The Design Thinking Leading to Different Levels of Change: Example of the Togo Village in Southern Taiwan

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Abstract. This article explores the design thinking of a design team that forges social innovation for a rural community through the in-depth case study of the Togo village in Southern Taiwan. The research method is based on the analysis of interviews, field observation notes and documents. In this article, I first review the shift of design thinking focus, the search for innovation in rural areas and Brown's perspective of design thinking. Then, from the perspective of Scharmer's Theory U, I describe the transformative process of Togo in terms of four levels of design thinking and change. Their design thinking involves a personal and collective inquiry from the outer world to the inner world, tapping into the source of their purposes and crystallizing their vision in the prototype. The study reveals the importance of exploring inwardly the source of purpose and the highest potential instead of focusing on the surface of the problems, proposing strategies or methods to foster creative solutions.

Keywords: Design thinking · Theory U · Co-design · Co-creation · Social innovation

1 Role of Design in a Complex Changing World

1.1 Shift of Design Thinking Focus

Many aspects of design thinking (psychology, neuroscience, aesthetic, methodology, management) are studied and anchored in a long history of social science research. Design thinking has been evolving from the perspective of "design for optimization" in 1970s to that of "design for possibility" in 1990s, from problem solving orientation to problem restructuring orientation (Li 2002). Simon (1969) represents the optimized perspective which probes comprehensive understanding of the problem and rational analytical process before designing solutions while the design for possibility is in the same vein of D. Schon's reflection-in-action which emphasizes the dialogue with the situation and early solution finding. Contrast to design for optimization, the possibility design perspective is hermeneutic and open to possibility exploration which encompasses more uncertainty and conflict (Li 2002).

In the modernist world, the fragmentation and segmentation of knowledge keep the us from thinking in an integral way (Wilber 1998). Brown (2009) contends the

designers are in general not invoked until the planning decision is made rather than from the beginning of a plan. Designers are used to serve to make up a product. However, today the world changes rapidly and complicatedly, the challenges demand the designers to react with integral and multi-disciplined perspectives. Designers' roles cannot be confined in the expertise of product, industrial or architectural design but imply a whole and integral concern about the context of design and cross-disciplinary links. Furthermore, it is futile to only depend on design experts to develop solutions for us (Banathy 1996). More and more cases have witnessed the successful co-creation between the design experts and stakeholders in a co-design or co-creative way. Scharmer (2009) proposes, in order to solicit profound change and innovation, the design team and people need to redirect their attention toward the inner knowing, exploring the source of the deeper purposes and collective vision as well as to crystalize their will for the realization of change.

1.2 In Search of Rural Innovation

Today, many problems intertwined in the rural communities demand the re-design of the system. Since the economic boom in Taiwan in 1970s, the uneven structure between agricultural production and selling, and the inclination for industrial development have resulted in young labor outflow and aging that leave abandoned houses and lack of vitality in the villages. Consequently, the rural areas stay far from changes.

Taiwan government has been implementing several policies such as the Community-Building Policy for two decades or Rural Regeneration Policy from 2010 in order to reinvigorate the villages. However, two major difficulties are eminent. Firstly, the financial and human resources supported by the government have been reducing. Secondly, the communication between the elitist designers and the villagers is ineffective (Li 2007). The community-building policy notably favored architectural and landscape professionals to design for the local organizations without really empowering the people. In most of the community-building cases in Taiwan, the designers are paid to do the design for the local people. They may conduct some discussions with the people or design with them. Then the designers hang over a final project or drawings that the residents unnecessarily follow. But, it happens repeatedly when the designers finish the work for the community, the residents are not capable to continue to develop. Especially in the rural context, the residents are not credited with design literacy and capacity to talking about design with the experts to the extent that the residents become indifferent to the design that concerns their future. The absence of the participation of the users who are affected by the design is due to the fact they are not encouraged and guided to express their opinions and to cultivate their literacy and capacity of design (Banathy 1996). Since the transformation of a community takes time and requires long-term engagement, few are the designers who keep engaged and deepen its change.

Nevertheless, nowadays some designers all over the world involve themselves in searching alternative solutions for rural reinvigoration, to the extent they also inspire the general public to join the action. The case presented here is one of these instances: a

group of young designers devote themselves in transforming a declining rural village into an cultural and ecologically sustainable village in Southern Taiwan.

I intend to analyze the Togo design team's design thinking that leads to changes and innovation in different levels, and reflect on the design thinking linking to social innovation. In line with the perspective of Scharmer's Theory U, I describe the process of the transformation of the village, how the design team coped with the residents and explored the alternatives leading to the emerging future.

In the following discussion, firstly, I conduct a critical review on Brown's design thinking discourse, then I discuss design thinking from the perspective of Scharmer's Theory U. In the Sect. 4, I analyze the Togo design team's design thinking leading to different levels of change and the kernel of design thinking leading to innovation.

2   In Search of Design Thinking Leading to Innovation

2.1   Tim Brown's View of Design Thinking

The twentieth century witnessed the stalemate of the problem-solving mode based on logical analysis and scientific rationality. Many attempts of design thinkers have been dedicated to free from the domination of the scientific rationality analytic mode of thinking. They advocate the value and uniqueness of "designerly" way of thinking or design thinking, such as Cross in the 1990s and Brown in 2009 among the others. Brown (2008) argues that design can transform problems into opportunities. So designers should exert their particular way of thinking by participating in the process of product innovation from the beginning. He regards design thinking as human-centered, and the generation of design thinking as an interaction among three spaces: Inspiration, Ideation and Implementation. Brown (2009) also emphasizes to make creative idea into prototype as early as possible and to evolve the idea to be more desirable, feasible, and viable, instead of pursuing fully analysis and description of the problems before taking any action.

Brown's design thinking emphasizes users' needs by exploring the social context of users (2009). However, needs come from the unsatisfied desire and often negative emotions driven by terror, hate, rupture or fright. The design that satisfies the needs of people is to fulfill the unsatisfied desires is far from really changing the existing state. Brown suggests learning from the extremes so as to stretch designers' thinking beyond assumptions and to get bolder ideas. Nevertheless, as one's observation and thinking mode are framed by his belief and judgement that guide his knowing, a designer can hardly truly understand the users without being aware of that impact. Whereas Brown's approach proposes mainly a methodology or strategies rather than questions the patterns of thinking that allow designers and users to go beyond old thinking, his design thinking methodology is probably hindered in dealing with social system changes which involve more mindset and behavior transformation.

Senge's (1994) iceberg metaphor of mental functioning shows that we often focus on finding common signs or structures of events or phenomena, and then re-structure and redesign activities and details while ignoring that the assumptions and taken for granted beliefs that frame our reasoning and action are the very key to solve problems.

Therefore, the real and profound innovation relies not on the modification or redesign in work process or methods, but on the transformation of the mindsets, assumptions, beliefs and values. Creative thinking is to re-frame the problem and to see the world in a new light (Li 2002).

Then, how do the designers who intend to be creative and innovative transform their thinking? How do they touch the source of collective action linking to the emerging future?

2.2   The Different Levels of Change of Scharmer's Theory U

Scharmer interviewed in a MIT project with 150 prominent entrepreneurs, scholars and NGO leaders their empirical experiences about innovation and collective transformation for organization, he discovers that the real and profound change comes basically from the individual and collective internal awareness and inquiry to the deep source of self which links to an emerging future. The evolution of the internal process is symbolized in the U-shaped movements. The key to innovation is not novelty in strategy or process, but the intrinsic qualities of the leader and designer (their purpose, beliefs, and values), and where his attention is focused. According to the different focus of attention and inner awareness that leaders have, they will lead their actions into changes of four levels, from external to internal:

1. **Focus: surfacing on the current reality.** Facing the challenges, one focuses on what he perceives or the surface of the facts that he sees. His diagnosis of the problem comes from his knowledge, taken-for-granted thought and values. Thus, the change is to adjust the structure and mode of operation, resulting in the re-structuring of the system.
2. **Broadening: perceiving other perceptions.** When one "opens his mind" and exchange views with others, he extends his personal point of view. "Open mind" means to rationally analyze other thoughts and broaden one's sensing perspective. As long as one suspend his judgement and knowledge, he'll release inner space to let new perception enter in, so to perceive different perspectives.
3. **Deepening: dialogue and surfacing deep assumptions.** Like Brown, Scharmer also emphasizes on empathy in observation and listening in the field, but Scharmer highlights above all the awareness of our downloading way of thinking that shapes our knowledge and judgement. The complexity of problems arises from the wrestling of different points of views. Only when people temporarily suspend their views and see from others' eyes, they get aware of the assumptions and values behind their own knowledge and judgement. After this reflection, people may escape from the original thinking frame and find new possibilities. "Open heart" helps us to redirect our attention, to shift our attention from personal self to the field of bigger Self, and makes us feel connected with each other as a whole. Deep and empathetic understanding is possible through numerous rounds of open and equal dialogues among the different stakeholders. Deep dialogue leads to re-frame the problems and thus generate new ideas. This echoes the "design dialogue" concepts that Jenlink and Banathy (2008) posit for changing social systems.

4. **Purpose: exploring the source of our commitment and creativity.** One redirects his attention "from the 'exterior' to the 'interior' by turning the attention toward the source of the mental process rather than the object (Scharmer 2009)".

When the attention turns internally, one probably experiences some period of reflective retreat, letting go the old and unessential things. He will feel integrated into the whole and link with his deepest source by asking himself "Who am I?" and "Why do I do it?". Scharmer calls this experience "presencing" which is a threshold of letting go old thinking and accepting new ideas, linking to one's highest potential. Here, "open will" helps to clarify and crystalize one's purpose and vision. Then, one will commit to embody the vision and creative ideas in action by making rapid prototype in the real world to test, evaluate, modify iteratively. It needs the integration of brain, heart and will. The realization keeps evolving with the change of the environment.

2.3   Research Questions

Following Scharmer's line of thought, this study intends, through the case study of Togo village, to explore the design team's design thinking throughout their transformative process. I focus on the following questions:

- What have been the challenges that the Togo design team encountered? What kind of design thinking has the design team responded to these challenges and what are the results?
- What are the different levels of design thinking and changes that lead to the social innovation in Togo Village?

3   Research Methods and Introduction to the Case Togo

3.1   Qualitative Research and Case Study Approach

This study explores the experiences of the design team in the transformation of Togo village and reflects on their design thinking. This study follows the principles of qualitative research by means of the case study approach through field observation, in-depth interviews and document analysis from January 2015 to January 2016. I chose to perform case study of Togo village for several reasons. A case study approach helps to draw the boundaries of inquiry precisely around the system of action performed by Togo design team and the residents, and to look at it as a whole. This approach also highlights in-depth investigation in a real-life, natural context, and the interaction between the agents and the social historical context, affording external validity for the findings (Yin 2008). Moreover, Togo's transformation of more than a decade offers rich historical and current information about the challenges that rural communities face when they conduct a change. Finally, Togo is still evolving so that some of the insights from this study may provide them with follow-up development reference, incorporated into their future design thinking.

3.2   Data Collection and Analysis

For primary data collection the technique of in-depth interviews with semi-structured script was adopted. Documents encompassed news reports, government documents, dissertations written by the designers, the Facebooks and websites of Togo Rural Village Art Museum and of the "Elegant Farmer" companies. The data of multiple sources, field notes, the transcription of interview recordings were examined and analyzed. The data analysis consist of coding that transforms data into concepts and categories, and then integrating the categories into a logical structure, forming the propositions or themes on the research phenomenon through continuing comparison between the concepts, categories and the existing theories. Case studies rely on a variety of sources, so the different data must converge and reach the same conclusion under triangulation (Yin 2008).

3.3   Introduction to the Togo Village

Togo is located in the northeast corner of the Houbi District of Tainan City in Southern Taiwan, which is the most important rice agricultural area in Taiwan. There are only 366 people per square kilometer (compared to Taipei City per square kilometer population of 9,918 people).

Since 2002, a handful of local middle-aged have initiated the community building by self-reliance building. From 2003 to 2010, successive young graduate school students of architectural arts proceeded their action researches in the Togo village under the principles of co-design. In the long process of communication and interaction between the designers and the villagers, they've established mutual trust and affection and evolved the mindsets through design participation and artistic involvement. Consequently, they not only revitalized the deserted village with collective artistic creation, but also triggered the vision and action to build a well-being community integrating creativity, arts, ecology and technology. After accomplishing their graduate degrees, the young designers returned to Togo village and run social enterprises and were elected as the core cadre of local association. Since 2012, the designers and residents have co-created the Togo Rural Village Art Museum which aims to explore the alternative way of living in the rural areas.

4   Research Findings and Discussion: Design Thinking Leading to Different Levels of Change

I present in the Fig. 1 the different levels of design thinking and changes of the design team along the transformative process of Togo village in terms of Scharmer's three tools for enhancing the capacities for exploring the source of the purpose and the highest potential, named "presencing", that is, from "open mind", "open heart" to "open will". On top of the three tools, I add the "open sense" that corresponds to the level1.

Design thinking		Design Outcome

Level 1. Perceiving on the surface of current reality — **Open sense** → Environmental embellishment Enhancing community identity

Level 2. Broadening their perceptions and discovering other perspectives — **Open mind** → Participation in redesigning and building taking charge of the maintenance

Level 3. Deepening their mutual understanding by dialogues — **Open heart** → Being empowered in resonance Conceiving the concept of "Elegant Farmer"

Level 4. Connecting to a collective vision of the desired future — **Open will** → Co-creating Togo Rural Village Art Museum and keeping pursuing a well-being and sustainable village
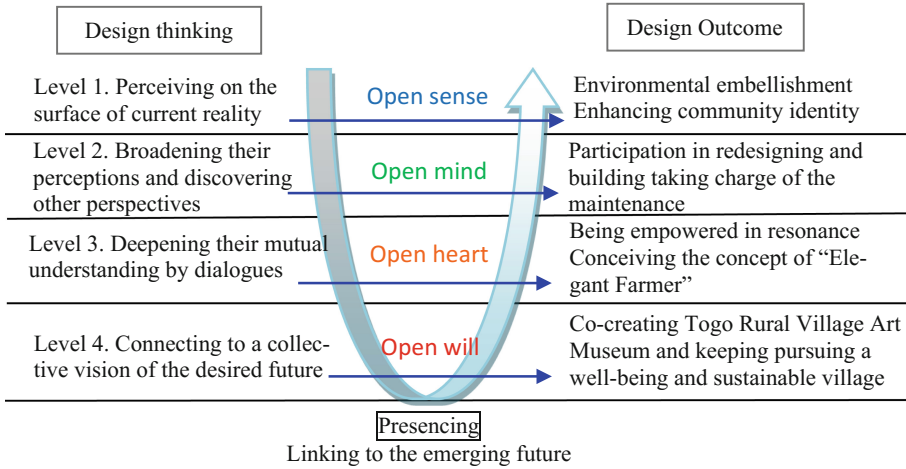
Presencing
Linking to the emerging future

Fig. 1. The different levels of design thinking and outcome

4.1 "Open Sense" Perceiving on the Surface of the Current Reality

In 2002, the problems that the initiators of Togo local association faced encompassed the increasingly aging and solitude, abandoned houses, deserted dirty spots, discarded old farming tools, abandoned train tracks to be eradicated, resulting in the wipeout of local memory. The initiators of Togo village started up with cleaning and rearranging their neighborhood environment, such as planting trees along the main road, fixing the old discarded oxcarts and turning them to display agricultural products. At the beginning, indifference and cynicism from the neighbors here and there contrasted the volunteering action of the initiators and their families. However, their practice contributed to significant and visible changes in the environment, witnessed by the residents who waited and saw. Gradually, more and more residents recognized and joined the action. Even so, it was not easy to motivate the people to participate in public affairs. It often took several months to communicate and persuade a landlord to lend his land for free design and build.

In the past, due to the environmental pollution of their homeland, the residents felt shameful, now the tangible changes in the neighborhood made them feel hopeful and enhanced their community identity.

4.2 "Open Mind" Broadening Their Perceptions and Discovering Other Perspectives

(a) Collective Learning and Broadening the Perceptions

The design team organized several "learning journeys" aimed to broaden their perceptions and perspectives. They brought with them in-depth and purposeful inquiries through the visit of relevant but different community-building cases both in Taiwan and

Japan. The learning journey also offered opportunities for the residents to dialogue and imagine together about their community. The learning journey not only enhanced their knowledge about design communities, but also broadened their perspectives about agriculture, ecology and culture. For instance, a farmer of the design team gave up the conventional farming and learned organic farming because he connected to the right persons and resources, and witnessed the benefit of natural farming through the learning journeys.

The design team was mindful in guiding the farmers to observe and perceive what appealed to them as design. For example, the team offered each participant a polaroid camera asking them to shoot what they liked and found beautiful. After one week, when they met, each farmer were invited to share his pictures and the reasons why he chose to shoot. In this way, the designers gained insights about the farmers' preference of design.

(b) **Introducing External Energy to Stimulate Imagination**

The design team invited artists to work *in situ* and interacted with the residents in the attempt to broaden the residents' perceptions. They used buffalo as metaphor of the hard-working perseverance of elder farmers who adhered to the land and dedicated their lives to the cultivation. This spirit was embodied in the buffalo stone sculpture created by artist Jia-fu Hou, who worked in a park just along the primary road of Togo village that attracted the residents' curious observation and questions. These dialogues and interactions made the artist more aware of the interests of the residents. The insights he got about the farmers' childhood memory and their desire of transmission from a generation to the next generation were finally represented on the sculpture in the image of a child climbing on the back of the buffalo. However, each collaboration with artists didn't achieve the synergy between the artists and the villagers. Contrast to artist Hou, an iron sculptor insisted in completing the work in his private studio without communication with the villagers. When his sculpture was installed in the park, the residents could hardly tell the story about the artwork.

The interaction and dialogue between the artist and the residents not only extends the perception and perspectives of the residents, but also stimulates the artists to reflect on the relationship between artistic creation, men and the society.

(c) **The Reflection-in-Action of the Young Design Team**

Since 2004, successive graduate school students had joined in the design team, mainly adopting the approach of co-design. When entering in the field, they perceived very soon the gap between their expertise and the tangible practice preference in the rural world. Having perceived the decline of the traditional rural values, the young designers tried to evoke the public's attention through the action called "Building a House for the Buffalo". They called on young people to build a house for the last buffalo in Togo village. In this event, the young designers, despite the co-design concept, neglected to integrate the villagers into performing, leaving them to watch, nothing to do by the side. The young designers finally reflected on their multiple roles in the field, one of which was to guide and encourage the residents to contribute their knowledge and participation.

(d) **Translate Language and Images as Tools for Facilitating Mutual Understanding**

Following the co-design principles, the designers spent a lot of efforts in communicating with the residents and guiding the design. The designers must transform their expertise language into farmers' language, or used their own language to articulate things that interested the others (Young 2007). The three-dimensional sketches and rough scale models served as the most useful tools for the communication of the design concepts. However, unexpected misunderstanding and taboos made some construction unacceptable by the residents so that the designers redid it.

4.3   "Open Heart" Deepening Their Mutual Understanding by Dialogues

(a) **Suspend the Judgement and Redirect the Attention toward the Field**

The young designers couldn't really understand the villagers until they suspended their expertise and assumptions. They moved to live inside the village and interacted with the farmers during four years. Rather than analysis and reasoning, they observed and felt the whole rural context including the environment, the weather, the people, the culture, the colors, the smells, the sounds that orchestrated the particular atmosphere of the village. They also spent much time chatting with the elderly and building relationships based on trust and friendship to the extent they redirected their attention toward what the residents really cared. The old farmers and young designers dialogued and understood each other by "opening heart", that is, redirecting their attention to listen mindfully to the others.

(b) **Guiding Users to Become Designers through Company and Co-creation**

Artists and designers are required to incorporate elements familiar to local people into their artistic creation, such as red bricks, wood, stone as well as images of dragonflies, pigs and buffaloes. For example, when transforming the pig house into a cultural activity room, the design team succeeded in encouraging the seventy-year-old farmer, who had never taken a painting brush, to draw images of his familiar countryside. Through the expression of familiar local elements, the design team tried to guide the residents to appreciate the aesthetic value of rural objects, reestablishing their confidence and identity to their homeland. Furthermore, the playful and creative part of artistic work overturned the farmers' habitual ways of seeing and making, pushing them to step out boundary of habitual experience. Another example was the old cement artisan's self-transformation who engaged himself in searching for the fittest way to realize the design, letting go his habitual thinking on efficiency, and empathizing the designer's intention. They finally co-created an unconventional work. Besides, the working process of artist was accompanied and assisted by the residents, leading to the fusion of perspectives of the artists and the residents.

On the one hand, the designers and artists were ready to explain to the residents the reasons and stories, inviting them to open up heart to feel and accept new things, also enabling them to re-frame their local knowledge. On the other hand, these artists proposed to redefine the meaning of artistic creation. They accentuated the interaction

and meaning-making between the art and people, social context rather than the conventional monologue mode of artists who sought the recognition of elite museums.

(c) The Bridge Between the Designers and the Farmers

The core members of the local association have played an essential role of bridge between the designers and the farmers in the co-designing and co-creating. They have been esteemed in the neighborhood for their altruistic action resulting in tangible changes for several years. In every event, they conducted a dialogue with the designers where everybody was equal, welcome and open to contribute his opinion. Then they decided in a collective way before mobilizing the other residents and implementation. Most importantly, the cross-generational team backed up each other when facing the farmers' refutation and supported mutually in organizing activities. In addition, since the designers lived within the village, the farmers frequently invited them to have lunch or dinner, taking care of them as if they had been their own family.

Contrast to general relationship between the designers and users, the young designers and the residents of Togo establish more profound relationship and friendship which serve as the key condition of the incubator environment that encourages and supports the free dialogue and creative idea to generate.

4.4 "Open Will" Connecting to a Collective Vision of the Emerging Future

(a) Exploring the Source of Their Purposes and Highest Potential

The young design team understood empathetically the happiness and sorrows of the farmers and the structural problems of agriculture because they interacted deeply with the residents and almost became a member of the community. Accordingly, they were motivated to change it, as the young designer Michael said "while proceeding small projects together, we have actually nurtured a bigger dream." In 2008, as sculptor Hou decided to immigrate into Togo, the young designers designed and built an alternative house for him. They named it "Togo Artist Hut" through which realized their dream of "residents become artists whereas artists become residents" embodied in the image of "elegant farmer". This idea resulted from the long process of intense interaction and trusty connection between the artists, designers and local people in the village of Togo. This "atmosphere" or "field" in the sense of Nonaka and Katsumi (2004/2006) provided the environment and opportunities that encouraged people's "inner knowing" to enact, so as to draw together the picture of their desired future.

Therefore, they fostered the purpose to transform the poor farmers into "elegant farmers" by means of new knowledge, technology and creativity. The new identity of "elegant farmer" involves the integral rural development in terms of cultural creative industries, agriculture and ecology. The vision is emerged from the design team's deep intention to create a new way of life in rural context, beyond personal interest, but looking for the possibility for a desired community as a whole.

(b) **Retreat and Crystallization of Their Intention**

In 2010, the young designers left Togo for fulfilling the citizen military service. This period meant a stage of retreat and reflection which kept them detached from the familiar environment, asking themselves "who am I?" and what they really desired to do in the future. Through this period of solitude and distance, they delved into the source of their purposes, the highest potential and unique competencies. As soon as they finished the one-year military service, they settled in Togo village and started five companies which provided service on landscape design, community building, environmental education and music creation at the same time they continued to realize the vision of the "elegant farmer".

(c) **Rapidly Prototype Realization**

In 2012, the design team proposed the idea of "Togo Rural Village Art Museum" and was supported by the local association. Despite lacking experiences and funds, they still did their best to carry out the project. Under the declaration "The village is an art museum; the art museum is the village; the houses display the exhibition whereas the rice field is the canvas; the farmer is the artist while the agricultural product is the art" (Togo Rural Culture Association 2013), the exhibits of the museum consisted of all the corners and pocket parks that they created during the past decade spreading in the village, the pastoral landscape and some artists' artwork. This "museum" challenged people's conception of arts, triggering them to sense the beauty of rural environment and the spirit of the farmers through chatting with them. As a result, this five month festive event surprisingly attracted thousands of visitors, numerous positive media reports and they finally made a profit for the first time.

(d) **Evoking and Connecting to the Inspired People**

The design team spreads their social innovative concepts and actions through social media, mainly their website and the Facebook. In 2011, the design team called on youth "to return to rural areas" and" to create an elegant farmer's homeland with art" by incorporating the youth's knowledge and creativity (Togo Rural Culture Association 2013). In the attempt to raise funds for the second year of the "Museum", they organized a "Farmer's Feast" party, including a concert, contemporary art exhibitions, hand-made bazaars, farmer markets, and "pastoral art planting" project which encouraged young artists to settle in the village. The banquet material came from small organic farmers throughout Taiwan whom the design team interviewed on site. They reported every farmer's story through the Facebook site. They finished by successfully drew the public's support and raised funds.

Since 2014, a young pottery artist and a painter, a senior natural dye artist have settled in Togo village. At the same time, some native youth of Togo have returned to run a cafe, a pizzeria and two natural farms, as well as two retired couples immigrating into Togo. Moreover, the design team continues to tackle the issues of accompanying the elderly and the young entrepreneurs who settle and develop in Togo. Since then, an art teacher has volunteered to teach the elderly, named "the Pastoral Studio".

(e) **Iteration and Evolution**

These young entrepreneurs adopt the social enterprise model rather than the non-profit local association model which relies mainly on governmental resources. Nowadays the designers try to make business by combining the artistic creation with local farmers, cultural creative workers, natural garden lovers, environmental educators in the attempt to develop Togo village with sustainable management. They also help the farmers to promote local product through their design and marketing technology. With a determined purpose, the entrepreneurs take out a loan of 161 thousands US dollars in order to transform a decayed house and garden into "Elegant Farmer's Artist Park" that provides the public with creative activities in a rural context.

5   Conclusion

I explore in this study how the design team engaged themselves in the transformation of Togo village. Their design thinking involved a personal and collective inquiry from the outer world to the inner world, and then delved into the source of their purposes and crystallized their vision in the prototype "Togo Rural Village Art Museum". Scharmer's perspective helps to interpret the design thinking in the transformative experience of Togo because it sheds light on the importance of exploring inwardly the source of purpose and the highest potential instead of focusing on the phenomenon of problems or proposing strategies or methods to foster creative solutions.

As conclusion, if we desire to make fundamental changes occur in today's complex world, product-oriented strategic design thinking is not sufficient to cope with it. We need to deepen the individual's inner strength and forge collective consensus and vision. Scharmer affirms in the Theory U that the inner transformative process leading to innovation requires three tools of opening, from open mind, open heart to open will and the exploration of the source of our deeper purposes and vision linking to the future. His distinction in the four levels of change in organization is worth noting that represents critical perspective in reflecting design thinking, which is not prominent in the earlier writings of design theorists. For the future studies, it is suggested to depict the principles of design thinking leading to social innovation and the roles of designer in terms of the different levels of design thinking.

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