BOOK REVIEW

Viable Systems Approach (VSA):
Governing Business Dynamics

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1. INTRODUCTION: WHAT IS THE VIABLE SYSTEMS APPROACH?

This book introduces for the first time in English (and thus for an international readership) the Viable Systems Approach (VSA). The VSA is a novel systemic approach developed in Italy over a period of about thirty years by Italian systemic scholars under the guidance of Gaetano Golinelli.

A strictly holistic view of systemic thinking puts the focus on the whole, as opposed to the parts. Accepting this view means directing all research efforts towards the understanding of the whole, without resorting to an analysis of the parts (Barile & Saviano, 2011). This perspective emerges in juxtaposition to the traditional analytical–reductionist approach, aiming to overcome its limits by moving towards an approach that is capable of grasping the entirety of the object (system) to be understood, while also considering its belonging in a greater whole.

Among these two extremes of reductionism and holism, we can find action research based systemic theories like the Viable Systems Approach (VSA), the subject of this book.

For the VSA, systems thinking is conceived as a bridge between a reductionist and a holistic vision of the phenomenon under scrutiny. In this sense, the VSA is proposed as a methodological way out for reconciling reductionism and holism (Barile & Saviano, 2011). As in the better-known Viable Systems Model, the concept of parts is not utterly discarded, but is completed with the principle of interdependence among systems both inside and outside their given systemic boundaries.

The VSA can be seen as a set of lenses for observing complex phenomena, focusing on the analysis of relationships among socioeconomic entities in the context, which seek viable interacting conditions.

The VSA borrows several concepts from previous systemic theories, including:

- the concept of open and closed systems (von Bertalanffy, 1972);
- the concept of autopoiesis (Maturana & Varela, 1998; Maturana 1988, 2002);
- the concept of sociotechnical systems (Emery and Trist, 1960);
- the law of requisite variety (Ashby, 1964);
- the role of the decider (called the governing organ in the VSA) from Living Systems Theory (Miller, 1978);
- most of all, it borrows its main architecture from the Viable Systems Model (Beer, 1979, 1981, 1985; Espejo & Reyes, 2011).

Taking some of the key elements of these systemic approaches, the VSA has been gradually developed both theoretically and empirically by management academics and consultants over about 30 years. This evolution is still in progress.

While, for the VSM, the dynamicity of the system is based mostly on the clever design of information flows—so that the firm can be quickly and effectively informed about what is occurring in the external context (Pickering, 2002)—the VSA puts a deeper focus on the homeostatic interactions between the viable system and other viable systems in the external context (so-called suprasystems) (Dominici & Palumbo, 2013). The main topics of analysis of the VSA are thus the dynamics of continuous changes that the viable system needs to implement in order to chase the dynamics of the environmental context.

The study of the adaptation of viable systems to the environmental context has been further enriched by the Italian school of VSA with the introduction of some concepts developed late in the last century by Italian business scholars. Many of these have great recognition in Italy, but are almost unknown abroad (i.e., Saraceno, 1973; Zappa, 1956, 1957).

In particular, Saraceno (who was also the first to translate the books of Beer into Italian) defined the firm structure as the "*network of interrelations between the parts of which the system is made*" (Saraceno, 1973:125). The Viable Systems Approach begins from this definition of a firm as a system and highlights how it implicitly includes two points of view: the descriptive and functional representation of the organization (structural dimension) and the interaction of the forces managing the implementation of processes, which need to be in continuous evolution so as to face the varying needs required by the context (systemic dimension) (Barile & Saviano 2011).

The VSA asserts that the structure and systems perspectives should not be considered as dichotomic, but should be rather understood in terms of complex representations of an integrated blend of structural and systems elements (Barile & Saviano, 2011). The structure can be described and analyzed for governing purposes, keeping in mind its impermanent and evolving nature as a temporary representation of a system.

The VSA pays great attention to the continuous quest for *consonance* with the suprasystems. The term *consonance* refers to the structural coupling between systemic entities. Consonance may develop towards systemic harmony, here called *resonance*, which refers to elements operating in a distinctive manner for a single purpose (Barile & Polese, 2011; Nigro & Bassano, 2003; Dominici et al, 2013).

Suprasystems are evaluated as relevant systems in the environmental context by the '*organ of governance*' (OoG), which is the decider (as in Miller, 1978) that directs the strategic activity of the organization.

The ten fundamental concepts (some of which are borrowed from previous systemic theories) upon which the VSA is based (Barile & Polese, 2010) can be summarized as follows (Dominici et al, 2013):

1. *Systems approach*. Individuals, organizations, and social institutions can all be understood as systems that consist of elements directed towards specific goals (as in Beer, 1975).
2. *Systems hierarchy*. At a system level (level 'L'), the Organ of Governance identifies a number of suprasystems, positioned on higher levels (L+1), and a number of subsystems, to be found on lower levels (L–1).
3. *Reductionism and holism*. Given the limits of our brain in inferring complex phenomena, we require a synthesis of both reductionist analytical visions that recognize the relevant factors and their relationships and, at the same time, a holistic viewpoint for comprehending the system as a whole
4. *Open systems and system boundaries*. The viable system needs to be able to open its boundaries in order to connect with other systems and exchange information and resources. The system boundary can thus be seen as changing according to the system's evolutionary dynamics (as in Beer's VSM, 1975).
5. *Autopoiesis, homeostasis, and self-regulation*. Every living system has its own internal autopoietic and self-organizing system (as in Maturana & Varela, 1975). A viable system has the capacity of 'homeostasis'—that is, it is able to preserve its identity by not excessively changing its internal processes while seeking a state of equilibrium (as in Beer, 1975).
6. *System structure*. Each system is composed of functional parts that have defined roles, behaviors, and tasks. The *shift from structure to system* implies shifting the view from stationary to dynamic, as the spotlight moves from the parts to a holistic vision of the whole.
7. *Consonance and resonance* refer to compatibility between systems. System survival requires internal consistency in order to achieve and maintain internal harmony, termed 'resonance'. In other words, resonance can be defined as harmonious systemic interaction, while consonance is structural and relational.
8. *System viability*. As in Beer's VSM, viability is the ability of the system to survive. In order to be viable, a system needs to be consonant with the context, as well as internally resonant. To achieve this goal, the system needs to be able to dynamically regulate its structure and behavior.
9. *Adaptation and relationship development*. Viability is seen as connected to the system's competitiveness and ability to cocreate. Competitive behavior involves the capability to identify and manage functions and relationships, to form communication channels, to manage information flows, and to tone enterprise advances within the context.
10. *Complexity and decision making*. The decision maker must be able to discern between 'variety' (the possible variants that a phenomenon might present at a given time), 'variability' (observed changes in variety over time), and 'indeterminacy' (the possibility of not fully understanding a given phenomenon).

2. SYNOPSIS

This book is full of useful hints on how to govern organizations by dealing with internal and external complexity. At a more detailed level, the book offers an in-depth discussion of a new systemic approach to managing any kind of organization.

This volume presents an outstanding number of concepts, and attempts to synthesize the vast body of knowledge and theories that have been developed (though unfortunately for most, not published in English) by the Italian Viable Systems Approach (VSA) school. The approach can act as a heuristic to work out strategies for effectively managing organizations. It offers a new perspective on studying and designing organizations and their extended networks.

In *Viable Systems Approach,* Gaetano Maria Golinelli brings the reader his academic and consulting experience of almost half a century of researching and working with government offices and public and private enterprises. This is the first book about the Viable Systems Approach to be written in English, and hence available to an international readership.

The author presents, in simple and precise language, the key points of the Viable Systems Approach, supplying a sketch of the findings of decades of study and real application of the VSA to a number of private and public organizations in Italy.

The book is divided into ten chapters. The first two introduce Systems Thinking (Chapter 1) and its application in the firm management domain (Chapter 2).

In chapter 1, the idea of *context*—which implies the specular concept of the systemic border—is explained according to second order cybernetics and the constructivist view, also including concepts from Ashby's Law of requisite variety.

According to the VSA,

"[...] the decision-maker, analyzing the structure of his own system and the structure of suprasystems, employs attenuating and amplifying actions of the kind needed for survival so modifying the borders between the system and the individual suprasystem." [p. 17]

In the examination of systemic theories developed in Chapter 2, it is important to underline Golinelli's vision of the widespread use of metaphors and analogies in systemic studies:

"The vision of reality which comes from the use of metaphor emphasizes some important aspects, setting aside the impact of other elements connected with context and the organization of the firm. It leads to thinking and acting on the basis of images of reality, losing sight of important factors which could emerge from the context." [p. 35]

After these introductory chapters, the book focuses on the application of the VSA. Chapter 3 examines the foundations of the VSA with its Four Postulates:

"Postulate 1: A system is viable if it can survive in a particular sort of environment." [p. 55]
"Postulate 2: Viable systems have the 'isotropic' property." [p. 55]
"Postulate 3: The viable system is projected toward pursuing purposes and attaining objectives and can be connected to suprasystems from which and to expectations, guidelines and rules can be received and allocated." [p. 56]
"Postulate 4: A viable system, as an autonomous entity, may be dissolved within the suprasystems it refers to in a specific time-frame due to resonance process which may follow conditions of consonance." [p. 58]

Explanations of these postulates (and in particular the second and fourth) are necessary here. All are generously illustrated in the book.

Postulate 1 recalls Beer's definition of the viable system. Hence, the viable system is an open system whose ability to survive depends on contextualization and exchanges of energy and information with the environment.

The isotropic property of Postulate 2 differs crucially from the traditional concepts of the substance or body of a form, which shows the same physical properties from every perspective. The correct understanding of this term is linked to the Ancient Greek word *eidos*. An eidos is a 'form'—a real sense, that manifests itself in sensory images—as opposed to a 'substance'. Therefore, the eidos is an immaterial visible form with an unchanging character, whatever the different facades caused by changes of perspective. Isotropy thus refers to a form (an eidos) that is unchanging from whatever perspective (tropos) it may be observed.

Postulate 3, as we have already discussed in the introduction, asserts that the goals of the viable firm are strongly linked to the dynamics and dialectical relationships that the organ of governance establishes with the relevant suprasystems.

Postulate 4 shows how the continuous quest for resonance with the suprasystems—if taken to the extreme—may in some cases *lead the viable system to lose its autopoiesis and identity*, becoming part of the suprasystem with which it totally shares it objectives. In this sense, we can say that the VSA also comprehends (but is not limited to) the possibility of a dematerialized structure (Pitasi & Dominici, 2012). In other words, the organ of governance may decide to annihilate the system and merge with another viable system in the environment because of a high level of resonance (which is sharing finalities). It must be noted that this is only a possibility, and that resonance does not necessary imply the annihilation described in this postulate. There are different degrees of resonance, going from mere "friendship" to a state that we could call "love" (as in Postulate 4).

Chapter 4 recalls the concept of complexity and how the viable firm can deal with it through variety management.

Chapter 5 focuses on the homeostatic capabilities of the viable firm in managing intersystems relations.

Chapter 6 highlights several critical issues on firm governance. The viable firm can be seen as an "institution" because:

"[...] firstly it is the target of the expectations of many different stakeholders and, secondly, it is the expression of various subjectivities and cultures existing within the firm itself." (p. 206).

Chapter 6 also takes into consideration the possibility of conflict between the firm's ownership and governance, in particular when the firm's owners are not directly involved with the management. Indeed, the ownership may establish direct links with structural components, thus bypassing the institutional organ of governance. This would create continuous conflicts and delegitimize the management of the firm. To avoid such problems, it is important that the ownership establishes relations only with the organ of governance, and not with the operational structure.

This is actually a peculiar characteristic of the Viable Systems Approach, in that it gives a central role to the Organ of Governance and considers as problematic any other configuration of the decision-making process. In other words, according to the VSA, the OoG is the "kybernetes" (steersman or governor) of the viable system, and any other configuration of decisions that contrast with it must be considered as dysfunctional and may lead to the loss of viability of the firm.

Chapter 7 deals with the *operative structure*, illustrating the conditions that allow it to be effective in performing its activities and tasks in order to maintain the viability of the firm.

"According to VSA, the operative structure is the logical component of the firm aiming to carry out its operating processes to achieve consonance and resonance with the suprasystems." (p. 244).

Chapter 8 debates the dynamics of the firm and the central role of the "observer" of the Organ of Governance. As the brain of the firm (using Beer's terminology), it is the OoG who holds the perception of the internal and external dynamics of the firm. In this regard, the OoG:

"[...] has to endow himself with a suitable model of synthesis which, although simplified, is able to offer an effective representation of the firm dynamics of the system as it follows on the projected, realised and constantly monitored path of structural modification." (p. 244).

Chapter 9 proposes a model of the firm as a viable system, considering the revenue model and its capabilities to innovate.

Chapter 10 shows the features of the actions that the OoG can take to guide the firm toward value creation by qualitatively identifying the characteristics of value creation process both in the short and long terms.

3. CONCLUDING REMARKS: WHY READ THIS BOOK?

The goal of this book is to offer an approach to the management of firms in a complex world. We can state that the book achieves this goal and gives some in-depth reflections on how to manage the internal and external complexity of organizations.

This volume offers interesting arguments regarding business management that will be useful for the design and governance of any kind of organization. Hence, it is a book of great relevance to both academics and practitioners who are interested in becoming familiar with a valid method of understanding and managing organizations.

Readers of this book will be introduced to the VSA and will learn about the essentials of its theoretical framework and methodology. For those readers who are already familiar with Beer's VSM, the book may be interesting to learn of VSM's evolution through years of study and consulting practice in Italy.

An unavoidable limitation of the book is that the great quantity of concepts it tackles will need time to be metabolized by readers who are not familiar with the systemic approach. Some of the definitions are repeated several times in the book, in different chapters; this may irk some readers, but may also be useful to help fix the concepts and link them to the various aspects treated in the chapters; moreover, this redundancy allows the reader to dip in to any chapter, without having to have read the entire book up to that point.

After these concepts have been successfully digested, the reader may find that their relevance goes beyond their application to organizational systems. The approach used in this book to deal with organizational diagnosis, design, and problem solving can be applied to a many fields or research.

4. ABOUT THE AUTHOR OF THE BOOK

Gaetano Maria Golinelli (born in Rome in 1934). is Emeritus Professor of Business Management at "Sapienza" University of Rome (Italy). He is President of CUEIM a well established non-profit research center founded in 1982 and President of the Honorary board of the learned

Figure 1. Cover of Viable Systems Approach (VSA): Governing Business Dynamics
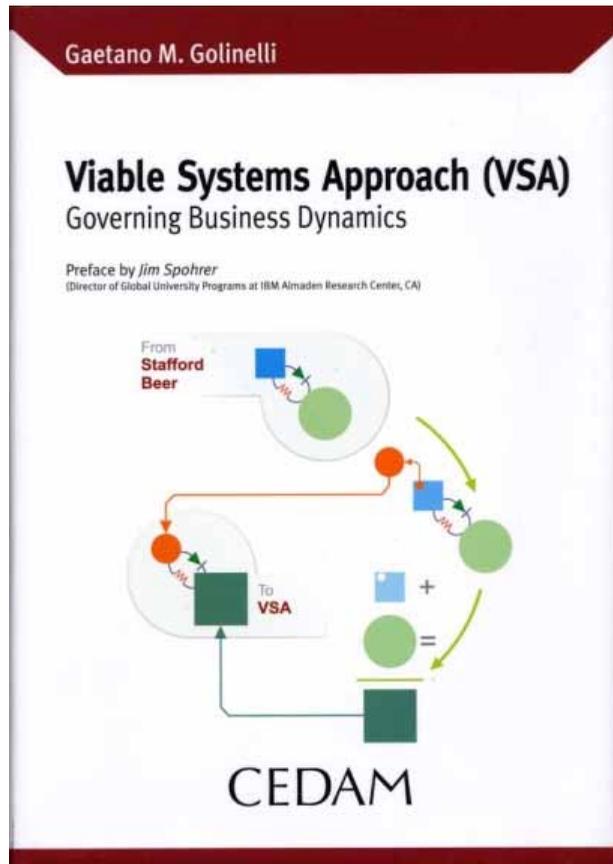
society Business Systems Laboratory (Italy). In his forty years long academic career he has been author of about 100 published studies and scientific researches. His research program is still ongoing to further develop the Viable systems Approach and to test it in action.

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