

# Addressing the resistance to reusable packaging

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A track and trace system is the answer to encourage reusable packaging, says new research.

The digital economy can help us prevent [packaging](#) waste, say researchers at Lancaster University and University of St Andrews, who are working with the founders of Reath, a start-up business based in Edinburgh, with a mission to build the digital infrastructure for reuse.

"Circular Economy Infrastructure: why we need track and trace for reusable packaging" is published in the journal *Sustainable Production and Consumption*.

The research findings are based on interviews with manufacturing brands, retailers, regulatory bodies, NGOs and reuse experts from industries, including food and beverage, cosmetics, and household products, to determine businesses' reasons for not investing in reusable packaging.

The research team also asked how digitalisation might help overcome these challenges.

The interviews were used to create the world's first 'Open Data Standard' for reusable packaging—an agreed vocabulary for data collection that helps organizations work together as a container moves between the manufacturer, transport provider, retailer, customer, and cleaning provider.

Lead author Dr. Katherine Ellsworth-Krebs, of Lancaster University's Imagination Lancaster laboratory, says that "discussing what data is needed for reuse revealed how digitalisation supports collaboration, identifying points of miscommunication between key actors along the value chain."

"Collaboration is essential for the circular economy because one company cannot close the loop alone, it requires the whole ecosystem to work together."

Four big business concerns identified:

- Questions of affordability due to additional expenses from changing their systems
- Concerns about increased risks and complications for health and safety
- The potential to hurt brand reputation if their scheme didn't turn out to be better for the environment
- Current regulations that make single-use containers more competitive. Because packaging taxes are based on weight, business investing in reusable packaging are actually penalized because improving durability often results in heavier containers

The study says digital trackers, unique barcodes, can address these hurdles.

Being able to track an individual container enables businesses to calculate packaging lifespans and return rates from customers. Both are crucial to determining affordability.

The unique barcode on a container is needed for recalling batches and evidencing cleaning between refills and return to the shop floor.

These 'digital passports' also enable businesses to tell packaging stories in an appealing way, as they are able to verify and quantify their reuse activities for marketing purposes.

A reusable container may require many uses for its environmental footprint to compare favorably with single-use alternatives, and so accurate accounting for refills is core to useful life cycle assessments.

Currently organizations pay environmental taxes when packaging is released onto the market, but with digital trackers, it would be possible,

to exempt organizations from paying every time their packaging is re-filled. In this way, track and trace allows governments to create taxation that incentivises reuse.

"Being able to tag and track packaging through digital passports has long been hailed as a cornerstone of resource efficiency because it allows for monitoring of reuse," adds Dr. Ellsworth-Krebs. "There are currently no government targets for reuse of packaging in the UK or EU due to this monitoring challenge."

"Advances in digital technologies open up new possibilities for a cooperative circular economy, including stopping packaging becoming waste soon after it leaves the shop floor."

**More information:** Katherine Ellsworth-Krebs et al, Circular economy infrastructure: Why we need track and trace for reusable packaging, *Sustainable Production and Consumption* (2021). [DOI: 10.1016/j.spc.2021.10.007](https://doi.org/10.1016/j.spc.2021.10.007)

Provided by Lancaster University

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