

The Innovation Cycle

and Why we need an Innovation Catalyst to facilitate it

Authorship and liability note: *this text was originally conceived by Jurij Krpan of Kersnikova Institute, and edited by Peter Purg of University of Nova Gorica, within the MAST project; both institutions and persons are involved parallelly in the DIVA project, thus the following text has been slightly transformed to fits the respective needs.*

In response to challenges in the development of human society and the economy, the MAST (Module in Art, Science and Technology, mastmodule.eu) project formulated the proposal of conceiving an innovation process managed by people capable of translating artistic ideations and realisations into the language of designers and engineers, who thus gain access to original, unexpected, and sometimes futuristic ideas. These equip innovators with an entirely new way of thinking, thereby facilitating bolder proposals for solutions. Such persons would be responsible for streamlining the innovation process in a way that brings different professions with different professional tenets together. This facilitation of the cooperative dynamics and mutual understanding of the participants working on a certain challenge together is what we mean by the “catalysis” of thoughts, ideas, and realisations into innovations; the person in charge of the entire innovation process – a process that is supposed to lead to truly innovative solutions – is therefore called an **innovation catalyst**.

What role does this novel profile bring into the Innovation Cycle? Here, the MAST project articulates 10 innovation stages, of which Art Thinking (stage 6) is perhaps the key novum:

1 – CHALLENGE

To successfully prepare to take on a challenge, it is necessary to first know the circumstances of the challenge. If the client is known and has approached us with a concrete challenge, the role of the innovation catalyst in this initial phase is to gain an in-depth understanding of the issues at hand and the premises for which a solution needs to be found. In the event ideas spontaneously emerge in an existing group of creators independent of demand, the role of the catalyst is to identify the possible scenarios and applications (speculative innovation), pinpoint potential uses or derivations in the real sector, and approach potential clients, including end users (in either commercial or social spheres).

Whether the catalyst enlists an existing research platform from which he or she will select innovators with a laboratory background, or forms an ad hoc group of innovators, partially depends on how radical an innovation blast is desired. Typically, an ad hoc group is suited for less ambitious innovations that do not span multiple disciplines or sectors and require less analysis and interdisciplinary experimentation.

2 – INNOVATORS (The Team)

The role of the innovation catalyst is to form sensible innovation teams and create good chemistry between the innovators: they must be capable of presenting to the team members the problem they must resolve and then guide the entire process, which may take several hours or several months. The process of putting together a team of innovators is different in existing research and creative laboratories, institutes, or platforms, where individuals know and trust each other, than it is when a team must be created ad hoc, outside a safe environment of like-minded individuals.

There are no rules about the composition of a good team of innovators: in order to generate truly new ideas, it is necessary to have both specialist experts and generalists capable of spontaneous reactions underpinned merely by lateral thinking and intuition.

Developing a fitting combination of skills and knowledge, and hence a certain “feel” for working with people from different professions and sectors, is a special challenge for the innovation catalyst.

3 – ETHICS (Principles)

Implicit in involving artists and designers in innovation processes is the inclusion of the humanities and hence consideration of fundamental cultural and intellectual standards. Just as morals and laws create social reality, ethical principles help shape paths to the discovery of new possibilities. Naturally, these principles are not unambiguous given that standards constantly evolve. The dichotomy between morals and ethics gradually alters values, which are not the same in all parts of the global society. That is why an innovation catalyst must be capable of establishing trust between the client and the innovators and forge a consensus regarding the values and principles that the innovators will then follow in the course of their work. The innovation catalysts must be able to present these rules to the client, who must internalise them and in doing so take responsibility for the implementation and use of the innovation in line with the principles governing its creation.

4 – MAPPING

For an innovation catalyst, it is useful not just to map existing experiments, solutions, and possible ecosystem connections, but also individual experts who can be drawn (outsourcing) into innovation teams, or to secure sufficient data (studies) on relevant examples.

Innovators' knowledge of existing solutions, the same or similar examples, or attempts at such examples, are essential in setting the tone for the innovation team so that they may establish

the lowest common denominator that can serve as a point of reference for evaluating headway in the innovation process.

The second level of mapping, the key to understanding the sources of the challenge, is ecosystem¹ connections, which represent the boundary conditions of the issue at hand. These sources may be quantitative, qualitative, substantive, conceptual, social, material, etc., and constitute the broader context in which a solution to the challenge should be embedded.

5 – IDENTIFY THE SOURCE OF THE CHALLENGE

In-depth research prior to the start of innovation harmonises and reconciles many of the starting points, which is necessary for effective teamwork. These starting points typically do not presage future solutions, but already offer a good indication of the kinds of solutions the innovators will not offer. The collection of 'noes' that the team of innovators compile in the course of the analysis should be presented to the client in this phase since the internalisation of the frameworks derived from these analyses and studies will determine in which direction possible answers will be sought. Meeting with the client is more than just etiquette, it involves an analysis, as detailed as possible, of the activity, the production or services potential, work ethics, etc., which are essential to the client's company or organisation. A good assessment of the ontological circumstances (i.e. by carrying out a general analysis, identifying the needs of the environment) and a good understanding of the particular circumstances (i.e. the client and his or her needs) of the problem that the team of innovators is addressing are key to gaining an in-depth understanding of the problem or even redefining it. The client must be involved in the process, or else it can easily happen that – without precise information provided by the innovators – the client will not understand the possible solutions that the innovation procedure will create.

6 – ART THINKING

The role of the innovation catalyst is instrumental at this stage of development of a solution: he or she must present different artistic concepts and narratives to provide speculative and imaginary support, and must insist that innovators do not stumble into rushed conclusions, generalisations, or over-simplified findings. The innovation catalyst must steer the innovation team to an ultimate place that gives rise to an ultimate question, which in turn implies an ultimate answer.

In this sense, art thinking is not the creation of works of art; rather, it is an attempt to grasp the imaginary dimensions that imbue artistic creation. To detect these dimensions with sufficient sensibility, the innovation catalyst must explain to the innovators on the team the idiolect of the author (the unique artistic expression of method, modes of perception, rational and

emotional processes, composition principles, the semantics of the material, etc.) and thus highlight the empirical intelligence through which we perceive a work of art.

7 – DESIGN THINKING

The role of the innovation catalyst, who is sensitised to contemporary investigative and related artistic practices, lies in encouraging truly radical innovations by deploying art thinking, which positively subverts existing fast-delivery methods by initiating in-depth reflection on the origin of the issue. In this module students will get to know design approaches as well as the advantages of speculative design, which is an offshoot of sorts of solution-focused design thinking, only that it is attached to the imaginary reference points that have arisen through art thinking. In these speculations the baseline is to understand the imaginary constructs that were created through artistic ideation, which are then prototyped and modelled with viable materials, protocols, and actors, creating potential scenarios that the innovation offers for consideration; it is on the basis of this consideration that the designers will develop potential solutions.

8 – CONNECTING THE DOTS

The typical understanding of the innovation process is that once the original problem is resolved with a proposed product or service, the process is concluded. But a truly radical innovation at the conclusion of design thinking opens a crucial chapter for the successful implementation of the solution because being radically new, ahead of everyone and ahead of time, it (pin)points numerous blank spaces. In terms of applicability, these blank spaces can be seen as a danger or as an opportunity. To better understand the new situation, the innovation catalyst must perform an iteration of the mapping; this was done in the pre-innovation phase in a similar manner. Using similar tools, it is necessary to find actual or potential connections with new innovation solutions. The connectivity of existing opportunities and the emergence of new opportunities in blank spaces may create an emergent picture that could not have been detected prior to the creative portion of the innovation process.

9 – INNOVATION RESILIENCE

Even if the innovation process concludes with some concrete, almost simple product or service, its future is uncertain. For an innovation to come into existence successfully, the innovation catalyst must carry out a series of verifications in which he or she determines the robustness of the innovation and its resilience and longevity. This process may be carried out with the existing team of innovators, or a new team may be put together since there is a high likelihood of emotional attachment to one's own work, which can easily cloud one's judgement about more or less obvious pitfalls, shortcomings, and mistakes. The role of the innovation catalyst is to

equip the new team with all the necessary information created during the development of the product or service, while at the same time preserving a healthy degree of detachment.

Resilience to error can be tested in other ways as well, but in any case, the process ultimately leads to a conclusion as to the robustness of the innovation. If the innovation cannot be made differently for any reason whatsoever, the innovation catalyst must assess the likelihood that the new product or service is a failure for the client despite all efforts.

It certainly makes sense to conduct a thorough risk assessment² since this also provides the criteria for measuring the performance of the innovation in the subsequent assessment of its direct and indirect impact.

10 - IMPACT

Nobody is perfect. That is why in order to nurture excellence, the innovation catalyst must keep track of the life of the innovations in the real world and periodically assess their performance. Given that the conditions and circumstances that led to the creation of the innovation are constantly changing, today's innovation may soon become obsolete, inadequate, or unsuitable. Time is a harsh judge and if an innovation is sufficiently future-oriented its longevity may be extended.

NOTES:

1 In this context, the term ecosystem is used as a synonym for sensible connections that complement, upgrade, or supplement each other (cybernetics, system theory), not as a reference to an ecosystem in nature (biology), where there are symbiotic relationships but the survival of the fittest prevails. An organised human society (bio) [EDITOR'S NOTE: HOW DOES "BIO" MAKE SENSE HERE CONCERNING SOCIETY?] is differentiated from plant and animal life (zoe) by its developed civilisational values, on which sustainable production mechanisms ought to be based. Unfortunately, in neoliberal capitalism the survival of the fittest is frequently justified by the natural order of things, whereby predatory species are singled out but their co-dependence on other species and the environment is pushed to the sideline.

2 Risk mitigation: avoid, acceptance, reduction of control, transference,
<https://accendoreliability.com/4-effective-risk-mitigation-strategies/>