Managing complexity for systemic impact: responses to VUCA and BANI environments

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In recent decades, the acronyms VUCA and, more recently, BANI have become popular to describe the environments in which we live and work. But, beyond describing the situation or environment as VUCA or BANI, can we do anything about it? How can we change our way of managing projects or promoting impactful public policies? We have compiled below a set of emerging methodologies that allow us to move from theory to practice, from fear to action.

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New environments: VUCA & BANI

VUCA

VUCA appears with the end of the Cold War, with globalization, with the digital revolution, with the financialization of the Economy. Adapting theories on leadership from Warren Bennis and Burt Nanus, it proposes that we increasingly operate in environments:

- **Volatile:** the dynamics of change are accelerated and the stages of the situations are short-lived;
- **Uncertain:** it is increasingly difficult to predict the future (and science must adapt to post-normality);

- **Complex:** where the causal relationships of a phenomenon are multiple and even impossible to define;
- **Ambiguous:** since it is difficult to make categorical statements, especially independent of each different situation or context.

BANI

Impacted by the COVID-19 pandemic, Jamais Cascio proposes in *Facing the Age of Chaos* to go beyond the definition of VUCA environments and suggests the BANI framework instead:

- **Brittle:** due to the extreme delicacy and contingency of situations, which can change quickly and drastically as a result of any cause;
- **Anxious:** in the sense that situations increasingly generate anxiety (due to the difficulty of dealing with them, due to the scope and depth of their impacts);
- **Non-linear:** due to the apparent disconnection, in direction and magnitude, between causes and consequences;
- **Incomprehensible:** since it is increasingly difficult to understand not only the causes but the very phenomena that we face.

Managing complexity for systemic impact

If the management of organizations, the fostering of public policies or the deployment of development (cooperation) projects follow one another in a practically deterministic way (if I do A, then B will happen) and a linearly way (few variables, always in a single direction), as environments grow in complexity, project management and impact public policies should also change.

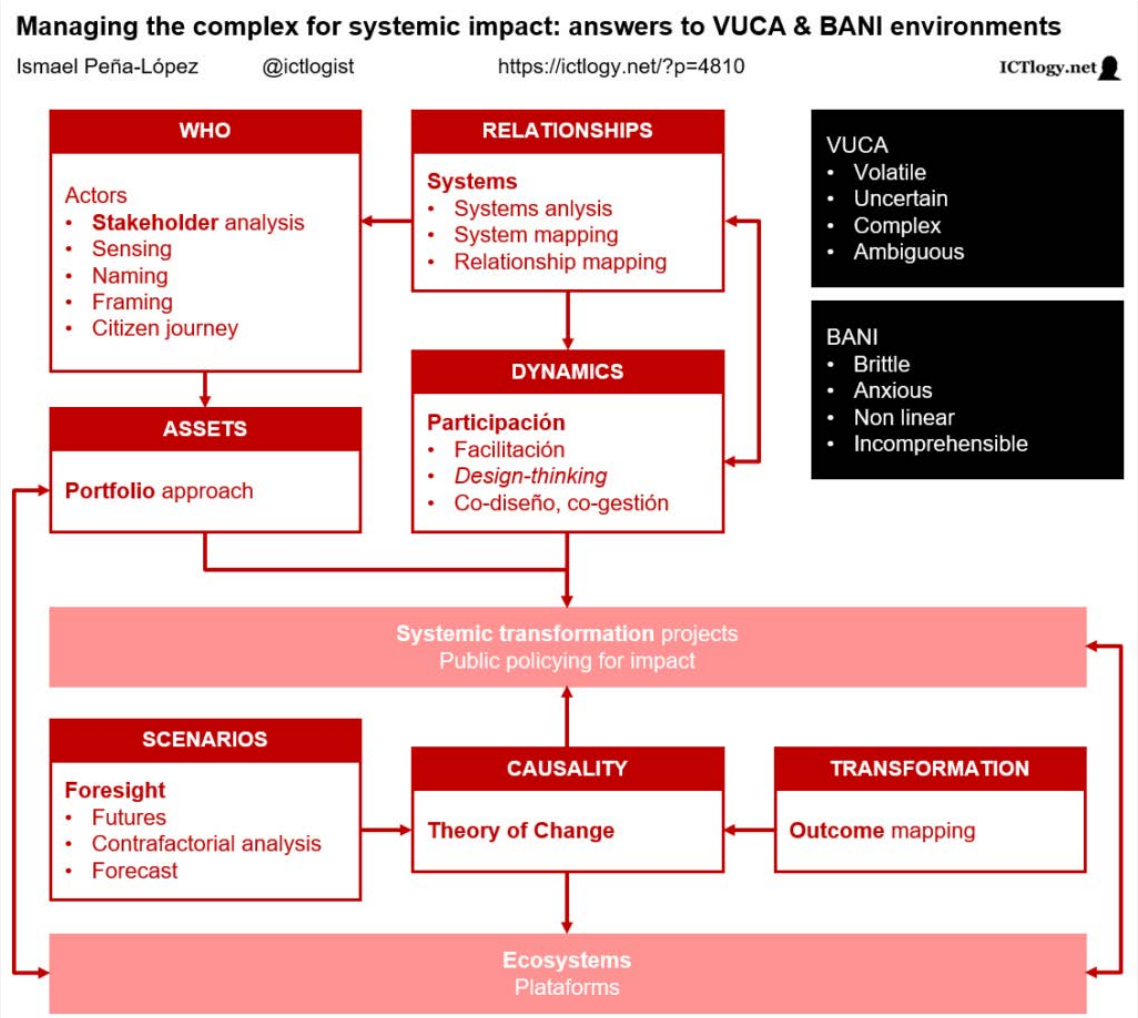
With the management of complexity, new methodologies and approaches to management appear that incorporate three factors that were not always taken into account in traditional management, all of them related to the loss of control over the situation:

- **Multifactoriality:** realization and acknowledgement that there are many factors (particularly actors) that we do not control or even do not know, but that must be taken into account in the design as far as possible.
- **Importance of design:** since we cannot act arbitrarily or discretionally due to loss of control over factors, we try to control the playing field or, at the very least, to know it. Thus, the thoroughness on the design of the projects and the exhaustive knowledge of the environment are key.
- **Influencing the system:** although it may seem contradictory, since we are neither able to control nor often know the causal relationships, many projects will influence changing the system itself and will not limit

themselves to operating within the system itself. The system becomes a dependent variable on which we can influence, not a variable that is given and to which we have to adjust.

Below we list some methodologies, approaches, concepts —with a more descriptive than normative goal— that incorporate new factors and perspectives to address the growing complexity in project management and public policies.

After each epigraph, a link "Some references on..." is added, which leads to a personal collection of documents that delve into the subject matter (on various occasions some documents are referenced in more than one epigraph when dealing with more than one topic).



Managing complexity for systemic impact: responses to VUCA and BANI environments [click to enlarge]

Stakeholder analysis, naming, sensing, framing

The first major, necessary, incorporation of complexity is that of **who, which actors** intervene or are affected by an issue, a problem, a decision, a public policy. It does so through various names, each one with its particularities, the

most common being the actor mapping and stakeholder analysis, but also interest groups and other denominations.
It is important to highlight that it is not only about making an inventory of actors, but also about how they read reality from their particular point of view. For instance, the question of housing has different readings and names depending on the actor: the problem of evictions, mortgages, rents, squatting, occupation mafias, immigration mafias, gentrification, tourist apartments, financial speculation, financialization of the economy, etc.

If we want to find solutions, we have to refine the diagnosis, and this involves incorporating all the different visions —without prejudices or moral judgments. How we "listen" to these actors —in Open Government we would speak of active listening— will be essential for the incorporation of all these visions.

- **Some references on Stakeholder Analysis, naming, sensing, framing**

Systems (systems analysis)

In the same way that it is done with actors, systems analysis tries to break down a complex problem into its **basic components and processes**, delimiting tasks, functions, relationships, direction of said relationships, etc. Of course, systems analysis and stakeholder analysis are closely related, although while the latter is more focused on the subjects, the former is focused on their respective functions and interrelationships.

Systems analysis will provide better operational planning, improved ability to design and to implement better focused devices and assigning them the necessary resources (people, time, materials) to promote the components and functions that we want to leverage.

- **Some references on Systems Analysis**

Foresight, futures

Foresight exercises are not new. "Foreseeing the future" —in the sense of considering **what scenarios may occur** in the future and with what probability— has been an exercise that humanity has carried out recurrently over the centuries.
However, the study of futures goes beyond mere prospective, for at least three reasons:

1. For the **abandonment of the hegemony of traditional statistics** and the incorporation of post-normal science, which requires radical new approaches to the approach of what can happen and why.
2. For to the **incorporation of new actors** and functions and the creation of new scenarios. In other words, and related to the previous points, it is

not only a question of foreseeing what can happen, but of capturing what these future scenarios can be like, beyond whether they are possible and to what extent.

3. For to the **formation of new realities** at the same time that we think about them, along the lines of what was previously commented on taking the system as an endogenous variable: futures exercises are often not only inventories of what can happen but also of what we would like to happen —and, as we will see later, what would have to be done to make them possible and probable.

- **Some references on Foresight and Futures**

Outcome mapping

Out of all the possible scenarios, outcome mapping helps us identify the **effects we want to see happen**. The concept of outcome is sometimes confusing and used interchangeably as effect or impact. Strictly speaking, in the activities we carry out, three stages of "impacts" can be distinguished:

- **Output, result:** the "thing" (good, service) that we have produced and that is under our control. E.g. a basic digital literacy course.
- **Outcome, effect:** the intermediate changes, in the short term, in which we have been able to influence directly. E.g. improve the ICT competence of some people.
- **Impact, impact:** structural changes (behaviors, visions of reality, etc.), in the long term in which we can influence indirectly but to which we ultimately aspire. E.g. improve the employability of a collective.

Outcome mapping focuses the analysis on those effects that we can influence and that are real changes in a situation. They force us to think (and design) for impact, for transformation, avoiding "solutions" whose results are an investment of resources without impact on the system.

- **Some references on Outcome mapping**

Theory of Change

The Theory of Change is linked to outcome mapping and tries to find the causal relationships that lead to impact, **what we can do to obtain a certain result or impact**. The Theory of Change identifies the necessary resources to carry out activities that will have expected results controllable to a certain extent; and, based on these results, and the causal relationships inferred or found by experimentation, expect to be able to influence directly to achieve effects and, indirectly, to achieve results, impacts.

The Theory of Change, like any theory, must be validated and, for this, evaluated. In the Theory of Change, evaluation (measurement, verification, ratification or refutation) is fundamental and forms part of the various iterations of the implementation of the Theory of Change.

It is important to note that the Theory of Change, like the very definition of results, effects and impacts, is very circumstantial or contextual: there are intermediate effects that are impacts at another level of analysis and vice versa: impacts that, at another level, are mere results, that can lead to other higher impacts.

- **Some references on the Theory of Change**

Portfolio-based approach

The portfolio-based approach is situated (conceptually) halfway between stakeholder analysis, systems analysis and the Theory of Change. If we admit that we do not have control over everything, and that we need to mobilize certain resources to achieve certain results, we need to know **what assets we all have together** and how we can align them to achieve a common goal.
Going back to the Open Government paradigm, it is about acknowledging, from this map of actors, how each one participates in the project, but not only with their vision, but also and above all, with their own contributions (materials, methodologies, etc.).

To some extent, the portfolio-based approach challenges the foundations of classical organizational theory: counting on resources that "are not yours." But, with the appropriate strategy, they can be mobilized and aligned for the common objective. For this reason, this approach fits into the entire complexity management map, where actors, relationships, scenarios and causal relationships have an architecture that is so different from classical management by processes.

- **Some references on the Portfolio-based Approach**

Participation, facilitation, design thinking

Faced with this great organizational complexity, **how we implement it** comes to the forefront, even coming before the planning itself, at least the operational one.
The participation of the actors in the processes of diagnosis, deliberation, negotiation, decision-making or evaluation becomes essential; and the facilitation and revitalization of these participation processes to achieve the objectives, so that participation is efficient and effective. Of course, the logic with which it is created (or co-created, and later co-managed) requires new design methodologies: design-thinking , agile methodologies and others are now incorporated into the toolbox to enhance it.

- **Some references on Participation**
- **Some references on Facilitation**
- **Some references on Design Thinking**

Ecosystems

Recently the concept of ecosystem has jumped from the realm of biology to that of technology, and from there to that of the social sciences. In a first meaning outside the field of life sciences, we speak of the ecosystem approach characterized by global vision, comprehensive action. It is a first meaning, but when we talk about governance ecosystems (of projects, of policies), the concept goes much further —going beyond what, in fact, could be assimilated to the vision of the system that we saw previously.

When we talk about acting with an ecosystem approach, we admit that its complexity often does not allow direct action. We saw it when talking about the multiplicity of actors, their relationships, their respective portfolios, how they co-design actions or align themselves with them, the multiplicity of scenarios and desirable results and impacts, the difficulty of establishing relationships causes over which we have no control (only influence, often indirectly). Given this scenario, the ecosystem vision is characterized, in addition to the global vision and comprehensive action, by:

- **Act on the environment, on the context,** to influence (indirectly) the results, effects and impacts. This is done by providing the generic infrastructure of the ecosystem.
- **Promote the autonomy of the actors, providing transversal applications** (methodologies, instruments, resources, codes, standards) that they can use freely.
- **Align the different autonomous instances** (projects, institutions) of the actors through the design of the infrastructure and transversal applications, promptly providing incentives that reward alignment or penalize (or leave rewardless) divergence.

The ecosystem vision, therefore, promotes the project or the institution as a platform on which others operate, where **institutions and projects become open infrastructures for autonomous decision-making with collective impact**.

- **Some references on Ecosystems**

In conclusion, the way of approaching projects, the management of organizations or the promotion of public policies is changing radically as a result of the verification of the profound (and constant and accelerated) transformation of the contexts and environments in which these take place. and they operate.

There is no single model, and often the methodological proposals are heterogeneous, from what are mere descriptions to highly complex organizational and operating architectures. However, all of them seek to overcome a way of designing and managing that shows many signs of fatigue, insufficiency, and inefficiency. For now —and, perhaps, for a long time— it will

be necessary to arm ourselves with a **new toolbox, profiles and skills to perform new tasks and tackle new challenges** and try to provide solutions, always incomplete, always tentative, always temporary, but always also necessary to influence the environment, in the context, to, through these, progress.