The importance of traceability in an increasingly transparent world

Contamination and recall
Introduction

In recent years, shoppers have become more demanding, which has increased supply chain complexity and made it imperative for businesses to deliver greater levels of transparency and assurances on safety. That change in dynamic has only been heightened by the coronavirus pandemic.

The results show an industry with complicated and mounting responsibilities, and a consumer base with shifting priorities and a heightened sense of mistrust in brands and retailers.

Even before Covid-19, the journey ahead required a whole new perspective on how we go about business. In the presence of the virus, there is clearly a need for a new reality.

The journey ahead requires a whole new perspective on how we go about business. As we continue to work out what the new normal looks like one thing we know is that consumers are putting health and wellbeing on the agenda and key to delivering this is traceability.

Some of our key findings

- **Brands would be four times more likely to be impacted than retailers after contamination and recall**
- **People in a lower-income families are 5% more likely to think about the possibility of food contamination than others**
- **On average, men are 15% less worried about food contamination than women**
- **The South East is the most mistrusting region in the UK, with two in five shoppers sceptical of brands after food contamination**
- **52% of 18-24 year olds would change their shopping habits after a recall event**
- **4x shoppers do not believe brands and retailers are transparent about food contamination**
- **2/5 of consumers would buy a specific product less often after a publicised contamination episode**

High-profile fatalities – like that of 15-year-old Natasha Ednan-Laperouse – have thrust food contamination and product recall into the public spotlight.

As a result, shoppers have become more demanding, which has increased supply chain complexity and made it imperative for businesses to deliver greater levels of transparency and assurances on safety.

With the aim of better understanding the impact on brands, retailers and consumers alike, GS1 UK conducted industry research into the issue, and commissioned a YouGov survey to take the pulse of the nation.

This report draws on the results of a survey carried out for GS1 UK by market research and data analytics firm YouGov.
According to research conducted by law firm, RPC, food recalls are on the increase in the UK, spiking by 20 per cent from 2017 to 2019.

Despite progressively stricter checks and regulations, the globalised food supply network – with its international reach and rapid pace of distribution – is more vulnerable to contamination than ever before.

This can be attributed to several factors, which can be grouped into a broad set of both positive developments and failures in the food-production environment.

### Process Improvements

While process improvements have brought positive benefits to the food manufacturing process, better technology, public health procedures and more stringent regulation has led to higher output and greater rates of detection.

- **Food production is more efficient than ever**
- **Better ability to track and trace**
- **More allergies are being diagnosed**
- **Stricter labeling regimes**

#### Source: RPC

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### Procedural Failings

These factors are flaws in the production and planning environments that can lead to dire consequences for brands and consumers alike.

- **Cross-contamination in both the manufacturing and packaging processes**
- **Deep-clean regimes fall short of removing all contaminants**
- **Non-compliance with current good manufacturing practices (GMPs)**
- **Failure to maintain food processing facilities and equipment**
- **Weaknesses in scrutiny of Hazard Analysis and Critical Control Points (HACCP)**
- **Non-compliance with their own Standard Operating Procedures**
The consumer viewpoint

**Awareness**
From the outset, there was a good understanding that food contamination at source exists – nine out of ten people had heard of food contamination. Two in every five people are mindful of food contamination whenever they buy food, with 7 per cent of shoppers saying that they are acutely aware of the dangers.

Do you think about the possibility of food contamination when purchasing packaged food?

*Yes* 90%
*No* 10%
*Don’t know* 2%

**Fatailities**
High-profile fatalities have made 36 per cent of respondents more aware about the packaged food they buy being mislabelled or contaminated.

This is even more so the case for women with children under 12, where 39 per cent have become more worried about contaminated goods after fatalities, and are 12 per cent more likely than any other to be wary of brands or retailers that have suffered a recall.

Has hearing about fatalities after food contamination made you more or less worried about mislabelled or contaminated packaged food?

<table>
<thead>
<tr>
<th>Choice</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A lot more</td>
<td>7%</td>
</tr>
<tr>
<td>A little more</td>
<td>31%</td>
</tr>
<tr>
<td>Not at all</td>
<td>60%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>2%</td>
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</tbody>
</table>

**Behavioural change**
The survey showed that brands would be four times more impacted than retailers in the instance of a recall.

More than a third of shoppers would buy a recalled product less often, compared to only one in ten that would shop less often at a supermarket that stocked goods that had been recalled.

Crucially, for both producers and retailers of food products, a combined 45 per cent of those polled stated that they would change their future shopping habits based on mislabelling or contamination.

How would product recall effect your future shopping habits?

<table>
<thead>
<tr>
<th>Choice</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>I would buy the specific product less often</td>
<td>37%</td>
</tr>
<tr>
<td>I would shop at the supermarket less often</td>
<td>9%</td>
</tr>
<tr>
<td>No difference</td>
<td>49%</td>
</tr>
<tr>
<td>A little less</td>
<td>1%</td>
</tr>
<tr>
<td>A lot less</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>

**Trust**
There is a significant regional variance in the levels of mistrust in brands or retailers that have suffered recalls. The difference is most marked between the South East, where mistrust was the highest at 36 per cent, and the East Midlands, where mistrust was the lowest at 27 per cent.

Those with less trust were 58 per cent less likely to buy a specific packaged food item again after a recall, compared to 37 per cent across all British adults.

How would product recall effect your future shopping habits?

<table>
<thead>
<tr>
<th>Choice</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would buy the product less often</td>
<td>17%</td>
</tr>
<tr>
<td>I would shop at the supermarket less often</td>
<td>5%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
</tr>
<tr>
<td>I wouldn’t change my future shopping habits</td>
<td>37%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>7%</td>
</tr>
</tbody>
</table>

**Transparency**
When it comes to the honesty of brands and retailers on the most causes of contamination, the results are stark for supermarket and producers. A third of British consumers believe that they are not transparent about product recalls, with as little as 7 per cent said they were not at all transparent.

Think brands and retailers are all transparent

<table>
<thead>
<tr>
<th>Percentage</th>
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<tbody>
<tr>
<td>44%</td>
</tr>
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</table>

Think brands and retailers are not very transparent

<table>
<thead>
<tr>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>37%</td>
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</table>

Think brands and retailers are not at all transparent

<table>
<thead>
<tr>
<th>Percentage</th>
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<td>7%</td>
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</table>
Counting the costs: business impact

While the survey statistics represent sobering reading, the consumer viewpoint is only half the story.

The impact of the contamination and recall process is equally costly for brands and retailers, whose intermediate suppliers can often have an amplifying role. The majority of food contamination issues occur at the supplier level, and problems for a brand’s reputation and consumer trust can often be tracked back to this point.

Following a formula proposed in 2010 by academics Moises Resende-Filho and Brian Buhr (adjacent), the estimated direct cost of a product recall for individual companies could mean a financial hit that runs into the millions of pounds, depending on the scope of several factors.

<table>
<thead>
<tr>
<th>Price of recalled products</th>
<th>Quantity of recalled products</th>
<th>Notification costs (4%)</th>
<th>Transport costs (10%)</th>
<th>Direct cost of recall</th>
</tr>
</thead>
<tbody>
<tr>
<td>£</td>
<td></td>
<td></td>
<td></td>
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Further costs can be attributed to the knock-on effects of:
- Decontamination of materials
- Specially trained personnel to oversee the recall
- Destruction of tainted products
- Additional warehouse space and labour for storage and processing of returned goods
- Third-party investigation into the cause of the outbreak
- Repackaging of untainted goods that require only relabelling

Whether the price of failure is counted in pounds sterling or public scorn, mainstream technology and the application of standards can greatly reduce the consequences and instances of food recalls, by enabling companies to trace the whereabouts of their products with pinpoint accuracy and this is where standards can play a vital role.

The business impact

Even after the recall process has finished, there may still be another layer of complication for businesses, including:
- Fines
- Litigation fees
- Lost sales
- Reputational damage
- Stock market devaluation

There is a seven-point best-practice plan for the handling of the recall process to minimise these ill effects:
- Schedule an annual mock recall to help reduce risk and demonstrate due diligence
- Den and acknowledge the issue, with or without the supplier’s agreement
- Progressing through the recall
- Isolate the issue in the supply chain
- Reassuring customers about wider brand integrity
- Communicate the details – internally, across the supply chain and externally – in a swift and unambiguous manner
- Accurate reporting and data collection at the correct levels to respond to internal and external queries
The GS1 System uses identification keys, in the form of unique numbers and carriers – such as different types of barcode – to map the journey of a product from creation to final consumption. By scanning these barcodes at different points in the product journey, there is an accurate log of where an individual item is at any point in the supply chain. This provides a true end-to-end record of a product’s lifespan.

Using the example of pre-packaged steaks, and employing the five below identifiers, we can go from farmyard to family dinner table following every documented step along the way. This is a simplified overview of the process, with omitted steps that introduce additional complexity. It is also worth noting that the chain of events and identifiers outlined overleaf is a technical process that requires a human element to function properly. The training and re-training of people at steps of the process is a key factor in ensuring errors don’t creep in and cause disruption.

The steaks are high: a standards journey from farm to fork

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The case for traceability: the horse-meat scandal

To address the horse-meat scandal, the European Commission – the European Union’s policy and legislation arm – put in place a five-point action plan, made up of the following parts:

- Food fraud monitoring
- DNA and drug testing programmes
- Horse passports
- Official controls, implementation and penalties
- Origin labelling

The biggest wake-up call for the modern supply chain came in 2013, as what became known as ‘the horse-meat scandal’ unfolded across Europe. To its fullest extent, the scandal would affect 13 countries across continental Europe and would call into question supplier relations and the level of transparency involved in the sourcing and processing of products sold by trusted brands and retailers.

Since then, high-profile recalls like the E.coli outbreak in Romaine lettuce that hospitalized 85 people across 27 US states in 2019, have kept contamination events at the forefront of the public consciousness. Traceability has become a key enabler for trust and safety in the supply chain, not only between consumers and producers, but also between manufacturers and their suppliers. In order to trace anything, it needs to be identified at different points in the supply chain, not only at the level of products and ingredients, but even locations and individual actors. This cannot happen without a unique identifier at the heart of the process, linking physical objects to a digital counterpart, and that is where GS1 standards come into play to identify, capture and share supply-chain data.

To identify products and services, from packaged foods to music albums

GTIN
Global Trade Item Number

To identify parties and locations, such as companies, warehouses, factories and stores

GLN
Global Location Number

To identify assets like transport, medical, manufacturing and IT equipment

GIAI
Global Individual Asset Identifier

To identify documents from tax demands and shipment forms to driving licences

GDTI
Global Document Type Identifier

To identify logistic units like pallets of goods, roll cages and crates

SSCC
Serial Shipping Container Code

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The steaks are high: a standards journey from farm to fork

UPSTREAM

Events

- Farmer registers the birth of an animal with an identification tag on the animal’s ear tag
- Mature animals are sold to the abattoir; the event is recorded with a link to the business transaction
- Shipment from the farm to abattoir is recorded
- Animal is slaughtered and quartered. A carcass label is attached to each quarter

GS1 standards

- GTIN
- GLN
- GIAI
- GDTI
- SSCC

INTERNAL

Events

- The boning/cutting hall or cold storage receives the animal quarters
- Rib-eye steak is prepared and packed. Associated carcass identification, weight and grade is recorded and a "primal pack" identifier is applied to the packaged steak
- Shipment from the boning/cutting hall or cold storage facilities to the secondary food processing facility or distributor
- The secondary food processing facility receives the rib-eye steak packs
- Steak packs move from the secondary food processing facility to the retailer

GS1 standards

- GTIN
- GLN
- GIAI
- GDTI
- SSCC

DOWNSTREAM

Events

- Distributor takes receipt of the packaged steaks
- Steak packs move between distributor and retailer
- The retailer receives packaged rib-eye steaks
- The product is sold to a customer
Towards a transparent future

GS1 UK’s ongoing mission is to continue to drive the transparency of provenance, ethical, environmental, wellbeing and religious aspects of products in the supply chain.

In this way, we can provide consumers with high-quality, accurate information they can trust.

Our research has revealed a new, hyper-aware consumer, attuned to the possibility and causes of food contamination, and wary of the brands that have to undertake recalls.

As the retail industry continues to evolve, and with the development of standards such as Digital Links® and data services such as productDNA, GS1 standards will become the core component of the next generation of total-transparency tracking technology. They will be vital in rebuilding trust into the consumer relationship.

Over the years, the trend has been to add “may contain” to their product labels. Traceability has the potential to take us from “may contain” to “definitely doesn’t contain”, with all of the trust and certainty that that carries. In effect, it should be the point where quality and safety meet.

For an in-depth look into how GS1 standards can track a product from end to end across the supply chain, take a look at our interactive, animated journey.

discover.gs1.org/freshfoods

gs1uk.org/productdna

An ordinary fish on an extraordinary journey

Introducing productDNA

One version of the truth for your product data

A single catalogue of high-quality, independently-verified data that enables brands and retailers to use one common language to describe and share product information. Find out how it can change your business.

develop in trust, end in certainty

carousel

Acknowledgements

- Jason Hale, head of innovation
- Tim Haïdar, content lead
- Paul Reid, head of standards
- Jenni Day, marketing manager - retail

References

1. UK allergy-related food recalls jump 30% in a year to 5-year high, RPC
2. Economics of traceability for mitigation of food recall costs, MPRA
3. The GS1 Digital Link standard extends the power and flexibility of GS1 identifiers by making them part of the web. That means that GS1 identifiers, such as the GTIN are now a gateway to consumer information that strengthens brand loyalty, improves supply-chain traceability information, business partner APIs, patient safety data and more. gs1.org/standards/gs1-digital-link

Get in touch

If you would like to discuss any of the topics in this report or discover more about how GS1 UK can help to make your supply chain truly transparent, please drop us an email at support@gs1uk.org.