

Applied Foresight Meets Transdisciplinary Collaboration

by [Edgar Barroso](#), Senior Consultant, Cutter Consortium

Those of us born before 1990 know how much the world has changed in only a few years. Among a myriad of changes, we have seen obsolete technologies mercilessly replaced, witnessed a couple of global economic collapses, and several products and services that we could never have imagined before — like the Internet — have become part of our daily lives. Whenever I see new, life-changing technology, I can't help thinking: how did we get here so fast?

Naturally, countless factors come into play in answering such a question; this *Executive Update* discusses two of my favorites: *applied foresight* and *transdisciplinary collaboration*. Applied foresight is our ability to envision the ideas, concepts, or objects not yet available to our senses — and act upon our vision. The potential of this feature of our brains is remarkable; the mere possibility of translating a reflection on the future into something tangible has allowed us to create new ways to improve our lives and constantly transform our destiny as a species. Every single innovator values and cultivates the capacity of applied foresight. As powerful as it is, though, applied foresight is rarely nurtured in depth in organizations, even those focused on innovation.

The second factor is transdisciplinary collaboration. From the beginning of the human species, we have perceived the power of putting together different types of knowledge, talent, and resources to build new and better products. Connecting people from different fields of knowledge enables them to share their thoughts, skills, and ideas and to build upon them. When we create transdisciplinary teams, we open completely new worlds and we merge different perspectives to imagine a more coherent future. It is not by chance that the transdisciplinary trend is becoming the norm around the world in the majority of the best companies, universities, and NGOs. There is proof that, although complex, foresight done by transdisciplinary teams has been accelerating innovation on a scale never seen before. Undoubtedly, such teams bring a sort of “freshness” to their projects, creating a singular work environment, full of new and stimulating sources of knowledge that build the much-sought advantage of integrated knowledge.

Transdisciplinary Collaboration in IT

Perhaps the best example of an adaptive and integrated field of knowledge is IT. Yet, it is quite shocking to see how many companies fail to invest a meaningful amount of time and resources to thinking actively about the future, with teams based in transdisciplinary collaboration. The rapid changes in our society are incompatible with our current notion of a “latency” period for invention. Therefore, many organizations that are exclusively focused on current market opportunities and that insist on working with mono-disciplinary teams are already late. Being “mainly in the present” is being in the past — at least if we want to run an innovative organization.

A main part of my job — and perhaps yours, too — is to use my imagination as a composer and entrepreneur, individually and collectively, to create new products and services, build startups, solve unexpected problems, and design projects and programs for companies, academic organizations, government agencies, and NGOs. Many times, if not always, this involves thinking about the future in a transdisciplinary manner and coming up with ideas that might be implemented three or five years from now, sometimes more. Being able to apply foresight as an individual and, most importantly, as part of a transdisciplinary team is one of the best skills a person can have, as a professional and as a member of any organization in today’s ever-changing world. Yet only a few organizations are fostering this skill.

Foresight and transdisciplinary collaboration are — for some strange reason — thought to be just a matter of talent, a magic phenomenon, something that happens exclusively within university settings, NASA, or Silicon Valley. That is certainly a misconception. Regardless of the size of your company, you can take advantage of thinking about the future and act on those transdisciplinary insights; you just need the time to make it happen. I would be willing to bet that even the most talented innovators and heads of innovative companies spend huge amounts of time studying the trends, variables, and behaviors of societies to feed their foresight thinking. It is not just intuition. As we engage with foresight and transdisciplinary collaboration, we understand that data analysis, attitude, and commitment are quite powerful sources of strength for an organization that aims to lead, and not only follow, in the next trends.

These innovators have something else in common: they act upon their foresight insights. They know that foresight is just the first step, and then they go out of their offices to seek collaborators — most of the time from different fields of knowledge — to begin building the future together.

Looking Toward the Future

Just to clarify, I am not talking about magic foresights that display an absolutely certain horizon of our world’s future events, because, hey, nobody *really* knows what the future will look like (unless you are Nostradamus; in which case, contact me because I am certain to have a business proposal for you). I am talking about framing structured and regular transdisciplinary thought regarding the general conditions of your market in the next 5, 10, or 15 years and perceiving what you can do about it. It becomes even more real when it is about the context of your organization, your team, and of course your role.

Having a personal perspective of what the future will look like or, even better, how the future should *be*, is not only useful but also vital for a change of culture in your organization. It is key for innovators to think about how people will behave, how technology will meet their needs, how technology will create new needs, and, finally, how close they can get to that future they envisioned in their lifetime. Real innovators know that they are not going to do it alone; they need a team: a transdisciplinary team. They also know that the future of our life, business, and organizations are shaped — to a certain extent — by us. So we must shape the future.

Practicing applied foresight and transdisciplinary collaboration helps us to understand the core values of our company and the needs of a more integrated society. Having been lucky enough to witness several innovation departments or labs around the world, I can conclude that imagining the future as a transdisciplinary team on a regular basis is one of the key activities that separate the truly audacious organizations from the ones that limit themselves to simply following what others are doing, hoping to get a piece of the market that is left (there's nothing wrong with that, as long as you survive).

Thinking about the future is not planning and does not have to be boring. Planning is about organizing activities to achieve a goal. Foresight is about building an abstract scenario, empathizing with human behavior, and predicting countless possibilities that might be actionable within our scope. Foresight requires creative and analytical components that are part of a puzzle that we are designing and building at the same time. The freedom and excitement that the participants experience as they overcome the barriers of linear thinking is liberating, and most of the time valuable for each one of them. In a way, this practice allows you to construct the essence of your team, as it launches a unique journey around questions that defy established assumptions, and often turns the wheel into a journey toward different development opportunities.

In addition, thinking together about the future with my collaborators has been an amazing experience. As a side effect, it has been essential to show that you truly care about them, their careers, and the company's interests. It creates trust, motivation, and a sense of loyalty. It builds a sort of hope, sparks free applied imagination, and a commitment through a transdisciplinary and cultural cross-fertilization provided by this mindset. It is a great way to create a culture of wondering, creativity, and healthy openness, helping everybody to increase curiosity and awareness of the subtle changes happening with the customers and markets related to your next project.

Besides, we actually don't have a choice. What is the alternative? Not thinking about the future is denying time and evolution; it is denying our physiologic tools and natural capacities as human beings and is certainly dangerous for our businesses. The future naturally scares us; we might not like what we see. Nonetheless, thinking about it in a meaningful, transdisciplinary way might turn out to open new and exciting opportunities. I'll be honest with you: it is not an easy task. It requires resilience and a lot of energy and time — the same ingredients of all things worth achieving in life.

You might find out that if your company continues in the same pattern, it might be out of business sooner rather than later. As time passes, our brains begin to feel comfortable with what we know and we become nostalgic about how things were, like when you start listening to the music of your kids with nostalgia as you

remember the “real music” of your time. This is fine in regards to musical taste, but it is rather dangerous in organizations. Therefore, keeping our foresight and transdisciplinary collaboration skills in shape is keeping our brains, and our companies, in shape — comfortable and excited about the next 10 years.

Fortunately, you are biologically wired to imagine the future and collaborate. You already have the “hardware”; be sure to update your “software.” Take advantage of these gifts. Remember that even though thousands of years have passed, things haven’t changed that much in our brains. Foresight and collaboration — of any kind — continue to be two of the most important characteristics of human nature to improve our survival rate. Let’s not forget that; let’s not be afraid to venture into the unknown; let’s build the future we desire to have, and remember: the future is the new “being in the present.”

About the Author



Edgar Barroso is a Senior Consultant with Cutter Consortium's [Business Technology & Digital Transformation Strategies](#) and practices. He is a visiting professor in innovation and public entrepreneurship at the School of Government at the Monterrey Institute of Technology and Higher Education, Mexico. Dr. Barroso is a member of Mexico's National System of Art Creators, working on a three-year project dedicated to creating seven chamber and orchestral music pieces based on scientific phenomena combining art, science, and technology.

Dr. Barroso combines his career as a composer and entrepreneur. As a consultant, he promotes and conducts workshops, courses, and seminars on creativity and transdisciplinary collaboration for innovation purposes. Dr. Barroso has also co-designed various interdisciplinary collaboration programs in government agencies, universities, private companies, and nonprofit organizations. As a composer, he has received awards and has performed in Russia, Europe, Asia, North America, and Latin America. A double CD with his music will soon be released.

In the last five years, Dr. Barroso has cofounded various startups, including PULGAMA, a startup that focuses on visualization, sonification, and analysis of data; NUUPA, a startup that helps families preserve their memories and legacies via trans-medial support; Zero Viajes Productions, a startup that curates and produces original artistic events and ventures mixing science, art, and technology; and Covolución, a startup that promotes transdisciplinary collaboration in diverse areas of knowledge and professional development.

Dr. Barroso dedicates part of his time to creating and maintaining networks of citizen cooperation for social purposes. He is the founder of several initiatives, including Hands to Sound, a program that allows kids from foster homes to spend a couple of days creating and editing sounds of fragments from their favorite movies while learning about creative industries and media technology; and 60 Minutes for Mexico, a 12,000-member Facebook group, where people share social concerns and find support and cooperation from others in order to take action on areas of opportunity. This idea is evolving into TODUNI, an online platform that will create small cooperative teams. Dr. Barroso received his PhD in music composition from Harvard University, where he was selected as part of the Inaugural Society of Harvard Horizon Scholars. He can be reached at ebarroso@cutter.com.