30 min	3	2–3	Develop “how might we” questions, and brainstorm.
Prepare for brainstorming	Ideation-1, generate ideas-1	10–20 min	1	1–2	Brainstorming principles: Diverse people, move around, snacks and drinks.
Facilitate brainstorming	Ideation -1, generate ideas-2	45–60 min	3	6–10	Elect facilitator. Present wild ideas one by one. Focus, but without limiting the challenge.
Select promising ideas	Ideation -1, generate ideas-3	10–20 min	2	6–10	Cluster ideas. Start with individual selection. Understand each selection. Vote.
Sketch to think	Ideation -1, generate ideas-4	15–25 min	2	2–8	Pick the idea and bring the concept to life. Expand around key aspects.
Do a reality check	Ideation -2, refine ideas-1	25–40 min	4	2–4	Realizing the ideas needs knowledge of the constraints and barriers. Revisit the challenge. What is really needed to achieve?
Describe your idea	Ideation -2, refine ideas-2	15–25 min	2	2–3	Treat the description as a repository. Evolve the ideas further.
Create a prototype	Experimentation-1, make prototypes-1	45–90 min	4	2–4	Make the idea tangible. Advertisement and role-play can be a prototype.
Identify sources for feedback	Experimentation-2, get feedback-1	15–25 min	3	2–4	Feedback is a tool to develop the idea. Pick the aspects to feed and plan the setting.
Select feedback participants	Experimentation-2, get feedback-2	20–45 min	1	2–4	Both people who like the idea and who don't like the idea are valuable.

(Continued)



Table 2.1 Design thinking process steps (Continued)

Steps	Phase	Time	Difficulty	No. of people	Summary of my advice
Build a question guide	Experimentation-2, get feedback-3	20–30 min	3	2–4	To compare and navigate multiple feedbacks, you need guidance for questions.
Facilitate feedback conversation	Experimentation-2, get feedback-4	30–60 min	4	2–4	Honest and open feedback is necessary. Prepare multiple prototypes and be neutral.
Capture feedback learnings	Experimentation-2, get feedback-5	20–35 min	3	2–4	Important information lies in the subtle impression of their reactions.
Integrate feedback	Experimentation-2, get feedback-6	20–40 min	4	2–4	Cluster and sort the feedback. Prepare next iteration to incorporate feedback.
Identify what's needed	Experimentation-2, get feedback-7	30–45 min	3	2–4	Prototype needs more work to be used. Plan funding, partners, and time to make it work.
Define success	Evolution-1, track learnings-1	20–45 min	3	2–4	The idea should evolve. Define criteria for measurement to guide the evolution.
Document progress	Evolution-1, track learnings-2	30–60 min	3	2–4	Once operational, the impact will not be noticed. Document any changes. Celebrate any progress.
Plan next steps	Evolution-2, move forward-1	30–45 min	2	2–4	After the idea becomes solid, need to implement. Check the gaps and identify tasks to solve.
Engage others	Evolution-2, move forward-2	30–60 min	4	2–4	To outreach the implementation, plan to get the engagement of the outer group.
Build a community	Evolution-2, move forward-3	30–60 min	3	3–5	Build a community to share your experience and keep going forward.

Source: IDEO's Design Thinking for Educators Toolkit

these processes. Even before starting work, we need to work upon the definition of the challenge, and after the work is completed, we need to go further to pass it to the community. These kinds of lifelong activities are also very special for design thinking, and also very useful and important for the service design.

Now, we can move on to our second toolset: *Playbook for Strategic Foresight and Innovation* (2013).

The style of this book is quite different from the preceding IDEO book. This playbook does not have information on how to hold a group session, how many minutes you may need to allocate, nor how hard the task would be. It says this playbook can be used either by an individual or by a group of people. There are some examples from the workshops, though.

The contents of the *Playbook* are the following:

#### Chapter 1. The Foresight Framework

We introduce a comprehensive framework that offers a structured approach to find the big idea.

#### Chapter 2. How to Start

Discover the different types of innovation paths, people, and industry contexts to help you start in the right place with the right mindset.

#### Chapter 3. Perspective

The *Context Maps*, *Progression Curves*, and *Janus Cones* methods broaden your view of the problem space, helping you to better anticipate the future.

#### Chapter 4. Opportunity

The *Generational Arcs*, *Future User*, and *Futuretelling* methods identify your future customers in terms of macro, micro, and narrative views.

#### Chapter 5. Solution

The *White Spots*, *Paper Mockups*, and *Change Path* methods turn your idea into a tangible artifact and plan.

#### Chapter 6. Team

The *Buddy Checks*, *VOICE Stars*, and *Crowd Clovers* methods help you find and keep the right people engaged in your pursuit of radical innovation.

Chapter 7. Vision

The *Vision Statement*, *DARPA Hard Test*, and *Pathfinders* methods set the right organizational vision to direct your team's efforts.

Appendix

Supporting material includes a list of readings, suggested data sources, and other related items.

The italicized 15 methods are the tools (called methods) that this playbook introduces and they have icons (called shortcuts) shown in Figure 2.3.

This idea of iconizing the methods is a good one, and it is easy to memorize. Some of the methods are similar to the steps described in IDEO toolsets such as Paper Mockups for Create a Prototype.

As Figure 2.3 indicates, the playbook guides the five phases: perspective, opportunity, solution, team, and vision. As in IDEO, these phases can be mixed and one can proceed forward and backward.

Also, note that the objective of the Playbook is a little different from the Toolset of IDEO. IDEO focuses on the solution of the problem, and the *Playbook* is aimed at forecasting the future innovation.







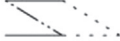








Perspective	Opportunity	Solution	Team	Vision
 Context map	 Generational arcs	 White spots	 Buddy checks	 Vision statement
 Progression curves	 Future user	 Paper mockups	 VOICE stars	 DARPA hard test
 Janus cones	 Futuretelling	 Change paths	 Crowd clovers	 Pathfinders

Figure 2.3 Icons for the methods

Source: *Playbook for Strategic Foresight and Innovation*

## Perspective

### *Context Maps*

Now, let us look at each method presented in the playbook. The first one is Context Maps. Context Maps help to capture emerging themes when you are pursuing an entirely new area of research, find group agreement on the important aspects of a problem, and gain factual background for a particular topic.

One of the defects in the playbook is that the descriptions are dispersed among various chapters of the playbook. For example, the related tools and techniques of the Context Maps are described in the chapter on underlying theories. I will provide this information into my explanation in the following sections.

Tools and techniques of Context Maps are brainstorming and mind mapping, and the unique benefit is the complexity of topic is retained, while beginning to converge on priority areas.

Context Maps themselves are conversions from the diverse ideas obtained by brainstorming and mind-mapping. There are eight places where you can place the converged ideas. And, if possible, you can give a name for each of these ideas and write them in the center of the context maps.

### *Progression Curves*

Progression Curves represent the evolution of changes in terms of technological, social, and other aspects. The S curve for learning and technological adoption is a famous example for this kind of evolution. Also, this relates to historical timelines.

This is also another kind of conversion along the timeline. Its benefit is to connect multiple related events and highlight precedents, what has happened after those events, and what will happen after these events.

In this method, you are advised to draw multiple curves so that you have multiple viewpoints on timeline evolution.

### *Janus Cones*

Janus, as a Roman guardian, has the two faces, one for the front and one for the back. The Janus Cones are used to identify indirect

influences from the past, and to see what kind of influences we can create for the future.

This also makes a quick summary of the topic you are tackling from a historical perspective. Each circle indicates specific timeline, such as 1880s, 1900s, 1920s, ... , 2000s, 2020s, or around today. You can put related topics that may have some relation to or influence on the current topic.

In the preceding case of Progressive Curves, the focus was on the line of technology or phenomena where you have been watching how some properties have evolved or changed. In these Janus Cones, you will place diverse phenomena with respect to the timeline. You may find some unexpected relationship between two events which may seem to be almost foreign to each other.

Now, let us move to the opportunity phase where you will shift from the past to the future and also from problems to people. To find the opportunity is to find users for your services and goods in a very broad sense. In a way, you will take user-centric approach instead of facts and technologies as in the preceding phase.

## Opportunity

### *Generational Arcs*

This is a familiar method for marketing people—discussing the demographic trend, which is one of the more stable predictions of happenings in the future. Population distribution does not change much, even though it may be affected by immigrants and some big events such as war. A large generation will grow year by year, and each generation will have some peculiar traits such as baby-boomers, who are now in their late 60s.

Generation arcs describe the age distribution in your part of population, either in the country or in the industry or in any segment you would like to choose. You will also expect that this curve will move forward year by year. So you can make some good guesses about how your target customer will act and how many possible customers you will have in the future.

### *Future User*

This method, Future User, relates to demography, but it focuses on how the future users of your product and service will be and will behave with

your product and service. The approach is extrapolation from the current user in a specific age group. They have special needs and special responses in some market segments. This kind of abstracted user specialties is called *persona*, and each persona can tell you a story.

First, you will pick a persona of some age, for example 32, and then you study what this persona was in the past, say 10 years earlier at age 22. You will also pick another persona at age 22 now, connect this persona with the first persona, 10 years ago at the same age 22.

You can extrapolate this second persona to 10 years in the future, at age 32. The forecasting will be based on the differentiation you have seen in the first one from age 22 to age 32, and the difference between the original persona and this persona, both at age 22. You can connect these four personas to see what will change, what will remain the same, what is the main motif of differentiation, and so on. With this method, and checking with the stories each persona can tell, you will have some clear images on the personas of future users.

You should give some name to these personas, with some interesting stories for your customers. You can put some energy into your imagined customers and you can check how real they are with your colleagues.

### ***Futuretelling***

This is a live demonstration or a short drama, a skit to show how the future will be. This is done typically when you have some ideas about your future products and services. You can identify the future users and present the audience an idea of how your product and services will appeal to future users.

In a way, this is a live version of your business proposal for your products and services. Instead of using financial forecasts with a long list of numbers, you will have your team members to present a future situation with the proposed products and services.

This has a double-sided effect. Clearly the audience will have a more intuitive understanding of what your product and services will bring to the future customers. They will understand the problems you are trying to solve and the values you are trying to convey. On the other hand, you and your team will learn how your future user will act, and hopefully you and your team will understand how the future user will feel with your products and services.

Using a drama will result in a lively situation so that you may find some insights by trying to foretell the future. It is also worth recording the responses, questions, comments, and their faces during your performance. The response of the audience will suggest how persuasive your postulated situation will be, and also let you know the outsider point-of-view about your future products, services, and users.

The preceding two phases, perspectives and opportunities give you good candidates for your future products and services. Some of these methods, such as Futuretelling, have given you a preliminary feedback for your plan of these products and services.

## Solution

The next phase is the solution phase where we have three methods: White Spots, Paper Mockups, and Change Path.

In this solution phase, you can work more on your ideas trying to find out how to realize them in the real marketplace.

### *White Spots*

This is a popular strategic method to find the opportunity space within the defined two dimensional space or a  $2 \times 2$  matrix. First, on the white paper or canvas, you draw two intersecting lines with the x-axis and y-axis. Pick up two orthogonal dimensions. The Context Map may be helpful to identify these dimensions.

Put as many examples as possible in these four quadrants. It would be good to pick up four extreme cases to indicate these dimensions clearly and also to indicate some sense of distance from the extreme to neutral.

The most popular example of the dimensions will be growth-share matrix developed by the Boston Consulting Group (BCG) in the 1970s. In the BCG case, as shown in Figure 2.4, the objective is to make a better portfolio of your products and services so that they have configured each quadrant, as question marks (little share large growth), dogs (little share small growth), cash cow (large share small growth), and stars (large share large growth). The product is born in the quadrant named question marks, and if successful will come to stars and then to cash cow, and later

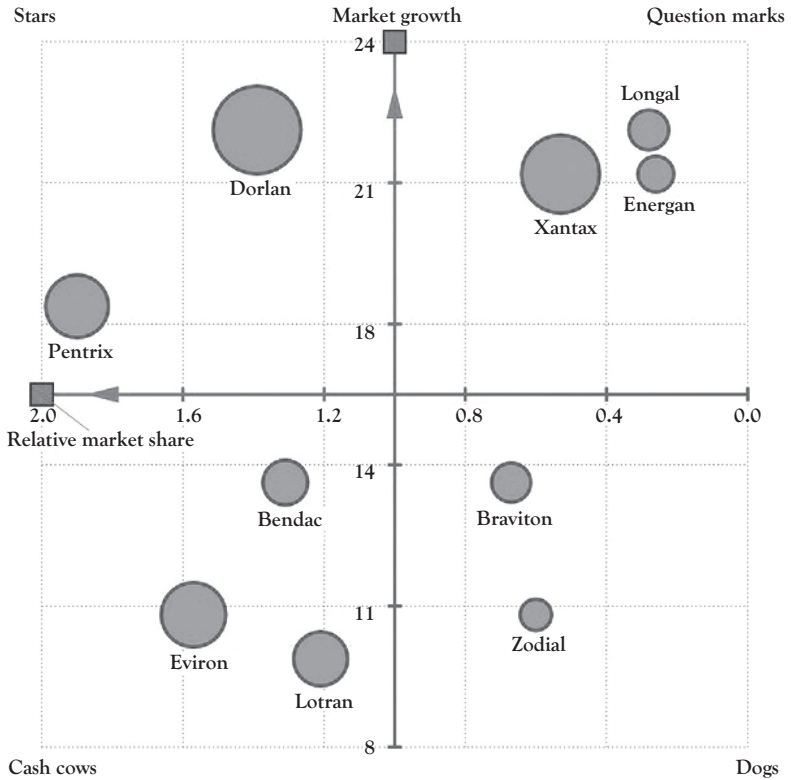


Figure 2.4 BCG's growth-share matrix

may fall into dogs. If the new product is a failure, it will come into dogs, and you need to do something to move them into stars, if possible.

In the case of White Spots, we are interested in finding the opportunity, so the dimensions will be military use versus home use, and high price versus low price, or professional use versus casual use and so on. This White Spots approach is similar to the Blue Ocean Strategy at the Blue Ocean Strategy Institute at INSEAD (Kim and Mauborgne 2005). This advocates the breaking of existing market boundaries and creating a new and untouched marketplace called a Blue Ocean. In White Spots, we will just use the dimensions and distribution of existing (existed as well) examples of products and services to see where the opportunity exists.

Our exploration to find the appropriate dimensions will be by breaking and creating new market boundaries in the Blue Ocean Strategies. The dimensions can be higher than three, four, and so on, yet two dimensions



will be much simpler and easier to understand. So you had better stick to two dimensional schema.

### ***Paper Mockups***

This method is also called *quick and dirty prototype*. This appeals to the audience as well as your team to have a tangible picture for your products and services. You have had a similar situation at the Futuretelling method in the opportunities phase where you have presented a live drama to present the situation where your products and services will be used to solve your customers' problems. In the skit, you may have shown a mockup of a product-to-be so that the audience can sense what kind of product it will be.

This mock-up is similar to the one used in Futuretelling but will be more complete. The Paper Mockup can be not only a product but a whole environment and setup for the products and services that you are planning to deliver.

The entire setup is very important for the service design because it will bring together all the elements that are needed to realize your service. For example, if you are working on an innovative drinking water supply system, you will think of all the elements such as getting the water from some source, a system to clean-up the water, and the delivery of the water to the home and customer area. You may also need a monitoring system as well as a metering system.

In the Futuretelling, you can pick up some situations, but you cannot fully depict the entire system or how to maintain the system. The paper mockup is more suitable to help describe the whole set of system elements and to check that you have installed all the elements for the complete operation.

Yet, this is only a mockup utilizing available cheap materials so that you can communicate with your audience who may be potential customers, and you cannot show them how it really works. This is the limitation of the Paper Mockups, but it has an advantage of showing what you and your team are thinking of, and inviting audiences to add to and modify your ideas.

This advice can also be obtained by inviting others to inject their ideas. "Do not make your mockup to be complete, better let them to be incomplete." People will be more than happy when they can help you

with your ideas. They can share their ideas by offering some suggestions. If you make a prototype that is so complete that nobody can add suggestions, then the audience can say either “yes, I will use it,” or “no, I do not like it.” Instead, if you invite them to modify, or suggest they revise or modify, then they can say, “look, it became better with my suggestion. Can I make more suggestion to make it better?”

### ***Dark Horse Prototype***

An important variation of paper mockup is the dark horse prototype which brings a new perspective to the ideas you have abandoned in the preceding earlier phases.

There are instances where after a series of iterations and working toward the realization of your ideas, you may come to understand the problem and situation much better than in the beginning. At this stage, some of your discarded ideas can become an attractive alternative.

This is like a dark horse in horse racing, the least promising candidate that has come to top will bring the greatest rewards to you. The method is to try a mockup for the abandoned ideas to give you a new perspective to the old ideas.

My friend, Stephen Kwan at San Jose State University, California, once told me that this method is one of the best and most effective in the playbook.

### ***Change Paths***

This method can be used for analysis but is presented for planning your path for innovation. This is a series of ways to connect milestones or decision points as you approach your final goal.

The process proceeds in the following manner:

1. First, you draw a circle on the right hand side to indicate your goal in the future with your new products and services.
2. Second, you put an X on the left hand side to indicate where you are at the present time-frame.
3. Finally, you can discuss with your colleagues what kind of paths you can take to achieve the right side goal.

There will be multiple approaches to achieve the goal. Please also pick up a few milestones where you need to check the status, responses from future customers, and see how competitors are working. Put X on the milestones and draw a line from this milestone to the goal.

This is a kind of exercise to prepare for the plausible future events. You must also prepare for the possibility that the real future might be quite different from what you expect now. Yet, it is better to describe events in the future and prepare for these events, even if they do not occur.

## Team

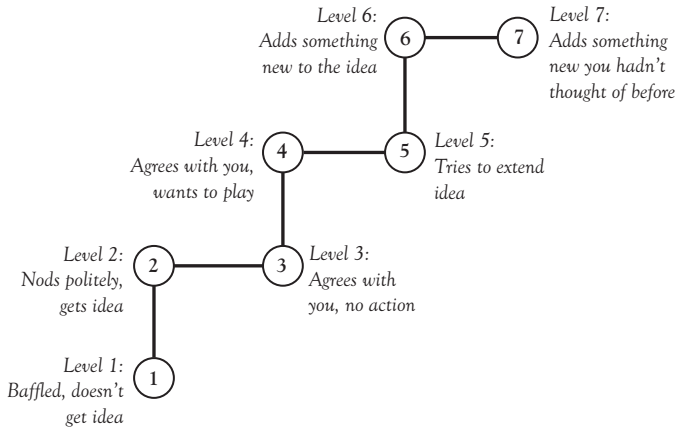
In the next phase, the team has a flavor different from the preceding phases, where focus was on ideas and approaches to bring some innovations. Here, the focus is on people who work with you, and you must recognize that those colleagues and supporters are indispensable for your future products and services. You cannot simply deliver the solution alone by yourself. You need a team and you need to develop the ability of your team to pursue success.

### *Buddy Checks*

This is a test for candidates to see whether they fit your team or not. The result of the test is described in the seven levels depicted in Figure 2.5.

Note that these levels are decided based upon the candidate's response to the presentation of your ideas. You must be careful in the way you present your ideas. The playbook instructs preparing several exercises before you eventually check the people who are tested by your presentation and response.

Also, you need to listen very carefully to the people's response. For example, the playbook lists typical responses such as "Why are you doing this?" "Baffled, don't get idea" as level 1. However, sometimes the person, who has a good motivation to cooperate with you, may ask the very same question "why are you doing this?" You must read their faces to see what is behind their saying that, whether from a keen interest or just because he or she cannot understand what you are saying. To judge the level, you should have your colleagues and other people with you at the time of



**Figure 2.5** *The seven levels of Buddy Checks*

questioning, so that they can give a second opinion with the subject. Yet, the playbook also advises you to rely on your intuition, which might be reasonable.

Please also note that the Buddy Checks is a special kind of decision tree, or flow diagram, in the sense that it is a yes or no decision process.

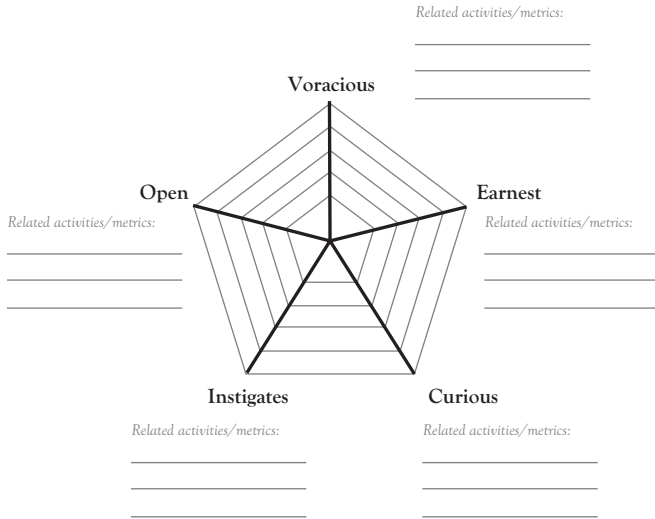
### **VOICE Stars**

VOICE Stars is a method to measure the leadership aptitude for radical innovation through a talent diagnosis. VOICE stands for voracious, open, instigates, curious, and earnest, the characteristics of leadership capability.

You will write a five point star as in Figure 2.6. For each person, you will write down his or her activities and measure the trait and plot the point on the axis of each trait.

Note that the measures to gauge these five traits can be set with the specific environment and team. Do not rely on the universal measure for everyone; that may mislead you about the value of the real attribute that you require to come up with the innovation.

The VOICE method is also useful for understanding the characteristic differences among your team members. So this diagram which can be made when you connect the dots on the VOICE star, will show some characteristic pattern for each team member. With these stars, you can



**Figure 2.6 VOICE Stars**

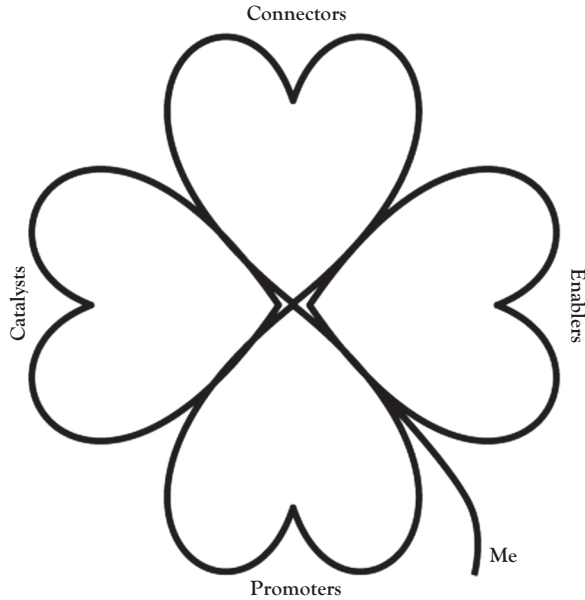
talk with your team mates about what can be the best distribution of the workload in your team.

**Crowd Clovers**

Crowd Clovers is a different method from the preceding two methods, Buddy Checks and VOICE Stars in that this is not to check the candidate or team mate but to check what your personal network for innovation looks like.

You recognize the importance of your personal network to pursue your goal of innovative products and services. The Crowd Clovers give you a chance to check what your personal network is, and suggest how you can grow your personal network.

There are other approaches to check your personal network such as *open innovation network* and *community of practice*. The former focuses on sourcing ideas from outsiders by using some formal status or some formal organization such as crowd sourcing. The latter focuses on shared interests among people networked together. In the case of Crowd Clovers, we do not distinguish formal network from informal network, although we mark some annotation indicating whether the person has formal status



*Figure 2.7 Crowd Clovers*

or not. Crowd Clovers also put more emphasis on pushing new ideas forward rather than sharing.

In the Crowd Clovers, you will have four leaves, catalysts for inspiring ideas, connectors who give resources to you, enablers who execute things and push things forward, and promoters who outreach through the network for a wider audience. This is depicted in Figure 2.7.

You place names of people who give you new viewpoints and ideas, or those who inspire and provoke you into the catalysts and those people who will introduce new people, or new groups or places, where you can find another opportunity, into the connectors leaf. For enablers, you can list people who encourage you to move forward, and people who appraise you or promote you and your ideas are put into promoters area.

## Vision

The last phase is the vision. This might sound strange because normally you have been driven by some vision to explore new products and services or innovation. There must be some vision that has been motivating you to work hard to make your dream a reality.

However, the playbook put the vision phase as a final stage for exploring your innovation. The vision is your crystallized idea, which excites more people, mobilizes them to further action, and will secure funding and support for your endeavor.

That said, it is not an easy task to crystallize your vision and deliver it precisely to a wider audience. The Playbook provides three methods: Vision Statement, DARPA Hard Test, and Pathfinders. Let us look each method in turn.

### ***Vision Statement***

A vision statement is a popular term for most organizations; however, a really good vision statement is rare. It should define your new idea and innovation and convey it to the business opportunity with a one-minute story and remind your team and partners what you and your team are trying to make.

The vision statement creates a simple and memorable framework for all your strategic planning, and explains where you want to go and why. Your team can use the vision statement as an internal compass informing you where to focus, what to do, and what not to do. For your investors, partners, and customers, it will deliver what you are innovating and help them to determine how best to support you and your team.

The playbook also extends how you put the words and sentences together to make a vision statement, which is, I believe, very helpful because the instructions are quite concrete and easy to follow. Here is the copy of *playbook's* instruction to make a vision statement:

1. Start by describing what you want to achieve in very simple terms: “Our vision is to \_\_\_\_” The Paper Mockups and Futuretelling methods will help you find and express your idea. Use the White Spots and Dark Horse methods to specify the unique value in your idea relative to competing solutions.
2. Next explain why your vision is truly visionary by stating: “It is almost impossible to achieve because \_\_\_\_.” The Context Maps and White Spots methods will offer hints on your team’s view of the existing challenge and state of the field. The Dark Horse method will also help to identify existing preconceptions.

3. Explain why your vision should be pursued now by stating: “The timing is right today due to \_\_\_\_\_.” The Progression Curves and Janus Cones will help you justify the next step in the idea’s timeline.
4. Briefly explain the background or precursors for your idea by stating: “Precedents for this idea include \_\_\_\_\_.” The Progression Curves and Janus Cones methods can help you uncover any relevant history.
5. Make your vision active and collaborative by mentioning 2–4 partners or supporters: “By working with , and \_\_\_\_\_.” The Future Users and Change Path methods can help determine who could be involved in building your idea.
6. Show commitment and set a timeline by stating: “we will make this vision real in \_\_ years.” The Progression Curves method will help you gauge past time frames to estimate a future planning horizon.
7. Lastly, explain how you will make your idea happen by stating “by \_\_\_\_\_.” The Change Path method will let you name two big milestones that extend directly from today.

### ***DARPA Hard Test***

DARPA Hard Test comes from DARPA, their method for the selection of the projects to be funded. This is a good filter if your products and services are good enough both in terms of challenge and outcome.

The vision dimension, properties for measuring how the product or service is good in terms of the DARPA Hard Test, are the following four: far-reaching, technically challenging, multidisciplinary, and actionable. For each dimension, the value is checked with seven scales.


The definition of the vision dimensions and the high and low scales of each dimension are summarized in Figure 2.8.

From this definition and the scales, you will note that the far-reaching dimension tests how big a stretch your innovation your product or service will be. So, the challenge in terms of innovation is measured here.

The next dimension, technically challenging, is focused on the challenge in terms of technology.

The multidisciplinary dimension is a support for innovational characteristics. One common approach for innovation is to combine multiple





Dimension	Definition	End of scale (1)	Top of scale (7)
I. Far-Reaching	The solution requires a completely new mental model, passing through a paradigm shift	Requires no change in how people think about a solution	Requires a paradigm shift in how a solution is viewed across society
II. Technically Challenging	The goal is almost technically impossible without becoming "magical"	Requires no new technical knowledge	Requires major advancements in technical knowledge
III. Multi-Disciplinary	The solution requires multiple bodies of knowledge that rarely exist within one industry	Requires only one class of knowledge	Requires multiple, distinct bodies of knowledge
IV. Actionable	The right people can see a path to the impossible and can make progress beginning today	Requires so much clarification that the next step is another meeting	Requires little effort to begin taking actions toward the solution

**Figure 2.8** DARPA Hard Test vision dimensions, definitions and scales.

elements that have been considered to be alien to each other. So, again, this dimension may support the degree of innovation.

The last dimension, actionable, is, in a sense, quite contrary to the degree of challenge. It measures the extent to which the product and service you are proposing is really achievable.

It is not an easy task to be both actionable and innovative, even at the level of proposal, but this is what DARPA Hard Test wants to find out. It is always actionable when you are trying to do a little modification to the existing product and service. And the hard challenge both in terms of innovation and technology will not be easy to execute; that is one reason your innovation is challenging.

Yet, this DARPA Hard Test gives you a sense of impact and opens up the exploration on how to do it. In the case of DARPA, money is not a big problem, if it is actionable in terms of money, they will just do it. In the case of your own program, money may be a problem.

**Pathfinders**

Pathfinders is a method within an organization to secure the process to execute your innovative product and service to be funded and executed. It proceeds with the following steps:

1. You will draw a straight line with reasonable milestones for your organization's standard process for approval and execution of new projects.
2. Pick multiple cases where new ideas have been proposed, adopted, and executed and some ideas, which had been proposed but were stalled or rejected. Draw their paths over the standard process, showing positive or accelerated event over the standard line, and negative or hindered event under the line.
3. Review these cases and check what events were useful to accelerate the process and what events hindered or stalled the adoption process. Usually the mixture of formal and informal events would be helpful for early adoption.
4. Plan your path for effective adoption of your proposal in your organization.

Now we have reviewed a design thinking process based on the IDEO's Toolkits and also the Foresight Framework™ methods available from Innovation Leadership Board and taught in Stanford's Strategic Foresight and Innovation program, to address "how to design your services?"

## Try to Design Your Service

Now, it is time for you to design your own service. In my class, this is the time for do-it-yourself, or group workshop, where you will work with your classmates to design your service with your team members.

You have learned lots of techniques and ideas to proceed to design your service earlier in this book, and now is the time for you to try your own ideas. However, this is a book not a class room or a workshop studio, so I must leave the designing work to you, dear reader, though there are some things I can tell you before you jump into the design.

In the college course for service design, we give you the big picture: the trend in the service industry, the history of the research in the area of service design, an overview of related areas such as SSME (Service Science, Management and Engineering), and list of references in service design. That is the changing role of the service provider and service

recipients or your customer. It should be noted that this trend is a branch of a much bigger movement in our modern society. Barbara Kellerman named it as *The End of Leadership* (2012). Her book focuses on political leaders and corporate leaders. But this phenomenon is also seen in the service industry, and that is the major reason behind the need for service design thinking.

Once upon a time, say just after the World War II, the classical view for leadership was still strong, and the service recipients were very obedient and lined up for getting the service. In that era, the important thing was to provide enough service for the customers who want it; be it car, gas, or educational services.

Now it is quite a different era. Customers can choose the service provider who will make them happiest. And if your service is worse than expected, you will be criticized openly in any form of available media, be it Facebook, Twitter, or YouTube. A Japanese proverb goes like “Treat the customer as the King or God,” which sometimes results in the uncomfortable situation where you just obey the customers whether they are right or not.

I would like to talk of two important points before you start designing your service. They relate to the customer and time.

### *The Customer*

As you learn the design thinking approach, you understand the user or the customer plays the central role in your design. Sometimes it is called a user-centered (Stickdorn and Schneider 2012) design.

You have been told that you need to think and feel as a customer. To make this happen, many approaches are developed such as ethnographic observation and role-playing with some prototype to play the customer role.

One of the pitfalls in all these approaches is that the user is a human being, and there is so much variety among your users that nobody can tell what he or she really feels. Even the customer himself or herself cannot express exactly how he or she feels with your service. It might happen that after the customers experiences others' services they will begin to understand the real value of your service.

It is important to design your service in the user-centered framework. Yet, you cannot be sure if your design of the service is a success or not until enough number of customers receive your service. In other words, even a very good service may not get the proper response from some customers initially. This situation is quite different from that of product development, where the quality of the product can be measured properly whether the user's response is good or bad.

Also, human judgment is affected by many things, such as how the day begins, which are quite irrelevant to your service. On the other hand, if the customer is quite happy, he or she may regard your service is also good not so much because of your service itself but because of his or her psychological status.

Again, some time is necessary to properly evaluate your service to your customers, and you need to sustain your service to your customers. If you give up too early, you may simply miss your success, and this kind of story has been told so many times in particular in the case of writers, who unfortunately abandoned their literary efforts, but later, very often after the death of the writer, the work has received high acclaim.

### ***The Time or Timing***

One of the basic properties of service is the importance of the timing when the service is provided.

Needless to say a timely response is very important. One of the properties of service is characterized as *time-based* (Lovelock and Wirtz 2007) or *time-perishable* (Fitzsimmons and Fitzsimmons 2003). Compared with normal products, which are tangible (except for some time-dependent products such as fresh food) and can be stocked for some time to be used or consumed later, service is available only for the time being, or in other words, service can be appreciated only at the time it is needed. For example, medical service is valuable when the recipient needs some medical treatment. If nothing is wrong with his or her body, medical treatment is not valuable at all.

In the design thinking approaches discussed earlier, the time aspect has been included in many methods and stages, but it is not the focus anywhere and the importance of timing may not have caught your attention.

In the case of service design, time is so critical and important. If your service is not delivered in time and in a proper manner to the customer, you will lose the entire value of your service and all the effort and preparation you have put into it so far will be in vain.

Now, what would be the good approach to incorporate these time aspects into your service or how can you promote your service with this timing property. One approach would be to make your service itself depend on the time. One typical example is the timely delivery service with the declaration that if we are late by more than 10 min we will give our service free!

Another approach would be to declare the time openly so that the customer can check how prompt you are. However, this might be a risky approach as we have seen with the airline and train industry. In some countries such as Japan, customers are so accustomed with timely service in minutes so even a small delay of a few minutes may make the customers unhappy.

Pricing is one of the big problems with time dependent service. As we have seen, the entire value will be lost if we miss the time-limit. Then, how does one set the price for a service that can be delivered on time? It must be of enormous value to the customer. That is one of the reasons why we pay so much money for information. In war, if you can get to know when the enemy will move, that will help you to win. Again, what we know from history is that precious information even when received on time may be just put away for whatever reason. The value of timing as well as the value of information simply cannot be properly appreciated by some people.

If you are just an outsider, you can say that the value of the timely service may depend on the recipient's condition before receiving the service, and that, in general, the service provider cannot know how much it will be worth to the recipient until the service is finally delivered. Still, as a service provider, what you need to understand is that the recipient will pay the high cost of your service if it is on time, and that fact will boost the value of your service.

We can summarize the principles that govern the time property of your service as follows:

1. You need to write down the timeline of your service so that you are aware that the service should be delivered promptly to your customers.
2. You need to estimate the cost and value of your service depending on the delivery time. With your business scheme, you must adjust these time dependent cost and value, and make your pricing accordingly to the maximal satisfaction of your customers.
3. You need to calculate the risk of missing the time-frame. In the worst case, it will damage your brand so the outcome might be negative rather than zero.
4. You must construct a system so that if your service has an advantage on the time property, it will boost your service in many ways. You must find the secondary effects on the timely service so that not only timing but other aspects and other qualities can take the time advantage to make the difference.

Now, once again, I would like to urge you to try to design your service, even a rough sketch will do, just like the simple diagram that Mr. Jeff Bezos wrote on the napkin. It is very important to write down your ideas in order to visualize how it works. We will discuss in the next section the very important thing with your service. That is the delivery of your service to your customer.

## How to Deliver Your Service

Most textbooks and instructions about service design focus on creating or inventing services. Sometimes this invention is called *service innovation*. Creating a new service is, of course, important, but delivery of service is also important.

Just like the most stories about the war, battles have been talked about a lot, but even though military logistics is highly important, it is not talked about as much. Service delivery is like military logistics. Without the delivery, your service cannot reach the customer, and compared with tangible products, all the effort for the service before the delivery will be simply lost.

When you think of delivering your service, you will check again on all aspects of your service or your service supply chain management system. You must check the sourcing of your service, customer identification and customer contact, and then follow-up the customer on his or her service experience, and if possible, revise your service according to your customer's responses.

### *Customer Identification*

Talking of service delivery, the most important aspect is to identify and address possible customers. In my own experience, the introduction of new services is not so difficult compared to identifying and addressing delivery to your customers.

If you have enough money, you can make a country-wide advertisement over TV, newspaper, or the Internet; yet, still there will be no guarantee that you will reach all your target audiences. In my experience on the informal educational service for kids, we have quite a good idea about who the customers are: K-12 kids who are highly curious and willing to meet new people and try new toys. However, it has been so difficult to reach these kids that we have targeted. One of the reasons is that the formal educational system will not accept any offering from our side. Thus, the word-of-mouth communication has been the most effective one, and the next is through Internet-based social networking services (SNS).

Sometimes, sourcing your service might be a problem. Again, with our informal educational service, we have had problems such as the sudden absence of the scheduled instructor due to illness or some other reasons. Since we have designed that the expert in some area will give a talk and review the kids' works, it is not easy to find another expert and ask him or her to prepare to give a talk. Instead, we need to develop another course with a provision for the scheduled instructor to miss a session.

Service delivery to the customer implies contact with the customer of your service. Even if it is self-service, which the customer will operate by himself or herself such as the e-commerce, it is the place, virtual or physical (sometimes, it is both physical and virtual), where your customer consumes your service. The touch point may mean the initiation of the service consumption, such as a contract with the mobile phone service.

### ***Continuous Service Delivery***

The continuous service delivery such as communication services and civil services, throws up another kind of difficulty on the service delivery. The critical point is that the recipients become accustomed to those services, however good it is. Any service of this kind will be taken for granted.

People will complain about these services when not available; however, they tend to forget how much effort has to be put in place to maintain the service level as it is and to make it available in the future as well. This loss of appreciation in time when the service excited a lot of appreciation initially also happens in family affairs. A long-time husband and wife would take the other's support and service for granted, even though when they got married, they thought highly of these services between them.

Thus, there needs to be some approach to make continuous service as fresh as ever to remind both the service providers and recipients just how important and valuable these services are, because it is eventually a hard job to keep its quality as high as ever, and make it available 24 hours and 7 days.

### ***Customer Base Management***

For service delivery, critical work should be put on your customer base. This actually raises the question on how your customer base can be managed. The important thing is the development of new customers.

Service, as with other products, needs to reach the customers to whom the service is to be delivered. Different from normal products which have an established supply chain, services, especially new services, may need the creation of a new channel of information to access the customer base for the new service.

For example, in our unorthodox education program called *Kids, Their Future & Design*, we wanted to reach K-12 children and their parents, that the easiest place for information dissemination is the local schools, and that a major problem with these elementary schools in Japan is that schools do not accept this kind of information from outside of the official government-related organization.



We need to develop other approaches for accessing parents and children for our service, so we relied on mouth-to-mouth advertising and Internet-based information utilizing SNS (such as Facebook).

A more difficult situation occurs when we cannot identify the customer group for the service, or we misunderstand the customer group for some reason. In this case, we will miss potential customers and there are several problems that we must handle. The first one is, of course, the loss of the revenue and the dampened rate of business growth.

The second one is the loss of innovation that the missing customers may have brought in through some complaints with the current service. This is important in the sense that because of this lack of possible complaints with the current service, we may be content with the known customer set and the service we are providing now resulting in no further improvement in the service. The third problem is the loss of curiosity or inspiration. We learn from our customers. New customers always tell us new aspects on our service and also others' services that may relate to our services.

Governmental service has the tendency to miss this aspect of innovation through new customer complaints. The government, if separated from the grass-roots of people, takes it for granted that they are the elite group who control the people who are really their customers and that the people are paying for the living cost of government officers through their tax payment. So, government employees tend to think that the people do not understand the system, laws, and rules, properly, and so that they make a fuss about the current system.

### *Timing of the Service Delivery*

Nowadays, supply chain management (SCM) handles just-in-time (JIT) delivery. Delivery in our era also means the managing the timing to deliver the service as well as goods. So, timing is now critical for the service delivery.

Good service is delivered to the customer just in time, not later, nor earlier. It is not easy to determine this timing for delivery. You might think that it is simple enough to make the delivery of the solution as soon as possible, or at least, no later than the competitor's delivery timing,

yet, things may work in other directions so that you may be better off delaying your service until it is the right time for delivery. Partnoy (2012) explains general business perspectives on waiting for better timing. In service design also, this is true, and one of the good examples is the case of Apple which brought out the digital music device called iPod. You must have noticed that the introduction of the iPod was late but when it came, it came with the splendid service called iTunes.

The time management of your service is thus very critical for your success. It is also important that you handle both your time and the customer's time gracefully in a way that the time is good not only for the customer but also good for you. If you are in a good condition, the quality of your service will be much better than when you are in a bad situation. The experience of the service is the sharing between you and your customer.

We have learned in this chapter how to design your service, from the mindset to the delivery with design thinking toolsets. The principle you have learned here can be applied in other areas such as manufacturing. However, we also need to review our service in other aspects, that is, from a social viewpoint. We will see how the social approach can add other types of values to your service.



## CHAPTER 3

# Societal Approach

*A Japanese merchant joined our troop to escape from U.S. military attack. He brought a huge bag of Japanese military money. In the jungle, these paper money had no value at all. The knowledge of which plant is eatable has by far much value.*

—My father's words on the retreat to mountains in the Philippines during the last war

We humans are social animals. An independent person, without any social environment, can exist only in the theoretical, unrealistic context. The Japanese merchant thought money was the most valuable and useful thing for his family; this had been true in his former life. We ourselves may behave like the merchant and believe that the most valuable thing that we have been used to will be valuable for our customers even in the future. But alas, the situation may change dramatically, and nobody can tell when a catastrophe will occur.

I have learned this lesson at the time of the East Japan Earthquake on March 11, 2011. Because of the loss of electricity, our city, though far from Fukushima, suffered a lot without ordinary food, several goods, gas, and other things.

This means that your service must be designed in the societal context. Let us see what you need to make your service highly valuable to society.

### Service in the Societal Context

Your service is a social action in the sense that you are interacting with your customers and your supporters for the service. Your customer is not alone, he or she is connected with other people in many ways. Eventually, you are serving a group of people, or societies of people, not just one person whom you serve directly.

To design your service in the societal context means that you design your service as a part of your society, which means that you deliver some meaning and value to your group of people by your service.

This is a shift of your viewpoint from just business with your customer toward the bigger picture which includes you, your customer, your customer's customer, and so on to all the stakeholders of your service.

It is also a challenge to you to explain the value you are providing to society. Are you bringing better quality to your community? Are you promoting safety to your society? Do you give joyful experience to the group of people who are engaging your service? Or, do you think of your service just for money?

## Service Design for Society

When you say “Our service brings social value,” you could mean many things. One simple situation is that the service directly targets society. A more complicated situation is the case when your service has a social impact that is not obvious to other people. In the preceding sections, we have learned the design thinking approach and how to design our service. Now, we would like to think about the way to design your service to provide social value.

A critical element is the presentation of the social value that may not be obvious for other people. This is a variation of an advertisement in the sense that your intention is to make your service popular and attractive for the potential customer. This may also serve as communication to your people and other stakeholders of your service. So, there are lots of reasons why you should spend your time and money on this.

One of the very effective methods of advertisement is through the messages of other people in the society; some of them might be those who benefitted from your service, some of them might be just curious to know how your service affects society, and yet others might have a critical view of your service, that the service is not enough or is missing some points. Anyway, it is very important that somebody other than your inner circle talks about your service.

## Service Design and Delivery for Society Toolkits

There are lots of service design toolkits available on the web. I have checked one of them, <http://www.servicedesigntools.org/>, which had a good variety of tools listed with explanatory materials. There are also textbooks such as *This is Service Design Thinking: Basics, Tools, Cases* (Stickdorn and Schneider 2012), which has numerous methods and tools listed. Parker and Heapy's book *The Journey to the Interface: How Public Service Design Can Connect Users to Reform* (2006) is also a good introduction of service design in public context.

All these tools and toolkits are used for Service Design for Society when you add the society's perspective. For example, Service Design Tools.org lists the following tools for the design phase: (a) story telling, (b) rough prototyping, (c) role play, (d) motivation matrix, (e) mind map, (f) LEGO serious play, (g) issue cards, (h) group sketching, (i) design games, (j) character profiles, and (k) affinity diagrams. All these tools are used in many ways, and there is nothing exclusively for society.

If we pick story telling as an example, it is a very general tool and can be used even in places other than service design. It can be used for psychological counseling, in nursing places, even for composition or a journalism course. Here, what we need to do is to add the perspective of society. You need to tell the story where your service will interact with the society. You must make up an anecdote to show how the individual in society can enjoy your service, or how much your service will help give society a good and healthy status.

In a recent case of ours, we collaborated with a music device maker for a kids' workshop on electronics circuits. In the device maker's context, it served as a product promotional event. However, with them, we developed a scenario where the kids and the parents together explore electronic circuits designs and experiments. The event took place at Kawasaki city, Japan, where many industries including electronics, chemical, and mechanical factories are found, and the electronic circuits design is one of the features that Kawasaki city boasts of.

The facility is a shared office and people have been working with the city's administrators to promote new business ventures exploring this opportunity. Thus, our program is positioned as one of the events to

promote the technical knowledge needed for future industrial plans for the city planners.

We have almost completed the design of your service. Let us take a break and look back at what we have learned with some refreshing topics around service and design.

## CHAPTER 4

# Intermezzo—Looking Back at What You Have Learned

*At the ship, only your skill at hand and knowledge at head are accountable.*

—My grandfather-in-law’s words on his ship at Kobe port

In our course, this is the time when groups of students go out for their projects and then, after a while, come back to report on the kind of services they have designed. We then have a session for presentations and discussions.

For the reader of this book, I urge you to try to design and sketch your service for a while. It is very important that you use both your hands and head to work out your design for your service. Just listening to (or reading) the lecture is not good enough for an in-depth understanding. Once you start to use your hands and head, you will start asking questions—what, how, and why you need to do such a thing, in such a way.

Now, once you have tried using your hands and head (and maybe your feet as well), you can take a little rest and look back at what you have learned. It is also a good thing to have a little cake, perhaps with a sip of coffee or tea, to look back. You may find new things, which you may have missed so far.

### From Motivation to Delivery

In Chapter 1, I have mostly talked about the background or motivation for your service. In the physical class, this is very important even though it is not an easy task at all. Yet, getting to know the background of your students will help you to set your strategy and tactics to conduct your class effectively. It is one of the keystones for the design of your service. It



boils down to a popular phrase, know your customer, but the practice will tell you the work means much more than knowing. It is actually sharing and the making of the community with your customer.

Writing a book is a difficult task in this regard. However, some authors feel it is easier to write a book as there would be no necessity to know your audience. You can just write the text as you like since you cannot tell who the readers of your book are going to be.

Well, I hope I have written about what you may have hoped to read. However, even when you have met the student and you have thought you understand his or her desire, you cannot tell whether your talk has satisfied him or her or not.

Now, once you are motivated, you should set to work instantly. However, you may need some guidance on where to go and how to start, so I put design thinking as an approach for starting your motivated activity.

In a way, this specific approach to design thinking is my motivation to write a book, as I am not satisfied with the traditional approach to service design. It might be specific to the Japanese community, but people in service design have been too involved in service performance and fancy gadgets using information and communication technology.

The motivation and starting your service with available tools would be most important and exciting; the performance and fancy operations will come later, or at least you can find the way to manage them.

The design thinking approach is an open framework to make things or to rethink things. However, an attractive approach alone cannot produce anything. When I was involved in the study of design thinking, I have heard many criticisms that there is no assurance that design thinking can solve a problem or innovate anything.

Well, in many fields, there is no assurance you can succeed, yet what we know is that there are many people who succeeded by using the design thinking approach. Also, any approach always brings up arguments about what is the right approach, and what kind of approaches are the wrong ones. These arguments are not useful for practitioners who are searching for results.

People have been very fierce when arguing about which approach is right in terms of orthodoxy. However, as you know, these arguments may not be fruitful in terms of your customers' interests or viewpoints. They

do not care what kind of approach you took to design your service. They only care about the outcome or the actual service they get. Deng Xiaoping once said that it doesn't matter whether it's a white cat or a black cat; a cat that catches mice is a good cat, so it is with the approach. Whichever brings a better result is the better one.

So, you had better work on the delivery of your service rather than arguing which approach is better, authorized, or reasonable. Even if your approach is not the best, once you can deliver your service, you can revise it to make it better, and eventually you will come up with a service that is better than the best one at the first try.

## Global Service Versus Local Service

One of the criteria for the design of your service is whether your service has a global reach or not. I am not saying that your service should be global, but you need to think whether your service has a global reach or not. Global service and local service have different traits. The number of service recipients are quite different from local to global. The global market can count on 7 billion people in total, and the number is still increasing and will be more than 10 billion by the end of this century, though the forecast is that the number of people will reach saturation in the next century and the world may experience the first decline after the industrial revolution.<sup>1</sup> Compared to this, the local market is small. Even the largest local market, China, may touch the ceiling of 1.4 billion in this century, but they will also see the decline of their population in this century. However, the closeness with the customer will be much more in local service than in a single global service.

People nowadays try to combine global components and local components to make the best one; combining global low-cost supply and local specialized supply, for example, in a hotel will make your service special and within a reasonable price range. Sometimes this means a global reach with local supply, where the global delivery becomes the crucial element

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<sup>1</sup> Most popular site for this information is with the United Nations, see <http://esa.un.org/unpd/wpp/index.htm>. However, there are other sources to discuss further forecasts, for example, see Lutz, Sanderson, and Scherbov (2004).

in your service. Franchising your service may be another approach to deliver globally with local supply which may combine the global process with a local solution for local customers.

As an approach, you can pick up a global target with huge volume, but your current operation may be catering to local customers with limited volume. It is the design principle that keeps the global standard but fabricates with local management to deliver the service.

We tend to think that the global and the local are trade-offs, but in the real situation, we need to combine global and local at the same time in the same delivery. It is not like the saying *think global, act local*, but a more concrete delivery with a combination of global operations and local products.

### Think Carefully Versus Act Instantly

It is interesting that people can be divided into two groups when asked to come up with some design. One group takes considerable time for the design, while the other group jumps into prototyping their ideas. Usually people try to divide themselves into these two categories: think deliberately or act without thinking.

Some people urge you to take time to think: Consider every possible opportunity and every risk accompanying the activity of your service. They believe good planning is the best way to produce best results.

Other people recommend you to start your service quickly: You can learn many things from your service, and revise your service accordingly thus leading you to success. They believe that the time is most precious resource and a quick response is the best way to achieve the best service.

The best thing would be reasonably quick action with reasonable consideration, because you do not like to lose the opportunity but you would also like to avoid any risks with foreseeable problems.

One approach for this would be thinking along *doing or quick response with good thinking*. However, it is tough to find the best combination of action and planning. Even for the common practice of prototyping which is one of the basic tools for design thinking, we often ask how many prototypes are enough for starting the service. One? Two or three? Dozens?. There would be no definite answer to this question. It depends on the

situation. It also depends on the purpose of the prototyping—just testing the response or understanding the perception of the customers.

You may have learned lots of other things. Please just look back at some of them, which will give you some idea about what you are planning to do with your service, and also about the design thinking approach. Now, let us come back to the mainstream of the service design and finish with our collaboration.



## CHAPTER 5

# Prototyping and Work-Out of Your Service

Until this chapter, we have focused on the design of our service. We have learned a design thinking approach for the design of our service considering the needs of our society. You have got some knowledge and hopefully some experience on how to design your service. Now, we would like to move the next phase: prototyping and work-out.

In the real business world, this is the most important phase of your service. Your service needs to be prototyped and worked-out for real customers so that you can innovate in the real world. Even if your design is excellent, if you do not use it for real customers, it cannot have an impact on society.

Now, you have a design. Let us prototype it!

You may have a question, “But, how I can prototype it?” and the simple answer would be “just do it!,” which might not seem to be a helpful answer. However, what we have seen is that so many ideas about great services have not been executed because the person who had the idea had no direct or easy or instant approach for it. On the other hand, the same idea has been implemented with great success purely because the person had a passion to do it!

You must understand, or you may have already understood, that there is no universal solution about how to start prototyping your service. In other words, there are lots and lots of ways to prototype your service anyway. The only ingredients necessary to start prototyping are your passion, your determination, and your will to make it.

You may worry about the money, the people, or even the possible failure of your service, but nothing can really inhibit the initiation of your service. You can just try it and see what it looks like and observe how your customers respond.

Yet, there are some tips with the prototyping your service. Let us look at them and work on them.

## How to Prototype Your Service

First, let us look back at what the prototype is compared to the real service, and examine why we have this prototyping phase instead of just implementing the service.

The prototyping phase is added in this book as an interim phase between the design and the work-out. You can, of course, jump into the working out of your service implementing your design. Please do not stay in a design phase unless your mission is only designing and you are not allowed to implement it.

There are two advantages in having this interim phase of prototyping: First, it will lower your stress in starting your own service. To start a new thing is always a challenge, and it does bring on quite a stress even if it seems to be an easy and trivial thing. Prototyping is quite different from the real endeavor and so can be free of any stress.

The second advantage is, of course, that the service can be improved through the experience of prototyping and its feedback. Even if you have made a perfect design, there will be many aspects that can be improved, many things that you did not even dream would be needed, and problems that you did not expect. Prototyping is a great way to communicate with your partners and possible customers, too.

One of the great things about prototyping is the timing, that is, it would not take a long time to make a prototype, and you could have a short-time feedback on the properties of the prototype. On the other hand, implementation of your real service is likely to take much longer time with more preparation time as well, and the feedback of your customer may take too much time so that you will not be able to revise your service quickly enough.

Thus, the first rule on prototyping your service is to make it quick. But how much time do we need to allocate to the prototype, how can we speed up building the prototype, and how fast can we get the feedback from it?

Generally speaking, it will depend on the size of your service and on the attributes of your target customers. If your service is local and your customers constitute a small group, you can try your prototype in a week, and try to get feedback within the next week or so. But, if your intention is global service on complicated settings, a prototype may take a few months to construct and the feedback may take a few more months to be gathered.

Yet, you need to understand the changing speed of the marketplace in the modern world. If you take a year to try a prototype, the conditions of your service may have changed quite a bit. You may need to redesign your service to accommodate new environments. And you must know the prototype is not a real service. You can just focus on the very essence of your service so that the time for prototyping can be made shorter to discard other details.

The second rule is to focus on the essence of your service. This might be a good chance to reconsider your service and its design before the delivery. As you proceed with your service design, you may have to revisit many times the most important elements of your service such as the unique property of your service.

Doing a prototype provides a good chance of reviewing the essential strength of your service, since the prototype will incorporate the very essence of your service. If you cannot prototype that essence, your intended service will be just an imaginary one for you to have. It is just like a plan to achieve something great that is there only in theory. Until you start to do it, it will remain a great dream.

The third rule is to get possible customers to help review the prototype. This is very important for the prototype. In the case of the prototype of a physical product, you may not need to consult the customer in the prototyping stage. The product may appeal to a new customer group that the designer may not have thought of. The same kind of situation is possible for service design; however if the service is intended for use by people, you definitely need the right set of customers to evaluate your prototype.

Asking possible customers to review the prototype would also be a good opportunity to inform customers of your intended service. People



tend to be curious about what you are trying to do. In some cases, you may need to prepare the non-disclosure agreement for them to sign so that you can avoid any foreseeable troubles with your intellectual property rights (IPR) with regard to your new services. This is critical when you depend on somebody else's IPR that is pending to be registered.

The prototype review session would also be a great opportunity to set up your user community, because this may become the birth place of your next great new service. And you must understand the importance of the customers group for your services.

The fourth and last rule is adaptability. You need to be adaptable, and your prototype must be adaptable to any situation, any response, and anything that may come into the scene of your service delivery. I do not say the prototype should have changeability. Of course, if the prototype is easily changeable, it might be adaptable. But, even if it is very difficult to change your prototype, it must be adaptable to many situations.

Here, the adaptability is, in a way, a flexibility that your service can present to any possible customer. The essence of your service may focus on the core customers who will highly appreciate your service. While you need to identify these core customers with your service's strength, yet you cannot or should not reject customers other than those who are identified as your true customers. This is, in fact, the tricky part of a business in general. You need a focus, but also you need to be able to diverge, to a possible wider audience.

I can add one more point to this section on the prototype, that is, the most important and effective thing is to *do prototyping*. Do not just stay with the beautiful design, and do not jump into its implementation without prototyping at all. Well, you can make a great success without prototyping, but it is very risky. At least, you need to consider prototyping, and with these preparations it might be reasonable to expect that you can start to implement and deliver your service right away.

## How to Evaluate Your Service

After prototyping, it is time to test your service as you drive it down to the customer! Since you have already prototyped and checked with your

customers, there would be not many things to add at the time of the delivery of your service.

However, in this section, I would like to emphasize the importance of evaluation of your service because the quick feedback loop of your service will be the key to success with your start-up service. You cannot update your service without the precise evaluation of what is good and what is bad. And you need some system for the evaluation, which should be detailed and prompt.

When you design the evaluation system for your service, you need to take the people who are customers and partners, and the sensors which are sometimes mechanical and sometimes in the form of statistical data, and other factors into account. Let us take a detailed view of these evaluation elements.

### *Evaluation Systems—People and Sensors*

First of all, when people start thinking of *evaluation systems*, they tend to work with just the system without any human beings. It might be okay with a mechanical system such as automobile engine system, but in the area of service, you must think of your customers, human beings, to evaluate your service.

So, the very primitive evaluation system is to listen to your customers. However, as an evaluation system, it is not enough. Why? In a sense, it is *because* they are human beings.

- There might be an unconscious bias both on the part of the person who reports the evaluation and the person who receives it.
- The customer today is not the customer tomorrow.
- You also need the evaluation from the noncustomer.
- You need to have consistent evaluation for the lifetime of your service.

If you are system person, you tend to think of the automatic system to gather data for evaluation. Web-based service is, in this sense, an ideal

environment for automation such as the number of hits, visitor's history, response and what part of your page gets attention and so on.

However, as we have seen so many times with those web-based marketing case studies, this kind of data gathering and analysis cannot replace your service. The pitfall in these web-based services is that the data analysis is so easy and interesting that you tend to forget that real service is your target and real activities are the source of your business, not the analysis.

For systematic evaluation, you must pick up a small number of indexes so that the result of evaluation is simple and intuitive. The process and result of the evaluation is also the communication tool for your partners and your customers.

It would be a good idea to have a community, which will take the burden of evaluation with people and data. The evaluation group may differ a little bit from the user group since it may have other features and people as well.

### *Evaluation Timings—Overheads and Preparation for Emergency*

It is important to remember that evaluation and monitoring take some time and resources. They do not come free of charge. Yet, especially in the case of emergency, the monitoring information can play a critical role in preventing or recovering from disaster.

In your service system, especially when it comes with web-based facilities, it is not so difficult to accommodate some monitoring capabilities to evaluate the performance and status of your system. You may prepare a mechanical sensor system to capture some features of your system such as counting the visitors to your store or taking videos of the customers you serve.

You can also utilize customer sessions, such as claims to your call center, for the evaluation of your service today. A response card with your service may provide very valuable, sometimes critical, evaluation of your service. Even direct contact with your customer “What do you think of our service?” can become a powerful device for evaluation.

So why do you have to continually monitor your service's heartbeat?

1. These evaluations must be periodic and cover the total life of your service, so that it can monitor the heartbeat of your system, and assure you of the soundness of the service.

2. As mentioned at the beginning, the cost of evaluation must be low, and the cost of summarizing the evaluation or visualization of the result must also be low.
3. It is very important that these evaluation or monitoring systems can sense an emergency and can work in a very critical environment.

As with the health of the human body, you need to check the status of your service in an ordinary situation to understand when something is wrong with your system. However, it is also very important to monitor the situation at any critical time. For example, when you have the web interface for your service delivery, it is critical that you have an alternative delivery system other than the web, because there may be situations when the web system may not be available for your service.

I have seen an airline counter where they need to work with paper since the airline system for the passengers was down at that time. It was a tedious process and we needed to wait in a long queue, yet it worked and I got to the plane without any delay.

On the other hand, I have also experienced a situation when the counter operation was shut down due to system trouble, and the flight canceled because of this failure of the computer system. I doubt whether that airport and that airline had been prepared for this kind of trouble and had any alternative solutions for this kind of emergency.

As with the human body, it is better to detect the problem beforehand. So, you need a good alarm system to warn you that something is wrong with your service. It is also important to handle the emergency, and you should recover from the crisis using the know-how learned from these troubles. Your service will become more robust and reliable after overcoming these problems.

### *Revising the Evaluation Systems*

Your service needs to update as you develop your service in its quality and quantity, as well as when you expand the customers who receive your service. It is the due process as your service evolves. The evaluation and monitoring system for your service need to accommodate the evolution of your service. However, you need to be careful in designing the revision of your evaluation system so that the data and information that the

revised system produces are compatible with the data you have gathered with the older system.

Of course, the easiest option is to just add the monitoring items upon the data items you have collected, but this is not the best solution. As we have discussed, the evaluation system and data cannot come free. For example, if you are asking the user community for evaluation feedback, adding reporting items may discourage them from responding. Adding another monitoring device for new features may require some money and work.

It is very important in these evolutionary processes that you understand well the existing feature and the changed, deleted, or added characteristics. The revised evaluation system must cover both the unchanged core capabilities and the evolved features. Of course, you may revise the system to gather data more often, or more detailed data rather than changing the data item itself. Yet, you must recognize the difference in these data and differences with the cost for the revised system.

The other part of the argument is, of course, the frequency of the revision. Revisions of the evaluation and monitoring system may not need to synchronize with the evolution of your service. I recommend not to do them at the same time. It would be better to have some differences with the revision timings so that you can understand the effect of the change of your services against the data you gather from the old monitoring system.

# CHAPTER 6

## Case Studies

*An U.S. army officer showed me how to fix the toilet problem by his hands. No Japanese army officer did that kind of thing. They just ordered by words.*

—My father's words about his POW camp in the Philippines

In this chapter, we will see some real-world cases so that you can check what you have learned against the real experiences of other people regarding the design and deployment of the services. The real cases have been picked up intentionally instead of artificial cases for the following reasons:

1. Artificial cases would be good for checking and extending your knowledge and skills; however, they tend to omit the subtle and difficult aspects that apply in the real world.
2. Real-world cases can talk about the real people behind the scene. As I showed in Chapter 1, the essential driver of the service is the individual and his or her motivation to make it. You can feel that in real cases.
3. Real cases reveal that the skills and techniques we learn in this book are common among the practitioners who have not learned them in school. This tells you the importance of learning from your experiences as well as others' experiences.

We picked up cases from a retail store, a seafood manufacturer, and a mechanical and electronic manufacturer.

### Toys Yoshida

In Asahikawa city in Hokkaido, there is a toy shop (see Figure 6.1) called *Toys Yoshida* (Omocha no Yoshida, in Japanese) that has now gained fame



**Figure 6.1** Toys Yoshida in Asahikawa, Hokkaido, Japan

*Courtesy of Toys Yoshida*

for a new tradition in toy movement in Japan. This toy shop was started by Teizo Yoshida in 1983. He took over the property of a wholesale toy shop established in 1950 after the World War II by his brother Keiichi Yoshida. Toy shops in Japan had been challenged by the international Toys “R” us in 1993. Toys Yoshida then enlarged its stores and started selling many kinds of toys including TV games that boosted their sales revenue.

However in 2001, Shuichi Yoshida, who inherited the toy shop from his father, had trouble as the sales for toys declined. A major reason for the decline was not only the decrease in the number of children (that is common in cities in Japan, by the way) but also the competition provided by mega shops such as Toys “R” us. He also had trouble selling TV-games, then a major category in toy sales, due to a small profit margin that created cash flow problems.

One day, a customer told him when she bought a TV game that “My kid will be okay for these games as birthday-present around three months, and I need not work with my kid while he play with TV-game.” Shuichi started to wonder if these TV-games eventually deprived kids of time with their parents and the pleasure of being with their parents. He remembered his young days when he played with his parents.

Mr. Yoshida decided then to decrease the space for TV-games even though they were in the category that sold most. He introduced a corner

for traditional toys with which kids and parents could play together. These traditional games were games that the parents themselves had enjoyed playing when they were kids. *Generation-through toys* is the phrase he used to promote toys that traditionally kids played with their parents. The kids' parents had played these games with their parents (who are grand-parents for the kids of today), but the kids themselves had got accustomed to playing TV-games by themselves. These generation-through toys can be played with their grandparents also. The grand parents could also teach their grandchildren how to play with these toys, so the communication within the family would be enhanced.

In 2006, Shuichi started to promote toys for handicapped children and launched Asahikawa Barrier-Free Toys Expo so that all children including both handicapped children and normal children could enjoy the toys and related events as seen in Figure 6.2. He opened this exhibition in his parking lot with about 5,000 people. The second Expo was held at Asahikawa Local Industries Promotion Center with 10,000 people. In 2008, 22,500 people gathered at Daisetsu Arena. From then, the festival has continued to attract not only normal and handicapped children but also adults of all ages.



**Figure 6.2** Asahikawa Barrier-Free Toys Expo

Courtesy of Asahikawa Barrier-Free Toys EXPO





**Figure 6.3** *Kendama Cool*

*Courtesy of TCN*

Shuichi started to develop the original toys to promote generation-through toys and provided them to his friends in TCN (Toy Community Network)<sup>1</sup> in 2014. They picked up Kendama which is now getting popular in USA and Europe<sup>2</sup> and launched *Kendama Cool* (see Figure 6.3), which has had a warm reception in the market; even famous people, such as figure-skating gold medalist Mr. Hanyuu, enjoy playing it.

These are tough years for the toy industry, but Toys Yoshida maintains reasonable sales even though they have reduced the TV games that accounted for 300 million yen and occupied 100 m<sup>2</sup> once; now the TV

<sup>1</sup> <https://www.facebook.com/omochazuki>

<sup>2</sup> In USA, there are several sites such as <http://kendamausa.com/> for Kendama.

games corner in Toys Yoshida is around 10 m<sup>2</sup> accounting for a few dozens of million yen. On the other hand, the mega toy stores, such as Toys”R”Us, have shut down some of their stores in Hokkaido.

Japanese toy shops have been facing two major problems: a decrease in the number of children and decreasing opportunities to play with toys both in terms of time and place. An aging population combined with the diminishing number of children has been a well-known problem in Japan. The decreasing time and opportunities for children to play with toys is a world-wide problem as TV games, tablets, and smart phones are getting more and more popular and open places for children to play with their friends and their families and relatives are getting smaller and smaller.

However, Mr. Yoshida has quite a different perspective: Toys are great devices to promote communications within families, friends, and with different people such as handicapped people. He believes that toys, especially those in the generation-through toys category, help children and adults by enhancing the communication between them and also because they continue to be useful to the individual as he or she grows and travels through his or her life. When modern corporations search for more attractive environments for their employees, the three-generation toys will be an option. Shuichi’s objective is now not the sales or profit of the shop but the enhancement of children’s life through their toys. Of course, he also hopes to keep up the spirits of adults and handicapped children.

### *Exercise*

- Visit your local toy shop, and observe how they run the business. Observe the customers—what they buy and how they buy. If possible, check how the customers are planning to play with the toys.
- If you had been Shuichi in 2001 with the problems of the toy shop, what kind of plans would you have made to handle them? List them, and check what kind of outcomes could have resulted.
- Pick a toy store you know. How will you plan to make it much better?

- Pick a retail store you know of. What is their objective? If you were the owner, what objective would you like to set? How will the shop business change with the adoption of your objective?

## Suzuhiro Kamaboko

Kamaboko, boiled fish paste is a common food in Japan as seen in Figure 6.4. In an old Japanese document “Ruijuuzouyoushou” (a collection of explanations about various ceremonies) written around 1146. In the Heian era, a kamaboko was described for the relocation ceremony of a duke, Tadazane Fujiwara in the year 1115. Throughout the middle ages, kamaboko was a special food for special ceremonies of the aristocracy or very rich people.

However, in this modern age, from the late Tokugawa and early Meiji eras, kamaboko became popular due to the advancement in fishery and process technology. Odawara, a western city 84 km or around one hour by a modern car from Tokyo, has been one of the manufacturing centers of kamaboko thanks to its fishery and the big neighboring market of Tokyo. Odawara also has a rich history; it was one of the political centers



*Figure 6.4 Kamaboko, a Japanese Boiled Fish Plate*

before the Edo era in 16th century, and has been an important station in Tokaido, the main road between Kyoto and Tokyo, and one of the major fishery ports throughout history.

There have been a few dozen kamaboko manufacturers in Odawara. Suzuhiro-Kamaboko, among the old and established manufacturers, was started in 1865 by Gon-emon Murataya the Fourth (Suzuhiro 2005). It was three years before the Meiji Restoration, very tough days for most people. Gon-emon carried on both fishery and kamaboko production, which was the popular operation those days in this port area. In 1871, the new Japanese government issued the law of family registration, where Gon-emon adopted the family name of Suzuki. Before that, only the samurai and aristocrats could have a family name; normal people like merchants, carpenters, and farmers could not have an official family name, even if they had a history that once upon a time their ancestors were samurais and had family names. Gon-emon's son, Hirokichi Suzuki made kamaboko their family business and moved into the center of Odawara city near the fish market and branded his kamaboko store as Suzuhiro.

Hirokichi adopted Sumizaburo, a relative, as his son, and expanded their kamaboko business. Later Sumizaburo inherited the business name of Hirokichi, the Seventh, after his father passed away. Chieko, now in her 80s shown in Figure 6.5, the eldest daughter of Sumizaburo, married



*Figure 6.5 Chieko Suzuki, Chair of Suzuhiro Co. Ltd.*

*Courtesy of C. Suzuki*

Shozo Ichige in 1952. It might be a Japanese rhetoric but she told us that she did not like the kamaboko business. She rather loved to study cooking. She was assistant professor in the Faculty of Home Economics (now called Human Sciences and Design) at Japan Women's University and was a vice-custodian of its dormitory after her graduation from the department of Social Welfare. At her graduation, she had wanted to continue to study since her school days were mostly governed by war time operations and almost no time could be spent on study.

Chieko remembers that with her husband she shared a strong concern about the poor working environment for the workers. At that time, coal was the main fuel, so the factory area had lots of soot, and even the kamaboko got polluted. Workers had not enough room to rest. Some had eat their lunches standing.

Shozo and Chieko insisted and persuaded her father to move the factory to a better wide open area, although most people were against the move. The Suzuki family finally decided to move the factory to the Kazamatsuri area, in the south-west part of Odawara, near Hakone town. They had considered various places from Shizuoka to Kanagawa areas, and Chieko remembers one of the reasons to pick Kazamatsuri was that it belonged to Odawara, their family's root, and that kamaboko was the specialty of Odawara. Another important factor was the water from the well, which came from the underground water from Mt. Fuji. The quality of that water is the best for producing kamaboko and other foods. Even today, Suzuhiro factory is using only the water from the well, and in an urgent situation when the public water service is down, the water is made available for everybody to take.

At the time of the move to Kazamatsuri in 1962, Chieko and Shozo had to overcome several challenges. First, not all the residents of Kazamatsuri welcomed the Suzuhiro factory. Chieko and Shozo patiently handled the criticism and contributed to local programs. Second, they not only renewed the manufacturing processes but also renovated their own business, that is, diversified from the kamaboko. They opened a drive-in restaurant, and were rewarded thanks to the motorization of Japanese society.

One of the reasons for their diversification is the limitation of the fish as a natural resources. Odawara did enjoy a variety of fishes; however, the

good fish for kamaboko is limited and political movements added to their availability. Another problem was their branding along with the Odawara kamaboko, which meant theirs was a specialty that was sold at a higher price but also meant seasonal fluctuation in sales. Their products were for special occasions, not for daily use, which means that it was used mainly for the New Year's feast.

Shozo and Chieko continued to renovate the factory and in 1972, they opened a new factory named and trademarked as *the factory to show*, which embodies Chieko's idea of what the Suzuhiro factory should be, that the workers are the experts in producing kamaboko and other foods, not slaves who just make the products.

In 1975, they opened an event house called *Luxury Suzuhiro* bringing the old house that was hundreds of years old from Toyama prefecture. With a museum and beer house added in the late 1990s, this area is now called *Kamaboko-no-sato* (a little kamaboko world) and is a shopping complex with restaurants and museums as shown in Figure 6.6.

In May of 1987, Shozo passed away due to esophageal cancer. Chieko took the CEO position in June, and her father Hirokichi died in July due to cardiac insufficiency. She was completely at a loss, and did not know what to do next. However, she returned to continue what they had achieved. She announced the corporate motto in 1988 "Legendary operation not staying at legendary," showing her determination to maintain the principles but to innovate the company.



Figure 6.6 *Kamaboko-no-sato*



Figure 6.7 Suzuhiro's traditional seal design by K. Torii

Today, Suzuhiro enjoys around 10 billion yen annual sales in total. They contribute to some events such as *International Small Art Exhibition*, or *Kamaboko board painting contest*. Their glocal position is good—they have their own brand, with the unique corporate identity design by Keiichi Torii shown in Figure 6.7, as prestigious food with Odawara, and have a global reach both on fishery and products, maintaining their business along with the diversification, which includes restaurants and shops.

Chieko, now in her 80s, continues to question whether they are doing the right things, and as in the past is ready to innovate even the way they operate. She has now taken on a leading role as president of Odawara-shi Tourist Association. She loves her home town very much.

### Exercise

- Explore the relationship between the workers' working environments, their welfare, and the performance of the corporation. What will be the drivers to promote the environment and welfare for the workers?
- Pick up a local specialty food in your area. If you were the owner of the company that produces the food, what will be your strategy to promote it.
- One of the reasons that Suzuhiro picked the restaurant business as diversification is that both Shozo and Chieko had experience in cooking. How do you evaluate this approach for diversification? Explore other cases and compare.
- Changing a location is quite common when your business grows, however, it may distort or even destroy some of your values. Check some cases of relocation of companies and summarize the merits and demerits.

- What are the challenges for “glocal” enterprises which insist on local specialties and entertain global customers?
- Study and summarize the interactions between private enterprise and society, especially in the food business.

## Tsutomu Uematsu

At the TEDxSapporo, held on July 13, 2014, Tsutomu Uematsu (see Figure 6.8), Executive Director of Uematsu Electric Co. Ltd., was honored with a standing ovation for his talk entitled “Hope Invites.”<sup>3</sup>

Tsutomu was born in 1966 at a local city in Hokkaido, the northern island of Japan. His father ran a local ironworks. His grandparents once managed a successful car company in Sakhalin until the Soviet troops invaded and defeated the local Japanese army and destroyed all the Japanese families.

In his talk, he remembers his grandma talking to him: “Money is ridiculous, because its value will change. If you have money, do not save it, but buy books.” It echoes Jewish recipes for education (Sutter and Sutter 2010) that the real value lies in the wisdom in your brain; no other



**Figure 6.8** *Tsutomu Uematsu in his usual working wear style*

*Courtesy of T. Uematsu*

<sup>3</sup>TEDxSapporo page for Tsutomu Uematsu <http://tedxsapporo.com/en/speakers/tsutomu-uematsu/>, his talk can be also seen at YouTube at <https://www.youtube.com/watch?v=gBumdOWWMhY>



value can stay with you once you encounter a very bad situation such as a war, a bad emperor, unexpected disaster, and so on.

As a youngster, he had dreamt of going to the moon inspired by his grandfather who was excited at the Apollo moon landing in 1969. However, a teacher at his secondary school rebuked him for his dreams: “Stop talking about that imaginary stuff and study for the test.” He explained to Tsutomu, “To begin with, things like space engineering are impossible unless you are really smart. It cost too much. It is a different world. You cannot do it.” People told him that it was impossible, especially for him.

However, Tsutomu did pursue his dream on space engineering. He was not a *smart* student and did not earn high scores throughout his school days. Still, he maintained his dream and managed to enter Kitami Institute of Technology against the advise that it would be impossible for him. After graduation in 1989, Tsutomu joined Ryoyu Computing Co. Ltd. (now Ryoyu Systems Co. Ltd.) at Nagoya where he was assigned to the Aerospace Department.

He then quit Ryoyu in May 1994 to join his father’s company to manage the business back in Hokkaido. His business went very well from the beginning; however, he was trapped into a situation of just trying to gain money, was deceived, and encountered a huge loss.

The turning point in his life was a visit to an orphanage, where the children had been separated from their parents for various reasons including death, divorce, bankruptcy, and so on. The visit was arranged by the local Junior Chamber, which Tsutomu had joined in order to get business opportunities. When asked what they wanted most, the children answered that they wanted to meet their parents again. He was shocked and wanted to know why the children wanted to see the parents who had abandoned them. Then he realized that he wasn’t in any position to make those children happier than they were.

Tsutomu was suddenly reminded of his younger days, and this was the point of his conversion to becoming a social entrepreneur. He decided that his business would become a means to help children keep their hopes alive and become happier. He himself had a stroke of luck when he met Professor Nagata at Hokkaido University who was designing a space rocket and was searching for a supporter.

Tsutomu described his meeting with Prof. Nagata, who was looking for support in his space rocket project. He proposed to the professor that though he could not afford to offer big money, he and his company could build Nagata's rocket. Eventually the team succeeded in launching the rocket. His dream was achieved.

He preaches in many places that the best way to get something you want is to make it rather than earning the money to buy it. His reasoning is that you can build your expertise through developing the thing you want to have, rather than wasting your time to earn the money to buy it, especially when the thing is the dream of your own.

He and his company are now well known for the development of space rockets. He has written two books (Uematsu 2009b, 2009c). There is a comic book (Tahara and Uematsu 2010) and a DVD of his talk (Uematsu 2009a). Uematsu Electric has become a famous spot for school children to visit: more than 7,000 pupils have visited and enjoyed shooting up their own rockets. Tsutomu is now busy traveling and giving talks to school children and the general public almost every week. He is still worrying that the situation of Japanese children in general is not good enough as most children cannot hold their own dreams. He still has hope that some day all the children in Japan can make their dreams come true.

### *Exercise*

- Tsutomu declares that Uematsu Electric does not pursue revenue, while it boasts of a big share, 80 percent, of the electrical magnets used for recycling trucks. Explain how this business decision relates to his own belief in children's education. Please discuss the pros and cons of his business approach.
- It seems that Tsutomu's business failure has led to his conversion. How much do you think his experience with the children at the orphanage affected his decision to help children first rather than to expand his business? If his business was in good shape, do you think he would have made this change to help children? Please explain the reason why you think so.
- According to Tsutomu, sometimes some people attribute his nonprofit activities to his business success. He criticizes these

people as misunderstanding his motivation and the reason he and his company are doing this kind of nonprofit work. Tsutomu argues that it is necessary and useful to help liberate children from any kind of suppression that prevents them from achieving their dreams. He asks why you would like to be rich. The money should be used for something. Getting rich cannot be a man's final target to achieve. What do you think of his reasoning?

- By Japanese standards, Tsutomu's history is very unique. How do you think his activity comes from his unique experience? In another words, how do you think ordinary people can achieve such a dramatic goal of making space rocket?

## CHAPTER 7

# Summary and Conclusions

I hope you have enjoyed reading this book. I also hope you have tried to design your service, and even prototyped it and tested how other people have responded to it. If you are reading this paragraph, before reading other parts, as I sometimes do, please read some introductory parts first, then come back here.

Reading this book is a journey to unknown places; you may have heard something from your friends. You may have enjoyed some scenes that you have not seen before. You need some review to understand what you have seen. Let us look back at our steps.

We started by discussing the lifelong goal in “The Goal for Your Service” (Chapter 1). This is the background and the eternal goal of your service. Have you confirmed that the service you have designed here will help you to reach your lifelong goal?

The succeeding discussions on society (“Our Society in the Near Future” in Chapter 1), your business (“Your Business Prospects” in Chapter 1), and the focus of your service (“Focus on Your Services” in Chapter 1) are all preparatory works for setting the goal of your service, which again provide the motivation and are prerequisites for designing your service.

The reason I placed emphasis on these preparatory sections is that I believe they are indispensable for you to work out the design of your service. It is true that the essence of the design thinking approach and techniques are so valuable that you can enjoy the merits and advantages when you learn them without any motivational goals, just for learning. Yet, I sincerely hope that the knowledge you have got from this book can be deployed to bring forth some fruits that you can share with others, not remain just pure knowledge for its own sake, because the approaches advocated in design thinking is the knowledge with your hands to be used to bring forward something real in our daily life.

In Chapter 2, I explained what is *design thinking*. One of my messages here is that there are multiple definitions and viewpoints for design thinking, and it is okay and perhaps good for design thinkers who deploy and advocate design thinking. I hope you have developed your own idea about *your* design thinking.

In “Design Thinking Mindsets” (Chapter 2), I emphasized the importance of mindsets for design thinking. In general, the mindset is, as Carol Dweck explains in her book (Dweck 2006), a very powerful influence on people for learning and in motivating them to pursue further activities. Likewise, the design thinking mindset will open your eyes to everything around your service.

In other words, to learn the design thinking approach is to capture the design thinking mindset and use it to understand what is happening around the problem for which your service will deliver the solution. That is why the design thinking approach is so effective and also why experience in the design thinking work is much more important than the tools and methods to conduct the workshop. It is the mindset that is the core of the design thinking approach.

However, “Design Thinking Toolsets” (Chapter 2) introduce the tools to conduct design thinking-based service development. The toolsets “IDEO’s design thinking for educators toolkit” and *Playbook for Strategic Foresight and Innovation* will help you to try what you have learned when motivated by the mindset.

You should note that the mindset and the knowledge of design thinking alone cannot bring about the creation of your intended service. You need to act, or try to do it and see how people you intend to serve respond to your work. Tools will help you to convert your ideas into something tangible, and your work will give you insight into how your mindset is ready and responsive to what you are thinking of.

Also, the important part of these toolkits is to tell you what kind of team you need to build your service. Like human beings, services also evolve. Your service needs to grow with your team of people who are involved in or related to your service, that is, the stakeholders of your service. Again, the evolution will come from hands-on activities. You will have some ideas about evolution, but the real change and growth can be quite different from what you have thought, and that is the real fun with the experience of your service.

The importance of doing and experiencing is emphasized in “Try to Design Your Service” (Chapter 2) as well. The advantage of the class in school is that the workshop is conducted with participants. A book can address far more people with its contents; however, the author cannot know whether the reader would have tried out what he or she has learned from the book. And you know that the knowledge becomes real when you have experienced its usefulness (or in fact if it could not help you, you can check if you have the right knowledge or not).

“How to Deliver Your Service” (Chapter 2) discusses the delivery of the service that you have designed so well. Designing the service is one thing, delivery of the service is another. I have been engaged in the System Integration service business where people tend to focus so much on the design and development of the system, and unfortunately, do not pay enough attention to the delivery and operation of the system after its completion.

Any information system is neither useful nor worthwhile if it is not deployed for real operation, even if the design and development have been great and wonderful. Likewise, your service cannot be real unless it is delivered to your customers. The delivery is so important, but sometimes it is neglected because there are too many situations and things around the delivery.

In Chapter 3, “Societal Approach,” I have shifted your attention from the focus on your service operation to a wider context in the community where your service and your stakeholders are involved. This is important for the service business much more than the manufacturing business, because the people with whom we relate constitute the social entity. Even a physical product, such as a smart phone or a bolt, will be affected by a change in society, more so for our service product where the people’s response to our service is in the social context.

“Service in Societal Context” (Chapter 3) brought our attention to this context for our service, emphasizing the shift in the viewpoint. The following “Service Design for Society” (Chapter 3) discusses the social value of your service to the society. Here we understand the importance of communication about the value of our service.

In “Service Design and Delivery for Society Toolkits” (Chapter 3), we discuss the approach to adapt the existing and available toolkits to

design our service, addressing social values. Since the social viewpoints are indispensable to our service, we can put more emphasis on our social value with our service, present them to the public, and get the feedback to enhance and advance our service so that we can promote its total value to society.

Chapter 4, entitled “Intermezzo,” summarizes the main theme of the book, and lets you look back on what you have learned so far, and gives some additional, refreshing ideas around our theme of “service design with design thinking approach.” I repeat here that this is a good point for you to work your service design with your hands.

I have picked *motivation*, *global and local*, and *quick response* as subjects for discussion so that you can check your knowledge and understanding about the service design and design thinking approach with some fresh aspects.

The Chapter 5 is the final part of the service design in this book which discusses prototyping and work-out of your service. As you have seen in the design thinking toolkits shown in “Design Thinking Toolsets” (Chapter 2), prototyping is one of the steps of design thinking approaches; however, it is often the case that when your prototype works well your service will start with a little modification of the prototype you have made.

“How to Prototype Your Service” (Chapter 5) repeats what is a prototype again, and discusses what to keep in mind while making the prototype. The first rule is to make it quick, and the second is the focus on the essence or core business part of your service. And the third is the future customer involvement. Adaptability comes in as the fourth and last principle.

Adaptable service is a must in this ever-changing world of ours; however, this does not mean you need not try to search for the best service ever in your area. It does not mean that a just-do-it type of prototyping is enough. No, you need to explore any better idea and better approach for your intended service.

Adaptability in prototyping means that the essential part of your service is to pursue the best of best services available to your target customers, and you are ready to shift to the unknown future customers about whom you have no idea at this moment.

One of the tough and interesting parts of services compared to physical products is this ever evolving customer interaction. In the case of

physical objects, you can set up your qualification criteria in the domain of fixed numbers to be measured with physical devices. Services, on the other hand, are essentially human interactions and change according to the context in which they are served.

We discuss the evaluation of your service after the delivery in “How to Evaluate Your Service” (Chapter 5). I do not mean that we can skip the delivery step. Delivery is a *must* for your service, and you need to do it by yourself. However, I can tell you that you can make a much better delivery when you check what will be needed after the delivery. The evaluation system is one of the necessities after the service delivery, and your knowledge about it will make your delivery more valuable in the long run.

“Evaluation Systems—People and Sensors” (in Chapter 5 under “How to Evaluate Your Service”) discusses components of the evaluation system which is eventually an ecosystem of your service. Yes, you need to provide a better eco-system for your service, and the evaluation system is a very important part of it. “Evaluation Timings—Overhead and preparation for emergency” (in Chapter 5 under “How to Evaluate Your Service”) presents how to handle the timing and the cost of evaluation as well as how it becomes important in the worst case situation for your service.

As with the ecosystem, you need to understand that the tough time for your service is the most appropriate time for you to think of your service, hopefully from another viewpoint than you have thought at the time of designing it. You may be a genius or so lucky that you may experience no failure but only success. But such a case is rare, and normal people will experience lots of rough situations, sometimes too much. You need to set your mindset to accept these tough situations and turn them into great opportunities to provide much better services either with new values, new approaches, or new customers.

In “Revising the Evaluation Systems” (Chapter 5 under “How to Evaluate Your Service”), I really talk about the revision of your service, not to say the renovation of all the systems. When you can successfully continue your service, you get a sense of stability, a sense of control of your service ecosystem that it is very likely that your service can sustain as long as you are working as of today.

However, changes will occur in places where you cannot detect the change itself. Time is capable of destroying all things including the most powerful persons and their possessions. Your powerful service may have



suffered this very slow but powerful damage by time. The only way to counter this problem is to revise your service all the time to accommodate any change even if it is very small and subtle.

Chapter 6 brings real-world cases to review what we have learned. These cases also tell the important fact that these practitioners are employing and deploying design thinking techniques in their pursuit but they have not learned these skills in any school. In other words, a part of the skills and techniques in design thinking are quite natural for these creative people. This is not to say that there is no value in learning in school. It says there are more things to learn other than what is taught in school.

These cases also tell you the tough part of the real business. For example, in the case of “Toys Yoshida,” their outcome is great but not so wonderful compared with some very successful stores in other areas such as some grocery stores in Hokkaido. In the case of Tsutomu, he complains that the current situation of Japanese children is still no good that he observes many kids do not have their own dreams at all.

The skills and techniques mentioned in this book are not absolute. We do have lots of limitations and restrictions that affect the outcome. And these cases and other experiences tell you that you should not give up. It sounds like a tautology when you say that you can succeed if you do not stop working for success, but real cases illustrate the value of this principle.

I have picked up cases in Japan because I have local knowledge about them and have contacts with these people. You should try to pick up your local cases, which I strongly recommend for your exercises.

Now, we have reviewed what we have talked and learned in this book.

So, only thing I can say to you is, “Good work! Good luck with your service!”

Thank you for reading this book and I hope to keep in touch with you in connection with this design thinking approach, but I also hope that we can have a chance to work together for any other things and businesses so that we can explore other new exciting things!<sup>1</sup>

Sayonara! And hope to see you again!

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<sup>1</sup> If you have any question and comments about this book, you can send e-mail to [designthinkingresedu@gmail.com](mailto:designthinkingresedu@gmail.com)

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**Toshiaki Kurokawa** is an ICES (<http://www.standards-education.org/>) founder and an independent design thinker, directing Design Thinking Research & Education at his home in Machida, Tokyo. His consultation experience and expertise cover those areas such as design thinking education, science and technology trends and foresight, education about standardization, ICT Deployment including cloud computing and crowdsourcing. Mr. Kurokawa graduated from University of Tokyo in computational mathematics and has been engaged in research and engineering at Toshiba, IBM, SCSK Corporation, and Kanazawa Institute of Technology. He has published 14 books in Japan and has spoken at worldwide events. He has also published numerous papers on education about standardization, ICT, and design thinking in such journals as *Science & Technology Trends—Quarterly Review*.

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