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# Solving the packaging puzzle

David Griffin highlights the complex struggles that brand owners face in designing and developing sustainable packaging



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**M**oving to more sustainable consumer goods packaging increasingly requires engagement at many levels. But the challenge for enterprises going forward will be how to continually engage and manage a wider set of stakeholders than ever before.

In an ideal (but unrealistic) scenario, brand owners simply find sustainable direct replacements for their previous films, coatings or plastics, which leaves the product design, consumer experience and manufacturing process largely unaffected. However, in practice this is rarely the case. For example, mixed material laminate films, used extensively in a wide range of products, rely on multiple components each providing specific functions such as strength, sealability, printability, and barrier properties. And replacing a composite film with a single material, let alone a sustainable one, is unlikely to be a simple 'like for like' substitution.

At the very least, there will be manufacturing process changes. Bioplastic films may require different heat-sealing parameters, have different physical properties that make web handling at speed more challenging, or may require a rethink on printing and/or labelling options. And all of the revised process steps will need to be optimised, ideally on a pilot line but almost certainly with some disruption to actual production before the changeover is completed.

There might also be a need to validate the new material's performance, verifying that the moisture or oxygen barrier properties are sufficient to provide the required protection for the product. Nevertheless, any of these changes are still theoretically limited to the manufacturing and procurement activities within a business. The end product seen by the market and experienced by the customer is the same and, unless the company chooses to publicise its improvements, no one is necessarily any the wiser.

What is much more likely though is that the packaging will have to be redesigned in some way. The sustainable film may need

to be thicker to deliver the same barrier properties, or it may make more sense to use a coated paper rather than a self-supporting film. Or in the case of a plastic vessel, a well-designed new shape might enable a significant weight reduction, even if the material itself is unchanged.

Changes such as this will clearly have more extensive implications; they'll impact both the manufacturing process and packaging design, which will require marketing input and possibly even consumer testing. And it may be that there's also a need to rethink how essential functions are shared between the primary and secondary packaging, which affects supply chain and retail.

Packaging redesign comes with many considerations. Marketing may prefer that the new format retains specific brand identity features, but it is also important that the functional performance and consumer experience continue to meet requirements, even though some of these are defined by customers, not by the company.

For example, 'lightweighting' a sports drink bottle might appear to be a positive environmental move, but if the



new bottle design doesn't fit with how the typical customer uses it (or re-uses it) then the overall environmental benefits may be reduced.

In some cases, the way forward may lie in changing the product itself. For example, where biofilms only give some of the barrier protection the original polymers offered; in which case reformulating the product may enable the same shelf life to be obtained without quite so much protection from the packaging. This will have more far-reaching implications, probably with longer development timelines involved, and possibly brand relaunches or product reapprovals too.

For products where the packaging includes disposable solid plastic components, the design may need to be significantly changed if the alternate materials have sufficiently different mechanical properties. This will eventually require consumer testing at some point.

At the next level, it may be necessary to alter the brand's business model. For example, moving to a deposit/return scheme for beverage containers (as is increasingly the case in mainland Europe) requires not just a rethink of packaging and branding but the creation of new back office infrastructure to make the identification of materials possible. Alternatively, the product may be sold as refills for a high-quality durable dispenser.

Product changes such as this involve many parts of an organisation and rely on a deep understanding of end users' behaviour, values and motivations to

ensure they're successful. Actual and perceived sustainability may not coincide, and the environmental benefits of such a change can be negated by unexpected or unintended customer behaviour.

Each of these different levels of change involves different stakeholders and different timescales. And in almost all cases, they will require cooperation between different parts of the organisation who may not necessarily regularly communicate with one another or could be located in different sites or in different countries. Which is the best overall direction for the business will depend on the long-term commercial picture but in some cases, timelines may be forced by accelerated legislative change or rapid changes of public opinion.

### ***"Packaging redesign comes with many considerations"***

From some of our recent experiences working with global FMCG brands we've identified three key areas to consider when looking to improve product and packaging sustainability:

- Materials availability – It's important to keep in mind that whatever sustainable material you're thinking of using it's at the right stage of development to fit your timelines. There are lots of promising new materials that are readily available in sufficient quantity for prototyping but their developers might struggle to ramp up supply if a global product line wanted to use them in volume.
- Taking a collaborative approach -

Innovative material suppliers may not have the technical capacity to do all the work you require. For example, in the early stages you may need help with activities such as barrier testing or regulatory certification, areas where you are probably better equipped to do the job. So even if it's a direct "like for like" replacement for an existing material, you cannot necessarily treat the project as a standard procurement exercise. It will be a collaborative project, with significant engineering input from your side. Although of course the alternative is to wait until the material is more 'mainstream' at the risk of losing your market advantage.

- Managing multidisciplinary teams - Sustainability improvement projects typically require a wide range of skills and expertise with detailed understanding of product, process, materials supply chain and end user issues. As those people are unlikely to be co-located but will need to work together, the project will require hands-on management at all times.

Of course, it's tempting to favour those approaches where all of the change can be contained within one part of the organisation (e.g. manufacturing) rather than entering into projects with potential impacts across the whole business, but long-term competitive advantage may depend on taking the holistic route.

Luckily, cross-territory cross-function teams have never been so easy in this new culture of virtual meeting acceptance. And the need for strong leadership in the product management function has never been so great.