Early Warning Signals

Article

Be Prepared, Be ahead with Early Warning Signals

During the last decades the expression *"age of discontinuity"* has often been used to describe market conditions where organizations need to deal with "a mess". Today like never before, markets, technologies, society and trends change at a rapid pace and with pivotal moments that define discontinuities or strategic "surprises". By detecting *"weak signals"* (Ansoff, 1975), which can be perceived as important discontinuities in an organizational environment, organizations can react strategically ahead of time. The nature and importance of *"weak signals"* is best described as follows:

> *"As any adult knows, a magician cannot produce a rabbit unless it is already in (or very near to) his hat. In the same way, surprises in the business environment almost never emerge without a warning."*
> - Wack, 1985.

In reality, in complex markets *"weak signals"* are also known as *"early warning signals"* (EWS) because they are able to warn ahead of time about possible future events. Collection of early warning signals is achieved by scanning the environment in which an organization operates in search of relevant information.

Why is detecting and understanding in advance weak signals so important for organizations?

Because early detection of weak signals could lead to a premature understanding of an event which has the potential to jeopardize an organization's strategy or could bring the organization to leverage new opportunities before other competitors.

Let's see a **positive business story** where an organization has been able to quickly understand the new market conditions and came up with a new business model.
Launched in New York City in 2011, **Joyride Coffee** saw an opportunity to focus on office coffee service (OCS). They decided to start a brick-and-mortar business to bring the world's best wholesale coffees directly to offices (B2B model). However, the company was able to pivot its business model when the COVID-19 pandemic struck. While many offices temporarily closed or encouraged employees to work from home, Joyride reacted quickly and broadened its business. They created a new channel, and they successfully reoriented their e-commerce platform and their product to offer a direct-to-consumer channel, enabling coffee drinkers to have Joyride products shipped directly to their homes (B2C model).

At the same time, let's examine now two among many examples of companies that **sustained extensive damage** because they were not able to understand signals that defined discontinuities in the market conditions.

Kodak dominated the photographic film market during most of the 20th century but blew its chance to lead the digital photography revolution after failing to accept the relevance of the technology for too long. A Kodak engineer actually invented the first digital camera in 1975. "But it was filmless photography, so management's reaction was, 'that's cute—but don't tell anyone about it". The Kodak management failed to see digital photography as a disruptive technology, it was so focused on the success of traditional films that it completely missed the digital revolution after starting it. Kodak filed for bankruptcy in 2012.

Another example of a major business failure is **Xerox**. Xerox was the first company to invent the PC and their product was way ahead of its time. But the management thought going digital would be too expensive and they never bothered to exploit the opportunities they had. The CEO David Kearns was convinced that the future of Xerox was in copy machines. Xerox failed to understand that you can't keep perpetually making money on the same technology.

Broadly speaking we can argue that the most recent example of signals that were difficult to recognize is the rise of the COVID-19 pandemic.

At the beginning of 2020, every company was able to collect information about the virus diffusion from China, but very few really understood the inherent danger and took actions to adapt. Many companies sustained huge damage because they were not able to adapt before the pandemic reached Europe and changed dramatically market conditions. Or they failed to benefit from huge potential opportunities connected with new market trends (among others, the growth of ecommerce and grocery delivery markets).

So, why didn't very structured companies recognize that the rabbit was about to blow up the hat in the air?

Discontinuities are relevant changes in an organisational environment which are characterised by being difficult to predict. Weak signals that could lead to discontinues are even harder to recognize and predict if a manager or a researcher is not aware of the process needed to spot them and the bias embedded within it.

A signal is "weak" (difficult to spot) based on a lack of discrepancies between an "environmental event" and the manager/researcher's expectations. Or because even when signals are "easy" to spot, they are not easy to understand never mind the potential consequences. For example, for many years **Blockbuster** figured their physical stores were enough to please their customers. They did not understand the new opportunities offered by delivering contents to homes and creating availability on demand. **Netflix** cracked the scenario because they anticipated the potential of a digital revolution in that market. Blockbuster filed for bankruptcy.

At the same time, some signals are "strong" (easier to be spotted) because observers know the end of the movie and processes are observed retrospectively. It's safe to say that **Tesla** innovated the car industry because they understood before others that non-renewable, extremely polluting energy sources could not be used indefinitely. Everybody could see the beginning of the movie, i.e. the side effects of the dominant energy source used in the transportation industry, but Tesla acted faster and better than others by figuring out the end of the movie and investing accordingly.

It's pretty clear that weak signals are very important in the field of strategic management. For companies it's crucial to have the ability to proactively search for signals and leverage them to improve strategic and operational choices.

That's why **MindForest** and the **Luxembourg School of Business** jointly created the **Early Warning Signals** (EWS) project. As the first of its kind in Luxembourg, the Early Warning Signals (EWS) project aims to:

- Understand whether and how companies collect weak signals from the ecosystem to defend current positions, detect opportunities and threats.
- Assess to what extent companies analyse and use this information.
- Identify business best practices and analyse them in the light of most recent management research.
- Share knowledge and inform the Luxembourg business community.

During the **first project phase**, CxOs of the top 15+ companies in Luxembourg were interviewed by the research team. The aim of this qualitative research activity was to generate a deep understanding of the vision, technologies and projects created by companies to collect and leverage weak signals.

In the **second project phase** a quantitative survey based on the results generated by the qualitative research in the first phase will be designed and deployed.
The survey will aim to collect data from hundreds of professionals across the entire Luxembourgish business community and provide a basis to assess solutions implemented in different market industries.

At the end of the project, the data and findings generated will be used to:

- Support companies to achieve sustainable growth in highly competitive markets.
- Support executives to identify market opportunities and risks in advance.
- Create a competitive advantage for companies in order to stay ahead of their competitors.
- Provide companies with customized analysis about: **1.** How is a specific company positioned with respect to the industry? and **2.** What kind of tools and processes are used to catch weak signals relevant in a specific industry?
- Develop applied scientific knowhow suitable for supporting corporate decision makers.

Today early warning signals analysis can and should be integrated into every business strategy, ensuring that an organization has the ability to detect and use EWS correctly in order to fuel internal decision processes is a key factor. That's why today research and applied projects about EWS are mostly rooted in the areas of strategic management and change management.

EWS can be used to adjust or even pivot the entire organizational strategy and also play a crucial role in anticipating and assessing risks. Thus, corrective actions can be prioritized and implemented to keep the organization ahead of its competitors. Change management models can also be applied to implement the necessary changes once the right decisions have been made based on EWS.

Today the need for organizations to be "proactive" instead of being able to "just react" to the market is very much clearer. It's safe to say that the use of early warning signals can pave the way for organizations to switch from a reactive mode to become a proactive player leading innovation in their industry.

About the author

Dr. Matteo Forgiarini has a social sciences background with a master's degree in Organizational Psychology and a Ph.D. in Experimental Psychology & Social Neuroscience from the University of Milan-Bicocca (Italy) and Harvard University (USA). Matteo Forgiarini is a professional with a vast experience gained as an advisor working in several consulting companies, media agencies and start-ups. Matteo's focus is on digital transformation and quantitative analysis in social sciences with a natural application in data driven change management. For 12 years, he taught the data analysis class at the Faculty of Psychology at Milan-Bicocca University (Italy). Since 2017 he has been teaching the Business intelligence class at Yschools Business School in Troyes (France) and the Advanced Innovation Management class at the ISG Business School in Paris (France).