

Dual Imperatives of Action Research: Lessons from Theoretical Research Practice to Construct Social Development Index by Using Soft Systems Methodology

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Abstract This paper provides an illustration of practices of dual imperatives of action research as mentioned by McKay and Marshall (2001). An action research (AR) is conducted in the field of street vendors promotion program perceived to be representing the implementation of social development, a sociological-based development perspectives. Soft Systems Methodology is used in this AR to tackling social complexity, instead of many other systems thinking approaches. A research interest reflection based on theoretical framework (F), methodology for research interest (Mr) and specified research question (A) as introduced by McKay and Marshall (2001) is conducted aiming at constructing social development index as main priority of the research objective. In fact, however, at the same time the researchers have a significant field research experience which is to be potentially as a basis for a problem solving action to reflect on specified problem solving (P) and methodology for problem solving interest (Mps). Such experience confirms the conceptualization of dual imperatives of AR introduced by McKay and Marshall (2001), in which “two separate but interconnected and interacting cycles: one cycle representing and focused on problem solving interest in AR, and the other cycle representing and focused upon the research interest in AR”. While a preliminary social development index is constructed consisting of 28 variables, 42 indicators and 42 numerical criteria, is constructed in the context of research interest, a number of clarified issues are identified as a part of individual understanding about a city to promote street vendor promotion program.

Keywords Dual Imperatives of Action Research, Research Interest, Problem Solving Interest, Soft Systems Methodology, Social Development Index

1. Introduction

Action research (AR) is considered as a powerful research approach in many fields (Checkland and Scholes, 1990; Zuber-Skerritt, 1996; O'Brien, 1999; McKay and Marshall, 2001; Cronholm and Goldkuhl, 2003; O'Brien, 1998; Kember, 2000; Sagor, 2000; Burns, 2005; Koshy, 2005; McNiff and Whitehead, 2006; and Pelton, 2010). According to Checkland and Scholes (1990), AR is an appropriate research methodology to gain ‘experience-based knowledge’ in the sense that it is associated with ‘*the every day observation that we are all the time taking purposeful action in relation to our experience of the situations we find ourselves in, and the knowledge (shared or individual) which that experience yields*’.

While O'Brien (1998) identifies four types of action research, Burns (2005) introduces three types of action

research, namely (1) technical action research, (2) practical action research, and (3) critical action research. These types of action research, however, don't include the so called SSM-based action research as mentioned by Uchiyama (1999, 2009). While Barton *et al* (2009) argue that “*action research and positivist science play complementary roles in the broader scope of the scientific method*”, McKay and Marshall (2001) consider AR as being composed of dual imperatives

2. Research Objective and Methodology

The objective of this paper is to provide an illustration of dual imperatives of action research in the field of social development practice as a complementary report to those reported by Hardjosoekarto (2012). SSM-based AR as introduced by Uchiyama (2009) and applied by Hardjosoekarto (2011, 2012) as an elaboration of soft systems methodology developed by Checkland and Scholes (1990), Checkland (1999) and Checkland and Poulter (2006) is used as a methodology to elaborate an illustration of the dual imperatives of AR.

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Published online at <http://journal.sapub.org/hmr>
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3. Theoretical Background: The Nature of Action Research

While several features of AR are elaborated by Checkland and Scholes (1990), the characteristic of AR, as compared to positivist science described by Barton, *et al* (2009). Meanwhile, Barton, *et al* (2009) propose that a methodology claiming to be “action research” needs to include the following:

1. The pursuit of social value framed within an open systems/socio ecological/contextualist worldview
2. Logical processes that can be easily identified with abductive, deductive, and inductive modes of inference.
3. Team processes that adopt multiple perspectives and pluralist values both as a hedge against fallible behavior and as a platform for ethical practice.
4. Critical evaluation techniques that include single, double, and triple loop learning.
5. An operational basis in dialectic learning as a result, for example, of making critical comparisons between different systemic frames or perspectives.
6. Monitoring processes within action research cycles that inform (minor) corrections that can be made and recorded.
7. The possibility of considering each stage in the recursive terms of action research

In terms of AR as interlink cycles, Cronholm and Goldkuhl (2003) challenged both the one-cycle view (Checkland) and dual imperatives views (McKay), and instead of both views Cronholm and Goldkuhl (2003) introduce the so-called three-interlinked practices model of AR, consisting of theoretical research practice, business change practice/empirical research practice and regular business practice.

4. Construction of Social Development Index as Theoretical Research Practice in Action Research.

Construction of Social Development Index (SDI) conducted by Wirutomo *et al* (2011), and as reported by

Hardjosoekarto (2011 and 2012) is considered as a theoretical research practice. Table 1 shows the characteristics of the process of constructing SDI, as a theoretical research practice from the perspectives of Cronholm and Goldkuhl’s model (Hardjosoekarto, 2012). Nevertheless, as mentioned by Hardjosoekarto (2012) the research team has a significant experience in duality imperatives of the AR.

5. The Dual Imperatives of Action Research in Action

1. Duality Between Research Questions and Problem Identifications.

It is identified that the duality in AR could be started from early stages of SSM-based AR. On one hand, research questions are stated: how is the index to be constructed? And what methods would potentially be used? An index would be constructed by using of Surakarta City’s experience. In other words, a real-world problem situation, P, that is Surakarta City’s experience which enables the research team to find out about an index, A. On the other hand, however, while field research is conducted, a problem identification emerged: what lessons learned could be derived from Surakarta City in managing street vendors promotion program? Such kind of lesson learned is very important as many other cities and regencies are still demonstrating “confrontation” between city officials and street vendors. In short, the dual imperatives of AR could be started from at the early beginning of the research activities: at the statement of research questions and at the formulation of problematic situation identifications

Meanwhile, the finding out process, as main research activities at stage 2 of SSM, is a main feature of the dual imperatives. In short, there is only a series of field research to satisfactorily resolve either research questions or problematic situation identifications as reported by Hardjosoekarto (2011; 2012). A rich picture is constructed and has been reported also by (Hardjosoekarto, 2012).

Table 1. Construction of SDI as Theoretical Research Practice (Hardjosoekarto, 2012)

	Theoretical Research Practice	Construction of SDI as a Theoretical Research Practice
Assigner	Academia, sometimes external assigners	General Design for Socio Cultural Development (GDSC) Research Team
Assignment	Develop new knowledge, research application/research agreement	Construction of Social Development Index
Base	Established and hypothesized research knowledge	A new version of social development concept introduced by Wirutomo, (2011) and Wirutomo <i>et al</i> (2011)
Financial providers	Universities, external funding	Universitas Indonesia
Procedural knowledge, instrument	Research approaches and methods	Research interest in action research by using of SSM
Actions	Reflective, interpretative actions, theory development action	Construction of an Index as interpretative actions and theory development actions
Results	Knowledge (theories, models, framework)	A preliminary Social Development Index
Clients	Academia, practitioners	General Design for Socio Cultural Development (GDSC) Research Team

2. Duality in Selecting Relevant Human Activity Systems and Modeling.

Stage 3 and stage 4 of SSM are selecting and naming human activity systems and developing conceptual models. In relation to the main research objectives, -- to construct social development index -- 'a system to construct social development index' is a relevant human activity systems selected. This purposeful activity system is considered as a main system to construct the index. The Root Definition of this system is constructed by using of Checkland's PQR formula, as follows:

"A system belonged to and operated by the General Design for Socio Cultural Development Research Team to explore social development practice and to construct its related index consisting of fundamental elements of societal life, i.e., social structure, culture and social process (P), by using SSM to enquire the development of fundamental elements of societal life in the area of street vendor promotion program implemented by Surakarta City (Q), in order to have a more sociological version of development profile and its related index (R)".

Meanwhile, for the purpose of understanding a City to implement an inclusive social development policy, another purposeful activity system(s) can also be selected. A system to implement an inclusive street vendors promotion program is selected as below:

A system belonged to and operated by Surakarta City to implement pro-street vendor promotion program (P), by adopting a series of policy intervention at the stages of socialization, program preparation and implementation, as well as program monitoring and evaluation (Q) in order to achieve City's vision "To Promote Society Welfare and To Develop Solo City based on Spirit of an Eco Cultural City" (R).

Table 2 shows the duality of Action Research in terms of selecting and naming relevant purposeful activity systems.

Table 2. Comparison of Some Key Elements of CATWOE

	Research Interest	Problem solving interest
T	A construction of an index	An implementation of street vendors promotion program
A	Research team members, especially the author	Mayor/Vice Mayor, city officials, street vendors, members of society
C	the GDSCD research team	Mayor/Vice Mayor, city officials, street vendors, members of society,

3. Duality in Conceptual Modeling.

Conceptual model to construct social development index is consisting of 15 activities as has been reported by Wirutomo, *et al* (2011) and Hardjosoekarto, 2011; 2012) as follows:

1. Evaluating conceptual inadequacy of the existing development paradigms.
2. Elaborating a more sociological concept of development.

3. Conducting field research.
4. Identifying activities related to development of social structure, culture and social process.
5. Constructing the activities into preliminary variables.
6. Constructing the activities into generalized variables.
7. Identifying preliminary indicators perceiving could measures the generalized variables.
8. Identifying generalized indicators perceiving could measures the generalized variables.
9. Determining criteria of each variables.
10. Attributing numerical scale for each criteria of variables.
11. Judging relative portion of each sub total of variables.
12. Formulating a preliminary social development index.
13. Verifying the preliminary SDI based on data collected from many cities.
14. Verifying the preliminary SDI based on data collected from many sectors.
15. Finalizing the final SDI.

At the same time, conceptual model to implement street vendors promotion program is constructed into three stages of policy implementation as follows:

- A. Stage of Socialization
 1. Sharing vision with bureaucracy.
 2. Preparing readiness of bureaucracy.
 3. Sharing vision with street vendors.
 4. Sharing vision with community leaders.
 5. Conducting census and data collection.
 6. Allocating necessary budget with local council.
 7. Setting up planning to develop facilities and infrastructure.
- B. Stage of Program Preparation and Implementation
 1. Provide necessary budget.
 2. Develop facilities and infrastructure.
 3. Promote street vendor groups.
 4. Encourage consensus process among street vendors.
 5. Facilitating relocation process.
- C. Stage of Monitoring and Evaluation
 1. Provide business licenses.
 2. Support business promotion including local electronics media promotion and public transportation new route.
 3. Monitoring old street vendor locations.
 4. Relocate unsuccessful relocated-street vendors.
 5. Provide credit with low interest rate.
 6. Support promoting business strategy.
 7. Support a cooperative establishment.
 8. Setting up new version of City regulations.

Again, the dual imperatives of AR is clearly illustrated by the duality of conceptual modeling as shown at Table 3.

Table 3. Some Key Elements of Conceptual Modeling at the Stage 5

	Research Interest	Problem solving interest
Relevant system	"to construct social development index"	"to implement street vendors promotion program"
Total activities	15	20
Process of modeling	Intervention	Interaction and/or intervention

4. Duality in Comparison.

Comparison or debating phase is conducted at stage 5 of SSM-based AR. Table 4 shows a summary of key elements of comparison which is indicating the duality in comparisons.

Table 4. Some Key Elements of Comparison at the Stage 5

	Research Interest	Problem solving interest
P	street vendors promotion program	street vendors promotion program
F	social development concept	social development concept and some other related frameworks
A	new version of social development index	policy planning, program preparation and implementation, monitoring and evaluation
Reflection	About F and/or A to construct an index	About P to have an individual knowledge about street vendors promotion program implemented by a City
Results	A preliminary index consisting of 28 variables, 42 indicators and 42 numerical criteria	important information about policy process and/or policy improvement at a certain areas or problem situation
Debating process	SSM practitioners with other members of research team	SSM practitioner self-reflection or SSM practitioners with reviewers, and/or with owners of the issue addressed

Table 5. Some Key Elements of Recommendations and Actions at the Stage 6 and 7

	Research Interest	Problem solving interest
Recommendation	to have final index by conducting research at many cities and many sectors	general knowledge and/or specific problem solving in implementation of pro-street vendors promotion program
Systematically desirable	fit in with activities number 13-15 of the conceptual model number one	fit in with conceptual model number two
Culturally feasible	to be a top priority for the research team	Understandable by SSM practitioners or accepted by owners of the issue addressed related to street vendors promotion program in Surakarta City and/or many other cities
Actors	Research Team including SSM practitioner	SSM practitioner or Mayor, key officials and society of the City and/or many other cities

Significantly different from those conducted by research interest, the comparison stage for individual understanding is directed to have a reflection about P to generate an individual knowledge about street vendors promotion program implemented by the City. Such knowledge would be very important for the City to improve or to solve some critical issues faced while the program implementation. This understanding could be also used as a lesson learned for other cities promoting street vendor promotion program.

5. Duality in Proposing Recommendations and Actions.

Finally, the duality practices of AR is also conducted at the stage of 6 and 7 of SSM. Significantly different issues are identified on recommendation, on criteria of changes that is systematically desirable and culturally feasible, as well as on the actors who would follow up the changes and recommendation. Table 5 shows the duality in recommendations and actions.

6. Conclusions

This paper provides an illustration of dual imperatives practices in AR. The objective of this paper is to provide an illustration of an action of dual imperatives of action research as mentioned by McKay and Marshall (2001) in the field of social development practice. While a research report that has been reported by Hardjosoekarto (2012) is a report from the perspective of theoretical research practice, this paper illustrates how the research actually is containing dual imperatives of action research, which is consisting of theoretical research interest on one hand, and individual understanding as a problem solving interest, on the other hand.

The reflection on P could be categorized as a pure problem solving in AR as mentioned by McKay and Marshall (2001), or most likely as an individual understanding in AR as illustrated by Kane and del Mistro (2003). The later is an application of SSM, which could be identified in the words of Checkland and Scholes (1990p) as an SSM practice located in the middle of the continuum between SSM (p) and SSM (c).

The practice of dual imperatives in AR could be started at the early beginning of the research, that is at the stage one of SSM, or may be started at the time of finding out process at the stage two of SSM. Both research question and problem identification are stated in advance to be a research themes in which the research team want to pursue.

This paper provides experiences in practicing of dual imperatives in AR at many stages of Soft Systems Methodology, started from the stage one and ended at the stage six and stage seven. The recommendation proposed by research interest practice is a further series of field research hat many cities and many sectors to have a final social development index, which is significantly different from those suggested by the individual understanding interest that is on general knowledge and/or specific problem solving in implementation of pro-street vendors promotion program.

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