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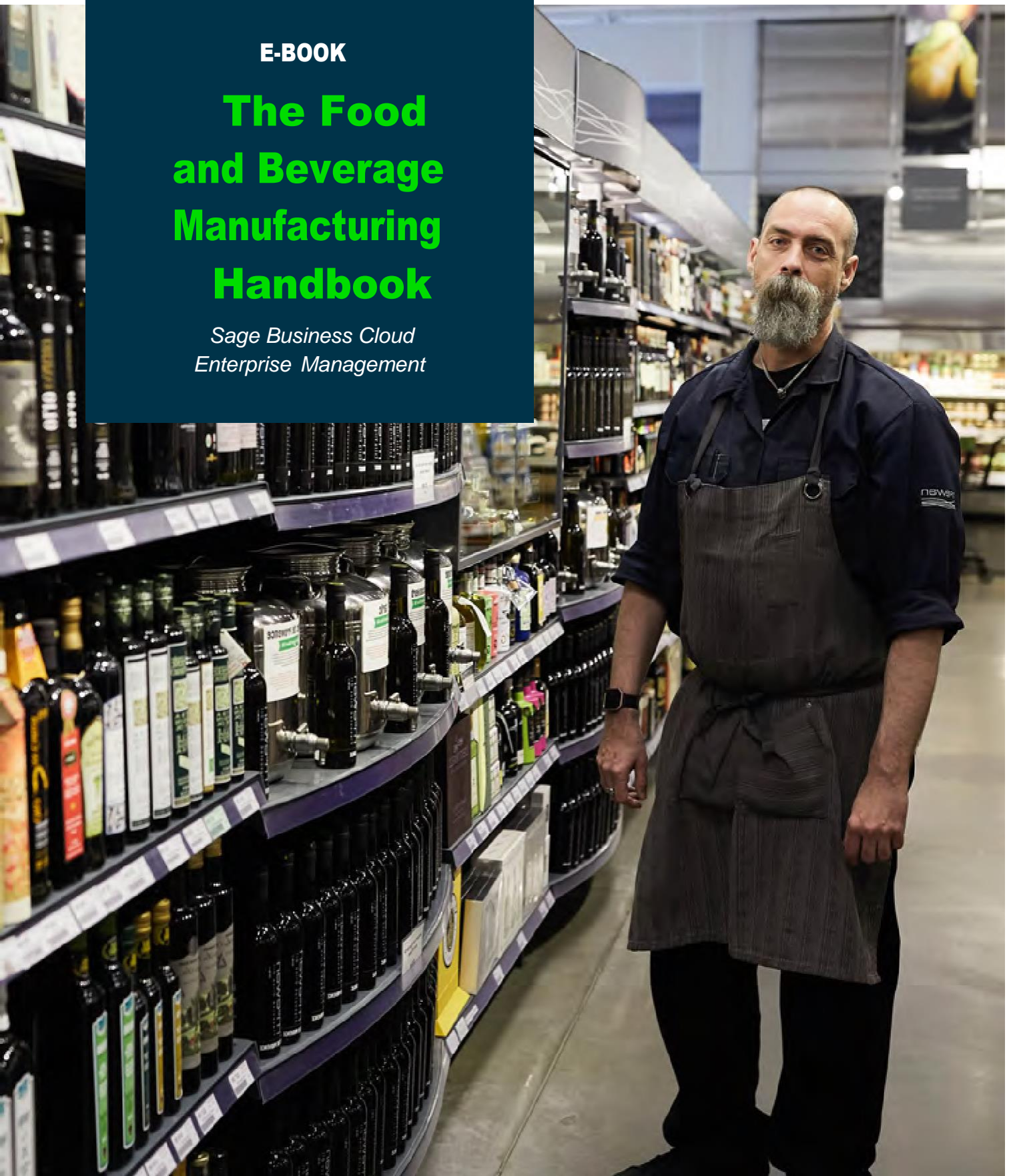
The Food and Beverage Manufacturing Handbook

Sage Business Cloud Enterprise Management

Contents

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The global food and
beverage industry
is worth billions of
dollars. It's fast-paced
and incredibly
customer-driven.

— Aberdeen Group

Chapter 1:
Global challenges for food and beverage

The environment food and beverage manufacturers operate in can be complex. They are in a unique position compared to other companies in that the product they produce has a direct impact on customer health and safety. Consider the bad press that a brand name gets when there is a public food recall, or the headlines generated from a health scare or issue with the food chain.

Together with this extreme focus on product quality, food and beverage businesses also have similar issues to companies in other manufacturing industries, such as a need to increase operational efficiency, cut costs, and differentiate products from the competition.

The importance of food safety

As mentioned, food contamination and safety scares can hit a food and beverage manufacturer hard, often playing out in the media to result in significant blows to brand reputation. In today's connected world, incidents will always be remembered. That's why food safety will always be the top priority of a food and beverage manufacturer, necessitating safeguards in areas such as product design, supply chain sourcing, production, quality control and compliance.

Food and beverage manufacturers are responsible for producing safe food and drink products that contain the ingredients and nutrition they promise. It's central to production, because consumers must trust that the products they've bought are totally safe.

In the US, the Food Safety Modernisation Act means that food and beverage manufacturers must focus closely on the safety and quality of their products, with rules set up for how they handle issues. This means for instance, tighter control, and the documentation of every ingredient and process used throughout the business.

Signed into law in 2011, the Food and Safety Modernisation Act is not new. However, there are still businesses that have trouble complying with a mandate that continually evolves but has the same basic goal at its heart—keeping products safe and of high quality.

In this kind of regulatory climate, maintaining compliance will cost money, and makes food and beverage manufacturing particularly complex.

In Europe, there are plenty of laws and regulations around the production, processing, packaging and labelling of food stuffs, many of which originated in the European Union (EU).

Some of these have been in place for 30 years, but food and beverage businesses should be aware, for example, that in the UK, the Food Standards Agency believes some of the rules it has right now haven't kept pace with changes in the food industry and are not flexible enough for changing needs.

In this kind of regulatory climate, maintaining compliance will cost money, and makes food and beverage manufacturing particularly complex.

Cost
Margins can be razor thin. Costs come in many different forms, such as material costs, labour costs, packaging and shipping expenses. However, a large proportion of the material costs come from sustainability issues—energy and water costs
for example. Reducing cost pressures is directly related to increasing productivity. For example, if manufacturers can increase yield, this reduces the waste produced such as scrap and rework.

Regulatory and compliance
Product safety regulations are complex, vary among different countries, and change frequently—almost always becoming stricter. This means that when your food and beverage business expands into different countries, compliance burdens will grow, as well as the likelihood and complexity of product recall. Legislation gives government agencies more power to intervene with a food and beverage manufacturer's operation.

Food traceability and recall management
In 2013, there was a massive incident in Europe in which foods advertised as beef were found to have improperly declared horse meat. This event highlighted the importance of traceability for food and beverage manufacturers. They need the ability to trace products as they pass through the supply chain, which is often long and complex. Traceability allows businesses to verify the history and location of a product through documented, recorded verification.

Differentiation
Innovative and growing economies have led to the development of many new food and beverage manufacturers, as well as a multitude of products across different categories. This choice should be good for the consumer, but they may find themselves overwhelmed. It's the job of established and new manufacturers alike to differentiate themselves from the competition and win traction with consumers.

Change in customer demands
Consumers are armed with information and have higher expectations and needs when it comes to what they eat and drink. For instance, many are becoming more nutritionally aware, with a desire for naturally-sourced ingredients, environmentally-friendly packaging and humane sources of farming. This variability can put significant additional demands on supply chains, and food and beverage manufacturers are charged to handle these challenges while dealing with razor-thin margins.
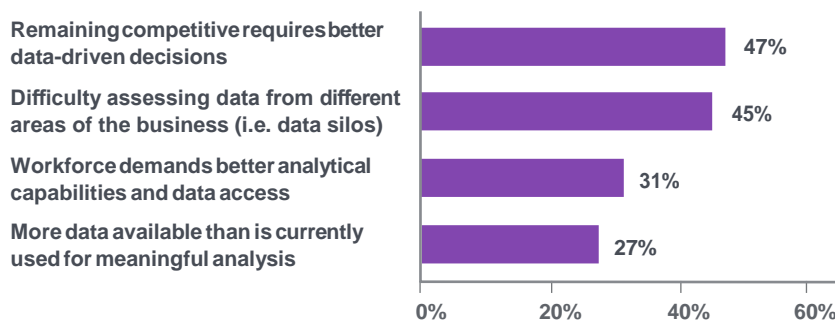
Chapter 2: Modernising food and beverage manufacturing

Manufacturing strives to reach a level of operational excellence—a level of cultural transformation and business enablement that allows it to perform at its optimum, so it can reach its strategic objectives.

There is an obvious correlation between product efficiency and the lowering of operational costs. Ways food and beverage businesses are looking to increase efficiency include improving repeatability and decrease variations in product processes. Methodologies such as Lean and Six Sigma are seeing a manufacturing resurgence. These can help ensure predictability and cut out waste.

With the fourth industrial revolution, or Industry 4.0, we're in an age where digital transformation has become an important route to connectivity for forward-thinking industry leaders. It's a challenge and opportunity for global food and beverage manufacturers, giving businesses the opportunity to digitally transform their businesses and take advantage of innovations such as big data, the Internet of Things (IoT), and robotics.

At the core of food and beverage manufacturing, becoming data-driven and smarter in decision making is crucial, which is why digital transformation is so important. According to research from the Aberdeen Group, 47% of manufacturers state that becoming data-driven is essential to success.

Remaining competitive requires better data-driven decisions — 47%
Difficulty assessing data from different areas of the business (i.e. data silos) — 45%
Workforce demands better analytical capabilities and data access — 31%
More data available than is currently used for meaningful analysis — 27%

■ Manufacturing Organisations

Percentage of Respondents, n = 127
Source: Aberdeen Group, June 2015

Technology investment is needed

Food and beverage manufacturing leaders are investing in enterprise systems to manage complex product and operational data, which could provide information in areas as varied as asset performance, testing, configurations, manufacturing specifications, suppliers and compliance. The right enterprise systems provide employees and executives with the tools to make connections between day-to-day tactical operations and their overall strategic business goals.

However, there is one major hurdle to becoming an effective and data-driven food and beverage manufacturer—accessing data from different areas of the business. Enterprise Resource Planning (ERP) is already crucial to a well-functioning food and beverage manufacturer. It allows them to manage various critical aspects of the business operation, build resilience, keep up with demand and regulation, and manage vendors, customers, production, logistics and quality control.

To be best-in-class, manufacturers also need to ensure it works with, for example, Product Lifecycle Management (PLM) or Manufacturing Operations Management (MOM) technology.

Retaining talent

Although the food and beverage industry is growing and innovating, manufacturers need to find individuals with the right skills to meet this demand, such as engineers, technicians and food experts. Here are some ways to attract and retain food and beverage manufacturing talent.

1. Put people in the right positions

Food and beverage businesses should look at their current teams. Do they understand each person's skill set and where they excel? Are they in the best position to add value to the company and for them to succeed?

2. Provide a career path

Most employees—not just millennials—want opportunities for career advancement. Now's the time for food and beverage manufacturers to examine their current job structure and identify achievable career paths.

3. Offer 'big picture' training

Food and beverage manufacturers can tie training to a person's career goals for the biggest impact on employee engagement. Training must be ongoing to keep employees happy, engaged, motivated and understanding of cutting-edge best practice.

4. Encourage employee contribution

Food and beverage manufacturers should foster a company culture that promotes and values employee input. This might mean building the brand up to make sure candidates get a sense of what they can offer.

5. Coach for success

Food and beverage manufacturers should ditch the annual performance review and replace it with regular check-ins with employees. They should use these one-on-one sessions to provide timely job performance feedback, valuable coaching, and advice on how to achieve career objectives.

6. Compensate competitively

It's simple supply and demand. Considering today's shrinking pool of qualified workers, competitive pay is the baseline for employee engagement and retention.

7. Build a talent pipeline and offer apprenticeships

Food and beverage businesses can partner with schools and universities to get in front of potential candidates early. Apprentices are available and the best talent is often accepted early.

Chapter 3: Stay ahead of regulations, while cutting costs

To deal with increasing amounts of regulatory pressure, food and beverage businesses need strong traceability tools, allowing the better handling of recalls, expiration management, sustainability, allergen-free production, labeling, and other major trending concerns.

There are new and emerging technologies that allow your food and beverage businesses to log transactional and product data. The insights that come out of this data are at the core of traceability.

Here are three ways to achieve traceability as a business objective:

1. The Internet of Things
Through the IoT devices can be connected anywhere, at any time. Using labelling technology like radio-frequency identification (RFID) and quick response (QR) codes allow data to be collected that tracks your product's full journey through the supply chain. Anything can be recorded—from the temperature during transport to the source of ingredients.

2. Big data analytics
Using big data analytics, your food and beverage businesses can see where a problem has occurred and stop it from continuing through the supply chain. With unplanned events and potential crises such as contaminated products you can respond quickly, having identified, tracked and traced everything.

3. The cloud
Food and beverage businesses can now take advantage of cloud solutions, with software managing aspects like system infrastructure, operating system, database and applications. This allows you to spend less time and energy on repetitive admin-heavy tasks and focus more on important operations.

Traceability equals visibility

To achieve full visibility of traceability in the supply chain, businesses must integrate IoT, big data analytics and the cloud into their ERP systems. ERP must be designed with the food and beverage manufacturer in mind—broad enough to log transactions across the supply chain, yet deep enough to offer industry-specific functionality. These include logging of source materials, results analysis, a way to conduct preventative actions, and adherence to strict regulations.
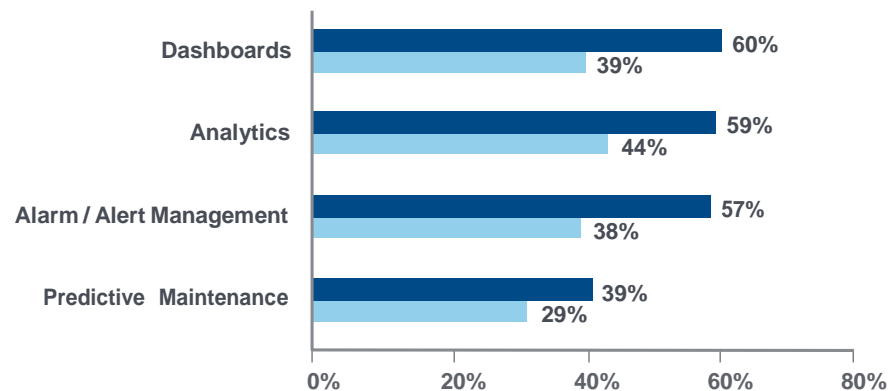
Chapter 4:
Analysing demand and consumer preferences

Food and beverage manufacturing always needed speedy decision making, constant change and the accumulation of data. Now industrial devices, machines and assets can communicate their state, condition and health in an intelligent way, allowing quick service by technicians.

The huge amounts of data generated by food products can also be turned into insight, which leads to competitive advantage. Data can be analysed and rapidly turned into actional information that can identify areas where efficiency and productivity can be improved, and feed businesses with information on how consumer tastes may be changing.

Best-in-class businesses will provide employees with the tools they need to turn data into actionable intelligence.

Dashboards 60% / 39%
Analytics 59% / 44%
Alarm / Alert Management 57% / 38%
Predictive Maintenance 39% / 29%

■ Best-in-class ■ All Others Percentage of Respondents, n = 127 Source: Aberdeen Group, June 2015

- After standardising the way data is collected, intelligence must be wrapped around this information through analytics—this provides decision makers intelligence about when and where problems occur, as well as ways to resolve the issues.
- Best-in-class businesses are more likely to implement dashboards and alarms to meet operational needs.
- Applications can summarise data from different business units, allowing businesses to plan out maintenance.

Analytics, alerts and dashboards can automate data collection, analyse and monitor this data, and notify the right people at the right time, preventing and reducing problems.

Chapter 5:
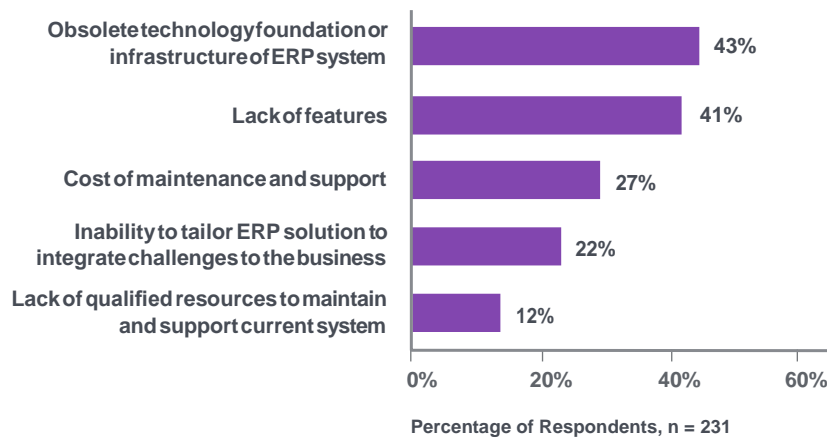# The problem with legacy enterprise systems

To get the full value of the fourth industrial revolution and becoming a data-driven enterprise, food and beverage manufacturers must have an ERP system that can fully integrate the operational technology needed.

Unfortunately, legacy ERP has a problem. According to a 2016 Report on ERP Systems and Enterprise Software, Panorama Consulting Solutions said that only 12% of corporate executives were "very satisfied" with their current ERP solution, and that 59% of global businesses were actively burdened with them.
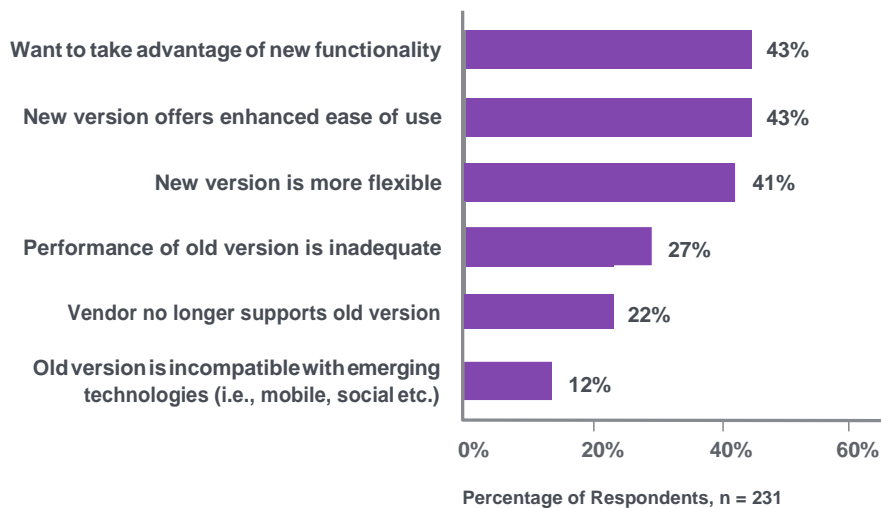
The problem is that with the changes in technology demanded by Industry 4.0, the requirements of businesses have changed considerably. Technology is continuously evolving and moving fast, while information is needed now and on demand. Legacy ERP applications are finding it increasingly difficult to cope.

Why aren't existing ERP solutions working?[*]

Obsolete technology foundation or infrastructure of ERP system	43%
Lack of features	41%
Cost of maintenance and support	27%
Inability to tailor ERP solution to integrate challenges to the business	22%
Lack of qualified resources to maintain and support current system	12%

Percentage of Respondents, n = 231

More reasons to update or replace ERP[*]

Want to take advantage of new functionality	43%
New version offers enhanced ease of use	43%
New version is more flexible	41%
Performance of old version is inadequate	27%
Vendor no longer supports old version	22%
Old version is incompatible with emerging technologies (i.e., mobile, social etc.)	12%

Percentage of Respondents, n = 231

Source: *The cost of doing nothing. Why you can't afford to sit on an ERP software decision.* **Aberdeen Group, March 2017**

Problems with legacy ERP include:

- A lack of up-to-date information. **Legacy ERP systems may not have the reporting capabilities and the up-to-date, real time access to information required by food and beverage manufacturers.**

- A lack of flexibility. **Often legacy ERP systems don't have the flexibility and ability to make industry-specific changes. This can cause problems with day-to-day operations, but may also affect long-term business planning.**

- Complexity. **Legacy ERP systems have a reputation for being unwieldy and complicated to use. If the ERP system is particularly unfriendly to use, employees won't use it, particularly if it means more work than avoiding it altogether.**

- The cost of maintenance. **Legacy ERP systems have a reputation for being particularly costly to keep running day-to-day, particularly if they have undergone customisation to meet certain business needs.**

- Strain on IT resources. **Legacy ERP systems may have been programmed in languages that aren't regularly in use anymore, and it may be difficult to find the right people with the right skills to keep the technology.**

Chapter 6:
Why Sage Business Cloud Enterprise Management?

Sage Business Cloud Enterprise Management can replace legacy ERP systems for food and beverage businesses looking to make important business decisions quickly, streamline compliance, eliminate inefficiencies and increase productivity.

Sage Business Cloud Enterprise Management can help you:

Meet regulations with traceability and compliance tools
Enterprise Management has strong traceability tools, allowing the better handling of recalls, expiration management, sustainability, allergen-free production, labeling, and other major trending concerns. Enterprise Management will help you meet evolving requirements, without increasing overhead.

Forecast supply and demand
Many food and beverage businesses struggle to anticipate demand, leading to wasted stock or lost sales from understocking. With powerful business intelligence tools, Sage Business Cloud Enterprise Management can quickly draw on historic data to produce accurate forecasts—saving your business money.

Food and beverage businesses leaving behind legacy ERP applications will be looking for a business management solution that has a strong foundation and history with food manufacturing and processing, supporting these unique requirements with minimal customisation.

Sage Business Cloud Enterprise Management provides an innovative core of crucial business intelligence and management functions for the food and beverage industry, supporting greater transparency and food safety.

Why Sage Business Cloud?
The Sage Business Cloud provides a business management solution for all sizes of business, from startup and financials to large business, with software designed to support operations for years to come. The Sage Business Cloud is completely up-to-date with the latest technological standards, ensuring its readiness to adapt to changing business pressures. As your business grows, the Sage Business Cloud grows with you, giving you the confidence to meet future challenges with ease.

Why Sage?
Sage empowers businesses throughout the world through smart technology and the imagination of its people. Sage brings energy, experience and technology to inspire customers to fulfil their dreams. We work with a thriving community of entrepreneurs, business owners, tradespeople, accountants, partners and developers who drive the global economy. Sage is a FTSE 100 company with 14,000 employees in 24 countries.

Contact us for a business review or request a demo.

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