If agriculture is to continue to feed the world, it needs to become more like manufacturing.

– Geoffrey Carr., Science Editor, The Economist

All the steps required to send an agricultural good to market: production, processing and distribution, are defined as Agribusiness. It's the business of farming and the commercial activities related to farming.

What makes agribusiness different from farming is that it treats the different aspects of raising agricultural products as an integrated system. And this, with the use of new tech, is vital for competitiveness in the global sector.
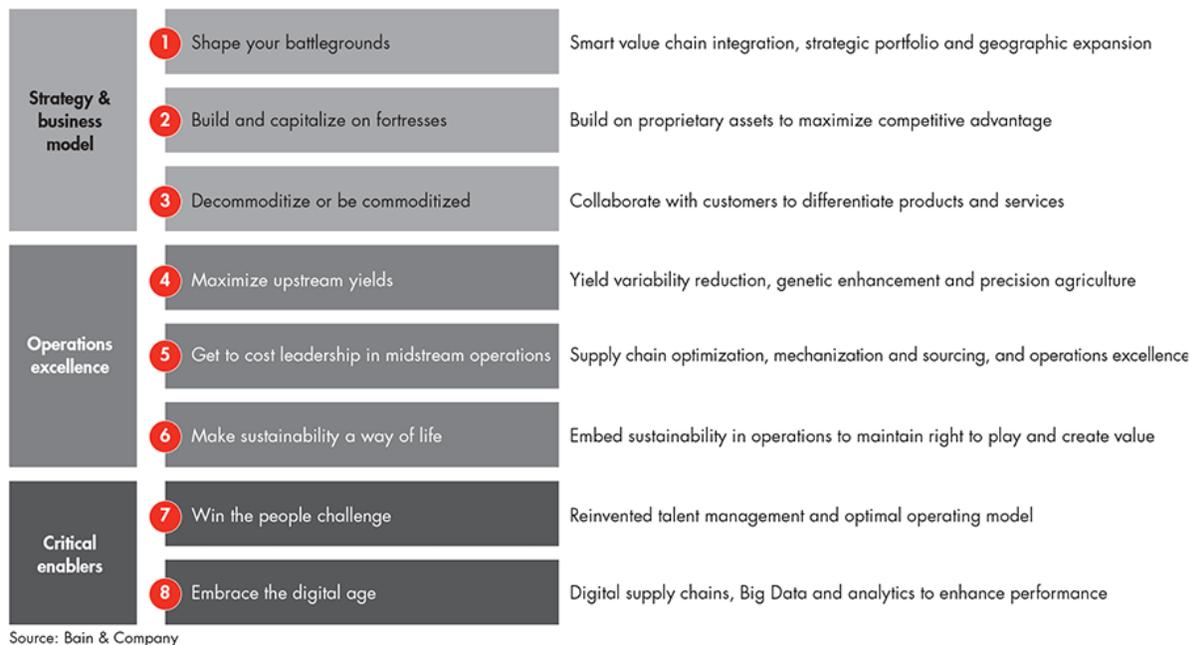
Farms, then, are becoming more like factories. In various shapes and forms, information technology is taking over agriculture- turning it into tightly controlled operations where sowing, watering and even harvesting can be computer-controlled. Tech is even on the cusp of DNA management for better plants and animals. Are you part of this movement?

Tech and Farming

Agricultural companies don't have to be manufacturing companies, but there are manufacturing world constructs that can help strengthen an agribusiness.

Operations is a great place to start the discussion, and ERP (enterprise resource planning), a good launching pad. Standard costing, variance analysis, lot serial number control - these facets cross from the manufacturing world and into the agricultural one. An ERP system can strengthen a farm's competitiveness by reducing payment terms and expenses and supplying valuable information at the touch of a button. ERP constructs can make a better, stronger agribusiness.

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According to a Bain and Company Brief, "Can Agribusiness Reinvent Itself to Capture the Future?", there are eight rules for winning agribusinesses. Of these, more than half embrace technology.

Strategy & business model	1	Shape your battlegrounds	Smart value chain integration, strategic portfolio and geographic expansion
	2	Build and capitalize on fortresses	Build on proprietary assets to maximize competitive advantage
	3	Decommoditize or be commoditized	Collaborate with customers to differentiate products and services
Operations excellence	4	Maximize upstream yields	Yield variability reduction, genetic enhancement and precision agriculture
	5	Get to cost leadership in midstream operations	Supply chain optimization, mechanization and sourcing, and operations excellence
	6	Make sustainability a way of life	Embed sustainability in operations to maintain right to play and create value
Critical enablers	7	Win the people challenge	Reinvented talent management and optimal operating model
	8	Embrace the digital age	Digital supply chains, Big Data and analytics to enhance performance

Source: Bain & Company

Farming that is business-driven can lift a lot of burden from the farmer's shoulders – and a data-based farm management system can be put together by most businessmen.

But the fact remains that many agribusinesses trail behind when it comes to using technology in their business processes and internal systems, particularly across dispersed operations. This leaves them behind the curve in supply chain management, quality control and value chain integration.

How we manage process and get data to help those processes is the heart of any business process – the idea is to do more at a lower cost with a higher quality product, meet regulatory requirements (seed to sale or lot serial number control) – and tools to solve these problems come straight out of manufacturing.

Embracing tech and working more like a manufacturing company means farmers can create a "smart view" of the value chain, which can help cut costs, increase yields and reduce waste, enabling their agribusiness to capture the full potential of its operations.

Smart Ag – Following in MRP footsteps

Three critical factors determining manufacturers' success are productivity, connectivity and standardization. Farming is no different – it shares the need for innovative technology in operations to improve all three.

To note, some manufacturing tools don't work well for GROWING, but do help when you're working on an agricultural product (that piece is a manufacturing piece). Farmers today have access to GPS and drone technology to map growing patterns and check their crops, can scan the soil for nutrients

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and moisture levels, and can leverage management information systems to carry out their operations functions and manage the distribution process.

Agricultural products are characterized by the distribution process. For those growers who are also producers, this is a key driver.

Unlike a manufacturing company, farms sell commodities rather than televisions. But like a manufacturing company, you should know your production costs - for each field and commodity your farm produces. What does it cost to grow a bushel of your crop? What will it cost to run the business? How much will you have to spend on marketing? Do you have the data you need to forecast production – storage costs, insurance fees, etc?

Agribusinesses, like manufacturers, need to think carefully about which data and performance tracking technology is most relevant to them. Manufacturers have had IoT (Internet of Things) capabilities for years – they just might not identify them as such. Farms are the same – as distribution, while maybe more volatile than iPhones – can use the same technology, selecting a system that provides data in real-time and the information needed to answer the above questions.

Using these tools not only enhance agricultural productivity, they make farms more intelligent. Intelligence in business is key to competitiveness... and profit.

So how do you get there? Start with the end in mind.

Before going forward with big data projects, ask yourself some fundamental questions.

1. What business processes or decisions do you want to improve?
2. How will these decisions improve the business?
3. What types of data do you need to collect for sound decision-making?

Once clarified, you can decide the tools you need. And you needn't reinvent the wheel, as manufacturing has been utilizing these tools for years, you only need to choose the ones that best fit your needs.

Improving product quality, automating manual workflows and streamlining operations are a few of the many benefits of adopting company-wide manufacturing-style operations. Moreover, having secure, scalable operations is key to future growth. Putting accurate information into your teams' hands in a timely fashion can result in:

- Reduced Costs;
- Improved Quality;
- Improved Productivity;
- Increased visibility from the production floor; and
- The ability to make profitable decisions.

What are you waiting for?

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