

Article

Proposing a Process-Oriented Systems Research for Systems Thinking Development

Jae Eon Yu

Department of Business Administration, College of Business Administration, Keimyung University, Daegu 42601, Korea; 9070yu@hanmail.net or jaeon@kmu.ac.kr; Tel.: +82-53-580-6435

Academic Editors: Shankar Sankaran, Pamela Buckle Henning, Timothy Ferris and Mary C. Edson
Received: 19 January 2017; Accepted: 6 April 2017; Published: 7 April 2017

Abstract: This paper discusses systems thinking development from Churchman’s systems ideas related to critical systems practice that appreciates the use of systems methods from sociolinguistic perspectives and poststructuralist thought. Systems research enabled us to understand and reinterpret Churchman’s philosophy and systems approach through the works of Deleuze and Foucault. Based upon the interpretation of Churchman’s philosophy and systems approach, I propose ‘process-oriented systems research’ developed from the use of social appreciative process and Churchman’s metasytem approach. By applying a metasytem approach into practice, I basically appreciate Deleuzian ethics and Foucault’s theory of discourse in order to deal with issues of power and knowledge, and metaethics or moral epistemology, where the meaning of good or bad is discussed. A detailed account of an application of process-oriented systems research is given to demonstrate how I use systems methods to examine the usefulness of the systems research in practice.

Keywords: Churchman’s philosophy; critical systems practice; a metasytem approach

1. Introduction

This paper will discuss the underlying philosophy, theory, and a metasytem approach of a systems research proposal called ‘process-oriented systems research’. It subsequently presents an application of the systems research to demonstrate its usefulness in practice. For useful discussion on the theoretical aspects of process-oriented systems research, I will first set forth systems thinking development from Churchman’s philosophy, a metasytem approach, and define major terminology used in systems research fields. For this reason, I will briefly discuss Churchman’s concept of an inquiring system and a meta-systemic inquiry of systemic intervention. I will clarify the philosophy, theory, and framework of process-oriented systems research before discussing the application of process-oriented systems research in practice.

Exploring the complex relationship between social reality, complexity and its inquiry systems from critical systems thinking [1], Jackson [2] argues that creative holism, equipped with the multiple use of systems methodologies, is necessary to explore and intervene in the “real world.” Creative holism evolves as critical systems thinking and its metamethodology called ‘critical systems practice’ develops. In a similar vein, some writers argue that ‘time-related’ inquiring systems are needed to understand the processes of ‘problematization’ that has developed from the ‘problem-solving’ activities in practices from poststructural philosophical thoughts [3,4]. Recently, ‘time-related’ social appreciative process is suggested in order to explore the relationship between science or systems thinking and its values in social practice [5]. Such a process is necessary to generate scientific knowledge that is labeled as ‘contingent truth’, in the terms of Leibniz, which serves as valid knowledge to deal with the epistemology and metaethics of science [6].

This paper raises questions, such as how to explore and deal with those issues of the philosophy and metaethics of science and systems research, and how to deal with, and collectively change,

social reality. Dealing with these questions, firstly, requires a discussion of Churchman's philosophy and metasytem approach, as well as a discussion of social the appreciative process and the recent development of process-oriented systems research that is based on Deleuze's theories of assemblages and minoritarian ethics and Foucault's theory of discourse and the multiple use of systems methods [5,7–9]. Secondly, the paper provides a demonstration of the usefulness of process-oriented systems research as applied in social practice. Lastly, I conclude discussing the value of process-oriented systems research.

2. The Development of Process-Oriented Systems Research

2.1. Philosophy and Theories of Process-Oriented Systems Research

2.1.1. A Meta-System Approach and Social Appreciation

Philosophy and theories of the process-oriented systems research are based upon the works of Churchman's philosophy and systems approach and Deleuze's theories of assemblages and 'minoritarian ethics'. The purpose of process-oriented systems research is to explore the relation between systems approach and its value in social practice. When systems research is applied in social practice, the social appreciative process take place. With the appreciation of Churchman's metasytem approach [6], I review that Churchman's [10] concept of inquiring systems was developed from the dynamic relation between a human inquiry and social reality. Churchman [10] introduced the idea of 'inquiring systems', which consist of several levels of inquiry which that differ in rationality and contribution to the understanding of the meaning of purposeful human life in terms of 'systems'. It evolves as the process of human inquiry leads us to interaction between individuals and social systems, and captures both the 'worldviews' (*weltanschauungen*) of an individual and group of people and the 'history' of human communities and societies. His concept of 'system' or human systems and their boundaries are social constructs that define the limit of knowledge that are to be taken as pertinent as the people who generate that knowledge [11]. When applying Churchman's philosophy and the concept of an inquiring system to systems research, a metasytem approach, which has the hierarchy of an inquiring system, is needed in order to explore the relations between science and values [6]. For instance, level 1 of an inquiring system is called the real world inquiring system and is concerned with social reality ("is"). Level 2 of an inquiring system is called the science inquiring system, and is the science level of the discipline. Level 3 of an inquiring system is called the epistemology inquiring system, and deals with those issues of the philosophy of science. It is concerned with epistemology and metaethics ("ought"), or moral epistemology, where the meaning of good or bad is discussed [6].

When applying Churchman's philosophy and systems approach into real world situations, it is useful to seek the 'normative' social planning of systems design for involved participants or citizens through the understanding of the nature of social appreciation as constituted by nets of relations sustained through time rather than the decision-making process *per se* [12,13]. Geoffrey Vickers used the term 'appreciation' or 'appreciative systems', which can be used as a useful concept for studying the nature of complex social processes. It is a norm-setting and 'standard' holding form of behavior which is different from the goal-seeking and goal-setting form. Appreciation is part of the social process and human systems and their constituents are affected by, and will affect, the historical process within social contexts. A system for Vickers is seen as constituted by nets of relations which are sustained through time [13,14]. In this sense, human appreciative systems are open, meaning that they interact with their histories of events and ideas. For instance, a situation impinging over a human or a group of humans may be seen as the product of a sequence of events and a sequence of changes in ideas, each influenced both by its own development and the development of the other. In this sense, Vickers' epistemological position of appreciative systems suggests a new basis for ethics or ethical awareness in critical systems thinking as Jackson [15] proposes a new commitment in critical systems thinking and recognizes the ethical dimension of the methodology. In this sense, although Vickers derived the idea of appreciative system from the social process of learning, he envisaged an 'appreciative

systems' concept that influences the inquiring process of critical systems approach through the use of a 'boundary critique' in practice [12,16,17]. The inquiring processes of boundary critique are linked to an open system which maintains its boundary and is adaptive to resolve conflicts within practice [18].

In my proposal of process-oriented systems research, I developed the 'social appreciative model' which combines Churchman's concept of 'boundary judgement' and Vickers' concept of 'appreciation.' When appreciators are engaged with systems research, they create 'self-organization' with the boundaries of bringing people together established as they make 'boundary judgements' through the interacting flux of 'systems ideas' and events unfolding through time. Where the social appreciation takes place in given existing organizational context, the self-organization is created as they form the self-constructive 'pure events' in the terms of Deleuze [19], by reflecting inside and outside real events. It aims to make sense of both ethical science and meta-systemic inquiry, which explore the relations between scientific knowledge and values. To do so, systems research should follow research ethics evolved from systems practice rather than a priori knowledge. This allows researchers to become 'critical thinkers' in understanding the problematic nature of systems research in the context of a social reality constructed through dynamic relations amongst the use of language, the relation of power-knowledge, ethics, or problematization in practices [8,20]. In this sense, Deleuze's theories of assemblages, 'minoritarian ethics' in the terms of Deleuze and Guattari [21], and Foucault's theories of discourse and knowledge/power dynamics are needed to deal with a 'society of control' [22]. As Deleuze's theory of the minoritarian ethics is concerned, with moral epistemology where the criteria of good or bad is applied rather than a priori ethical reasoning is, Deleuzian ethics are useful to explore the contexts of politics, ethics, and discourse in social practice [20].

2.1.2. Understanding of Foucault's Theories of Discourse and Knowledge/Power Dynamics

As Foucault [23] argues that knowledge provides the basis for the exercise of power in the form of social control, an understanding of Foucault's [24] theory of discourse is necessary in order to investigate the power/knowledge dynamics in social reality. Understanding of the relation of power and knowledge is important as it is linked with understanding the nature of social reality in which level 1 of an inquiring system of a meta-system approach is concerned.

From semiotic systemic functional linguistics perspectives, Foucault's theory of discourse and the use of language link to wider social and cultural processes; hence, the importance of using discourse analysis as a method for studying social change [25]. According to Foucault's theory of discourse, there are different ways of structuring areas of knowledge and social practice. For instance, discourse and language do not just represent social entities and relations, they construct social reality, since discourse and language are part of the way we construct our social world, cultures, and institutions [25–27]. In particular, language use is assuming greater importance as a means of social control in the workplace [25]. In other words, we appreciate that the functioning role of language is the transmission of words as 'order-words' [21], as language that refers to doing things, rather than language containing a central idea that is transmitted to others for communicating information. More recently, Yu and Hong [8] argue that systems research should be conducted with the understanding of the functioning of language through critical discourse analysis (CDA) from systemic functional linguistics (SFL)'s perspectives.

SFL is a branch of functional linguistics which interprets language from a social semiotic perspective. It views language as having multi-dimensional functions and deriving its meaning in social contexts. From the general dimension of the relationship between language and social contexts, one such complementarity of syntagmatic ordering and paradigmatic ordering is concerned with the different strands of meaning that reflect a set of generalized contexts. It refers to the notion that language is a multi-dimensional resource for mapping interpersonal, textual, and ideational contexts onto the respective linguistic metafunctions in acts of communication. As language has an 'interpersonal' metafunction that is concerned with the negotiation of social and interpersonal relations, social values, understanding, and acceptance of social status and authority of interlocutors, SFL is

functional and has socially-determined meaning aspects embedded in the theory. In SFL, ideational metafunction deals with how people's experiences are construed in language. It is concerned with the way that linguistic participants are implicitly and explicitly represented as part of various process types in a text that construes a language user's particular perspectives of the world around them (or the so-called 'semantic world view'). It is semiotic because paradigmatic ordering is given priority over the syntagmatic ordering in language, and structuring ordering is treated as an outcome of paradigmatic choices. Textual metafunction is concerned with the ways in which interpersonal and ideational resources are distributed as semiotic informational waves. In sum, SFL, at its core, represents a multi-functional model of interpersonal, textual, and ideational dimensions [28]. SFL enables analysts to view language through the concept of realization. This dimension is concerned with the idea that language is not simply a system, but rather a stratified semiotic system with multiple strata of meaning, each of which represents different levels of abstraction (Figure 1). Figure 1 illustrates the multi-perspectives of language and context that make it possible to analyse language use from the perspective of three interrelated contextual variables.

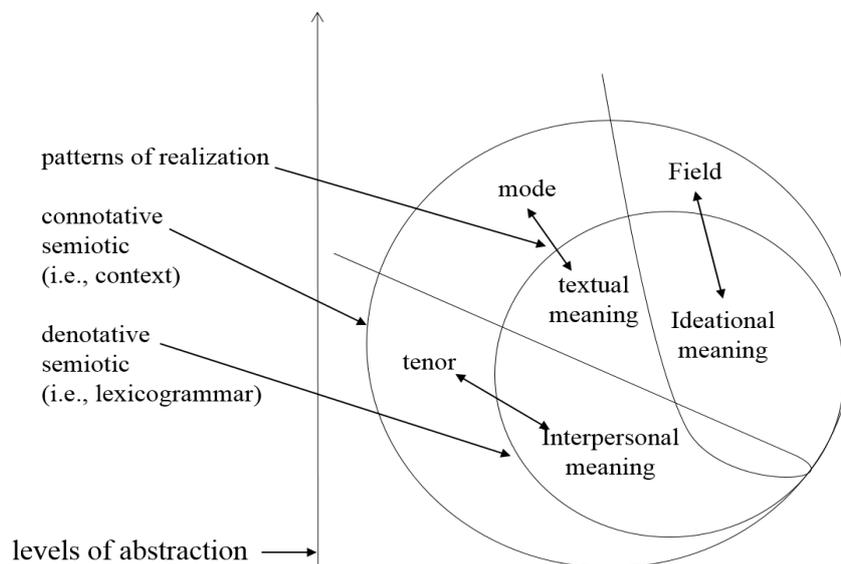


Figure 1. Patterns of realization between language and context.

2.2. The Logical Process of Process-Oriented Systems Research (POSR)

The process of process-oriented systems research is comprised of two distinct processes. The first process is mainly concerned with the process of 'problem-solving' in the real world. The second process is concerned with the reflection on the process of POSR and the appreciative process of problematization in social practice. The two processes of problem-solving and problematization are inextricably linked by what two segments, namely, the 'recognition system' and 'judgment system', in the terms of de Zeeuw [29], of the process-oriented systems research (Figure 2). According to de Zeeuw [30], systems research should conduct according to the notion of 'orthogonality', which serves as the criterion to identify whether or not separation between 'observations' and 'action' is created both from the inside of 'self-organization' and from the outside of the boundary of the self-organization. This criterion makes systems research meaningful in the case that internal and external observations are independent of the action or change in which observation is valid on the basis of internal and external distinction. For de Zeeuw [30], self-organization creates the boundaries of bringing people together as they interact and form the self-constructive 'pure events' reflecting inside and outside real events.

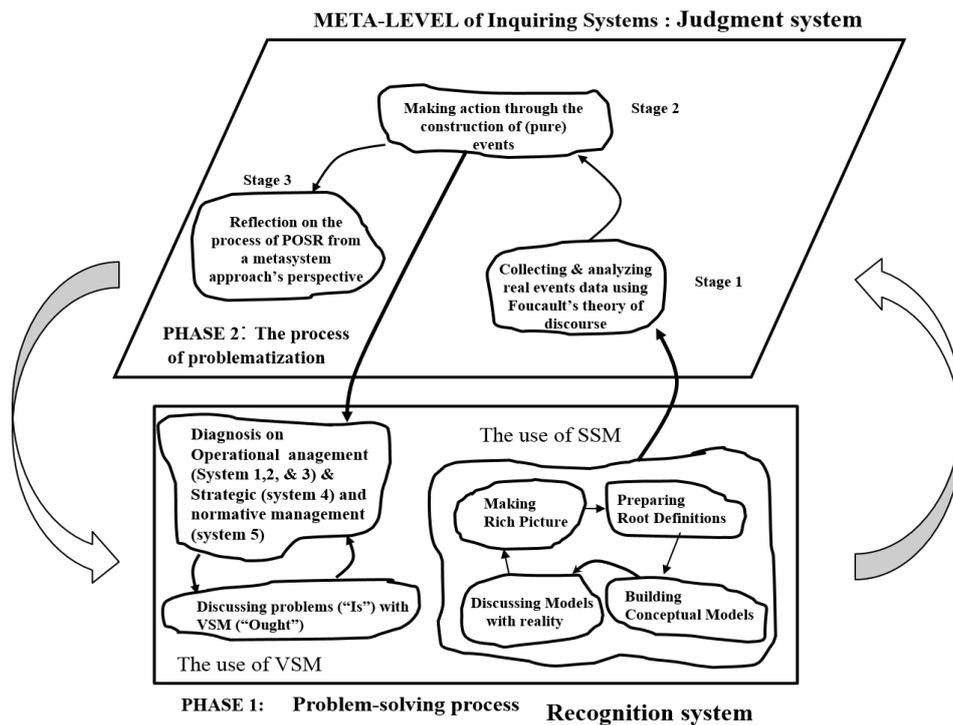


Figure 2. The processes of the process-oriented systems research.

The two systems of recognition and judgment are linked in an exchange of two processes of inputs and outputs. For instance, the inputs of the recognition system, which contains the problem-solving process, become the outcome of the judgment system, which contains the process of problematization (Figure 2). In a similar fashion, the outputs of the judgment systems become the input of the recognition systems. The detail of the two phases of process-oriented systems research is given below.

2.2.1. Phase 1: Problem-Solving Process

Appreciators (e.g., the researcher and participants) make ‘observations’, in the terms of de Zeeuw [30], by identifying central issues or problem situations in the real world, and analyze those situations through the use of systems methods or methodologies. Phase 1 of process-oriented systems research falls into the following two stages.

Stage 1: Making Observations

In stage 1, appreciators make observations within the real-world in order to collect data. To do so, for instance, the ‘rich picture’ in Checkland’s soft systems methodology would be a good tool for drawing a whole picture of a problematic situation or for identifying central issues in organizations [31]. In making observations, a variety of research instruments can be used to collect raw data, such as questionnaires, interviews, documentary sources, discussion groups, or a series of workshops.

Stage 2: Analyzing and Interpreting Observation Using System Methods

In stage 2, appreciators analyze and interpret observation through using a system methodology or systems methodologies. A system methodology refers to the procedures used by a theorist in seeking to make observations or discern the nature of social reality. Appreciators can choose a system methodology or a number of systems methodologies according to their metaphorical understandings of the nature of social systems [2].

2.2.2. Phase 2: The Process of Problematization

Phase 2 is concerned with taking ‘action’, in the terms of de Zeeuw [30], with or without the use of systems methods through the meta-level process of problematization. The purpose of phase 2 is to discover ‘problems’ or ‘questions’ in order to take action within social practice through the collection of both pure and real events data and the analysis of ‘events’ data. Phase 2 of process-oriented systems research falls into the following three stages:

Stage 1: Collecting and Analyzing ‘Real Events’ Data Using Foucault’s Theory of Discourse from a CDA Perspective

Appreciators collect and analyze ‘real events’ data using Foucault’s theory of discourse from a critical discourse analysis (CDA)’s perspective. CDA is a particular branch of discourse analysis that helps us to understand the process of social change using discourse analysis which is concerned with investigating how power structures, social values, and social meanings are created and mediated through the medium of language [25,32]).

Stage 2: Taking Action Through the Construction of ‘(Pure) Events’

Appreciators construct ‘pure events’, in the terms of Deleuze [19], through social appreciation guided by Deleuzian ethics or ‘minoritarian ethics’ regarding with the critical issues that develop within social practice. In order to take action through the construction of pure events, appreciators identify ‘uneasy or uncomfortable’ situations between different groups of people and categorize the two groups of the powerful and the powerless in order to explore and resolve those situations in practice. The powerful group refers to the group who has political, economic, and semiotic power over another, powerless, group. Having understanding of Deleuze [19]’s notion of an event, appreciators create the self-organization as they interact and construct the self-constructive pure events in order to initiate or facilitate action or change within social practice (see detail of Deleuze’s notion of an event in [33]).

Stage 3: Reflecting on the Process of POSR from a Meta-System Approach Perspective

The previous stages of phase 2 in process-oriented systems research are concerned with making observations and initiating action or change through the process of social appreciation. In stage 3, the researcher aims to reflect upon the application of process-oriented systems research from a meta-system approach perspective. To do so, the deliberate reflections on the use of whole inquiring systems (e.g., the real-world system, the science system, and the epistemology inquiring system) that applied for the process-oriented systems research are required for the validity of the outcomes and findings of process-oriented systems research from a meta-system approach perspective.

3. An Application of Process-Oriented Systems Research

The purpose here is to exemplify how the process of process-oriented systems research applies in social practice. This example is based on a research project carried out while the author acted as a consultant and his students worked part-time at a Korean business company during 2010 and 2012. Action research was carried out to understand the processes of organizational change and learning through the application of systems methods (e.g., Checkland’s SSM and Beer’s VSM) into the Korean company named ‘Sheda’ (a pseudonym), and to understand conflict situations between the different groups of the powerful and powerless within Sheda from a critical discourse analysis perspective. The project was undertaken as a study of a “revolutionary way” of taking action and bringing about change in the decision-making process, ideas, behaviors, and attitudes of the employees within Sheda.

3.1. The Background Information

Organizational development and its sustainability became a central issue in Korean society following the financial crisis in the late 1990s that broke out to cause difficulties across many social and

financial sectors and raised interest in alternative ways of revitalizing the Korean economy. One such attempt resulted in a strategic choice for business ethics and corporate social responsibility as Korean leading business managers believed in “ethics management” as a particular means for economic revitalization focusing on the concept of business ethics and corporate social responsibility [34]. Like other Korean business enterprises, Sheda, which is one of the leading distribution companies in South Korea, stressed the importance of ethics management in order to achieve sustainable development of business through the maximization of the stakeholders’ happiness. The founder of Sheda put an emphasis on business ethics and the contribution to Korean society. Thus, Sheda has had strong initiatives to promote ethics management in the company’s business philosophy and strategy. However, even as top managers stressed and pushed ethics management as the vision for Sheda, there was no large impact in the workplace as workers were not given an opportunity to think about the purpose and practice of ethics management. For this reason, they were negative about ethics management that aims to create ‘profit maximization’ that mainly benefits top managers and shareholders. They wanted an ethics management that changes the current strategy towards ‘sustainable development’ and effective operational processes that lead to the improvement of the performance of various divisions and organization as a whole, benefiting all employees within Sheda.

3.2. *The Process of Process-Oriented Systems Research (POSR)*

3.2.1. Phase 1: Problem-Solving Process

- The first cycle of the problem-solving process using SSM.

Stage 1: Making Observations

The primary aim of this stage is to make ‘observations’, in the terms of de Zeeuw [30], by using a variety of research instruments, such as a survey of documentary sources, face-to-face interviews, and workshops. A centralized decision-making process operated through a top-down hierarchy within Sheda. Therefore, there was lack of motivation from full-time and part time employees to take part in participatory decision-making within Sheda. Further, there was no consensus in the perceptions of “ethics management” between the groups of top management group of Sheda and independent business partners (e.g., small-scale distributors). For instance, top managers believed that business should focus on financial profit first in order to compete and survive in the market. Top managers mainly focused on expanding business activities towards the goal of “profit maximization” through business strategy that involved the issues of ethics, community involvement, and customers’ satisfaction. On the other hand, the group of workers and independent distributors believed that ‘ethics management’ should benefit to all employees of Sheda and stakeholders towards the goal of “maximization of happiness of stakeholders”. Thus, there are differences in the perception of ‘ethics management’ between the group of the powerful (e.g., top managers, board of directors, senior managers in Sheda) and the powerless (e.g., workers and employees in independent distributors).

Stage 2: Analyzing and Interpreting Observations Using System Methods

The author as a researcher agreed to help participants to understand and apply SSM into the problem situation that characterized as ‘systemic-pluralist’ problem contexts where the goal is unclear and human needs are uncertain [15].

According to Checkland and Poulter [31], SSM can be used for ‘finding out’ when applied to a rich picture through analyses one, two, and three; building root definitions and conceptual models; and facilitating a debate that is concerned with making a decision about which change is culturally feasible in the organization. Following the procedures of SSM, after the preparation of building the rich picture, which were prepared from the selected perceived problem situations, appreciators were engaged with the preparation of ‘root definitions’ and building conceptual models of the perceived situations within Sheda. Root definitions were prepared as these were the ‘ethics management system’

and the ‘effective communication system’ that became a resource for building conceptual models. The example of the conceptual model is given in Figure 3. However, the process of a debate that happens through the comparison between the problem situations and the conceptual models was limited without the participation from key participants such as full-time and part-time workers, and ‘voiceless’ managers and working staff, or the groups of ‘powerless’ independent distributors within Sheda. This means that SSM could not be fully applied in order to facilitate dialogue amongst participants within Sheda. This difficulty and limitation of using SSM led to the creation of conflict situations between the two groups of the powerful and powerless (or ‘voiceless’) within Sheda.

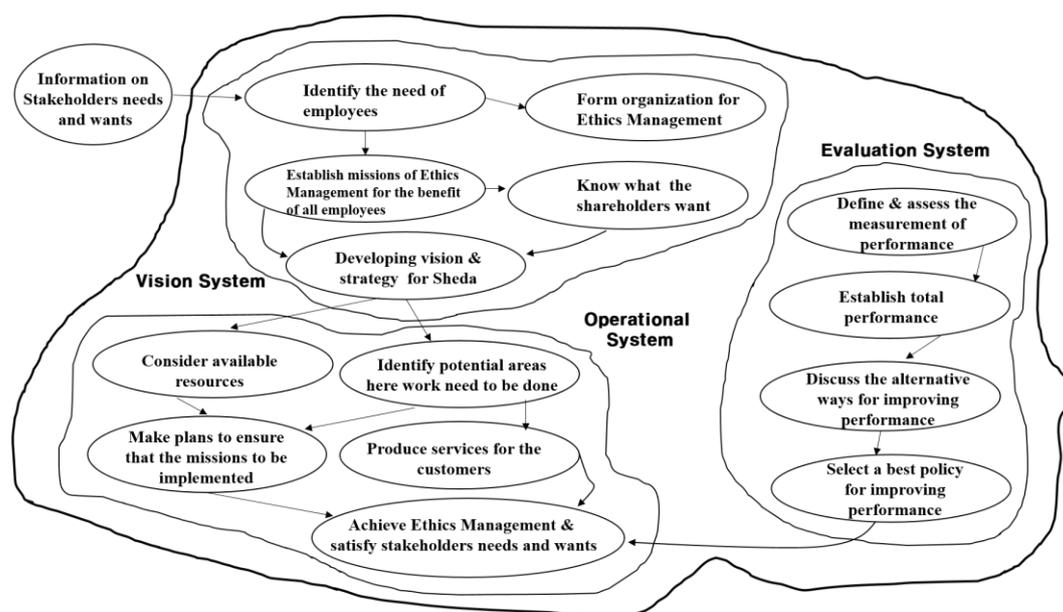


Figure 3. The model from root definition 1: ethics management system.

3.2.2. Phase 2: The Process of Problematization

During the problem-solving process of POSR, power is operated as problem-solving inevitably has an effect on the existing power relations within Sheda. Forms of power, therefore, should be studied as they manifest themselves during the problem-solving process using SSM. According to Foucault [23], power is viewed as positive and productive, as well as embedded in the stage of making ‘observations’. The observations taking place during the problem-solving process of POSR became the source for identifying power as it is actually exercised in the setting of the project from the micro analysis’s view of power [23]. Investigating the forms of power inside and outside the organizational boundary of Sheda, appreciators examined other sources where such forms of power might be found. For instance, as the social appreciation evolved and continued through the interacting flux of ‘systems ideas’ (e.g., the use of SSM) and events that had happened inside and outside the organizational boundaries of Sheda. The appreciators identified and collected real events that had happened during the process of problematization. This led to the meta-level process of problematization, which is concerned with ‘action’ through the collection and analysis of ‘real events’ data and the construction of ‘pure events’ by participants. Such sources of reference may be proved useful in identifying hidden manifestation of power, which cannot be identified during the problem-solving process using SSM. In Phase 2, there are the following two stages of taking ‘action’, in the terms of de Zeeuw [30], and subsequently reflecting on the process of POSR from a metasystem approach perspective.

Stage 1: Collecting and Analyzing ‘Real Events’ Data Using Foucault’s Theory of Discourse from a CDA’s Perspective

In stage 1, real events data were collected through observation and appreciation of “what happens” within practice. The purpose of collecting and analyzing events data is to investigate “what happens” from CDA and SFL’s perspectives. Real events data collected are given as follows.

- Event 1: President Mr. Y. J. Jung held a formal meeting with board of directors and operational managers and other employees in Sheda and declared a charter of “Ethics Management” on the morning 10 January 2012.
- Event 2: Local independent distributors protest against the ‘corruption’ of activities at Sheda, they argued that Sheda did not follow and implement its code of conduct for “Ethics Management” and the principles of corporate social responsibility in Korean society, dated on 5 April 2012.
- Event 3: President Mr. Y. J. Jung is negative about an incident in which local distributors have protested against the ‘ethics management’ of Sheda.
- Event 4: Hangyere newspaper reported that some local distributors protested against the unethical behaviors of S-Mart and there have been damage to local distributors through the operation of S-Mart within the district of Kwang Weon Do, dated on 17 July 2012.

Mr. Jung believed that S-Mart (this is the one of ‘super super-market’ distributors which is operated by Sheda in Korea) should pursue “price destruction” and make significant changes in the Korean domestic retail business environment. As a result, many small domestic retail business companies and distributors went bankrupt, leaving many local people jobless. As of the end of 2012, Sheda grew significantly in South Korea, with 12,893 employees and 35% of the market share.

Analyzing events data using CDA involves three distinct steps [8]. The first step of the analysis is to identify and classify the interpersonal elements and meaning in order to investigate a resource for the interpretation and negotiation of social relations concerned with the linguistic representation of interactional characteristics, with such key labels as Actors, Goals, Beneficiaries, and Agents. As a first step of the discourse analysis, appreciators have to identify experiential labels such as “Actor”, “Goal”, “Beneficiaries”, and “Agents”. The participatory source of actions and happening affecting other participant and one affected by the material process are called “Actor” and “Goal”, respectively. In the example of the Event 1 described above, President Mr. Jung (actor) declared (material process) the principles of “Ethics Management” (goal). “Beneficiaries” in the discourse analysis refer to those that are indirectly affected by the process. either positively or negatively, whilst “Agent” refers to those that act as cause for actions and happenings [8]. In the example of events described above, “Beneficiaries” refer to full-time and part-time workers in Sheda (Event 1) whilst “Agents” refer to local distributors (Event 2), and the Hangyere newspaper (Event 4).

For the second step of the analysis, appreciators analyze actors’ language in terms of nominalization in order to investigate the interplay between processes (e.g., what is going on in a social situation; who is involved in it; who is affected by it) and participant’s roles and textual meta-function, which is concerned with the flow of interpersonal and ideational meanings and their organization into informational units within discursive practice (that is, a particular form of social practice). The nominalization refers to non-verbal elements being used in nominal forms [8]. As a second step, Actors’ language use was analyzed in terms of nominalization. In the example of Event 1 described above, the president’s language use of “ethics management” was inappropriate where part-time workers and local distributors claimed “ethics management”; that is, the president’s own perception or interpretation of business ethics and corporate social responsibility that focus on “profit maximization” rather than “maximization of happiness of all stakeholders.” The president’s own use of ethics management became Sheda’s central moral philosophy and vision, which was to achieve such maximization using S-Mart’s misconduct in which S-Mart dumped price reductions of various products and put sales promotion costs on suppliers. This behavior caused damage to local distributors who protested against the unethical conduct of Sheda. As the third step, appreciators highlight some of the events data from CDA’s perspective in order to investigate conflict situations and power relations between the two groups of the powerful and powerless. For instance, in the example of Event 4

described above, Hangyere newspaper reported that there were social and economic issues caused by unethical actions performed by the powerful social entity and business company, Sheda and S-Mart, whereas there were issues about social movement initiated by the groups of the powerless, such as workers in Sheda and local distributors.

The third step of the analysis interprets and analyzes events data from CDA's perspective in order to investigate conflict situations and/or power relations between the groups of the powerful and powerless or voiceless within social practice. In order to discuss the events that had happened, separate workshops were carried out with the group of the powerful (e.g., president, the boards of directors and senior managers from the head office) and the group of the powerless (e.g., operational managers, working staff, workers, and representatives from the independent local distributors). During the workshop the president made clear his intention to continue the vision of ethics management. The president express his opinion as follows, "ethics management at Sheda includes multiple levels of management, such as management for the respect for employees, customers, and business partners, and for the focus of shareholders and corporate social responsibility. Since some senior managers and working staff are negative about 'ethics management' within Sheda, there is no big impact of ethics management in the workplace." On the other hand, the groups of the powerless had a significant concern about the philosophy and practice of ethics management within Sheda as the president imposed his philosophy of 'business ethics' that follows a priori ethical reasoning. According to senior staff, "as far as the ethics management is concerned, it focuses on punishment, correction, and coercive actions for 'unethical' behaviors in accordance with an ethical code of conducts within Sheda rather than business ethics where the criteria of good or bad is applied in practice".

From CDA's perspective, the patterns of language use between the president and senior staff reveal an interesting contrast. The president uses language as the actor of processes, whereas the senior staff uses language as the agent that that may act as a cause for actions and changes in social practice. Even the president of Sheda is a social entity with institutional and semiotic power, and the researcher raised the question of what kind of access people with different notions of power, and how language is a realization of such power as it construes the interpersonal relationships through the process of social appreciation. To answer this question, after the completion of the workshops, further processes of POSR took place, as explained in detail in the next stage.

Stage 2: Taking Action Through the Construction of '(Pure) Events'

- Second cycle of problem-solving process using VSM.

As social appreciation evolved through the interaction of 'systems ideas' and events unfolding over time, appreciators perceived some flux in the use of SSM ('systems ideas') and events. The analysis of events data became the input for 'appreciative setting' in the given situations (this is the current state of readiness of the mind to see and value things in one way rather than another; the readiness to see and value things are organized as a whole, as a system which is called appreciative setting or system [14]. With the input from the flux of systems ideas and (real) events, social appreciation had the positive effect of change of perception amongst participants. As a result, the nature of social appreciation changed according to the perceived flux of ideas and events data collected. This led to the second cycle of the process using systems method (e.g., Beer's [35] viable system model) during stage 2 of the process of problematization. In other words, the outputs of the 'judgement systems', which contain the process of problematization, became the input for the 'recognition system' which contained the process of problem-solving.

As the researcher suggested, viable system model (VSM) is useful not only for making the responsibility of long-term economic success and viability, but also for taking on social responsibility for community and stakeholders [36], participants agreed on the use of VSM with the goal of 'systemic management' through the multiple levels of management that involve the issues of operational, strategic, and normative management [36]. A series of workshops were held to discuss the 'core' issues and diagnose problem situations using VSM. The details of the application of VSM are as follows:

The workshops approach provided a venue for learning ‘systems thinking,’ which was regarded as a conceptual tool for investigating the current situations within Sheda. Participants were involved in the process of using VSM to explore the problem situations within Sheda. They had different perceptions of the problem situations. The following quotations are representative of these varying perceptions: “As far as operation is concerned, the critical issue is how to change the operational management according to the current incorrect sales forecasts. We have no coherent procedures of controlling the various operational activities of distributions within Sheda.” “According to the current state of our business, we need to create a synergy between S-Mart and independent local distributors in which various working groups provide us with effective and flexible strategy for the future development of Sheda”. “With the guidance of ethics management, how can we create conditions for improving the performance of various operational divisions, working groups and the organization as a whole”? Participants discussed the identified perceived problem situations (“is”) and compared these situations with VSM (“ought”). The comparison between the perceived situations (“is”) and VSM allowed for the formation of a viable systems view in accordance with Ashby’s Law of Requisite Variety. According to Ashby’s [37] Law of Requisite Variety, the variety that the organization sees in the environment should be equal to the variety in the organization. Using VSM diagnosis, the researcher suggested the following ‘solutions’ concerning multiple level of managements according to criteria of organizational fitness from VSM’s perspective. At the level of operational management, the ‘autonomous management’ (e.g., ‘implementation’, ‘coordination and regulation’, and ‘control’ functions in the terms of Beer’s [35] VSM) should be introduced and implemented within various operational divisions and working groups in order to meet efficiency criteria.

The level of operational management that refers to Systems One (‘implementation’ function), Two (‘coordination and regulation’ function), and Three (‘control’ function) in VSM), the nature of viable systems is that they are able to maintain an autonomous existence [35]. As identified at stage 1 of Phase 1, operational managers and working staff within various divisions tend to follow the ‘orders’ and guidance from the head office. They should function as what Beer [38] calls the “autonomic management” of the organization (“Inside”). From VSM’s perspective, the autonomic management system (e.g., the three lower level of Systems One, Two, and Three) of Sheda does not have sufficient ‘requisite variety’ to deal with massive varieties that generate from environments.

At the level of strategic management, a new strategy is needed to develop human resources, ‘intangible assets’ for improving the core competency of Sheda, in order to meet the criterion of effectiveness. In the present situations, it was identified that there was no ‘intelligence’ function (that is, System Four in VSM) that deals with the total environment of Sheda in which System Four acted as an interface between high-level thinking and the rest of the organization. The head office has the ‘business ethics’ officers who are in charge of dealing with economic trends, social, industrial, and political situations (“Outside”) in Korea. They tended to follow the ‘orders’ and guidance from top managers, and they need to have the autonomy or empowerment from top managers in order to think and act autonomously or critically with regards to changing situations “Outside”. In addition, a strategic human resource development approach should be introduced to allow them to think and act by themselves without the interference from top management within Sheda.

At the level of normative management, a vision of ‘ethics management’ should be followed by the bottom-up approach, making consensus about the theory and practice of ‘ethics management’ necessary amongst all the employees within Sheda. This will give a sense of legitimacy the operating philosophy of ethics management within Sheda. In the sense of maintaining viability, System Five should act as what Espejo [39] calls ‘the mechanism of organizational adaptation’, upon which effective organizational conversation depends on dialogical interactions amongst the autonomous groups which are capable of maintaining the organizational identity of Sheda. In the present situation, the top managers and head office dealing with the corporate decision-making were responsible for formulating the ethics management policy. This means that System Five did not appreciate the dialogical interactions amongst autonomous groups within Sheda. Bearing in mind the details of the

three levels of operational, strategic, and normative managements of Sheda, VSM was envisaged as shown in Figure 4.

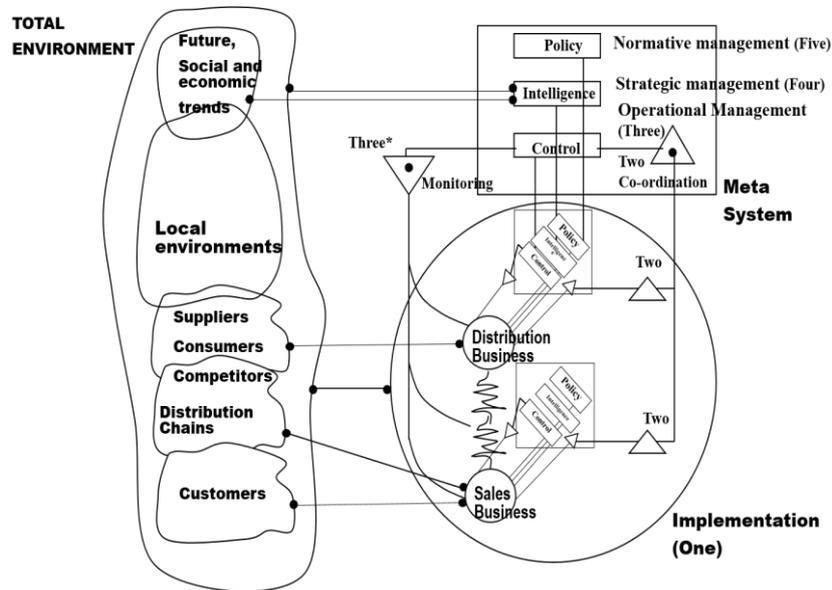


Figure 4. The VSM of Sheda.

At the end of the series of workshops, participants, which included senior managers and working staff within Sheda, discussed how to deal with the mismatch between real situations (“is”) and the possible ‘solutions’ of the VSM diagnosis (“ought”). Although they agreed there was consensus that something had to be done in order to improve the problematic situations within Sheda, they had different views on how to deal with the mismatch between “is” and “ought”. For instance, the group of senior managers insisted on a top-down approach whilst the group of working staff wished to have a bottom-up approach to dealing with those situations. These situations generated tension and conflict situations between the two groups of the powerful (e.g., the group of senior managers) and the powerless (e.g., the group of working staff). Subsequently, the situations caused the creation of a new mode of ‘appreciative setting’ within the model of social appreciation. The new mode of ‘appreciative setting’ became the source of creating ‘self-organization’ that brought people together to create ‘action’ that produced self-constructive ‘pure events’ using boundary critique (pure events refer to “incorporeal events” or “surface effects” which are caused by bodies or states of affairs. Pure events, as the Stoics and Deleuze understood them, elude the present, always what has happened or what is about to happen. It denoted them by means of infinitives. Without being subjective or objective, infinitives are determinate and specific and guarantee reversibility between future and past [19]. Pure events can be created through the process of social appreciation [5,33]).

During the process of problematization, social appreciation evolved and continued through the interacting flux of ‘systems ideas’ and events unfolding over time. The flux emerged from the use of VSM (‘systems idea’) concerning the events (specifically events 3 and 4 in Phase 2 of POSR). These events led participants to become ‘critical thinkers’ in order to investigate conflict situations from systemic perspectives. Drawing on boundary critiques, when appreciators identify there is a conflict between different groups of people, and they categorize the two groups of the powerful and powerless. During this stage, a series of events was produced in order to deal with those situations amongst participants who became ‘critical thinkers’. These events are given as follows.

- Event 5: Present a report on the organizational diagnosis to the head office, dated on 23 July 2012.
- Event 6: Provide a list of recommendations to the leaders of each working group, dated on 25 July 2012.
- Event 7: Sheda makes a decision about changing the current practice of ‘ethics management’ towards a new policy of the ethics management which aims to benefit all workers of Sheda, independent business partners, and distributors dated on 3 September 2012.
- Event 8: Complete the project by deciding on the implementation of action plans within Sheda, dated on 7 September 2012.

In the example of Event 8, conflict situations between the two groups of the powerful and powerless were resolved by actions from a powerful social entity, Sheda when the company decided on a revised action plan for implementing ‘ethics management’ within Sheda. In this phase, a series of events was appreciated through the connection between ‘singular points’ (that is, Deleuze’s sense of events) 5 and 6, and the conjunctive synthesis of the singular point 8 (Figure 5).

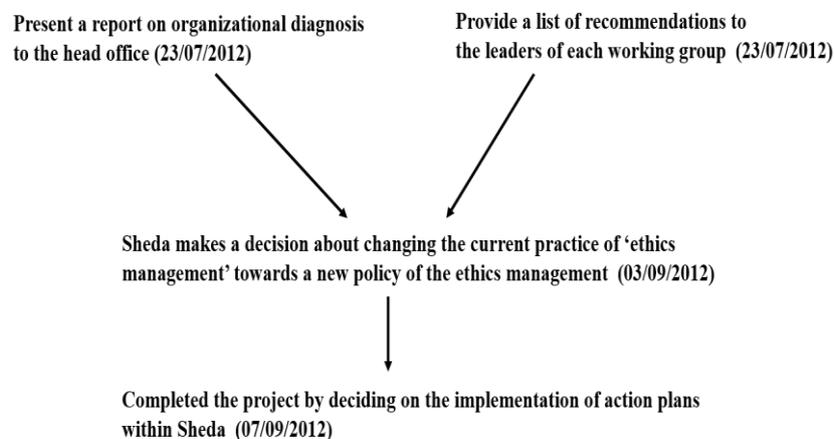


Figure 5. The distribution of singular points within the ‘transcendental’ field.

Stage 3: Reflection on the process of POSR from a metasystem approach’s perspective.

As a result of the participatory process of POSR (see the process of POSR in Figure 2), the evaluation of POSR from a metasystem approach perspective can be understood as follows: At level 1 of an inquiring system, it was identified that social reality is constructed by the ‘real world inquiring systems’ in which social appreciation took place to resolve the mismatch between problem situations (“is”) and systems ideas (“ought”). At level 2 of an inquiring system, it was identified that knowledge was constructed by the ‘science inquiring system’ (through the process of problem-solving) which was affected by the complex relations between discourse, or the use of language and power/knowledge dynamics within social practice. At level 3 of an inquiring system, it was identified that value was created by an epistemological inquiring system (through the meta-level process of problematization) that was created by the ‘judgement system’ (or ‘action’ in the terms of de Zeeuw [30] which was linked with the ‘recognition system’ (or ‘observations’ in the terms of de Zeeuw [30]) in the process of POSR. Thus, moral epistemology was concerned with social practice where the criteria of good or bad is applied rather than a priori ethical reasoning. In this sense, the value of POSR is that where the social appreciation takes place using Churchman’s philosophy, and a metasystem approach that makes sense from Deleuze’s theory of assemblages (or events), and Foucault’s theory of discourse and the use of systems methods (SSM and VSM), participants are enabled to take ‘action’ in order to bring about change in the organization. The action will produce a multiplicity of alternatives through openness to the question of “all chances and possibilities” within social practice [20].

4. Conclusions

In this paper, I proposed process-oriented systems research for systems thinking development, drawing from, and rethinking, Churchman's philosophy and systems approach (e.g., a meta-system approach) as applied to recent systems thinking, which is developed by applying POSR within social practice. I briefly described the philosophy, theories, and the processes of process-oriented systems research that aim to facilitate organizational and social changes through the process of problematization within social practices. As the purpose of POSR is to ensure fairness and social justice in a society, I also demonstrated the application of process-oriented systems research in order to explore and investigate conflict situations within a Korean company called Sheda. To date, the process-oriented systems research, which is based on Deleuze's theories of assemblage and minoritarian ethics, and Foucault's theories of discourse and power/knowledge dynamics from a social systemic functional linguistics' perspective, have been applied on a very limited basis to the study of the nature of a 'society of control' that is characterized in conflict situations and power relations between the groups of the powerful and powerless within social practice.

The case study provides an example of making sense of POSR for investigating and resolving problem situations that were genuinely developed from the 'misuse' of power and language within social practice. The case clarifies the social appreciative process of learning and actions that are necessary for designing improvements of problem situations in social practice.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Flood, R.L.; Jackson, M.C. *Critical Systems Thinking: Directed Reading*; Wiley: Chichester, UK, 1991.
2. Jackson, M.C. *Systems Thinking: Creative Holism for Managers*; Wiley: Chichester, UK, 2003.
3. Tsouvalis, C. *Agonistic Thinking in Problem-Solving: The Case of Soft Systems Methodology*. Ph.D. Thesis, University of Lancaster, Lancaster, UK, 1995.
4. Yu, J.E. Creating 'rhizomatic systems' for understanding complexity in organizations. *Syst. Pract. Action Res.* **2006**, *19*, 337–349. [[CrossRef](#)]
5. Yu, J.E. The use of Deleuze's theory of assemblage for process-oriented systems research. *Hist. Soc. Res.* **2013**, *38*, 197–217.
6. Van Gigch, J.P. Progress Achieving C. West Churchman's Epistemological Program: The Implementation of Science of Science and of Science of Ethics. In *C. West Churchman Legacy and Related Works, Volume 2: Wisdom, Knowledge and Management: A Critique and Analysis of Churchman's Systems Approach*; van Gigch, J.P., McIntyre-Mills, J., Eds.; Springer: New York, NY, USA, 2006; pp. 1–14.
7. Yu, J.E.; Lee, J.W. Creating rhizomatic networks and ethics for the marginalized group. *Syst. Pract. Action Res.* **2008**, *21*, 253–266. [[CrossRef](#)]
8. Yu, J.E.; Hong, H.C. Systemic design for applying the combined use of SSM and CDA to social practices. *Syst. Pract. Action Res.* **2016**, *29*, 149–171. [[CrossRef](#)]
9. Yu, J.E.; Moon, H.K.; Kim, H.C. Proposing rhizomatic systems methodology: Extending churchman's pragmatism to post-structuralism. *Syst. Res. Behav. Sci.* **2008**, *25*, 291–303. [[CrossRef](#)]
10. Churchman, C.W. *The Design of Inquiring Systems: Basic Concepts of Systems and Organization*; Basic Books: New York, NY, USA, 1971.
11. Churchman, C.W. *The Systems Approach and its Enemies*; Basic Books: New York, NY, USA, 1979.
12. Ulrich, W. Critical Systems Thinking for Citizens: A Research Proposal. Centre for Systems Studies Research Memorandum 10. In *Centre for Systems Studies*; The University of Hull: Kingston upon Hull, UK, 1996.
13. Vickers, G. *Human Systems Are Different*; Harper & Low: London, UK, 1983.
14. Vickers, G. *The Art of Judgement: A Study of Policy Making*; Sage: London, UK, 1965.
15. Jackson, M.C. *Systems Methodology for the Management Sciences*; Plenum Press: New York, NY, USA, 1991.
16. Midgley, G. *Systemic Intervention: Philosophy, Methodology, and Practice*; Kluwer Academic/Plenum Publishers: New York, NY, USA, 2000.
17. Ulrich, W. *Critical Heuristics of Social Planning*; Wiley: Chichester, UK, 1983.

18. Cordoba, J.R.; Midgley, G. Addressing organizational and social concerns: An application of critical systems thinking to information systems planning in Columbia. In *Critical Reflections on Information Systems: A Systemic Approach*; Cano, J.J., Ed.; Idea Group: Hershey, PA, USA, 2003.
19. Deleuze, G. *The Logic of Sense*; Athlone: London, UK, 1990.
20. Yu, J.E. Approaching minoritarian ethics from deleuze's theory of assemblage: A proposed framework. *Int. J. Philos. Study* **2015**, *3*, 1–10. [[CrossRef](#)]
21. Deleuze, G.; Guattari, F. *A Thousand Plateaus: Capitalism and Schizophrenia*; Athlone: London, UK, 1987.
22. Lazzarato, M. The concepts of Life and the Living in the Societies of Control. In *Deleuze and the Social*; Fuglsang, M., Sørensen, M., Eds.; Edinburgh University Press: Edinburgh, UK, 2006; pp. 171–190.
23. Foucault, M. *Power/Knowledge, Selected Interviews and Other Writings, 1972–1977*; Gordon, C., Ed.; Harvester Press: Brighton, UK, 1980.
24. Foucault, M. *The Archeology of Knowledge*; Routledge: London, UK, 1972.
25. Fairclough, N. *Discourse and Social Change*; Polity: Cambridge, UK, 1993.
26. Gee, J.P. *An Introduction to Discourse Analysis: Theory and method*, 3rd ed.; Routledge: New York, NY, USA, 1999.
27. Gigglioli, P.P. *Language and Social Context*; Penguin Books: Harmondsworth, Middlesex, UK, 1972.
28. Halliday, M.A.K.; Matthiessen, C.M.I.M. *Introduction to Functional Grammar*; Routledge: New York, NY, USA, 2014.
29. De Zeeuw, G. Research to support social intervention. *J. Soc. Interv. Theory Pract.* **2010**, *19*, 4–24. [[CrossRef](#)]
30. De Zeeuw, G. Values, science and the quest for demarcation. *Syst. Res.* **1995**, *12*, 15–24. [[CrossRef](#)]
31. Checkland, P.B.; Poulter, J. *Learning for Action: A Short Definitive Account of Soft Systems Methodology its Use for Practitioners, Teachers and Students*; Wiley: Chichester, UK, 2006.
32. Fairclough, N. *Critical Discourse Analysis: The Critical Study of Language*; Routledge: New York, NY, USA, 2010.
33. Yu, J.E. Making Friends of Enemies. In *C. West Churchman Legacy and Related Works, Volume 2: Wisdom, Knowledge and Management: A Critique and Analysis of Churchman's Systems Approach*; van Gigch, J.P., McIntyre-Mills, J., Eds.; Springer: New York, NY, USA, 2006; pp. 305–330.
34. Ryu, K.Y.; Mirivis, P.H.; Thomason, B. *SK Telecom: Pursuing Happiness through Corporate Social Responsibility*; Harvard Business School: Boston, MA, USA, 2009.
35. Beer, S. *Diagnosing the System for Organisation*; Wiley: Chichester, UK, 1985.
36. Espejo, R.; Schuhmann, W.; Schwanninger, M.; Bilello, U. *Organisational Transformation and Learning: A Cybernetic Approach to Management*; Wiley: Chichester, UK, 1996.
37. Ashby, R. *Introduction to Cybernetics*; Chapman & Hall: London, UK, 1965.
38. Beer, S. *Brain of the Firm*, 2nd ed.; Wiley: Chichester, UK, 1981.
39. Espejo, R. A cybernetic method to study organisations. In *The Viable System Model: Interpretations and Application of Stafford Beer's VSM*; Espejo, R., Harnden, R.J., Eds.; Wiley: Chichester, UK, 1989; pp. 361–383.

