Making Sense

Challenges of extracting value from AI and ML experiences in the mid-market

Unlocking the value hidden in the data brings big benefits as well as challenges. The key is to think big but start small.

Suddenly, an established company, with several years in the industry, receives a **financial boost** to break out of some plateau or initiate an innovation process. **Private equity investments**, oriented primarily to mid-segment companies, involve numerous challenges. One of them, perhaps the main one, is facing the double dilemma of how to obtain value from existing data and identifying which processes have the greatest potential to generate that value.

The main obstacle, particularly when it comes to incorporating new technological concepts such as **artificial intelligence** (AI) or **machine learning** (ML), is culture. The company receiving the investment usually has long-standing collaborators or even the founders themselves who "have always done things this way". This produces a kind of tunnel vision, making it impossible for them to perceive opportunities for improvement or risk changes that could positively affect results. So the first step is to see the opportunity. What is the company missing out on by not exploring all that data that keeps its value hidden?

The next impulse will come from the leadership when it decides to move forward with implementation because it has detected that it is an alternative to save a lot of work, generate revenue, or optimize costs. It is essential to reach the **point of equilibrium**: many times people go from denying the need for IA to assigning it extraordinary powers and believing that it is a magic formula that, like King Midas, will generate optimizations in everything it touches. The reality is in the middle: both AI and ML represent the possibility of reaching business solutions that, if accessed in the conventional way to access by the conventional way, would require a lot of effort as they handle too many variables and a huge number of particular cases, which range from personnel recruitment to asset monitoring in a factory, among many others.

In fact, an AI tool expands the angle of analysis, as it allows for the identification of patterns that would otherwise never have been visualized. For example, a **public safety** organization was able to determine a geographic area with low cell phone coverage based on errors in communication reports, which were repeated more frequently in the same area. The data hides very valuable information. The change of mindset consists, precisely, in the fact that employees who have been developing their work for years are open to the possibility that **new technologies allow** them to make progress on ideas that were previously impracticable. A cattle farm, for example, now has the ability to anticipate everything from how much milk a cow produces to how likely it is to get sick.

Then it's time to try to understand when an AI project is successful: unlike traditional software, which is driven by a **cause-consequence model**, here we are talking about predictive algorithms and approximations, which are never exact. They can always be improved: it is an iterative procedure that continuously invites experimentation -the vision is definitely a more scientific one-, trial, error, and research. To move forward in this process in a meaningful way, it is essential to establish metrics that allow us to identify the reasonableness of continuing to invest time and resources according to the achievement of the objectives. We also need to determine, before starting the project, what level of errors we are willing to admit: the tolerance required for an administrative system is not the same as that required for a healthcare-related system.

Among the **common errors** that AI projects present, and that should also be contemplated from the beginning of the project, are the training models to avoid biases or deficiencies. There is a paradigmatic case: a company used AI for the recruitment process and because it only had historical data to learn from, the tool hired more men than women, repeating the historical hiring pattern. Another example is Microsoft's Tay bot: launched on social networks without prior training, within hours it had become racist and conspiratorial. AI's capacity for analysis is beyond human possibilities: many times the same results will point us in a new direction that had not been previously considered.

Ironically, the technology part is the easiest: the maturity of the available tools helps in **building solutions** to train a huge number of things.

To overcome all these challenges, **mid-market companies** first need to be open to understanding what AI can do for the enterprise and seek the path by which technology can align with organizational purpose. And, the bottom line: get started. Take a small project, one that doesn't require major changes and allows you to quickly visualize the value. A first step that, because of its size and impact, does not imply a leap into the void, but a reasonable learning path.

The value is there, in the data, stored and has been hidden for many, many years. The time to decide if we should let it sleep or wake it up and **capitalize** on it for the benefit of the business is now.