

Increasing Farming Profits Using New Digital Technologies: Fact or Promise?

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What are the expected benefits in agriculture from digital technologies?

Optimizing inputs, reducing harvest risks and improving overall productivity.

What does it really mean?

In most cases concrete benefits translate into reducing treatments (pesticides, fertilizers,) but at least 30%, saving 50% of water (and more), improving production up to 200%, reducing harvest losses risk by at least 30%.

This is for real, several use cases proved it!

But...A lot of smoke and mirrors are also present confusing the farmers and the overall sector.

Figure

We need to do a step further into the ultimate understanding of digital technologies.

Technology adoption in agriculture should follow the general rule of "moving from technology centric (over)enthusiasm" to a ROI/Benefit driven mindset.

This switch is key to a successful adoption.

Overenthusiasm and technology focus too often lead to pushing a technology adoption instead of focusing on the real goal, the final benefit for the crops and the farmers. This "technology driven adoption trap" generates disappointment, ultimately backfiring to slowing down the general adoption penalizing also the healthy ROI driven approach.

So, what do we find if we go to the core of digital technologies for agriculture? What is the ultimate value digital technologies deliver to agriculture?

Digital technologies are TOOLS enabling information and knowledge sharing powered by computer processing! Nothing more, nothing less. What does it mean?

Sensors, Meteo Stations, Drones, Satellites, APPs... help to capture and digitalize available data about crop conditions, farming practices, available remedies... and share them over the cloud.

This is a necessary step one. But so far, no real benefit yet, more is required.

If (and when) everything works out, those data can be automatically combined and processed to provide timely recommendations to know when the right time is to irrigate when there is a risk of a bug and therefore is the most appropriate time for a treatment, when is the right time to seed, and much more. The above recommendations are delivered by agronomic models (knowledge) pro-

cessing in real-time local data (information) improving the effectiveness and efficacy of agronomic practices.

In short

- Farmers are the ultimate decision makers and therefore the ultimate game changers.
- Knowledge and data sharing are the key;
- Digital tools are knowledge carriers and enablers.

Step 1: Information -> digitalizing local data and bringing them over the cloud;

Step 2: Knowledge -> digitalizing agronomic models to automatically process data;

Step 3: Recommendations -> combining the above in real-time processing and delivering the results on farmers APPs informing them in a SIMPLE way about what to do and when.

Agriculture stands now at the most exciting time in a while.

Principles

1. Confusing the tools with the benefits is a common mistake.
2. Data and knowledge are the ultimate commodity for the happening farming revolution.

Mindset switch

The real benefits come indeed from switching farming practices to best practices and to dynamically adapting to the ever-changing yearly weather patterns/local conditions timely meeting crops needs.

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