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Action research as an approach when design meets social innovation

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Abstract

These years, with the revolution of social innovation, design is enlarging its scope and actively initiated to social and public sector, design activism movement is emerging. Isolation of design practice and research was found in design oriented social innovation projects, new research approach of design activism needs to be explored to suit new situation.

Action research (AR) is a well-used methodology as well as natural practice in social sector since the late 1940s and considered as theory-practice dialectic based knowledge generation and learning process that is useful to integrate research and practice in social sectors. Initially review on the literature about relationship of AR to design. This is followed by a reflective and explorative describing of my reflection on long-term social innovation project-DESIGN Harvests. AR Cycle and distributed innovation network with equal status between researchers and practitioners are crucial in such project. The article predicted that AR that informed by design has the potential to serve as an emerging approach of design activism for integrating research and practice of design.

Keywords

Design activism, action research, social innovation, design practice, design research

Introduction

What is the meaning of design today? In this complex, uncertain and dynamic world context, the pressing of connecting knowledge with action to create systemic social change and improving wellbeing for all human beings is greater than ever. Within and beyond design related discussions, we can see that both academic references and practices are adopting principles from traditional design to deal with “big picture” systemic challenges (e.g. climate change, healthcare, inequality, education). This on-going and necessitates shifting call for both the adaptation of known solutions and the discovery of new possibilities.

Social innovation can be seen as new ideas that satisfy unmet needs and enhance society's capacity to act (Mulgan, Tucker, Ali, & Sanders, 2007). It is widely considered that design skills and capabilities can recognize promising cases when and where they appear and to reinforce them, while make them to be more accessible, effective, lasting, and replicable (Manzini, 2015). Design was described not just problem solver but also sense maker which create forms of collaboration, multi-disciplinary integration and proactive intervention that can lead to social innovation (Marglin, 2002, Manzini, 2015).

It is obvious that the meaning of design is expanding beyond previous conventions, but the broad role of design in society has not well conceptualized (Margolin, 1989). Although still embryonic and ambiguous, design intervened into complex social space appear to be an on-going emerging occurrence in both academia and practice.

Several worldwide forefront scholars (Fuad-Luke, 2009, Lou, 2015, Manzini, 2015) articulated their thoughts and converted them into positive societal and environmental changes. They tried to explore and clarify the role of design within spaces of social complexity through design activism. Design activism is an emerging movement that puts design as a central focus in solving basic civic and societal problems. Think-tanks, such as DESIS (Design for Social Innovation Towards Sustainability) Network, Design for America, IDEO and so on, have already worked on exploring approaches and providing real solutions to pressing social, public and citizen complex problems by opening the traditional and professional boundary of design. However, There is a huge demand for design

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knowledge but few available, right approaches for design activism still need to be explored.

Designers usually rapidly progress from identifying problems to realizing solutions in multi-disciplinary teams in today's complex environment. Design, in addition to traditional visual and material skills, still need the capability to analysis, synthesize, organize and evaluate due to specific situations. Design practice is therefore closely linked to research because "no single individual can master this comprehensive background stock of knowledge"(Friedman, 2003).

However, there is a tough crux between design practice and design research in term of such argument: disintegration of research and practices of design. With the influences of positivism paradigm of nature science and ethics of social science, the stance of design researchers is as objective "outsider" and staying distanced from the observed objects in academia of design. The researchers are restricted from grounded understanding of real context, and also cannot merge in practical projects for long term, which cause short time effect.

Most practitioners exhibit a kind of knowing-in-practice, and most of which is tacit (Schön, 1983). They often have such capabilities to reflect their knowledge from action and make them as know-how to cope with the uncertain and complex situations of society. But for the limitation of initiative awareness and right guidance, these precise know-hows cannot be transferred as knowledge, duplicated to generate wider social impact. This isolated situation occurs in most emerging social innovation projects, especially in China. In some cases, such isolated approaches even lead to conflict between researchers and practitioners in the same team.

Action research (AR) could be a balanced approach to achieve both research outcome and practical outcome in social situation. AR is a well-used methodology as well as natural practice in social works since the late 1940s. AR is an umbrella term that includes participatory research, action learning, praxis research, participatory inquiry, collaborative inquiry, action inquiry, and cooperative inquiry (Whyte, 1991). AR is considered as theory-practice dialectic based knowledge generation and learning process. Researchers with practitioners generate new social knowledge about social complex problems, at the same time, attempt to change it to desirable direction (Lewin, 1946; Peters and Robinson, 1984).

Perti Jarvinen(2007) and Cal Swann(2002) argued that AR is similar to design by comparing fundamental characteristics of them. Although AR still struggles with the theoretical justifications for its methodological foundation, this theory-practice dialectic based knowledge generation and learning process have already emerged in some social innovation projects. Meanwhile, academia argued that there was a methodological innovation in practice-based design doctorates (Yee, 2010). AR could be an approach to tackle the disintegration between research and practice of design in social innovation projects.

This study investigated the relationship of design research to AR by reviewing the main developments in design through research (Fallman, 2003) and related these to AR. Then reflective and explorative described our reflection on long-term social innovation project- DESIGN Harvests from a retrospective perspective. As such a research effort, tried to trigger the paradigm shift of design research for dealing with complex social problems.

Relationships of action research & design in social innovation projects

Shifting from design science approach to alternatives

At the germination stage of design research around 1960s, it was believed that design methodology could prescribe an orderly, systematic procedure for arriving at a design solution through "diagnosis followed by prescription" (Downton, 2003; Gedenryd, 1998), and then this perspective supported by Christopher Alexander, John Chris Jones, Buckminster Fuller, and Herbert Simon (Alexander, 1964; Downton, 2003; Jones, 1970; Simon, 1969; Zung, 2001, quoted from Frankel & Racine, 2010). The procedures or methods of design research were considered as a valid scientific research subject, and this influential approach persists to today. With this influence, design researchers were encourage to keep objective in design process and distance themselves from concrete context.

In contrast, in the early 1970's some design researchers began to be aware of wicked problems that design is dealing with and reject the design science approach. They argued that linear structured methods couldn't understand and define wicked problems (Cross, 2007b; Gedenryd, 1998). Donald Schön offered a constructivist paradigm instead (Cross, 2007a). At the same time, design researchers were beginning to "borrow" methods (like ethnography, Tuuli Mattelmäki developed on it as design probe, 2006) from social science to help designers to understand the users and context better.

However, the original ethics of social science restricted design researchers to change the current situation. This premise isolated design research and design practices in some way, one extreme expression is

that designers cannot well understand the researchers' conclusion in most domains, and even some designers were against taking design methods (like user-centered research) in their projects.

There is still one type of inquiry that distinct from the well-established science and humanities research approach. Saikaly (2005) describes this practice-based type of inquiry as a "designerly mode of inquiry". New relationship between practice and research of design is expected in new era.

Relationship between practice and research of design

The widely acknowledged definition and taxonomy of research pertaining to design, *research for design*, *research into design* and *research through design*, is originated from Christopher Frayling (Frayling, 1993), then modified and explained by Bruce Archer, Cross, Ken Friedman, Richard Buchanan, Christopher (Archer, 1995; Cross, 2007a; Downton, 2003; Findeli, 1999; Friedman, 2003; Jonas, 2007).

research for design: refers to "research to enable design", this research area provides the information, implications, and data that designers can apply to achieve an end-result in their design projects (Downton, 2003; Forlizzi et al., 2009);

research into design: refers to research where art or design practice is the object of the study;

research through design: refers to research where art or design practice is the vehicle of the research. The object of research is creating design knowledge instead of project solution.

Design activism movement does not focus on concrete solution for project or inquiry design itself. It requires opening design to continuously act on social problems, which involves stakeholders in collaborative way to generalize the problem-solving outcomes and knowledge.

Relationship of *research through design* to action research

The object of research is creating design knowledge instead of project solution. Design activism movement does not focus on concrete solution for project or inquiry design itself. It requires opening design to continuously act on social problems, which involves stakeholders in collaborative way to generalize the problem-solving outcomes and knowledge.

Although these types of research are not mutually exclusive in social innovation projects, greater emphasis is placed on research through design consistent with its closer relation to AR when design tried to tackle social problems. Jonas (2007) considered research through design the only genuine research paradigm because it is here that new knowledge is created through an action-reflection approach (Frankel & Racine, 2010). Cal Swann argued that it would require only a few words to be substituted for the theoretical frameworks of AR to make it applicable to design. Design has already been moving in this direction (emancipatory participation and systematic reflection) and could be fortified by adopting principles that in AR have had time to develop and mature (Swann, 2002). Widely employing participatory design and co-design in social innovation projects can be seen as the shifting process of professional designers' mind to genuinely include other stakeholders in the design process.

Systematic reflection can make empirical know-how to be design knowledge that is can be accumulated and disseminated. AR includes the researcher as an active participant rather than a passive observer and considered to be less scientific and more relevant to a real-world model of practice. The iterative research process and change-oriented perspective of AR is more suited in trained designers' working habits that make it very easily to be adapted to the design-driven social innovation projects.

Emerging pattern from long-term social innovation project: DESIGN Harvests

DESIGN Harvests project was started from 2007 in China. It originated from the personal research interest of Professor Lou Yongqi, aim of the project was to build a new developing model through "design thinking" to integrate rural and urban resources and improve social environments, economic situations and social relations, so as to blur the boundary between rural and urban, thereby achieving balanced development. Acupuncture approach with strong cooperative networked projects brought inspiration and leadership simultaneously in urban and rural fields. All those design projects are prototypes of visions for the future.

I used to be both a design researcher and an active practitioner in this social innovation project from 2012 to 2014. Instead of general relationship between design knowledge and AR are built up, I draw from it as an example in a more speculative and suggestive way.

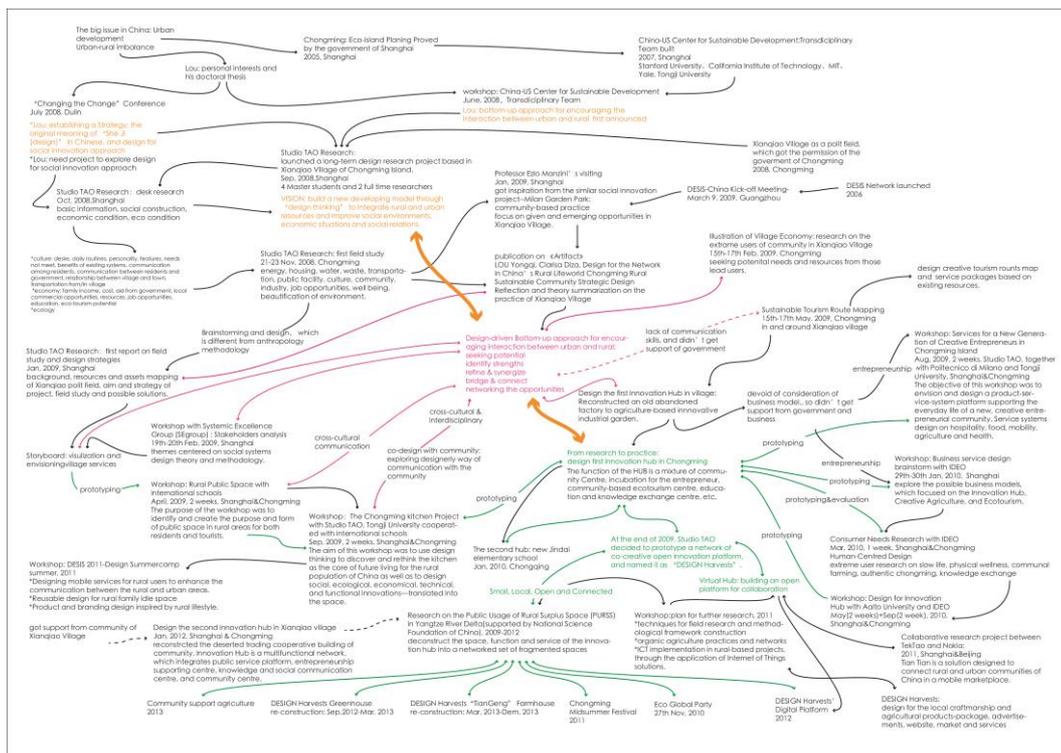


Fig. 1: key events of DESIGN Harvests project from 2007 to 2014

This paper is a reflective and explorative describing my reflection on from a retrospective perspective. The data was from previous Master students' thesis in Studio TAO and the book *Design Harvests: An Acupuncture Design Approach Towards Sustainability* (Lou, 2013), and also based on my first-hand practical and empirical work in these related and networked projects.

In order to clarify and present the implications of the AR in DESIGN Harvests project, I draw the map by connecting key events that occurred from 2007 to 2014 (detail description of each event please see the book *Design Harvests*), as illustrated in Fig. 1.

As following, this paper present the emerging pattern refer to AR in DESIGN Harvests projects by analysing and reflecting on the relationship of these key events.

Action research as an approach when design meets social innovation

Typical action research cycle

AR found its way into DESIGN Harvests, initially yielding what has been called AR Cycle perspective (Baskerville, 1999, Schaffers, Guzman, & Merz, 2008). As mentioned earlier, AR is an umbrella term, each approach has its own particular characteristics while sharing some common distinguishing features which evolve in a spiral through a number of stages—typically four or five. AR Cycle also can be found in “experiential learning cycles”(Song & Nousala, 2015), “action research model” (Cummings & Worley, 2001), as well as “the cyclical process of action research” (Susman and Evered, 1978) in different implemented field.

From this natural development process of design-driven social innovation project, it is interesting to see that the AR Cycle is highly consistent with design process. Design projects usually have a lot of ambiguity while the outcome is open until the very final phase. Design process is iterative which includes empathy/define – ideate – prototype – test these basic phases. Although each phase of design process cannot correspondence one to one with the AR Cycle, they have a strong resemblance to each other. This also could explain why the typical AR Cycle can be found in this design-driven DESIGN Harvests project. A reflection on the similar part of AR Cycle and design process in DESIGN Harvests are as following:

Diagnosing - empathy/defining: identifying or defining a problem

DESIGN Harvests project was originated from the personal research interest, aim to encourage the interaction

between the urban and rural to tackle the problem of imbalance development between urban and rural area. But at the beginning of this project, there is no explicit and articulate roadmap or strategies to support the team. The team started the project by understanding the situation and asking questions. This is a typical research through design process, although different way to understand the context, both researchers and practitioners operated in the defining phase with equal status.

Action planning - ideation: data gathering and preliminary diagnosis, considering alternative courses of action for solving a problem

Designers have the capability to synthesize and integrate numerous factors to create parallel solutions. As Swann argued that visual form is a valid form of knowledge (Swann, 2002), visualize brainstorming and storyboard were widely used in each project of DESIGN Harvests. Visualize tools worked as carrier to help to make the tacit knowledge of practitioner tangible and also encouraged communication between researchers and practitioners from different background.

Action taking - prototyping: selecting a course of action

Design is good at dealing in human interactions with artefacts and situations that contain a great deal of uncertainty. The integrated knowledge seeks to demonstrate the result of ideation as a tangible design product to be informed immediately by the stakeholders.

Prototyping approach is a design tool to generate and test solutions that includes rough mock-up, a realistic model, or a beta-test of the scenario. Technical tools like maps, blueprints, storyboards and interaction maps were used depend on different situation in order to make all the details of the solution clear and visible to the action taking situation.

Evaluating – testing: studying consequences of an action and feedback of key client or group

As mentioned earlier, visualized prototyping approach was also efficient in evaluation phase to communicate with stakeholders. When testing the prototype, the ethnographic method is useful for documenting and taking account of the stakeholders' adaptation to the new design.

Specifying learning: identifying general findings

The joint design workshop is found to be a very efficient tool to enable co-creation process within the network, especially in the conceptual and starting-up phase. Studio TAO created a series of workshops based on different contexts in these years. Each of them was divided in multiple steps: theoretical (desk) research, field research and the proposal of one or more final concepts.

Each workshop can be seen as a complete iterative AR Cycle to create solution and trigger holistic change. Researchers worked as coordinator in workshops, in parallel with the practical part, academic activities have been organized. The reflection of one workshop triggers the others, the general findings of DESIGN Harvests are the basic principles, acupuncture design approach and entrepreneurship operating that to be published, distributed by Studio TAO and carried on by social initiative.

Collaborative innovation network

Barabasi (2002) and Doz(2001) proposes that networks are (1) *centralised*, (2) *decentralised* or (3) *distributed* refer to position of stakeholder and network configuration. Distributed innovation network is configured as multiplex network structure. In opposite to a centralized network configuration and a hub-node structure in a decentralized network configuration, actors do not have the power or willingness to control innovation activities conducted by the other actors. Distributed innovation network is grounded on an assumption that actors are equal and can select appropriate partners for their activities.

In this case, a distributed network of co-creators, including international design schools, universities, business partners, NGO, local communities and individuals from other backgrounds have been involved. The strength of the network that is from inter-disciplinary to trans-disciplinary, cross-culture to cross-region, the mix of actors analyzes the same situation with different eyes and sensibilities.

Participants as well as multi-stakeholders have been asked not only to carry on an immersive contextual research, but also to generate some concepts with a systemic approach. These solutions have been

focused on one or more topics (like food, tourism, health care) that helped all the stakeholders to see the holistic “big picture” of such social problem. The outcomes of the workshops are not detailed answers, but can be considered as open inspirations for future developments.

However, there is one actor who focuses on coordinating and facilitating networking across the distributed network. For the design researchers in this case, theory informs practice, practice refines theory, in a continuous transformation. To accomplish this, design researchers played different roles, such as observer, listener, planner, designer, catalyzer, facilitator, synthesizer, reporter in various phases of the process since design practices and design research were not always balance in each phase and project.

Discussion: Design activism which design informed action research

DESIGN Harvests is a design-driven long-term social innovation project that oriented, explored and operated by designers and design researchers. In DESIGN Harvests project, design has the capability to synthesis all the related and networked problems as system and brought all the problems together in a holistic solution. Reflections on the comparison of design research and AR helped to clarify the existing of AR Cycle and the role of designer in DESIGN Harvests. However, how to apply such AR Cycle and the role setting of designer to empower the other social innovation project especially in ideation and exploration phase, still need to be convinced.

In this study, we predicted that *Designerly Way of Action Research* is particularly promising approach of design activism for integrating research and practice when AR is to be conducted in knowledge domains where design plays a central role, such as the social innovation field. For future research, the similarity analysis of design research and AR can look into philosophical groundings and focus on the exploration of new approach of design activism. New research culture that change-oriented instead of publication-based research is expected.

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