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From 'EGO' to 'ECO' in B2B relationships

Sergio Barile · Luca Carrubbo · Francesca Iandolo · Francesco Caputo

Abstract: This paper addresses sustainable development through the lens of the Viable Systems Approach (VSA), a theoretical approach developed by, among others, Golinelli (2000, 2005, 2010) and Barile (2000, 2008, 2009) to extend the relative reflections of the governing processes of a firm by focusing on the research of consonance within the specific context in which the firm operates. In fact, the aim to ensure a sustainable value proposition, and therefore be more competitive, can only be achieved if one understands and anticipates the evolution of the emerging contingencies while still attempting to exploit one's own distinctive features over time. These issues have particular relevance in business to business (B2B) socio-economic relationships where all of the elements are homeostatically balanced and must constantly change to adapt to the external contingencies, and the lack of ability to adapt and maintain balance could harm or end the relationship.

Keywords: Sustainability · Viable Systems Approach · B2B relationships · Change

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Introduction

In the last several years, the paradigm of sustainable development has acquired increasingly more relevance and has come to be understood as a form of development of business activities that, in the wake of *long thought*, is capable of acknowledging social, environmental and economic issues, thus ensuring the survival of social systems and organizations.

The principles of social responsibility and sustainability, therefore, have become the drivers of sustainable business activity, and the aim of those principles is to create value and harmony with the reference entities of the enterprise. Accordingly, such sustainability enables businesses to enhance the intangible components of their assets (such as knowledge, relationships and trust within the specific context), which are the main source of the benefits and success for the companies under the current competitive conditions.

This paper addresses sustainable development through the lens of the *Viable Systems Approach (vSA)*, a theoretical approach developed by, among others, Golinelli (2000, 2005, 2010) and Barile (2000, 2008, 2009) to extend the relative reflections of the governing processes of a firm by focusing on the research of consonance within the specific context in which the firm operates. In fact, the aim to ensure a sustainable value proposition, and therefore be more competitive, can only be achieved if one understands and anticipates the evolution of the emerging contingencies while still attempting to exploit one's own distinctive features over time.

These issues have particular relevance in business to business (B2B) socio-economic relationships where sustainability manifests, as we shall see, its value as a driver capable of promoting the shared development of parts. In this regard, the work aims to highlight the contribution that sustainability can offer to the maintenance of long term B2B relationships in a circular logic in which the focus on sustainability fosters the conditions for a long term relationship and the continuation of the relationship encourages the attention of the parties to sustainability.

The underlying business category these elements act on is value, intended as a positive dimension that is improved and enhanced through the interactive dynamics that involve all the actors that participate and contribute to the development of B2B relationships that can be defined sustainable when considered in an inclusive and long-term perspective.

The concept of change, which is related to the need to maintain equilibrium in a dynamic way, originates from rational actions (a function of perceptions) or intuitions (understood as more impulsive effects) and takes into account more than a phenomenological reality; some choose to change, while others are forced to do so as a result of special circumstances.

Systems and the systemic perspective

Systems studies and theories increase knowledge about multiple perspectives (informatics, managerial and organizational) and structuring capacities, thereby linking components, connective functions and practical applications (Flood, 1990; Flood & Jackson, 1991). Systems are found in nature, society, science, economics and within IT tools. They are inside the human mind, exist within organizations and affect general behavior. Systems have been the subject of many reflections and definitions, some of which are summarized in Table 1.

Table 1: The meaning of Systems Theories

Focus	Author
«a system as a complex of interacting elements»	(Von Bertalanffy, 1956: 142)
«many part compositions boundaries, connections and different relationship levels show certain signs of system relevance and allow an interpretation of its own capabilities as being critical and influential and its relations with correspondent supra-systems and sub-systems»	(Parsons, 1965: 16)
«a system as an entity that is adaptable for the purpose of surviving in its changing environment»	(Beer, 1975:174)
system elements are rationally connected»	(Luhmann, 1990: 181)
«sub-systems focus on the analysis of relationships among its own internal components while supra-systems focus on the connections between the analysis unit and other influencing systemic entities in their context»	(Golinelli, 2005: 230)
«a structure can be studied (what it is? How it is made?), a system should only be interpreted (how does it works? What logics does it follow?)»	(Barile, 2008: 75)
«a system can be defined as an entity which is a coherent whole»	(Ng, Maull, & Yip, 2009: 379)
«managers have to plan structural adjustments to guarantee the survival of the whole system, constantly formulating new interpretations of the business scenarios in order to find an adequate positioning, implementing periods of adjustment, transformation and redefinition of the organizational structure»	(Mele, Pels, & Polese, 2010: 131)

Source: Author's elaboration

Each system is characterized by a dynamic evolution and originated from a specified structure (as a set of individual elements with assigned roles, activities, responsibilities and tasks to be performed in compliance with specific shared norms and constraints) as part of an ongoing relationship with a number of relevant external systems (Golinelli et al., 2002; Barile, 2008; Barile & Saviano, 2008).

Every system is unique, it is different from every other ones. Given that the same entity can carry out iterative processes, but comparing it with other entities during a defined time and within similar situations, we can observe relevant divergences in operations, effects and base-logics. Starting from the same structural features, a comparison between the performance effects of any organization will certainly reveal

some differences (Rapoport, 1968). Therefore, we must consider many aspects and factors when analyzing system behavior, such as experience, knowledge improvement, ability construction, personal competences, tacit and codified procedures, and specific operations, beginning with the potential application of internal specific competencies and working toward the external effective manifestation of actual patterns that are capable of evaluation (Krippner, 1991).

According to the vSA, within business development, the identification of external system entities (such as business organizations) is important in potentially providing input, acquiring the planned output and establishing the relations between the components of the actual structure and the other entities involved in many different types of relationships (Barile, 2008), such as:

- relationships between physical components that shape a given entity in a particular context;
- relationships between various logical components of an entity in a particular context;
- relationships between the various physical components and various logical components of the external entity.

From this perspective, we can observe how any system can take priority over single elements because these elements cannot be reduced to the sum of their links. Thus, it is evident that organizations are not autonomous entities but rather are dependent upon individuals and the networks of relationships that exist among them (Vicari, 1991). The development of such a form of systems' governance requires certain social patterns that are appropriate to enterprises as well as to individuals, thus requiring a sort of cultural attitude that is capable of influencing the behavior of not only individuals but also businesses (Barile & Polese, 2010). Based on the features of the systems, the value of solutions is generated through relationships; the firm's ability to communicate with its target and its capacity to obtain advantages from them are based on iterative successful interactions. If a firm does not interact with other participants, it cannot create the preconditions for the development of long-term relationships (which is critical in B2B relationships where only the prolonged interaction allows to maximize the value of the report, Wang & Bowie, 2009) and there will be no reticular system created. In that case, we would see a simple set of business units, consisting of a potential center with only stand-alone hypothetical connections.

Contact, create, participate! To survive in the long-term, a given system tends to absorb energy, consciously or not, from the supra-systems (framework) that sub-systems (components), used to help develop and grow the eco-system in which it works (Barile, 2008; Barile & Gatti, 2007). According to the vSA, the concept of competitiveness (related to system viability) is strictly linked to the consonant relations and resonant interactions among systems that share their own resources for the system's benefit in a win-win relationship to capture and manage its component dynamics, especially with reference to the variations between internal characteristics and external opportunities (Golinelli, 2005). Emerging relationships are very much

related to individuals who interpret and realize business missions, strategic actions, and management practices through their values and cultural identity (Golinelli, 2010). This type of social relationship can be defined as a «relational pattern that characterizes every individual in a business and that involves personal, business and stakeholder relations» (Polese, 2009a:203). Accordingly, in social relationships, the consensus is favored when systems are mainly constituted by cohesive, interpersonal, fiduciary, long-term relationships that are based on values rather than rules.

Change as a driver for sustainable B2B relationships

Change for identity enhancement

Today, *change* is often associated with the concept of *evolution*, or something developing in a progressive condition, which implies advancing to the next level from the previous one. The desire to change entails the need to improve and to grow, not necessarily by size or consideration, but certainly to grow in a sustainable manner. Considering that the framework contexts are subjective and are functions of specific changes placed in a more objective and invariant environment, each specific supra-system is able to influence, more or less significantly, the type and the efficiency of decisions for any organization, especially through the direct effects on their sub-systems (Golinelli, 2005; Barile, 2008).

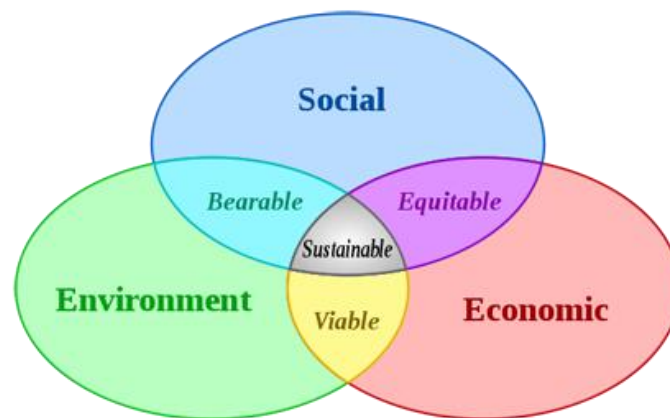
Thus, *a system does not change to modify its identity but works to stabilize itself over time* in an attempt to learn how to interpret the surrounding environment and its complexity, to understand how, when and why to change. Obviously, change requires the identification of new bases that must be leveraged to enable the establishment of relationships, which, in turn, makes the fulfillment of the expectations of all involved parties possible (Barile et al., 2012; Saviano & Caputo, 2013).

This mutual satisfaction acquires particular importance in B2B relationships where the failure to satisfy one of the involved parties usually results in the termination of the relationship and the inability of either party to achieve the shared goals (Haverila & Naumann, 2011). However, if both parties are highly satisfied and they believe the relationship is sustainable, they tend to spend more time with the partner and strive to improve new transactions in other fields (Bolton & Bramlett, 2000; Reichheld & Teal, 2001; Gruca & Rego, 2005; Cooil et al., 2007). *To enhance the relationship, change must imply sustainability.*

It follows that change must be considered a driver for sustainable B2B relationships where, specifically, sustainability is perceived as «a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are made consistent with future as well as present needs» (Brundtland Commission, 1987:15). *Sustainability, therefore, is the development that meets our needs without compromising those of others.*

In this sense, a commonly shared representation of sustainability can be seen really as the result of three dimensions, as in the Figure 1: economic (i.e., the capacity to generate income and employment for the sustenance of the population), social (i.e., the capacity to ensure conditions of stability, democracy, participation and justice, as well as the possibility to guarantee conditions of human well-being – security, health, education – equally distributed to all classes and genders) and environmental (i.e., the capacity to maintain quality and reproducibility of natural resources).

Fig. 1: Sustainable development



Source: Dréo, Johann (2006), "Sustainable development"
[available at http://commons.wikimedia.org/wiki/File:Sustainable_development.svg]

Based on this representation, it is evident that *no system stands alone*, and therefore, to survive, organizations must relate to their own subjective framework and respect the environment as a set of objects of exchange whose characteristics influence and are influenced by the behavior of a system (Hall & Fagen, 1956; Capra, 2002). Considering environmental contingencies (Longenecker & Pringle, 1978; Battilana & Casciaro, 2012; Yamagata, Yang & Galaskiewicz, 2013), organizations are able to survive in a particular context only if they improve their ability to evolve and ensure that their operations adopt and adhere to the external changes. Indeed, the study of open systems involves a homeostatically dynamic adaptation to external changes, and the survival of a system is directly related to the ability to seek and promote dynamic and satisfactory evolution (equifinality).

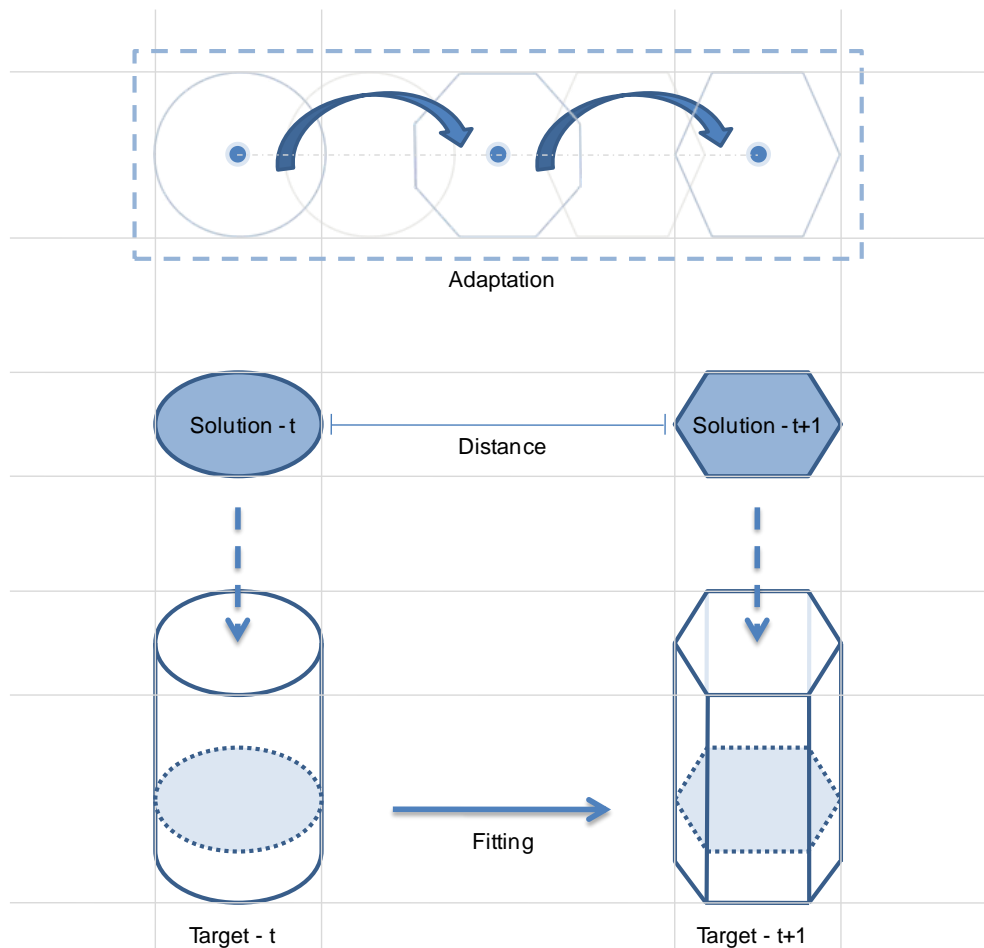
Change to make a value proposition sustainable

As the world is becoming *smarter* (there is often talk of a smarter planet, Spohrer, 2010), systems must be people-centric, information-driven, and e-oriented to adapt and mutually satisfy any participant involved within a system, while the community should encourage and cultivate people to collaborate and innovate (Qiu et al., 2007).

As graphically represented below (see Figure 2), the effective personal perception by final targets depends on the offer's capacity to adapt its own solution to the

emerging changes, with the result being to make the value proposition sustainable (Schein, 1990), intending the value as the result of a personal perception of quality proposed and exchanged, while maintaining the appeal over time.

Fig. 2: Change as a driver for adaptation and sustainability



Source: Author's elaboration

Studies on tectology, which deals with processes and changes with respect to sustainability, explain that the dynamic element of preservation is the ability of complex organizations to increase their business by drawing on the resources within the environment in which they live as the only way to survive. Reacting to the external changes can complicate the internal relations of a system, thus requiring a change in the system's structure to achieve a dynamic equilibrium (Bogdanov, 1988). Accordingly, we speak of the need for *resilience*, or the ability of a firm to cope with shocks, to maintain a state of equilibrium over time, and this ability is a characteristic of those organizations that are able to manage the processes of evolution and change (Vicari, 1991). With respect to the attitude to respond to specific needs of the market or to create new ones, the skill to understand the needs is an intermediate solution that is most likely effective in terms of sustainability. The choice of an offered value proposition by end-users occurs through a mechanism of purchase or use (value in use, Vargo & Lusch 2008, 2010, 2011) as it triggers a process of value

co-creation (Prahalad & Ramaswamy, 2004; Ballantyne & Varey, 2006; Grönroos, 2008) and implies the participation of multiple parties, thus making the value of a particular offer “effective”(up to that point, it was only “potential”).

Although it is difficult to arrive at an unambiguous definition of the concept of value, the one proposed herein is based on some known theoretical approaches and applicative models that have incorporated the most recent instances and advances related to this category, as shown in Table 2.

Table 2: Deepening value concept

Topic	Focus	Main authors
Theoretical references	<i>“shared value”</i>	Porter & Kramer, 2011
	<i>“value co-creation”</i>	Prahalad & Ramaswamy, 2004;
		Ballantyne & Varey, 2006; Grönroos, 2008
	<i>“subjective approach to defining value creation”</i>	Barile & Gatti, 2007
	<i>“value in use”</i>	Vargo & Lusch, 2008, 2010, 2011
<i>“contextualization and value in context”</i>	Chandler & Vargo, 2011	
Models reflecting theoretical references	<i>“Value chain and value system”</i>	Porter, 1985
	value constellation	Normann & Ramirez, 1993
	Mc Kinsey pentagon framework	Grant, 2005

Source: Author's elaboration

The need to expand the traditional boundaries of the enterprise, to include, within the processes of value creation, all the different actors involved, leads to the use of an approach to value that has to be shared (Porter & Kramer, 2011), subjectively defined (Barile & Gatti, 2007) and context-specific (Chandler & Vargo, 2011). These theoretical stimuli can be also found in some known practical models (Porter, 1985; Normann & Ramirez, 1993; Grant, 2005) that reflect this need of inclusion and the positive effects in terms of value that can derive from it. Starting from these considerations, we propose a notion of value that, in order to be sustainable, has to consider all the actors the enterprise comes in contact with, actors that are involved in its value creation processes in a long-term perspective. This approach seems to acquire more relevance when referred to B2B relationships, because they imply virtuous dynamics and interactions that have to be inclusive, in order to share the value propositions that come from each actor of the chain to achieve a final value proposition that can be perceived as more valuable.

Being competitive, which implies being preferable compared to similar solutions, also means improving more than others, often by updating or changing one's value

proposition. The result of this consideration, with respect to B2B relations, is that the competitive behavior is closely correlated with the ability to identify the appropriate relations, the right channels of communication, and the proper organization of information flows sufficient to harmonize the internal business development with the evolution of the surrounding sides (Lovelock & Wirtz, 2007).

Only through a careful consideration of the factors set it is indeed possible for the actors involved in a B2B relationship to create the conditions in order to develop long-term relationships, thus making it possible to maximize the value co-production and the recovery of the costs (not only financial costs) incurred by the understanding and the adapting to the demands of the context (Blois, 2003).

Synthetically, the actors involved in a B2B relationship must understand the expectations of the potential partners, in order that the relationship is not limited to individual exchanges (Naumann, Williams & Khan, 2009) but it is a prerequisite for the emergence of a system based on the relational model (Barile & Saviano, 2012). To facilitate this development, each business Actor must operate synergistically to provide stability and balance to all entities involved (internal or external) and especially to the system as a whole. *The survival, in a B2B relationship, implies the persistence of identity and then the sustainability of the offer, an aspect that does not exclude change.*

Because the decision-making processes should adhere to logical thinking to reduce complexity and confusion, we encourage new architectures for information sharing and new infrastructures to strengthen organizations, calculations and system performances (Demirkan & Gaul, 2006). In turn, this allows for better management of complex situations (Barile & Polese, 2011). According to the adopted systems perspective, sustainable change is critical for fostering closeness between parties in a B2B relationship and for enabling the emergence of an eco-system in which the combination of the supplied parts allows an easier resolution to the ventures or problems imposed by complexity. Indeed, the opportunity to explore the processes involved in a long-term interaction of a B2B relationship, as well as the structure of a dynamic system and the expectations of the users, and to identify the 'complexity of the eco-system' (Basole & Rouse, 2008) within which everything is collected, identified and active, depends on the number of actors well as on the conditional probability that these actors are involved in the service provision (Barile & Polese, 2010).

According to the vSA, in this regard, the system is made viable (and then able to survive in the long run) by the behavior that is assumed, including the perspective of value creation, to be more strategic, more responsive, more adaptive, and more intelligent. The characterization and optimization of the relations, the re-designing of organizational configurations, and the management of complexity, are therefore all elements that identify a successful system, that is, a system that can form stable relationships within extended networks (Polese, 2004, 2007). To continue in the long-term, as shown in the highlighted logic, these interconnections must be based on shared broad principles of sustainability (Polese 2009b; Polese & Minguzzi 2009).

Sustainability and the vSA

The adoption of a systemic approach to the analysis of business phenomena in general and of B2B relationships in particular, together with the introduction of the principles of sustainability, requires a change of perspective that leads to an integrated analysis of the various instances presented herein. These reflections seem to better qualify vSA as one of the conceptual framework for the phenomena analyzed herein, as it overcomes some limits of the viable system model VSM (Beer, 1975), the theory it takes origin from, as it analyzes both the structural and the systemic aspects of phenomena contemporarily. The theoretical basis that are considered useful to a better definition of what proposed herein originate from vSA considerations of the complexity of systems and the management of the systems, of the need for the simultaneous observation of phenomena both from structural and a systemic perspective, and of the consequences of interpreting these dimensions in terms of the organization's behavior. Therefore, according to the vSA, each system can be observed through a static analysis of its structure and, if activated in a dynamic way, can evolve as a consequence of improvements in knowledge (technicalities), operational experiences (practicalities), skills (abilities) and iterations (even unknowingly). Accordingly, changes to both the structure and the system itself can be induced. For this reason, it is important to understand what leverages can be considered to facilitate the development and implementation of a synergy that will ensure the viability and the survival of the system.

Under vSA the interpretive perspectives change. The main aspects we can use for the investigation of organizations' behavior may be defined according to three different points of view; then we focus on a "structural" (i), "behavioral" (ii) and "systems" (iii) perspective. The first one (i) deepens the relevance of roles, rules and constraints of sub-elements operating and interacting within the same system, taking into account the possible contingences deriving from the outside; the second (ii) focuses on the interpretation of relationships between systems' parts affecting their actions reciprocally, especially in terms of personal categorical values, routines and interpretation schemes; the third (iii) is about the influences coming from the connections of different levels characterizing the eco-system as a whole, in particular referring to the consonance/resonance between themselves and highlighting their real chances to survive (making their actions sustainable) in the long run.

To further clarify the assumptions and conclusions drawn thus far, we follow the major reflections of the vSA scholars (Golinelli, 2010; Barile, 2008, 2009) and summarize the methodological approach as follows:

Table 3: Different perspective in vSA

From a structural Perspective	From a behavioral perspective	From a systems perspective
The structure of an organization originates from a given set of shared rules and relational connections.	Visible skills are a result of the inherent capabilities.	A viable system lives and its goal is to survive in an environment populated by other viable systems.
The system 'realizes' the structure and the relationship qualifies both of them.	From the same relation originate more interactions, respecting the same distinction between function and role in the moment in which the second can express the first.	Each context is subjectively defined and extracted by a general environment by each viable system's decision-making body, and in it the system is immersed adaptively.
The structure aims to survive in function of various systems associated with it, even if not at the same time for each of them.	Education is the form, the routine determines that the act is substance.	Each viable system distinguishes and identifies the various supra-systems relevant in its context, because of its specific end goal.
The contexts are subjective as a function of specific objectives and changing.	The rule is the application of a law, and determines how often the rule itself can also change, if considered to be positive.	A viable system has the ability to regulate and manage independently the dynamics of its adjustment.
Contingency is influence, planning is critical, their composition is relevant.	The categorical values form the basis for a personal interpretation of the events.	The convergence of the systems and its entities of reference towards a same point starting from different starting positions is defined consonance (synthesis of compatibility, tune, affinity, etc.) and the variation of the gradient of this displacement vector (with a defined direction and verse) represents its measurement.
The supra-systems are capable to influence the decisions of a system, in particular in direct effects on its own sub-systems.	The interpretation schemes shape the information and categories establish their priorities.	The acceleration (wanted) of this relation between (among) two (o more) elements is resonance (defined as the modification of consonance trough times).
	The choices represent the realization of the decisions as a result of the action of the interpretation scheme.	The viability is commensurate with the realization of the dispositions to change.

Source: Author's elaboration

Referring to the cited literature for an in-depth analysis, we concentrate on the notions relevant in Table 3. The first concept to be explored is information variety, as the vSA proposes a substantial equivalence (isomorphism) between information variety and a viable system. Information variety constitutes the specific endowment of a viable system and consists of three elements: categorical values, interpretation schemes and information units.

The information units are the outer layer of the information variety and express the «structural composition of knowledge» (Barile, 2009:70). As such, they represent anything that is perceived by the viable system from its specific context of reference (i.e., the data outside the system that, via computing processes, become information). Interpretation schemes are the forms of knowledge (Barile, 2009:74), in that they represent the way in which information units are filtered and transformed into information. The categorical values represent a system's strong beliefs and set of values that guide it in its decision-making processes. As such, they must be considered as they constitute «the resistance that the possessed knowledge opposes to change» (Barile, 2009:78), and they represent the subjective filter regarding the acceptance of events or facts.

The concept of information variety, understood as a compendium that consists of categorical values, interpretation schemes and information units, allows the reference of two other fundamental concepts, consonance and resonance, for the understanding of the dynamics of decision-making and the behavioral processes of the systems. As presented in the third column of Table 3, a system is viable when pursuing the aim of systemic survival. This ultimate purpose is comprised of several objectives that reference particular activities that are linked to partial results. To achieve its purpose of survival, each system extracts from the general environment its specific context. Within this context, it identifies the relevant entities (supra-systems) with which the system establishes relationships of consonance and, in the future, the development of resonance, thus obtaining the identification of decisions shared and accepted within the reference context. The centrality of these concepts, with particular reference to the contextualization process and the consequent definition of shared objectives, is fundamental in the definition of the entities as they relate to the pursuit of the systemic purposes. Therefore, information variety acts in the subjective extraction of the context of reference and in establishing relationships (subsequent interactions in the dynamics of the system) between the involved actors. All of this affects the analysis of complex phenomena and the design of (complex) service systems that operate in complex environments, and furthermore, it is all declinable in different fields of application (Barile et al., 2013b), and considerably so in a complex service ecosystem.

The importance of the contribution of the vSA concepts to the definition of sustainable B2B relationships leads us to better define sustainability. According to the shared definition, sustainability addresses the simultaneous consideration of the economic, social and environmental dimensions. This tripartite approach is often referred to as the 'triple bottom line' (Elkington, 1997); that is, the consideration of the existing tight relationship among profit (economic dimension), planet (environment protection) and people (social equity) and the need to include these issues in business behaviors and decision-making processes. The theoretical and practical debate on whether businesses have (Bowen, 1953; Bell, 1978; Carroll, 1979, 1991) or do not have (Friedman, 1962; Ladd, 1970) responsibilities that go beyond the economic dimension is ongoing in the literature. We make reference to the systemic perspective that wants to 'open the borders' to include examples that can qualify ecosystems. This approach (Meadows et al., 1972) is particularly coherent with the vSA, as it proposes

an integration and interrelation of different perspectives that, only when simultaneously considered, can define a sustainable set of relationships and activate sustainable interactions, thus enhancing the viability of the system and acting on the success of its survival.

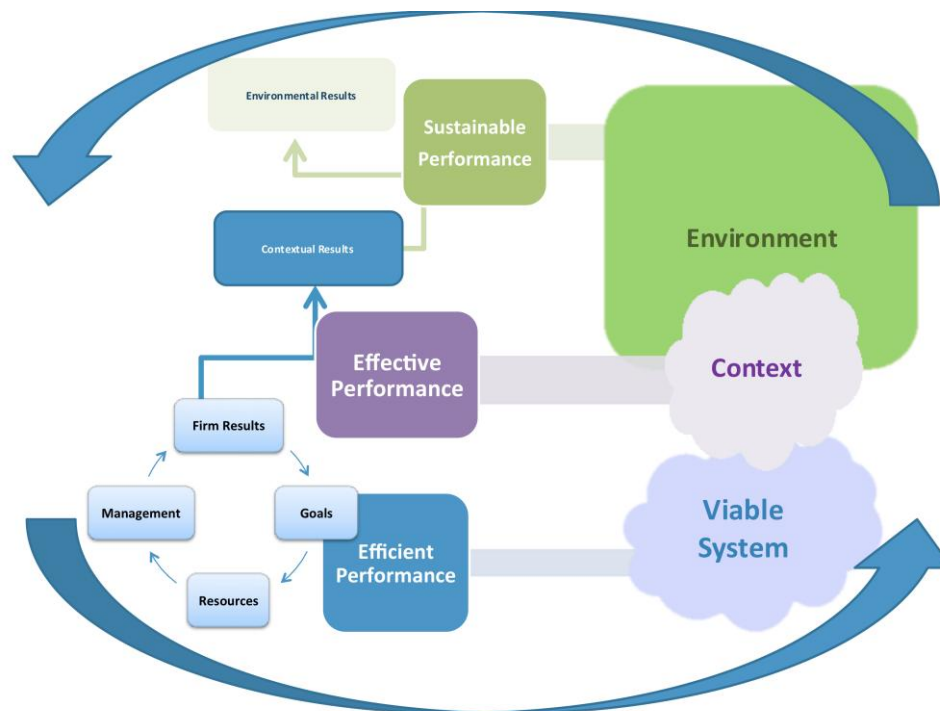
The goal of sustainability for the viable firm is certainly an articulated challenge for the governing body, that is, the decision-maker. Combining the purpose of survival with a philosophy of governance for sustainability requires that certain fundamental concepts, as well as the interactions and dynamics of the system, be defined and clarified. In order to evaluate the actions of the firm, in accordance with the contemporary observation of both structural and systemic dimensions of phenomena, it is possible to add to the traditional dimensions of valuation (efficiency and effectiveness) the dimension of sustainability and to define the relationship that exists among these three concepts (Saviano et al., 2010):

- *Efficiency* is defined as the ability of the system to reach a goal by optimizing the used resources; therefore, it favors a short-term perspective that is specifically oriented to a specific process.
- *Effectiveness* concerns the actual capacity of the viable system to achieve the objectives; unlike efficiency, it is based on a more extended perspective that includes the entire context of the reference and refers to the strategies implemented.
- *Sustainability* is the dimension that concerns the environment in general, and as such, it is related to the purposes underlying the government decisions and is a measure of the overall comprehensive activity.

Although herein we propose an extension of the traditional measures of valuation of corporate actions to the consideration of sustainability, it is clear that the three dimensions have different nature and importance. In fact, effectiveness implies efficiency and sustainability implies effectiveness and, consequently, efficiency. The basis on which this tripartite division rests is, in fact, the economic dimension; without compliance with the minimum conditions of efficiency in the short term, in fact, there may not be effectiveness in achieving the objectives or sustainability of the value propositions in the long term.

In Figure 3, the traditional tripartite division of sustainability dimensions, as represented in Figure 1, is reconsidered in light of the considerations presented and discussed herein.

For the sake of simplicity, we reference the dynamics of the emergence of viable systems. Efficiency relates to the lowest level of connectability in that it recalls, in essence, the simple structural coupling according to which a set of elements is configured as undefined.

Fig. 3: The Viable Systems Cycle

Source: Author's elaboration from Barile, 2012.

The efficacy, however, is at the level of consonance. Therefore, it correlates to the relatedness, which is understood as the potentiality that the elements identified in the previous phase can actually be connected among themselves in relation to a specific purpose or a specific context.

The last level is that of sustainability. Sustainability is realized at the systemic level, that is, when the relations identified before are activated in the systemic dynamics and thus become interactions that qualify the resonance.

Figure 3 depicts the above explanation by integrating the emersion of the viable system with the three elements – efficiency, effectiveness, and sustainability. This representation shows that the considered dimensions cannot be regarded as alternatives or as antithetical constructs but must rather be viewed as necessary elements to the simultaneous existence of each other. What is relevant for the determination of each of dimension is the subjective perspective that is adopted. For sustainability, which is a broader and more inclusive dimension than the others, to be adopted, it is necessary that the point of observation does not discount any of the single actors because the system is intended as a whole and must be perceived as such to examine business phenomena and its dynamics in their totality.

The cycle presented in Figure 3 highlights how a company extracts a frame of reference on the basis of specific relations of consonance from the general

environment, and the company defines its competitive portion within which it identifies the various entities and their specific demands.

The conditions that determine the qualification of a viable firm and its performance measures are expressed in terms of efficiency and are concerned with the actual processes. The evaluation at the context level assesses the effectiveness of the firm and identifies different measurement models that include efficiency to ensure that management reflects the basic economic requirements. The last level identified addresses environmental and social findings. Accordingly, this level includes those issues that, while not directly part of the specific context, affect the ability of the firm to remain viable because they are directly related to the development of the resonance.

Even in this case, what is important is the perspective of the observation, which, in the case of companies, is the perspective of the governing body. «The look of the governing body, in fact, that moves by observing the environment and then progressively tightens the focus on the context up to the structure of the governed system and related components, must constantly consider the environment to monitor emerging issues for the purposes of maintaining over time the conditions of viability that reverberate on the company as well as on all the actors in its context. In this perspective, sustainability becomes the general paradigm of reference in a vision, directly linked to the vSA principles, that lead to it being perceived as an important dimension of the conditions of viability of the system» (Barile et al., 2013a:40).

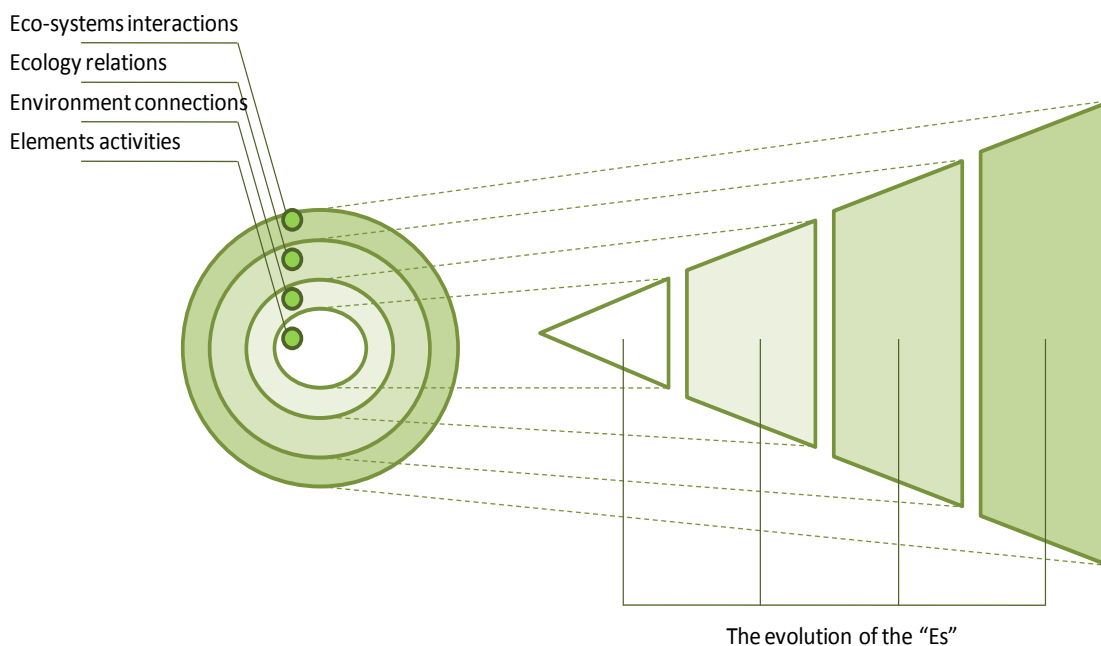
From EGO to ECO

«Nothing happens in isolation» (Barabasi, 2002), in accordance with the accredited concept of “*embeddedness*” (Granovetter, 1985). Therefore, as every economic actor cannot be considered outside of its context, one must recall that «life consists of a network of relationships in which we interact» (Capra, 1997:14) and that «life is a network of relations, and so is business» (Gummesson, 2005:326). You change because you are part of a larger and interrelated system, a sort of **ecosystem**, in which you live and operate, which suggests that you react to your actions and expect decisions to modify previous decisions to create a different future in accordance with the logic of **co-evolution**.

Figure 4 refers to the evolutionary path that we want to trace using the methodological paradigm of the vSA and the concepts developed in the previous paragraph. Because this approach emphasizes the strong role of the observer in the analysis and definition of phenomena, the reported elements must be understood to be simultaneously present in a phenomenon, which can be observed from different perspectives. Accordingly, the attention is focused on the structure-system dichotomy (Barile & Saviano, 2011a), which is intended as a general interpretation scheme. The vSA emphasizes the whole rather than the individual elements because an analysis of single elements, though still considered, is perceived as a reconstruction of the whole that takes into account the principle of interaction, which serves as the foundation for the internal and external relations of the system. Starting with Figure 1, we read this

representation in its dual dimension, that is, structurally or statically, and systemically or dynamically. This change of venue is rich in implications as it extends beyond the notion of connection and introduces the relations and interactions among actors. With respect to interactions, we define an interactive dynamism that goes beyond the physical exchange. The focus at the systemic level can thus explain the dynamics of the interactions, thereby overcoming a typically analytical-reductionist logic in favor of a holistic view when analyzing business phenomena.

Fig. 4: The evolution of the 'Es'



Source: Author's elaboration

As previously reported, the consolidated approach to sustainability includes a number of considerations that arise from adopting a systemic paradigm.

If you represent reality as a set of contexts, each of which is anthropomorphically defined and, therefore, is always evolving, the definition and representation of sustainability are not intended as a consequence of a cause-effect mechanism. The interaction of the three elements identified must achieve a sustainable intersection that is configured as certain and, therefore, is theoretically obtainable by anyone. However, the interpretation herein proposed goes beyond the consideration of the sum of the dimensions identified and focuses on the virtuous dynamic interaction that is derived from the dimensions. This step involves the abandonment of a vision oriented on the individual parts in favor of one that takes into account the combination of the parties themselves and how these parties arise in connection with the subjective element that observes and composes them. In fact, the information variety that determines and inspires the guidelines for responsible and sustainable government processes is extremely important. Therefore, the adoption of these guidelines within the dynamics of the business at the level of the individual assumes that there is a strong similarity, or

consonance, among the actors. Accordingly, it is evident that the systemic vocation of sustainability is a key indicator of the interactions that develop between the enterprise intended as a viable system and the other viable systems that populate the specific context of the enterprise (Barile et al., 2013b).

As displayed in Figure 4, the evolution of the “Es” can be better explained by referencing the previously mentioned process of contextualization as it determines the extraction of a portion of the general environment that is “anthropomorphically determined” by the decision-maker. However, because sustainability is a dimension derived from the simultaneous presence of the other dimensions, it is necessary that the others interact while still having the survival of the firm as a viable system as an ultimate goal. The necessity of considering the observational perspective clearly emerges from the representation of Figure 4 in which there is the simultaneous presence of both structural and systemic dimensions, both of which must be analyzed contemporarily rather than antithetically. The focus on interactions at the systemic level is a useful concept for explaining the dynamics of evolution and adaptive change over time. Accordingly, such a concept allows for the analysis of the dynamics of the enterprise and considers the conditions of survival from a perspective that takes into account guidelines that promote sustainable interactions that guarantee the survival of the system. The ability to change its behavior as a function of the external changes enables an organization to adapt more effectively, thus fueling the chances of survival in the long run and helping to make its value proposition more sustainable. The analysis, as it relates to the dynamics of B2B relationships (Xiao et al., 2013; Jaaskelainen, Kortelainen & Hinkkanen, 2013; Johnson, 2013), allows the relationships to be ‘re-read’ with new theoretical and practical stimuli, as presented in the following paragraph.

‘Re-reading’ Sustainability of B2B relationships through vSA

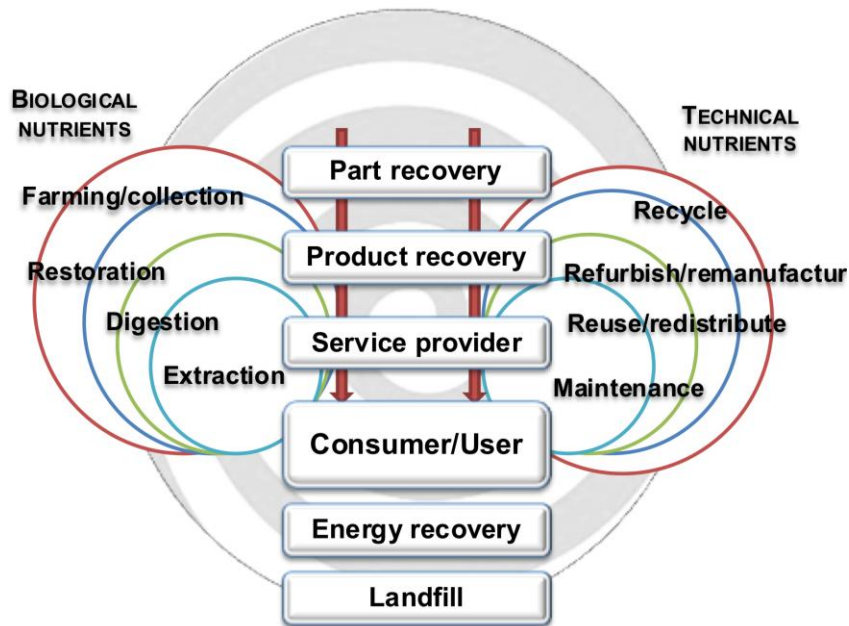
According to the vSA, in general, the action (intended as the material execution of a deliberate choice) strictly depends on the effective understanding of a given phenomenon, and especially depends on the ability to apply a cognitive method established for the interpretation of events through the internal/external dichotomy (Barile & Saviano, 2011). Thus, the ability to analyze facts, attitudes, relationships (even if B2B ones or other kind) and people is linked to the ability to imagine the eco-system that surrounds us as something that is inevitably integrated as a fundamental part of each actor’s life.

Only through this perspective is it possible to understand why even small nuances, usually seemingly minor or insignificant, can produce a paradigm shift in the environmental conditions that may invalidate any source of business strategy, especially those strategies that are initially considered successful under different environmental conditions (Boulding, 1956; Ackoff, 1976; Bowler, 1981; Banathy, 1996). To properly coordinate the coveted equilibrium at a systemic level, the strategic decision makers of any organization must understand how to share opportunities and resources among all the parts of the eco-system to ensure the satisfaction of each of

them in terms of value. *The value is in together*. According to this logic, it is no longer essential to qualify the operators (Actors) involved, and the distinction between provider, operator or customer becomes almost irrelevant because the focus is on the business relationships, on the collaboration, and on the achievement of mutual satisfaction. It is needed to understand, concisely, that the relationships (of any kind) manifest their full potential value only if properly “grown” over time and, in this perspective, sustainability is the “instrument” that makes it possible to profitably keep the relationship in time (Hakansson & Snehota, 1995, 2002).

In light of the vSA principles, it is possible to analyze viability traits, deepening the concepts of homeostasis, openness, self-regulation, autopoiesis and equifinality as well as their effects on business behavior insofar as they stimulate resource availability, system connections, consonance and resonance, and viability. Based on the vSA, looking at the changes in firm performance when environmental contingencies occur, we can see that firms are able to survive in a particular context only if they improve their capacity to evolve and to make operations that are adherent to the external changes. To put it in greater detail, the vSA contributes to a new way of directing and managing inter-firm relationships, strengthening the possibilities and the qualities of systems' evolutions by focusing upon smart, adaptive and proactive behavior. Thus, to improve firm competitiveness and system relationships, we must look for dynamic models based on multi-criteria decisions supporting systems, that are capable of reaching satisfactory outcomes for decision makers as they search for continuous feedback on production processes to align their traits with consumers' needs, considering the influence of the critical resource owners (supra-systems) and the relevance of sense-making (Weick, 1995) as crucial for context comprehension and for consequent system actions that create satisfactory processes with the stakeholders that own critical resources (Barile, 2009). From this perspective, it is interesting how overcoming the B2B, B2C or C2C logic leads us to more carefully analyze the characteristics and advantages of the connections, as suggested in some recent advances of service research with respect to A2A relations (Wieland et al., 2012; Polese et al., 2012; Carrubbo et al., 2012). This overrun is exceeded if we review, through the lens of sustainable development, all of the economic relations that guide the economic system towards a model of functional service that reflect circular economic logic (see Figure 5) in which the use of resources is based on the principles of effectiveness and efficiency (Huxley, 1953).

Fig. 5: Towards the circular economy



Source: Author's elaboration from McKinsey (2012), "Towards the circular economy", [available at www.thecirculareconomy.org]

This model stands in contrast to the traditional model, defined as *linear*, in which resources are used in a unidirectional succession of extraction - production - consumption in which there is a huge loss of value as well as negative effects on the entire material chain. On the contrary, an industrial circular model is proposed to replace the concept of 'planned obsolescence' (end-of-life) and prevent it from intervening in the supply chain, thus ensuring that the processes of design, production, disposal and recovery are in a position to protect the interests of all constituent parts of the eco-system.

The concept of circularity is particularly significant from our perspective because it is based on virtuous interactive processes that involve the entire company and, in a broader view, the supply chain as a whole. Thereby, it implies that the performance resulting from the eco-system can better meet the economic and sustainable expectations of those who are currently involved as well as those who will be involved in the future.

Managerial and Practical Implications

The logic of change and the concept of sustainability affect hardly actions and plans of managers and practitioners for a lot of organizations in every field. The possibility to make sustainable their value propositions led organizations (and their government) to re-think and improve their own operations in a feasible way; today the systems thinking helps us to interpret and manage nowadays business processes, fostering strategies and policies with the aim to increase the performance evaluation and the

quality perception. The focus of the “ECO” point of view is useful to valorize the relationship with supplier, customer and any other stakeholder (or Actor) surrounding, in the attempt to obtain some advantages from the resource and information sharing and catching the same final goal in terms of survival, with the consequence to highlight the relevance of co-creation processes and to promote the win-win logic.

Having said that, there are a number of implications for the B2B relationships as well, because of the common interest of several Actors to do something better together, regarding their multi-contributions to the same value proposition; that is applicable to the sectors of healthcare, tourism, transportation, energy grids, ICT, education and many others. Today everything could be related to the systems perspective and to the possibility to operate as a system, in a systems context; then the adaptation to the external changes and the ability to re-configure oneself to survive over time represent the main aspects in each sector we should study, and this implies the need to develop the fitting governance models, with many effects for the operations and behaviors of each organization involved.

Conclusions

Ultimately, you change, adapt and try to anticipate the changes of a specific context because it is based on a logic that cannot provide for the maintenance of an unaltered variety. This is not intended as stasis or as the preservation of the status quo over time. Even without clear signals that determine corrective or innovative actions, the intrinsic pro-activity that drives, even unknowingly, entrepreneurial action and that has always been based on the same principle of doing business, reflects the dynamic nature of the real modern behavior.

Over time, increasingly more organizations will be able to reconfigure themselves, and businesses will be increasingly more able to reformulate and re-organize their assets, enabling them to maintain a stable and sustainable equilibrium over time.

Future reflections on sustainability will then have to adopt a holistic approach that takes into account the instances of all parties whose interests, both tangible and intangible, are in some way influenced by or influence the activity of the specific enterprise. The concept of *context*, determined on the basis of the governing body's information variety and elected field of action, implies that the value created and spread by the enterprise is the result of the simultaneous fulfillment of economic, social and environmental objectives.

The relational perspective, combined with the concept of circularity, focuses on analysis at the process (i.e., systemic) level, and thus analyzes phenomena during the dynamics of development. In this sense, the focus is on achieving a mean vector as an expression of the level of satisfaction and the balancing of different instances whereby the expression of different dimensions must be traced to the average value so that the value created is sustainable.

In looking toward the future, the challenge to direct the activities of the governing body will involve balancing the needs of a varied and wide range of subjects, including future generations, with a constant eye on economic constraints. Reviewing issues already presented in the literature, according to which «*Profits, no matter how large, can never reach a level sufficiently high to satisfy the economic agent*» (Bell, 1978), the transition from an egonomy to an economy will have to consider the social and environmental responsibilities of individuals because such a transition will significantly affect their existence. Furthermore, businesses, which represent the most complete form of organization for those individuals who exercise their social role, will also bear a strong responsibility to protect these environments.

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