BIZCOMMUNITY

Driving transformation in the food and beverage industry

By Phil Lewis

19 Feb 2021

The unforeseen disruption experienced in 2020 has prompted food and beverage producers to future proof their businesses as far as is possible. While uncertainty seems set to continue for some time, through focusing on expediting time to market; food quality and safety; supply chain resilience; and the creation of omni-channel models, companies are putting themselves in the strongest position they can to embrace and capitalise on future opportunities.

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Operational excellence is driving successful outcomes across many of these initiatives, as firms look to optimise resource efficiency, whether that's people, energy, water, or all the above. In agriculture for example, precision will become imperative. New technologies such as IoT will therefore become crucial in facilitating the granularity required to minimise waste while maximising output.

So what does the future look like for food producers?

Prediction 1: Cloud…

There's little doubt that cloud is set for huge growth as a means of creating robustness and agility. Frankly, there is no other way when you look at what the business is asking for. It's crucial in fully capturing data from IoT devices and the extended supply chain. There's little point in having temperature readings in a structured ERP database that sits safely within the

company's firewalls. That's why we have a data lake in the cloud and use AI services and computing power in the cloud to provide intelligence and make the data meaningful. This goes way beyond installing a piece of software. What is smart today will be outsmarted tomorrow with even more clever logic.

A big advantage of cloud is having this kind of technology at hand as a service instead of having to do a lengthy IT project to implement something that will not scale. Cloud also represents an opportunity to implement changes faster opposed to having to do technical migration projects which often require teams to take a step backwards before being able to move forwards.

Prediction 2: Omni-channel…

Food producing companies have seen a huge shift in demand, with home deliveries taking precedence over restaurants and supermarkets. This trend is unlikely to snap back to pre-pandemic levels as consumers have simply become now more used to ordering their food on the internet. Being omni-channel makes the business less vulnerable and able to take a larger piece of the market. We will see many food producers becoming omni-channel in 2021 by implementing e-commerce, either being an online store or connecting to a digital marketplace.

Prediction 3: Industry 4.0 tech…

Despite the need to become more efficient and reduce food, water, and energy waste, only 6% of food processors claim using IoT, with a further 12% stating plans to explore its role within the next two years. A staggering 82% have no plans whatsoever.

These findings could be explained by the fact that until now, we have seen some experiments in isolated domains, such as image recognition in inspection equipment, IoT devices in farming or in production lines. Yet there appear to be few examples of IoT being used widely to drive operations. For example, production machines have sensors to capture a lot of data like temperatures and other quality parameters, but all data remains in the machine and is lost and meaningless after the production run.

Product recalls are one of the greatest financial risks food and beverage companies face. Yet research shows that no firms claim to be completely digital for track and trace and quality management, with only 7% saying they are "largely" ready. Half (50%) say they are not digital yet, while 43% describe their status in this field as "limited". The good news is that in 2021 more food producers will have paved the way by having a digital platform in place to capture data and connect this to the transactions in their ERP system.

Prediction 4: Data driven…

A digital platform makes it possible to use IoT in a more holistic way. The first benefit of this is that faster and more targeted recalls will be possible, with the ability to identify and analyse the root cause of the issue immediately. The second is that data can be used to drive decisions and create a smarter company.

A good example is having insight into the inbound overseas shipments of crops, not only with regard to their estimated time of arrival, but also the storage conditions during transportation so that quality and use before dates can be predicted more accurately. This extends the control of the supply chain outside the four walls of the factory and uses data from farm to fork to increase quality and productivity, reduce food waste and minimise food safety risks. In turn, this can turn challenges into a competitive advantage.

Other applications are using image recognition and machine learning (ML) to dynamically determine the quality of received ingredients and using that to determine the purchase price. Something which would have a big impact on food safety would be the use of IoT sensors to check whether equipment is clean, with the results triggering a cleaning order to avoid contamination risks, which brings us on to the next big trend 2021 is likely to see.

Prediction 5: Transparency to the consumer…

One such advantage is transparency. Consumers are increasingly seeking more in-depth information about products to help drive their purchasing decisions, with 67% of consumers stating that they want to know everything that goes into the food they buy.

As a result, it's important to demonstrate the efforts being generated into sustainability credentials to consumers. We are seeing a growing number of retailers putting pressure on producers to provide information.

In 2021 and beyond we will see that this will be expanded to more product categories and used to differentiate producers and prove the sustainability of the supply chain. This means extended control of the supply chain from farm to fork and identifying whether the crop is GMO-free, what kind of crop protection has been applied, and other factors.

ABOUT THE AUTHOR

Phil Lewis, Infor VP Solution Consulting EMEA