

# DECISION MAKING AND PURPOSE OF THE ACTOR IN SERVICE SYSTEMS

*Bruni, R.<sup>1</sup> – Carrubbo, L.<sup>2</sup>*

## **Abstract**

**Purpose:** - The purpose of the work is to contribute to the deepening of the knowledge concerning the emerging role, positions and identity of the actor in the environment, presenting the role of decision making and actor's purpose. In order to go beyond the difficulties in separating the actors from the environment, the actantial model is used to explain the actor's contextualization.

**Design/Methodology/approach:** - the work is carried out by merging the VSA and the service science frameworks explaining the role of the decision making and the final purpose of the entities interacting in the environment. To contextualize the activities of the entities (actors) in the environment, semiotic frameworks and the actor-network theory are used, and the Greimas model is applied to the entity in the business context.

**Findings:** - the actor emerges from the contextualization of an entity that assumes a role, a position and an identity caused by decision-making activities and explicit purpose. The Greimas model could be an original framework that is useful to represent the dynamics of the entities in the environment, in particular to merge together the decision-making activity, the purpose of every entity and the relationships between entity and context.

**Research limitations/implications** - The conceptual approach developed in the paper should inevitably be further supported by empirical research. Nevertheless, the work could provide a first conceptual step for future research.

**Practical implications** – Managers could be helped to understand the necessity to define the general purpose of the actors (companies) in which they operate looking for the opportunity to focus the attention on the relevance of the decision-making activities at every level of the organization. In particular the Greimas' actantial model could be useful to 'draw' the context in which the organization operates and the characteristics of the system (company) dynamics.

**Originality:** the work contributes to underlining the role of the decision maker, purpose of viability and contextualization of the entity/actor/system in business, marketing and management studies. In particular, the work brings a new point of view about entities contextualization highlighting the opportunity to study the system dynamics using actantial models.

**Key words:** Entity, actant, decision making, purpose, contextualization.

**Paper type** – Conceptual paper

## **1. Introduction**

The current research perspectives in Service Science, in SD-Logic and in network-systems science are deepening the analysis of the relationships to understand the concepts of resources integration, service and value exchange, strengths or weaknesses of the relations, roles of nodes and systems dynamics.

In a recent work, Pohlmann & Kaartemo (2017) present the trends in service science research and different gaps are emerging within the research stream; between those, the necessity to study the actors and the relative trends of interpretation of the relationships considering the role of the non-human actors (actants), the consistence and the nature of the context and the service perspectives using a system dynamics analysis. Regarding the system thinking and service science, Barile et al. (2016) suggest that there are different research lacks to be studied in depth: the relevance of an application of system approach going beyond the simple reductionist or holistic approach in service relationships, the opportunity to study service integrating system theories (and ecosystems) with other

---

<sup>1</sup> Assistant Professor in Business Management, Department of Economics and Law, University of Cassino and Southern Lazio, [r.bruni@unicas.it](mailto:r.bruni@unicas.it);

<sup>2</sup> Ph.D in Business Management, Department of Business Sciences - Management & Innovation Systems, University of Salerno; [lcarrubbo@unisa.it](mailto:lcarrubbo@unisa.it);

disciplines and sustainability, to research in depth the value co-creation and the drivers of synergistic interactions in multi-actor contexts.

It seems to be relevant the necessity to better focus the nature and role of the entity/actor and the opportunity to find new models to explain the dynamics of the interactions between actors in systems and discuss about the actor's contextualization in the environment. For this reason, this work introduces considerations about the decision-making activity and the concept of final purpose of systems – *the survival* – to identify the fundamental features of every entity in the environment and, searching for the nature of the entities and their relation to the environment, the actantial models are presented: in particular the Greimas' actantial model is presented to give a sense to the relations concerning entity dynamic in the environment.

System thinking could support the service research (Gummesson et al. 2010) and the service systems theory should have a significant impact on business management. Choosing between reductionist or holistic, some authors (Barile et al. 2016) suggest the use of a systemic approach to analyse the dynamics of the systems and of the relationships among the actors. In a way that is comparable to the one in quantum mechanics (Capra, 2001), the reference elements representing the nature of things are randomness, granularity and relevance of interactions - *and their perception by the observers* – rather than the specific definition of 'what things are'. This is particularly true in modern economic dynamics (markets, national healthcare systems, and more) which present the complex adaptive system (CAS) behaviour (Maglio et al., 2009, Karwowski, 2012). In this context the system (CAS) goes toward the goals established by interactive agents; to understand the CAS it is necessary to study the interaction in a multipolar and multi-reticular integration of knowledge and skills from a variety of stakeholders, which are active with intensity and different modes (Gummesson, 2006). In this case the density of resources increases the relevance and, in the interactions between actors toward the emersion of the system of systems, the importance of decision-making capabilities of the government body and the sharing (with other actors) of the final purpose (survival) of every actor take relevance (Bruni et al, 2016; Carrubbo et al, 2017). Following this logic, the emerging forces in the interaction of actors are stimulated by the will of every entity to integrate resources and exchange value with the will to survive in the complexity of the environment going against difficulties and entropy. Every entity tries to survive by reacting to the stimuli of the environment.

Within service research this work contributes to integrating the studies in marketing and management interaction among the actors in the environment, trying to show the relevance of decision making and purpose of survival of every entity involved in the resource integration and value co-creation in the environment.

The actor is a resource integrator – that describes the nature of the actor -. Its nature emerges when it clarifies its purpose or when others entities recognize its nature; In specific company offerings, sometimes, the defined, stated and declared purpose (for example in product/service offering), and the one perceived by customers, do not match. Sometimes in the market certain value propositions are proposed to perform certain functions but in some cases they are recognized by the demand with a different value perception.

Relationships are oriented - *by intentionality and, therefore, by a decision maker* - and motivated - *by a purpose that can be generated by the decision maker or recognized by the demand* -.

The actor is an entity that 'acts' by integrating resources (Vargo, Lusch, 2014) and this action in the context could be decomposed using actantial models to understand what kind of entities are involved in the system of action, in order to study the opposite forces characterized by human and non-human actants.

For this reasons two research questions (RQ) are presented:

- RQ1: what is the role of decision making and viability purpose of every entity in defining role position and identity of the actor in the environment?
- RQ2: how does the Greimas' actantial model contribute to explaining the entity/actor/system dynamics in the environment giving a sense to the relation?

The existence of an actor is given by: decision making, purpose and contextualization; concerning the decision making role and the purpose, vSa and service science are used and, with regard to contextualization, the actantial models are presented.

The article is organized as follows. First, the literature at the base of the work and the methodology are discussed. Second, the paper continues with the outlining of the path that service science is following, defining the actor and the role of decision making and final purpose from the VSA perspective. Third, the actor-network theory and the Greimas' actantial model are presented to contextualize the action of an entity in the environment, integrating service science, VSA and Greimas' model. The article ends with the report of conclusions and implications.

## 2. Literature

Defining the actors, scholars of S-D Logic (Lusch, Vargo, 2014) assert that it is not really relevant to describe the specific characteristics of the actor as an entity; in any case an actor could be considered as a general construct near the concept of an entity characterized by social interaction, and for this reason considered as 'social actor'. Because of this, the actor could be human or a system of humans – an organization – and for this reason they are involved in a logic of exchange system (Storbacka et al, 2016). In any case actors are resource integrators (Axiom 3) and they cannot deliver value but can participate in the creation and offering of value proposition (FP7) because value is co-created by multiple actors, always including the beneficiary (Axiom 2) (Vargo, Lusch, 2016).

VSA studies (Barile, 2009) introduce the concept of purpose of 'survival' in relation to the interactive actors. The purpose of survival of systems gives a goal to every actor and, regardless of business, marketing and management approaches, this is relevant because it helps the contextualization of the actor/system reducing the perception of complexity of the environment. This concept seems to be important in the context of service science because it underlines the root of the existence of every entity in the environment. Independently, by its own nature, every system (organization, human, company) expresses the need to occupy a place in the environment for a period and it is in search for resource integration and value exchange because it is trying to reduce entropy and complexity with the aim to survive over time. In any case the world is entangled (Barad, 2003), and for this reason actors with a brain are not the only ones able to influence the path toward the survival of every system. Different entities may have a role.

Service science strongly supports the necessity to consider the interaction between humans and technology with the necessity to support the correlation between humans and non-humans (Kieliszewski, Maglio, Cefkin, 2012). The system could be influenced by humans, objects, artificial intelligence.

Society undergoes simultaneous actions of multiple agents/entities which not necessarily are tangible and have decision-making capabilities. For this reason it might be useful to analyze all the entities (materials and non-materials) that act directly and indirectly by defining a context and characterizing the resource integration. That is integrated with the research stream of *social studies of science and technology* or *science and technology studies (STS)*. The STSs are socio-anthropological researches which try to focus the research on the intrinsically social content of science and technology (Latour, 1987). These studies encourage the observation of the processes of scientific and technological production, also with the help of ethnographic methods. The STS is a research stream that starts with the study of Bloor (1976) about the Strong Programme in Sociology of Knowledge, explaining the origins and the development of scientific knowledge through social and cultural factors; for this reason Bloor proposes studying the scientific theories, both 'true' and 'false'. The principle of symmetry by Bloor affirms that 'successes and failures should be studied and explained with the same methodology'. Latour argues that the modern world is so pervasively fabricated, that tools and technologies are so ubiquitous, that we cannot meaningfully separate the human from the non-human. This is the synthesis of Latour's principle of symmetry in which all actants (actors, actions and enacting human and non-human) have histories and through their actions they gain an identity. All actants are continuously evolving and integrating themselves into other networks of actants.

The actor-network theory is a theoretical model developed by the sociologists Bruno Latour (1987; 2005) and Michel Callon (1999) and by the anthropologist John Law (2009); Actor-network is a compound term implying that an actor is always the result of a network of relations constituting it. This research stream brings up the description of scientific events and technological objects. It is a constructivist approach to explain the reality. Every idea or object is the result of a system of relationships in which is possible to show the interaction between social entities – *both human and non-human* - called actants (Latour, 1992a; 1992b).

### **3. Methodology**

This contribution integrates the research on the nature of the actor as a unitary element in service science. This conceptual contribution is carried out by merging the contribution about decision making and system purpose of survival coming from VSA framework and the service science frameworks, to explain the role of the decision making and the final purpose of the entities interacting in the environment. S-D Logic is used to present the actor in the context and service science is used to underline the role of non-human entities.

The Actor-Network Theory is used to support the opportunity to show the relevance of different actants that act contemporaneously, stimulating the emergence of the actor in the context. Semiotic frameworks and the Greimas model are used to contextualize the entity in the environment.

### **4. The path to define the actor: perspectives from service science**

An actor could be a company, a machine, a customer and, in general a value co-creator. It assumes different shapes and substances depending on its nature or on the characteristics recognized by the other subjects in the context. In any case, quality and intensity of the relations, analysis of the contexts, opportunities in value co-creation and meaning of service provision, resources integration and service exchange, come from the actor and its particular nature. The nature of the actor could be characterized by its own capability to have a decision-making capability and the purpose to exchange resources and co-create value in the context.

Actors are resource integrators (Axiom 3) and they cannot deliver value but can participate in the creation and offering of value proposition (FP7) because value is co-created by multiple actors, always including the beneficiary (Axiom 2) (Vargo, Lusch, 2016). It is necessary to set a perspective in order to understand the dynamic and study 'how things work'; to deepen the knowledge of the environment and dimensions of things, especially in economics, in business and in marketing it is always necessary to understand the analysis perspective. Considering that the most relevant frameworks actually used to understand the marketing and management dynamics are supporting that it is relevant:

- To consider that the integration between technology and humans is increasing. The nature of the human actor is sometimes changed and influenced by technology and applications (Kieliszewski, Maglio, Cefkin, 2012)
- To consider that value is co-created by multiple actors, always including the beneficiary - *Axiom 2; FP6* – (Vargo, Lusch, 2004) and value is always uniquely and phenomenologically determined by the beneficiary - *Axiom4; FP10* – (Vargo, Lusch, 2016)

### **5. The role of decision making and purpose in systems: the VSA contribution**

VSA proposes interpretation schemes based on system thinking, useful to better understand complex phenomena (Barile et al, 2012a; 2012b; 2012c; 2014 Ng et al, 2012). The general interpretation schemes are useful to develop particular and contextualized schemes to define and, eventually, solve problematic situations and uncertain conditions (Barile, 2008).

VSA paradigm is useful to understand the emerging value co-creation among actors because it is based on the analysis of relationships among elements in dynamic environments (Badinelli et al, 2012; Tommasetti et al, 2015; Loia et al, 2016) and the fundamental concepts contribute to explaining and analyzing the dynamics of relationships among elements.

VSA brings an alternative framework in traditional management theories through the concept of subjective perception of the environment by the government body (decision maker) and introducing the consonance (structural property of relations) and resonance concepts (active and mutual involvement of entities with a common purpose) (Polese et al, 2016), as relevant frameworks that support the systems interaction and the path toward the system survival (final purpose of every system). System viability calls for problem-solving and interpretation modelling in organizations (intended as actors) to approach the variety and variability differently (Barile, Polese, 2010) through the decision maker: the government body.

Likewise know-how, expertise and experience are all practically used by top managements to reduce the difficulties and trials in managing the complexity at any level of interaction. As VSA suggests, information exchange have to be included in a personal cognitive process influenced by a specific scheme (made in categorical values, strong believes, feelings, sensitiveness and sense making) as a specific outfit of any decision-maker (VSA – FC10) engaged in managing effective constraints and accepted rules (Barile, Polese, 2010).

Although taking care of the needs of other entities could limit the independent decision-making and system flexibility, managers should think about the sustainable vision. To balance the needs, managers need to know strengths, weaknesses, threats and opportunities in the system (distinctive elements, know-how, skills, expertise, capacity, technology) and within the context.

Regarding the rating of supra-systems and sub-systems, as mentioned before, to qualify the relationships among actors working around, by selecting critical relationships, any business system has to define its own frame (Barile et al, 2012a). In this sense VSA helps decision-making in organizations; indeed today the decision-makers in business can choose relevant and critical systems to relate with, analysing internal and external balance, fostering the shift from parts to the whole and improving the cooperation logic for a mutual benefit (Cosimato, Troisi, 2015; Ciasullo et al, 2016; 2017). The ability to manage and organize relationships is a key factor for managers governing business plans, strategies and operations, generating decisions finalized at the internal and external equilibrium through survival impulses and insights that come from the context (Spohrer, et al, 2008; Mele et al, 2010; Pels, Polese; 2010; Demirkan et al, 2011).

In organizations, consonant relations among systems elements sound to be at the base of available resource management (Barile, 2008; Meadows, 2008) and have an important role in the analysis and representation of corporate governance. Resonant interactions reinforce the importance of using systems interpretation starting with the relationships in terms of resource integration and common purpose, which could determine an increase in knowledge which is a direct consequence of complexity understanding (De Santo et al, 2011). Under the logic of knowledge and resources integration, the contributions by different stakeholders are useful to stimulate the development of distinctive and dynamic capabilities. Managers have to forecast and react to external changes, moving toward new different and possible contexts to identify again, in the attempt to align internal structural potentialities with external systemic necessities (VSA – FC9) (Barile, Polese, 2010; Barile et al, 2013; Wieland et al, 2012). According to VSA through the establishment of trust-based relationships permitting a circular exchange of knowledge among all actors involved, stakeholders can participate in the life of a company, expressing their needs, and also providing their opinions about the service (Polese, Carrubbo, 2008; 2016) and offering possible solutions (VSA – FC8). In short, they could be intended as real 'experts' who collaborate on the design of the offer (Barile, Polese, 2010; Napoletano, Carrubbo, 2010).

From a conceptual perspective, VSA helps researchers and academics to understand the design, functioning and relationships in organizations.

From a practical point of view, VSA proposes some suggestions to guide decision makers in designing and implementing strategies to manage organizations, thinking "viable" and leading them towards a management founded on system thinking, allowing them to devise relational strategies and practical measures stimulating resources integration with other systems.

In other words, using the VSA lens, we can state that the ability to strategically interpret the context can lead organizations to elaborate strategies based on optimization of relationships and survival in the long run.

## 6. The actantial models

### 6.1. The actor-network theory

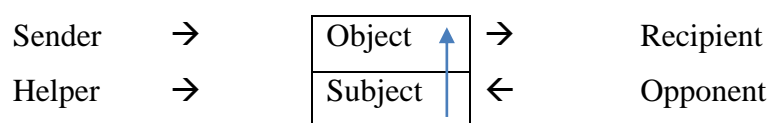
The actor-network theory is a theoretical model developed by the sociologists Bruno Latour (1987; 2005) and Michel Callon (1999) and by the antropologist John Law (2009); Actor-network is a compound term implying that an actor is always the result of a network of relationships that constitutes it. This research stream brings up the description of scientific events and technological objects. It is a constructivistic approach to explain the reality. Every idea or object is the result of a system of relationships in which is possible to show the interaction between social entities – *both human and non-human* - called actants (Latour, 1992a; 1992b). The ANT describes science, innovation, and discussion in the same perspective (Le Men 2008). The advantage of this perspective is that it allows you to describe the meeting points of science and society because it associates, in the same chain of translations, the topics that are usually separate in the analysis, yet linked by the same actors of the controversies: scientific, economic arguments, political and ethical.

### 6.2. The actants and the actantial models: focus on the Greimas model

The concept of ‘actant’ is used in structural linguistics and in semiotics. In structural linguistics the actant is the agent of the action indicated by the verb. In general the actant is the subject of the active proposition. According to narrative semiotics, the actant represents every unit that actively or passively participates in the process expressed by the verb: in this sense, ‘to rain’ has no actants. The verb ‘to give’ usually has three actants: someone (subject) who gives something (object) to someone (term complement).

In the structural analysis of the story, the actant is every one of the protagonists who, especially in myths and fairy tales, perform different functions, schematically reducible to six with the Greimas’ actantial model (Greimas, 1966). According to the semiologist Greimas, almost every text is organized in narrative form and the interpretive scheme applicable to all forms of narrative is the actantial model. The actantial model is a paradigmatic model based on the opposite relationships existing among the six fundamental elements or narrative roles which are: subject, object, sender, recipient, helper, opponent.

**Figure 1.** Greimas model scheme



*Source: authors' elaboration*

The above figure 1 represents a simple model with 2 axes; the horizontal axis (the communication axis) on which the actant-sender transmits an actant-object toward an actant-recipient. The second one is the vertical axis (the research axis) on which the actant-sender asks the subject to acquire an object supported by an helper and contrasted by an opponent. In the next paragraph a Greimas’ actantial model applied to the emerging system in context is presented.

## 7. Identifying actors using actantial models in service contexts

The concept of actant could be useful to contextualize the entity/actor and study how the entity and its actions are integrated into the system dynamics. Fundamentally, actants can have an active or

passive role and may also act unknowingly, but they contribute to generating effects. While the actors in some way express intentionality (intention of acting) and purpose (acting for a reason).

The governing body expresses intentionality and recognizes a direct and indirect purpose which is the survival of the system. This means that an actor needs to have a governing body recognizing their purpose of survival.

The role of actants in SD-Logic literature is little discussed with the exception of Kieliszewski, Maglio, and Cefkin (2012). In any case, by identifying the categories of actants and their connections it is possible to describe the 'meaning' and the role of the actors in the dynamics of the context. In general the need to use the actants in Service Science is represented by the need to explain the interpretation of technology in service provision.

The meaning of a relation and the representation of a context is probably difficult but, anyways, it is possible to use narrative tools to establish a relationship between the narrator and the 'public' or subjects that are interested in the topic. In that case the 'narration' could represent a valid way to give sense to human actions (Smorti, 1994). In general the narration is a communicative situation that relates the person that is narrating with their audience.

As per Czarniawska and Gagliardi (2003), the organizations substance in daily life is made up of disconnected fragments – *physical and verbal actions* – that do not make sense if chronologically reported; it is the narration that connects and organizes this fragmented material with the help of particular tools such as landscapes, figures and plot (or storyline); the authors agree that narrative approach is useful to explain the organization dynamics.

The researcher (and in general the observer) could use the narrative approach to 'give a sense' to the resource integration and value exchange, to the contextualization of the entities in the context and to the institutions. The narrative approach is useful to bring out the actors' will, needs, mission and vision. By narrating the entities in the context it is possible to highlight (and understand) culture, knowledge and capabilities of the single entity that is working on self-contextualization. The entity is trying to adapt itself (to find a self-contextualization) and the observer is working to fix a perspective in order to understand the relationships among the entities in the context.

By merging system thinking with the narration it is possible to give a sense to interaction dynamics. That way it is possible to affirm that the narrative model is useful to interpret relationships between entities in the context and, for this reason, it is possible to give a sense to the interaction and to the meaning of the value that is exchanged by the parties. The narration is compatible with the actantial models.

## **8. Discussion and theoretical implications**

### *8.1. Decision making and viability characterizing role, position and identity of the entity/actor/system*

According to VSA, every socioeconomic entity (actor) can be seen as a system that emerges from a structure through the definition of a perspective (the purpose of viability); FC1 affirms that these systems interact with other entities (actors) looking for a viable behaviour; every system dynamic looks for viability conditions and so the relevance of relationships emerges. The viability (Barile, Polese 2010) of the system is the capability to survive in the context by establishing relations with other actors/systems searching for opportunity of structural compatibility (consonance) and common finality or shared purpose (resonance).

It is possible to relieve the concept of subjectivism of the observer (in a constructivist logic) who, observing the relationships in the whole environment perceives the relative context where the system is in action, and observing relations and the dynamic of interactions of the structure is able to perceive the emerging system (with a subjective interpretation).

Market dynamics and business relationships lead to a systemic approach, and it's not important to say 'what the actors are' but perhaps it's best to study how they act. In any case, considering that the actor in a context emerges as the system should have a decision-making area and an operational area to adapt itself and survive in the environment, integrating resources and co-creating value.

The decision-making area and the purpose of viability are relevant in allowing the actors to recognize themselves and their existence. The relevance of the decision maker capability concerns the opportunity to act and contributes to changing the environment - sometime without a causal logic, sometime with intentionality.

Regarding the impact on the environment and society at large, two perspectives - top down and bottom up - could be presented to highlight - with different meanings and approaches - the role of decision making and of the purpose of the single system or the whole society involved -.

The first one (the top down) founds the aggregation on the role of the government body – *or the governmental institution* – which sets the hierarchy of relationships and establishes strategies and plans for the development and for the future. As Pettit (2002) argues, an integrated collectivity is rational when it is intentional; individual behaviours are not capable of defining the collective intentionality and for this reason the ‘super-agent’ – *the government body* -, as rational/logical unit, has a relevant role in defining the collective intentionality; sometimes, the intentionality that comes by the super-agent is different from the collective intentionality shared by individuals in the system but in top down organization it is relevant to have the strategic addresses of the super-agent.

The second principle, the *bottom up* type, based on the concept of aggregation on the life style for instance – *common consumes, shared values, shared intentionality* – brings new responsibilities to the individuals in the ‘new community’ who have to develop individual self-awareness recognizing themselves within the new aggregation. It seems that the connection among elements (actors) in a society has to be made by self-awareness -*shared life style, shared values, emerging necessities and emergencies*-. This vision is by Bratman (1987, 2014), who thinks that shared intentions do not imply a ‘super-agent’; rather, shared intentions, as individual intentions, are in every agent that contributes to cooperation. Bratman (1987) defines intentions as elements of partial plans of action which play fundamental roles in practical activities, supporting people and organizations. This model indicates the existence of a collective activity based on the contingency where the actors have the necessity to integrate resources and promote the collectivity.

Although it is relevant to define the nature of the single actor/system and the connected behaviour with the society and environment because the world is entangled (Barad, 2003) it is important to study how the actor acts and how it is possible to contextualize it. For this reason the relevance of the actantial models emerges.

## 8.2. Applying the Greimas model to contextualize the entity in the environment

The actantial model can explain with a narrative model the system dynamics focusing on the role of the entity in relation with the context. With the application of this model the single ‘actor’ loses their relevance as the focus passes from the entity to the context. The entity becomes part of a multiplicity of actions and resource integration and the focus passes to the final purpose of system relationships. First, an entity in the context is interpreted as a viable system and it is to be considered that every system has a government body which is able to express a decision-making activity working to achieve a purpose of viability. That way, by building on the Greimas model it is possible to represent the situation of entity contextualization (Figure 2):

**Figure 2.** Greimas’ actantial model applied to the emerging system in context

<b>Actants</b>	<b>Meaning</b>	<b>Contextualization</b>
subject	(The one who does the action)	<i>Entity/structure</i>
object	(Which is the goal of the action)	<i>Need to survive as a system in the environment</i>
helper	(Which helps the subject)	<i>Institution and Institutional arrangements, knowledge, tecnology, business and society, culture</i>
opponent	(Which obstructs the subject)	<i>Perceived complexity and entropy in the environment</i>
sender	(Which is the subject principal at the beginning of the narrative)	<i>Decision maker establishing the purpose: the system survival</i>



recipient	(the final actant the whole communication concerns; the one that has the responsibility of the object)	<i>Entity/structure emerging as system</i>
-----------	--	--

*Source: authors' elaboration*

The actantial model is able to explain the contextualization of the actor as an entity that assumes a meaning in the context. The model could be useful to briefly represent the actor/system dynamic. The actor assumes its own meaning and representation looking for relationships of opposition among 6 fundamental actants.

## 9. Conclusions and implications

The decision-making capability and the identification of viability as final purpose of a system could be the points of view to separate among the entities that are able to characterize a context of interactions. It is possible to argue that the decision-making capability – *thinking of the business activities and the definition of decision making as the activity of the company's top management* - highlights the relevance of the government body of the organizations and expresses the opportunity to have a 'brain' that is able to lead the organization toward the survival. It is the concept of survival of the system/organization/entity, the interesting concept that gives a sense to the interactions among resource integrators. The value co-creation and the resource integration need to have a meaning and a final goal for the entities involved and the first one could be the will of the entities to survive over time against complexity and entropy. Any goal is secondary to the need of surviving in the environment; the current situation of the markets and the variety and variability of the context and relationships lead the entities to activate actions and strategies to establish paths toward the survival of the organization (company, country, family, other). Probably this is a will that belongs to organizations in general led by humans – *the survival is reserved to the organization (for e.g. company) that needs to survive beyond the humans that are managing the company; it is the case of companies that have lived for centuries against difficulties and going beyond the life of the people that work in them (for e.g. General Electric, Harley Davidson, Fiat automobiles (FCA) and others)* – and probably could not belong to the non-human entities living that time. The service science is not much focused on the concept of survival over time because the focus of this research is on the integration of resources and on the concept of value co-creation, but the emergent purpose of survival of systems could be interesting especially with regard to companies.

A company that shows the will to survive over time should be interested in the change management, in the diffusion of principles and values of the company inside and outside, in finding updates and in investments for the future and, probably, in sustainability. The concept of final purpose as survival could bring together the entities/actors in the environment; different entities with different goals in the short run could express the same will to survive together during the time in the same eco-system for example. In any case their interactions are subjected to contextualization.

The entity contextualization is the result of a perception that comes from the analysis of the dynamic of relationships between actor and context. It is not simple to isolate the actions of an actor in the 'entangled' system of actions; in any case it is possible to highlight the entity that expresses the highest density of resources in the interaction. In that case the analysis could start from this entity dividing the relevant relationships and mapping the Greimas model to understand the configurations of the actants and define the direction of the evolution of the system of relations. It is possible to study the entangled world of relationships giving roles to subjects, things and institutions with the actantial studies; the dynamic of relationships is made by the sense in the context and for this reason the intentions of the subjects/objects involved in the resources integration and in value co-creation is studied interpreting the sense of the action starting from the understanding of the necessity of survival of the actors involved, and from the survival opportunity of the emerging ecosystem. Considering the ecosystems, it could be possible to consider specific institutions as actants or specific systems with

density of resources, which in a particular moment are able to be subject (or object) in consideration of the direction taken by the ecosystem.

Different practical implications could emerge considering the actantial models. First, the actantial models could put in contact business models and narrative approach; it is necessary to approach the complexity of environment and markets using a systemic approach, which probably emerges as difficult to manage with traditional frameworks of marketing and management. It is impossible to manage the entangled relationships and the system of stimuli that affect, for instance, the ecosystem. Semiotic and narrative approaches could be useful to describe the relationships, making efforts to understand how the entities interact in the environment, in any case, predicting the future working on the role of every entity and on the dynamic of relationships.

Considering the Greimas model applied to entities following the root of system relationships it is possible to highlight how the system purpose of survival emerges. Building on it, the contextualization of every company (actor) situation in relation with the network of stakeholders in the specific industry is possible. Regarding companies, in particular using the suggested model, the manager could draw the context in which he works, underlining the most relevant stakeholders (partners, clients, employees) for every situation. The relevance of the systemic interaction made by the context upon the company (not only human but non-human also – *for e.g. the technology and the system of resources considered as factor of change* -).

The work could be further developed with practical experiment and comparing the Greimas model to other actantial models. In particular it could be important to deepen the semiotic contribution in the definition of narrative approach.

## References

- Barile S., Pels J., Polese F., Saviano, M. (2012a), “An introduction to the viable systems approach and its contribution to marketing”, in *Journal of Business Market Management*, vol.5, n.2, pp.54-78.
- Barile S., Polese F. (2010), “Smart service systems and viable service systems”, in *Service Science*, vol.2, n.1/2, pp.21-40.
- Barile, S. (2008), *L'impresa come sistema. Contributi sull'approccio sistemico vitale*, II ed. Giappichelli, Torino.
- Barile, S. (2009), *Management sistemico vitale*, Giappichelli, Torino.
- Barile, S., Carrubbo L., Iandolo F., Caputo F. (2013), “From ‘EGO’ to ‘ECO’ in B2B relationships”, in *Journal of Business Market and Management*, vol. 6, n. 4, pp.228-253.
- Barile, S., Lusch, R., Reynoso, J., Saviano, M., Spohrer, J. (2016), “Systems, networks, and ecosystems in service research”, in *Journal of Service Management*, vol.27, n.4, pp.652-674.
- Barile, S., Polese, F., Carrubbo, L. (2012b), “Il Cambiamento quale Fattore Strategico per la Sopravvivenza delle Organizzazioni Imprenditoriali”, in S. Barile, F., Polese, M., Saviano (eds), *Immaginare l'innovazione*, e-book Giappichelli Ed., pp.2-32.
- Barile, S., Saviano, M., Iandolo, F., Calabrese, M. (2014), “The viable systems approach and its contribution to the analysis of sustainable business behaviors”, in *Systems Research and Behavioral Science*, vol.31, n.6, pp.683-695.
- Barile, S., Saviano, M., Iandolo, F. (2012c), “L'innovazione tra creatività e sostenibilità”, in Barile S., Polese F., Saviano M. (eds), *Immaginare l'innovazione*, Giappichelli, Torino.
- Bloor, D. (1976), *Knowledge and Social Imagery*. London: Routledge & Kegan Paul
- Bruni, R., Carrubbo, L., Cavacece, Y., Di Muro, M. (2016), “Market dynamics: a complex adaptive system view”, in *Proceedings of XXVI RESER Conference, WHAT'S AHEAD IN SERVICE RESEARCH? NEW PERSPECTIVES FOR BUSINESS AND SOCIETY*, Napoli 8-9 settembre.
- Callon, M. (1999), “Actor- network theory—the market test”, in *The Sociological Review*, vol.47, n.S1, pp.181-195.
- Carrubbo L., Iandolo, F., Pitardi, V., Calabrese, M. (2017), “The viable decision maker for CAS survival: how to change and adapt through fitting process”, in *Journal of Service Theory and Practice*, vol.27, Issue 5
- Ciasullo, M.V., Cardinali, S., Cosimato, S. (2017), “A strenuous path for sustainable supply chains in the footwear industry: A business strategy issue”, in *Journal of Global Fashion Marketing*, vol.8, n.2, pp.143-162.
- Ciasullo, M.V., Polese, F., Troisi, O. Carrubbo, L. (2016), “How service innovation contributes to co-create value in service networks”, in *International Conference on Exploring Services Science*, Springer International Publishing, pp.170-183.

- Cosimato, S., Troisi, O. (2015), "Green supply chain management: Practices and tools for logistics competitiveness and sustainability. The DHL case study", in *The TQM Journal*, vol.27, n.2, pp.256-276.
- Czarniawska, B., Gagliardi, P. (eds) (2003), *Narratives we organize by*, vol. 11, John Benjamins Publishing.
- De Santo, M., Pietrosanto, A., Napoletano, P., Carrubbo L. (2011), "Knowledge based service systems", in E., Gummesson, C., Mele, F., Polese (eds), *System Theory and Service Science: Integrating three perspectives in a new service agenda*, Napoli: Giannini.
- Demirkan, H., Spohrer, J., Krishna, V. (2011), *Service Systems Implementation*. Springer, New York.
- Greimas, A. J. (1966), "Eléments pour une théorie de l'interprétation du récit mythique", in *Communications*, vol.8, n.1, pp.28-59.
- Gummesson, E. (2010), "The future of service is long overdue", in Maglio, P.P., Kieliszewski, C.A. and Spohrer, J. (Eds), *Handbook of Service Science*, Springer, New York, NY, pp. 625-642.
- Karwowski, M. (2012), "Did curiosity kill the cat? Relationship between trait curiosity, creative self-efficacy and creative personal identity, in *Europe's Journal of Psychology*, vol.8, n.4, pp.547-558.
- Latour, B. (1992a), "Where are the missing masses? Sociology of a few mundane artefacts", in Bijker, W.E and Law, J. (eds), *Shaping Technology -- Building Society: Studies in Sociotechnical Change*, MIT Press, Cambridge, Mass.
- Latour, B. (1992b), *Aramis ou l'amour des techniques*, La Decouverte, Paris.
- Latour, B. (2005), *Reassembling the social: An introduction to actor-network-theory*. Oxford university press.
- Law, J. (2009), "Actor network theory and material semiotics", in *The new Blackwell companion to social theory*, vol.3, pp.141-158.
- Le Men, H. (2008), "Evaluation de l'information et description des controverses scientifiques: information évaluée, information située", in *Colloque international de l'ERTé, L'éducation à la culture informationnelle*, Lille.
- Loia, V., Maione, G., Tommasetti, A., Torre, C., Troisi, O. Botti, A. (2016), "Toward smart value co-education", in *Smart Education and e-Learning*, Springer International Publishing, pp. 61-71
- Maglio, P. P., Vargo, S. L., Caswell, N., Spohrer, J. (2009), "The service system is the basic abstraction of service science", in *Information Systems and e-business Management*, vol.7, n.4, pp.395-406.
- Meadows, D.H. (2008), *Thinking in Systems: A Primer*. Chelsea Green Publishing.
- Mele C., Pels J., Polese F. (2010), "A Brief Review of Systems Theories and Their Managerial Applications", in *Service Science*, vol.2 n.1/2, pp.126-135.
- Napoletano P., Carrubbo L. (2010), "Becoming smarter: towards a new generation of service systems", in *Impresa, Ambiente, Management*, vol.4, n.3, pp.415-438.
- Pels J., Polese F. (2010), "Configurational fit: Pathway for Successful Value Co-creation", in *Impresa, Ambiente, Management*, Anno IV, n. 3, pp.355-373.
- Pohlmann, A., Kaartemo, V. (2017), "Research trajectories of Service-Dominant Logic: Emergent themes of a unifying paradigm in business and management", in *Industrial Marketing Management*.
- Polese F., Carrubbo L. (2008), "The Service Dominant Logic ed una sua interpretazione al fenomeno turistico", in *Impresa, Ambiente, Management*, vol. II, n.1, pp.5-36.
- Polese F., Carrubbo L. (2016), *Eco-sistemi di servizio in Sanità*, vol. 65, Giappichelli ed.
- Polese, F., Tommasetti, A., Vesci, M., Carrubbo L, Troisi, O. (2016), "Decision-making in Smart Service Systems: A Viable Systems Approach contribution to Service Science advances", in T. Borangiu, M. Drăgoicea, H. Nóvoa (Eds.) *Exploring Services Science, 7th International Conference, IESS 2016 Bucharest, Romania*.
- Smorti, A. (1994), *Il sé come testo [The self as text]*. Florence, Italy: Giunti Editore.
- Spohrer, J., Vargo, S.L., Maglio, P.P, Caswell, N. (2008), "The service system is the basic abstraction of service science", in *Hawaii International Conference on System Sciences, Proceedings of the 41st Annual*, pp. 104-104. IEEE press, Honolulu.
- Storbacka, K., Brodie, R.J., Böhmman, T., Maglio, P.P., Nenonen, S. (2016), "Actor engagement as a microfoundation for value co-creation", in *Journal of Business Research*, vol.69, n.8, pp.3008-3017.
- Tommasetti, A., Vesci, M., Troisi, O. (2015), "The internet of things and value Co-creation in a service-dominant logic perspective", in *Data Management in Pervasive Systems*, Springer International Publishing, pp.3-18.
- Vargo, S. L., Lusch, R. F. (2004). "Evolving to a new dominant logic for marketing", in *Journal of marketing*, vol.68, n.1, pp.1-17.
- Vargo, S. L., Lusch, R. F. (2016), "Institutions and axioms: an extension and update of service-dominant logic", in *Journal of the Academy of Marketing Science*, vol.44, n.1, pp.5-23.
- Wieland, H., Polese, F., Vargo, S., Lusch, R. (2012), "Toward a Service (Eco)Systems Perspective on Value Creation", in *International Journal of Service Science, Management, Engineering and Technology*, vol.3, n.3, pp.12-25.