WSR DECISIONS FOR A SUSTAINABLE FUTURE

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Summary

Sustainable development decisions are seen by the Oriental WSR approach as participation processes conditioned and shaped by a dynamic web of *wuli* (relation with the world)*, shili* (relation with the mind) and *renli* (relation with others). On the one hand, *li*s are interwoven with each other; the study of one cannot be isolated from that of the other. On the other hand, *li*s are rich, diverse and heterogeneous; the management of the interplay of *li*s should not be reduced to the terms of a particular *li* only. Decision-makers, managers and citizens have to manage the bubbling *li*s through a spiral learning process, a process of knowing *wuli*, sensing *shili,* and caring for *renli* that is underlain by a *li*-task matrix. Those tasks are presented as understanding desires, investigating conditions, formulating objectives, selecting models, executing proposals, and evaluating performance, with coordinating relations embedded in the full decision-making process. As a practical management approach, WSR has been used in China in sustainable development projects such as regional social-economic development strategy planning, rationalization of power station location in metropolises, disaster monitoring and analysis, water resources management, and decision support systems. As modern systems approaches to management are preoccupied by western cultural traditions, the Oriental WSR with its unique cultural imprints will enrich and improve humankind's ability towards integrated decisions and policies.

1. Introduction

As humans enter the twenty-first century, it becomes clear that the sustainability and prosperity of the biosphere, including humankind, depend increasingly on not only technological advances but also human ability to bring multiple perspectives into informed decisions and collective actions. One after another, real world problems, e.g.

China's huge population, Britain's BSE/CJD crisis, the accidents in Three-Mile Island, Bhopal, and Chernobyl, frequent and severe "natural" disasters in all five continents of the planet by the end of the twentieth century, have shown that advanced technology and scientific knowledge alone can by no means guarantee appropriate decisions or policies. No problem facing humankind in the new millennium will be one-dimensional: technical, financial, economical, psychological, social, cultural, or political. Problems are, rather, complexities comprised of all these diverse aspects or issues. To deal with such multidimensional complexities, humankind's willingness and skills to properly employ scientific knowledge and technology, to reflect critically on subjective cognitive models, to coordinate consciously intersubjective human relations, and to do so in a holistic and collective manner, are crucial. Humans in the twenty-first century are therefore in urgent need of holistic approaches for multiperspective management and integrated decisions.

Wuli-shili-renli, or WSR for short, is a systems-based approach to facilitate integrated decisions and collective actions. It draws upon three major sources: a reconstruction of ancient Chinese thought—especially neo-Confucianism, recent advances in systems research worldwide, and contemporary management practice in the Chinese context since the 1950s.

Confucianism as a cultural tradition and a way of life has been with humankind for nearly three thousand years. Nowadays, while it is generally appreciated as valuable for ethical-moral education, especially for transforming human thinking about the mutual, interdependent, and reciprocal relations between humankind and the wider ecology, its insights and ability to integrate rationality, sincerity, and benevolence into virtuous decisions and immediate actions have largely been ignored. There is, therefore, an urgent challenge to reconstruct this ancient wisdom so that it can move beyond the domains of mere authorities, politicians, philosophers, and educators and hence become directly meaningful, relevant, useful, and accessible for ordinary managers and citizens in day-to-day decision-making and operational activities.

The holistic worldview, or systems approach, has a living history almost as long as human civilization. Nevertheless, in its modern form, its most powerful appeal has been for a long period limited to the sphere of natural science and technology. The systems approach was, in the first half of the twentieth century, commonly seen as equivalent to mathematical modeling, positivism, and functionalism for tackling engineering-like problems. But this has changed. While its power to support scientific and technological advances remains and continues to develop, recent systems research has made a substantial contribution to socio-technological systems design and management, especially via the advances that bring multi-agents, multi-perspectives, and multi-methodologies into systems approaches. As sustainable development problems are multi-dimensional in nature, this recent development in systems research deserves to be materialized into the framework and process for decision-making in the twenty-first century.

Contemporary management practice in China has been experiencing dramatic and dynamic encounters between scientific knowledge, dominating ideologies, and indigenous cultural traditions. Despite, and because of, costly mistakes, a positive

outcome of these encounters is an increasing recognition of the necessity of integrating approaches to management. In doing sustainable development projects, scientists, managers, and ordinary citizens have learnt from real experiences and bitter lessons that, however sound the scientific knowledge and advanced the technology, if attention is not paid to selecting/combining different models, sweeping-in diverse perspectives, and coordinating seemingly conflicting value systems among those involved and affected, human interventions, even those based on good-will and sufficient financial resources, may produce hardship rather than improvement in the long-run.

Drawing upon these three major theoretical and practical sources, WSR is evolving rapidly in both research and practice. It began in the late 1970s when Qian Xuesen (Chairman, China Association for Science and Technology) and Xu Guozhi (Senior Adviser and retired Director, Institute of Systems Science, Chinese Academy of Sciences), dissatisfied with the one-dimensional, mechanistic manner of management practice which was preoccupied by *wuli*, suggested that *shili* should be brought in. Next, the American Chinese Li Yaozhi proposed paying due attention to *renli*. Then in 1988, Gu Jifa brought the concepts *wuli, shili,* and *renli* together. Finally, in 1993 Gu Jifa and Zhu Zhichang formally consolidated and published the WSR approach, with a pedagogical structure explaining its philosophical foundations, methodological procedures, application guidelines, and cultural considerations. Since then, as an indigenous management approach that embeds both local cultural traditions and advanced scientific knowledge, WSR has become popular at various management levels, in both public and private sectors, and has been subjected to conscious and systematic tests and applications. Today, WSR can be and has actually been applied in both descriptive and prescriptive manners: to facilitate learning from past real experiences, and to guide integrated decision-making in here-and-now situations. (See *Total Systems Intervention* and *Integrative Systems Methodology.)*

2. Philosophy

To WSR, real world problems are a dynamic web of multiple relations. In the realm of decision-making, three kinds of relations appear particularly profound: relations with the world, relations with the mind, and relations with others. These relations are, in WSR, called *wuli, shili*, and *renli* respectively.

Li is a Chinese word that has diverse meanings. As a noun it can be used to denote markings, textures, essences, orders, organisms, mechanisms, tendencies, patterns, principles, logics, reasons, etc., while as a verb it means to investigate, to reason, to manage, to engage, to put in order, to organize, to respond, and so on. *Li* also denotes knowledge and perspectives about these properties, activities and patterns, including those about human cognitions, actions, and relations

Wu in Chinese means objects, contents, the world as distinct from oneself. *Wu*s are objective in the sense that they exist and possess certain properties irrespective of human intention to study them. Decision-makers can use the notion of *wu* to cover the whole range of facts in decision contexts: natural resources, physical environment, population, transportation and communication facilities, financial resources, production capacity, available technology and data, time scale, manpower and its educational

structure, employment, pollution, etc. Human activities are conditioned by different combinations of *wu*s. Accordingly, *wuli* are regularities and principles that form and govern the dynamic relations among these objective *wu*s. Decisions are not made in a vacuum, but are continuously constrained by *wu* and *wuli*. *Wuli* is thus confined to the material-technical sphere and perspectives, the study and management of which depend on knowledge in the forms of natural sciences, technology, and engineering.

Shi in Chinese means affairs and events; troubles and accidents; job, work, and business; and responsibility, involvement, engagement, and service. Accordingly, decision-makers can use *shili* to denote patterns of engagements between the mind and the world, i.e. the ways and styles individuals and groups choose to see, to think, and to act. In studying *shili*, participants in decision-making focus on understanding how events, conditions, problems, issues, options, and choices can be better investigated, formulated, and presented. This involves creating, comparing, evaluating, selecting, reflecting on, and transforming definitions and models of the reality—the contexts, contents, processes, and outcomes of decision-making. *Shili* thus concerns sense-making, meaning-giving, situation-framing, knowledge-creating, value-shaping, and modeling of models. The notion of *shili* implies that there are patterns of "good" decision-making that humans should study and follow. The *shili* that participants adopt dictates what aspects of the decision situation to look at, what options to formulate, what choices to make, and how they are or should be made. *Shili* can therefore be related to the psycho-cognitive sphere and perspectives, the study and management of which require knowledge about human cognition and mentality.

Ren in Chinese denotes people, human, and humanity. The concept of *renli* is concerned with the patterns and effects of human interpersonal actions and relations, e.g., communication and negotiation, mutual learning and challenging, sharing and adjusting, competing and cooperating, love and hate, gains and losses, etc. *Renli,* in most circumstances, shape the process and outcome of human activities. In studying and tackling *renli*, decision-makers seek to generate and foster possible synergetic avenues, and to avoid and overcome obstructive factors. Key questions in dealing with *renli* are: does the decision serve the genuine interests of concerned parties, the involved and the impacted, the wider community and the ecology, as well as who should answer such a question, and how. This requires incorporating deep-seated yet generally unspoken interests, motives and value systems of stakeholders into decision models, options, alternatives, and choices, and doing so in a collective way—collective in terms of proper generation and distribution of information, expertise, resources, opportunities, agendas, etc. *Renli* therefore highlights the socio-political sphere and perspectives, the study and management of which demand knowledge in social sciences and humanities.

A central contention of WSR is that there are different *li*s as elements, forces, patterns, and perspectives influencing the processes and outcomes of decision-making. Those *li*s, and corresponding ways of tackling them, are at once differentiated and interconnected. On the one hand, issues pertaining to one *li* cannot be fully understood or properly managed in the terms merely of other *li*s; therefore, decision-makers should design, choose, and deploy different methods and knowledge to study and to follow differentiated *li*s. On the other hand, various *li*s are dynamically interconnected; therefore, differentiated *li*s should by no means be handled in isolation or independent

from one another.

Thus, no single *li* alone is sufficient for studying and handling the complexity confronting humankind, nor for making viable or sustainable decisions. Individually, each and every *li* is only a partial representation of the issues and process of decision-making. Each of them is inherently limited. Only collectively can they provide a rich picture of the decision-making context, problems, issues, and possible options. Experiences in contemporary China, e.g. the intended huge population and the "Great Leap Forward" in the 1950s, the "Great Cultural Revolution" in the 1960s–1970s, and some other "mega" projects in the 1980s and 1990s, have shown the disastrous results of reducing the complexity of interactions among multiple *li*s into a particular dimension of just one.

WSR does not perceive *wuli, shili,* and *renli* as forming a hierarchy, whereby a particular *li* is always higher, or more basic, fundamental, primary, central, reliable, certain, neutral, or scientific than others. Rather, WSR sees *wuli, shili,* and *renli* as interwoven in a dynamic web, a circular archetype, within which different *li*s condition, imply, demand, inform, question, shape, and transform each other. As every problem is connected to other problems, every science and knowledge requires others. Observations in the above-mentioned Chinese experiences have shown that there are no "real" facts or neutral data upon which, alone, contending parties can arrive at objective descriptions, rational judgments, satisfactory alternatives, or scientific decisions. Any investigation, modeling and management of today's complexity and, hence, choice of decision alternatives is but a localized and historically situated process of the continual and dynamic interplay of *wuli*, *shili,* and *renli*. In short, what is necessary and good for decision-making is not *wuli, shili,* or *renli* on their own, but the dynamic balance and harmonious interplay among them. Ultimately, it is human ability to investigate and manage emergent *Li*s at the whole level, not individual *li*s as parts, that determines the quality of decisions and actions.

The basic themes of WSR suggest thus that, in making management decisions, humans are ideally dealing with a differentiable whole, within which they can do better by consciously knowing *wuli,* sensing *shili,* and caring for *renli.* Principally, this requires decision makers to sweep-in all *wu*, *shi,* and *ren* elements, patterns and perspectives into a holistic consideration, in a case-by-case, contingent manner. Accordingly humans should search for appropriate models to study various *li*s and their interactions, although certain *li*(s) may be perceived by participants in different circumstances as more crucial or urgent than others. "Don't hit everything with the same single hammer" should be the maxim.
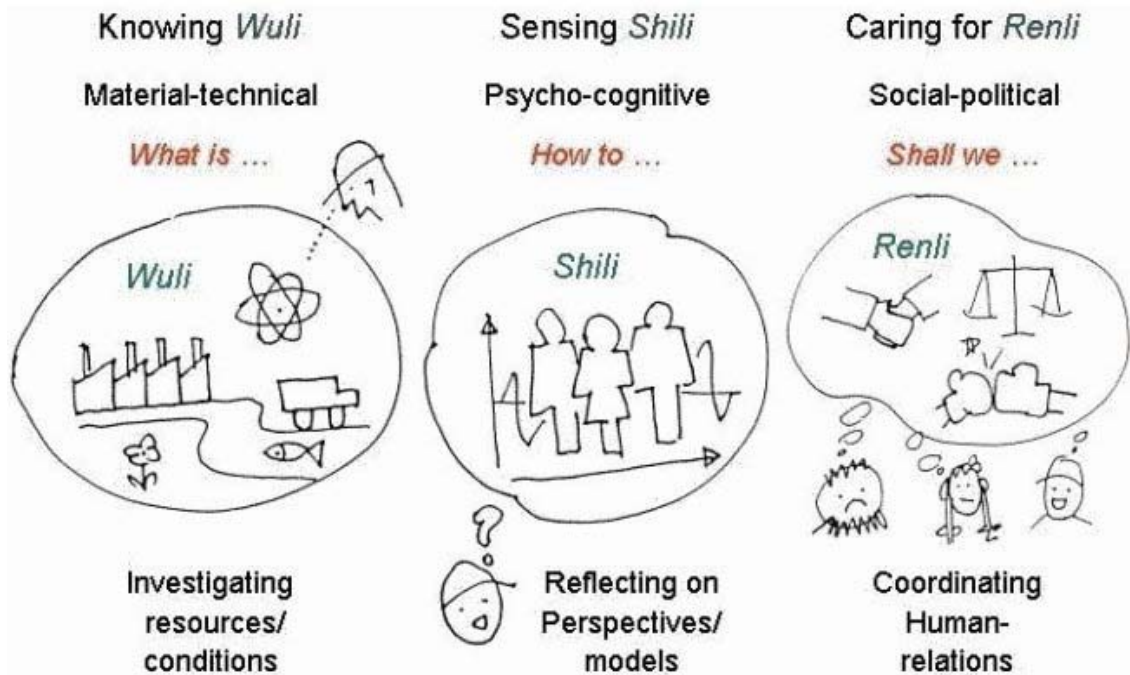
Figure 1. The WSR philosophy. Adapted from Zhu Z. (1999). Copyright MCB University Press. Reproduced with permission.

WSR therefore challenges decision-makers to understand, to learn from, and to coordinate diverse models, perspectives, knowledge, mentalities, visions, worldviews, paradigms, values, etc. In particular, WSR calls on decision-makers to reflect on and to move beyond their disciplinary domains, professional closures, and social sectors. This challenge appears particularly profound in developing countries where the educational levels among participants are unequal and where, as a result, decisions are usually in the hands of just a few experts and authorities. WSR is by no means an easy approach; it demands the Confucian virtue of rationality towards nature, sincerity towards the mind, and benevolence towards humans.

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Biographical Sketch

Zhichang Zhu's normal education stopped when he was sixteen due to China's Cultural Revolution. Without a first degree, he obtained a M.Sc. and a Ph.D. sponsored by British scholarships. Dr. Zhu has been a farmer, shop assistant, manager, assistant to the dean of a business school, systems analyst, IS/IT consultant, lecturer and post-doctoral researcher in China, Singapore, Sri Lanka, and England. He has written widely in the areas of comparative management studies, strategic decision theory, management education, marketing theory development, sustainable development, information systems and knowledge management, with over fifty articles published in edited books, referred journals and referred conference proceedings including *World Futures*, *Human Relations, Human Systems Management, International Journal of Organisational Analysis, International Journal of Information Management, Systems Research and Behavioural Science, Systemic Practice and Action Research, Systems Engineering Theories and Practice, The Operational Research Journal, Systemist, Education and Training*. Dr. Zhu has delivered invited keynote/plenary speeches and visiting lectures in China, Europe, Hong Kong, Japan, the Gulf and the U.S. Dr. Zhu is a senior lecturer in Management in the Hull University Business School (UK); he is also a visiting professor in Business Administration in the International East-West University (Hawaii) and a visiting fellow in Knowledge Management at the Japan Advanced Institute of Science and technology (Ishikawa)'.