

DXC Red Rock

Wine producers can use blockchain, bots and data to get a strategic edge.



How digital transformation can reel in modern wine drinkers.

Direct sales are booming

Figures for 2017 show that direct sales to consumers are growing in the United States. Research by Wines & Vines Analytics and ShipCompliant / Savos reveals that direct sales jumped to claim 10% of the whole American wine retail market, amounting to \$2.69 billion in sales for shipments of 5.78 million cases of wine, up 158% from the year before.

Winemaking is steeped in age-old tradition, but the wine market is barrelling ahead. Wine producers are tripping over each other to launch new products and direct-to-market marketing concepts. Distributors and retailers are finding themselves sidelined. Bad harvests and narrow margins are weighing on the sector. A lack of key supply chain data is leading to poor budgeting and forecasting. So, what are the emerging trends in this evolving industry? And which technology solutions could give the industry something to toast?

A turbulent year for the wine industry

In 2017, changing consumer preferences and remarkably low harvests exacerbated deeper industry changes, such as declining supplies and rising prices. According to Rabobank's Wine Quarterly Q1 2018, higher prices will not offset the effects of diminishing harvests for most.

More than ever, wine producers are seeking a firmer grip on production volumes and quality, either by planting more grapes or by buying up competing farmers. Distributors, for their part, are losing ground to wine producers that are opting to sell directly to retail purchasing groups and consumers. Some bulk wines are even being sold in the home market to be bottled and retailed in the sales market. As well as giving producers a better handle on quality control, cutting distributors out of the equation also beefs up their margins.

Changing consumption patterns

Patterns of wine consumption are also changing. Millennials are more adventurous in their choices and select less on regions, such as Bordeaux or Rioja, and more on grape varieties, like Cabernet Sauvignon or Shiraz.

Today's consumers are also more drawn to niche products and new wine concepts, such as blue wine, pétillant naturel, and sparkling fruit wines. This trend is also driving the surge in popularity of Eastern European wines in Western Europe and in wines with standout marketing and packaging, with the packaging of wine in bags and cans for the consumer market and in barrels for restaurants gaining popularity.

A wine's success is largely down to its marketing, its heritage story, and its lifestyle appeal. According to Mick Pisaniello, Solution Principal Red Beverage at Red Rock, much hinges on the speed of innovation: "Experiment a lot and market products as quickly as possible. Start small, try it out, and if it's successful, scale it up. That minimises the cost of inevitable flops."

The story sells the wine

Technological innovation can be used to help promote and market wine and reel in modern wine drinkers. With consumers increasingly conscious of how brands fit their lifestyle, the story behind the wine (product origin, production method etc) is the unique selling point that makes it stand out, much as with other food and beverage products.

For the increasing number of winemakers who are managing their own marketing, data (about a unique production process) and marketing that targets and appeals to customers directly is opening up new business avenues, with options including tastings, wine clubs, newsletters, direct sales, and wine subscriptions.

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Technology talks to customers...

Direct selling to customers requires new skills and tools. Besides production and bottling, winemakers are now expanding into the wider production chain, a large part of which centres on customer communication.

It goes without saying, a good website is essential, but, beyond that, new technology can be a boon, cutting out much of the repetitive manual work, while at the same time enhancing customer service. In Britain, for example, Lidl has introduced its own wine app featuring an AI-powered Facebook Messenger chatbot called Margot. Fully automated, she helps British consumers choose a wine that fits their tastes, budget and menu.

...and seals the deal

Blockchain is another technology that can cut out repetitive work. A blockchain works like a digital ledger, recording precisely who owns what and every single transaction that takes place. It can also be programmed to automatically conclude contracts.

Coding repetitive tasks into a blockchain is easy and it makes the supply chain more transparent.

Imagine that a wine producer offers its wine for \$5 per litre. As soon as this price is accepted by a purchasing group, the blockchain is programmed to automatically complete the transaction, transferring the digital proof of ownership to the buyer and the payment to the wine producer, and storing all of the data in the blockchain.

Accessing key data buried in systems and paper

Though automation is nothing new in the wine industry, insight into processes remains less than perfect. For many wine producers, key data is buried in spreadsheets, paper files, and systems that are insufficiently integrated. Various business processes are supported by only one or multiple solutions, which have been tacked on piecemeal over time to form a patchwork of applications.

As a result, managers miss out on vital information, workflows are fragmented, and processes are poorly integrated. The complexity and, therefore, the opaqueness of the production chain only increases as more links are created between these systems, whether at a single site or company-wide, as happens after an acquisition. The result is a profusion of systems, each with its own logic, all strung together. Consequently, budgeting and forecasting amount to little more than guesswork.

A lack of oversight makes it impossible to synchronise schedules or supply and demand. That requires the input of technical process data – data on things like temperature, air pressure, and light intensity. All these environmental variables, as well as the state of machines, impact on production processes and the quality of the end product. Such values are measured, but not as part of an ERP system.

50% refrigeration savings

Even when the entire production process is detailed in ERP, there is often no clear information on machine performance. For instance, information on the tanks that cool the wine to the right temperature, and which account for as much as 50-70% of a winemaker's energy bill.

Using a smartphone app to track temperatures and switch systems off at appropriate times could cut these refrigeration costs by 50%.

In fact, harvesting this type of data from production and supply chains could substantially boost producers' efficiency. Case in point: by comparing how the same machines perform at different locations, producers can determine which ones work best and why, and thus improve efficiency.

Or say machines malfunction: the production process grinds to a halt, continuity suffers, repairs have to be made and, if the disruption is really bad, the producer may even lose buyers. However, by comparing data from different machines, the cause of the malfunction can be pinpointed. It may even be possible to identify and prevent an impending malfunction.

BI tools help prepare for seasonal peaks

In the wine industry, seasonal peaks are difficult to plan for. How much can be produced, and when? And just how much is available?

Some forward-looking wine producers have taken the first steps toward using BI tools to better prepare for sudden spikes in demand. Whereas most still only use production data from past seasons, accessing data from a wider range of channels enables producers to analyse trends more effectively.

Knowing when, where, and under which circumstances a product is consumed, and in what quantities, can offer interesting insights, which can be used to optimise material requirements planning, distribution resource planning and the whole production chain.

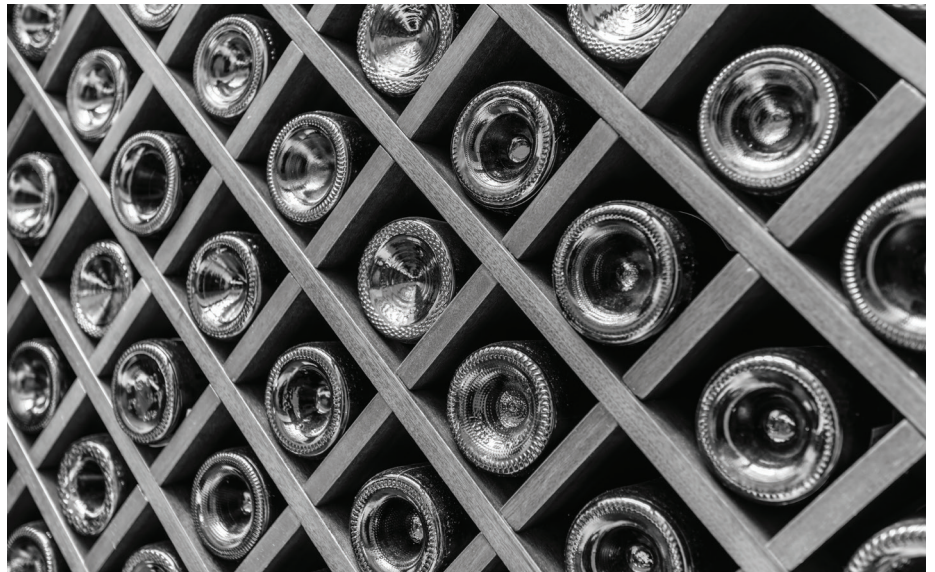
Technology can also significantly boost efficiency in vineyard management. Currently, many farmers still spend hours driving from plot to plot in ATVs, which doesn't necessarily give them the full picture, while relying on satellite technology to analyse their soil conditions and crop.

Using drones is a far cheaper and more effective option. Drones can spot diseased leaves or broken irrigation pipes in minutes. By monitoring drone footage from their smartphones, farmers can take immediate action (for example, to repair an irrigation pipe).

Automated warehouses

The general trend toward full automation is making inroads in the wine business, too. Automating parts of the order-picking process is speeding the pace of work, while avoiding the inevitable errors and consequent high costs of manual performance.

The Wolf Blass Winery Packaging Facility, owned by Treasury Wine Estates, is a good example. Pallets of wine are delivered to the facility by truck and transferred directly to the production line, where loads can be processed at any time of day or night.



Pallets are processed at a rate of one every two minutes, and the facility has three more production lines running at the same speed. The automated picking process uses barcodes that can be read by forklifts equipped with scanners. Each pallet is scanned and the delivery truck's licence number logged in the production system. Since the process involves pallets of bottles, the consumer-packaged goods are integrated with JD Edwards to keep supplies to a minimum.

Once loaded, the pallets that are ready for delivery are sent to the pallet-wrap machine, labelled by a fully integrated pallet label applicator, and automatically scanned into JD Edwards. This fully automated warehouse has a 22,000-pallet capacity and uses integrated systems and nine automated cranes. Everything is done by machines; people are only called in if absolutely necessary. The same applies to the automated loading conveyors, which load trucks at a rate of one every 15-20 minutes, day and night, over a six-day workweek that starts at 11 p.m. on Sunday and ends at 11 p.m. on Friday.

Cost-cutting as a marketing tool

Linking existing machines and systems to ERP affords more insight into the production chain and also enables businesses to minimise wastage. This pays off, not only in costs, but in marketing too, since consumers are increasingly opting for food and wine that is sustainably produced.

So, for example, production and supply chain data can be used to calculate each bottle's carbon footprint, which can then be used in the wine's marketing.

A taste of things to come

Digital applications are poised to open the floodgates of data in the wine industry: data from the production process and supply chain; website data; data about weather, soil, and crop conditions; and much more besides.

Though local servers are costly to maintain and difficult to scale up when demand for storage or computing capacity rises with seasonal peaks, many winemakers have yet to switch to the cloud, despite the economies of scale and cost benefits it offers. Because IT hardware is outsourced to the cloud, there's no expensive equipment to replace every five years, leading to a more even spread in outlays and improved cash flow.

For producers to stay competitive and retain their margins, digital transformation is an absolute must. Integrating systems and harvesting all kinds of data from the supply chain can enable them to cut costs, develop new products and, ultimately, move forward with confidence. Now that's something to toast.

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