



Recalls in the Digital Age:

Impact of the Internet of Things

Background

From children's toys to large appliances, companies are racing to connect products to the internet. Some estimate there will be 6.4 billion connected "things" this year, and up to 24 billion by the year 2020.

These advancements bring convenience and innovation to consumers and companies alike. By controlling appliances and electrical fixtures remotely, users can save energy and money. Tracking information online can also save valuable time and bring added convenience.

But for all its hype, the Internet of Things comes with concerns, especially when it comes to privacy, security, and added complexity. These factors increase the risk for recalls – and make an already complicated regulatory landscape even more difficult to navigate.



Plugged-in Products

At the 2016 Consumer Electronics Show (CES), manufacturers made headlines with everything from connected clothing to appliances.

Samsung unveiled a smart refrigerator that comes equipped with a large touchscreen and a camera that allows users to remotely see inside via their smart phones and take stock of the groceries they need. The Spün utensil, with its interchangeable fork and spoon heads, promised to count calories in real time by registering a photo of the food and measuring the weight of every bite. Digitsole unveiled smart shoes that track steps, warm up frosty feet, and even automatically tighten.

While these products have enormous potential, some also come with possible drawbacks for consumers – and headaches for the companies that make them. Appliances with lifespans that typically last years or even decades could become obsolete more quickly. And there are privacy and security implications. One major toymaker came under fire last year when experts found a Wi-Fi connected doll could easily be hacked to track children's

movements and listen to their conversations. In some cases, internet-connected baby monitors have been hacked, resulting in frightening incidents of yelling and offensive language coming through the speakers.

As the Internet of Things evolves, so will its associated challenges and risks. As products become more complex, the potential for recalls increases – simply because there are more features that can go wrong. At the same time, new tools and regulations are being developed that will defend and protect consumers and products from these sorts of threats. Safeguarding consumers – especially those who are the most vulnerable – should be at the forefront of manufacturers' agendas as their products become progressively more plugged-in.



The Future of Food

While food may be the last thing most people think of when it comes to the Internet of Things, developments in connectivity are expected to change the way we interact with food and beverage manufacturers as well.

This is especially true as governing agencies attempt to modernise regulations. Many agencies now require manufacturers to evaluate potential safety issues, implement preventative and corrective measures, and document those efforts. As a result, companies are seeking new ways to operate, monitor, and record their systems – and the Internet of Things could provide many of those solutions.

For example, one of the most important areas of focus for food manufacturers is refrigeration. Temperature has a huge impact on food safety, as small variances in degrees can cause spoilage, create a breeding ground for contaminants, or result in adverse changes in taste and texture – all of which can lead to costly recalls. By connecting systems to the internet, manufacturers may

be better able to control and maintain temperature. These techniques could also be used across the supply chain to monitor issues that commonly arise during other stages of production, such as exposure to light and jostling that can occur during shipping.

The Internet of Things can monitor:

- Temperature
- Shipping conditions
- Other supply chain issues



Modernising Medicine

With the growing popularity of wearable devices and home health monitoring, the Internet of Things is already having an impact on the medical device sector. As baby boomers age and healthcare continues to shift its focus from sick care to wellness, these advancements will bring additional benefits to patients and providers alike.

Internet-connected medical devices can help improve outcomes, better manage chronic diseases, and lower overall healthcare costs. And it isn't just medical device companies. The pharmaceutical industry is also increasingly turning to this technology to tackle issues such as counterfeit drugs by investing in new systems to improve track-and-trace methods.

Within the healthcare industry, privacy and security are frequently top-of-mind, and the Internet of Things is no exception. Any weakness could put highly sensitive information at risk. But connected healthcare issues go

beyond confidential data breaches. As with other industries, hacking is a growing concern – one that could put patients' lives at risk. Last year, students at the University of Alabama were able to hack into a robot that simulates human functions, disabling its pacemaker. The example clearly demonstrates the potentially deadly consequences of such vulnerabilities.

The future of technology is constantly shifting, and there is no way to predict the improvements – or the potential pitfalls – that lie ahead. As more technology is introduced and new materials are used, the likelihood and complexity of recalls is sure to rise.

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