



## Cost-driven reformulation: look before you leap

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A Leatherhead Food  
Research white paper

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# Cost-driven reformulation: look before you leap

Manufacturing and raw material costs are on the up, but food and beverage companies want to avoid consumer price hikes. Cost-driven product reformulation is emerging as a potential solution, but is it always the best option? In this white paper, Emma Gubisch considers potential consequences and alternatives, laying out a framework for success.

Reformulating products for health reasons (such as reducing sugar and salt) has been a major focus of the food and beverage industry over the last five years. Now, with the fall in sterling and consequent rise in manufacturing costs, reformulating for cost reasons is also gaining attention.

Reformulation can offset increases in manufacturing costs. However, changing product recipes carries the risk of damaging consumer satisfaction and brand health. Manufacturers should consider wider implications and alternative options before making the decision to reformulate.

## 1. Price increase

A core driver of cost-driven reformulation is the avoidance of consumer price increases. But it's worth giving the matter some thought.

There is a broader discussion taking place about the cost and availability of food. Might this be an opportunity for your brand to join – or even lead – the debate? Is it time to talk honestly about the true cost of products and break the paradigm that food must be cheap and readily available?

Such a shift in perception is not going to happen overnight. However, the premiumisation trend shows some groups of

consumers are willing to pay more for certain products. Persuading people to pay more for the same product will undeniably be harder. But if the industry works collaboratively, in time it may be possible to reposition consumer expectations on price.

## 2. Making products smaller

In recent years, the media has dubbed this trend 'shrinkification'. But the move to make products smaller is hardly a new strategy. We all like to trade stories about childhood treats being smaller than we remember.

Handled carefully, this strategy can kill two birds with one stone. When a product is made smaller, calories, fat and sugar are reduced by default. So, it's possible to hit the health trend while reducing costs.

Many consumers enjoy morsels of their favourite treats as an alternative choice. However, when an existing product is made smaller, they can feel cheated, especially if the approach is perceived as underhand. The decision by Mondelez to publicly announce changes to Toblerone sizing in the UK initially caused a backlash. Yet on balance, it is probably better to be upfront and honest with consumers.

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### 3. Changing the packaging

Packaging is often the most expensive element of a product and consumer attitudes towards waste are evolving rapidly. Consider whether changes to the amount or type of product packaging could play a role in cost reduction.

Short-term options might include sourcing materials from cheaper suppliers to bring overall packaging costs down. But in the longer term, innovation is required to boost sustainability and improve cost profiles. Smart packaging which gives consumers information about the product, edible packaging and re-usable packaging are emerging options.

Wider shopping trends will also have an impact on the future of packaging. Home delivery of groceries makes it the retailer's responsibility to keep chilled or frozen food at the required temperature during transit. And as the personalisation trend grows, novel ways to dispense goods in retail spaces may become more mainstream, with major implications for packaging.

### 4. Manufacturing processes

If manufacturing costs are spiralling, addressing technical issues might be more effective than changing the product. Many food and beverage manufacturers in the UK are using dated equipment for processes that were developed 50 years ago. It can be prudent to tackle this proactively, rather than waiting until equipment breaks down. Investing in new technologies and processes ultimately delivers cost savings and improved efficiencies. Associated benefits can also be realised, as evidenced with British Sugar's channelling of waste carbon dioxide and heat

from its factory to an 18-hectare greenhouse for growing crops.

### 5. Changing the product

Sometimes reformulation is the only option to reduce production costs. But before changing the recipe, look at ingredient prices. Are there other options?

The next step is to try substituting one ingredient for another. Product developers have been working in this space for many years to improve the nutritional profile of products by removing fat, salt and sugar. Reformulating a product for cost reasons poses similar technical challenges.

It's not simply a case of switching one ingredient for another. Every ingredient has a role to play and they often function inter-dependently. The experienced technician considers all potential interactions between different ingredients to reap the benefits without negative side-effects.

Product developers need to model several scenarios to pinpoint which ingredient or ingredients should be the focus of the reformulation exercise. The decision needs to be based on the ingredients which are likely to save the most money while having the smallest impact on the recipe. Reformulating for cost cannot be considered in isolation – it needs to be aligned with broader reformulation strategies, such as salt or sugar reduction. Other considerations include:

- **A blueprint for reformulation**

Leatherhead Food Research's scientific approach to reformulation is rooted in product blueprinting. A blueprint maps the ingredients in a product, the state of those ingredients,

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how they are distributed and which ingredients create the product properties. Microscopy, rheology (the deformation and flow of the product) and sensory research are key techniques deployed in blueprint development. Armed with this knowledge, manufacturers can set baselines for innovation and reformulate with greater confidence because they understand the function of existing ingredients and the role that any substituted ingredient/s will need to fulfil.

- **Technical spotlight**

Unstable pricing of ingredients can be a major driver for their replacement. Take the hydrocolloid, gum arabic. This thickener and emulsifier is widely used in beverage applications. It's extremely soluble, and can be used at levels ranging from 1-2 percent up to 40-50 percent, depending on the viscosity and emulsification properties required. However, it is sourced from acacia trees in African Gum Belt countries such as Sudan and Nigeria. Political and climatic variances can lead to sudden spikes in the cost of the ingredient. Consequently, many manufacturers have attempted to replace it with alternative starches and pectins.

However, the process is technically challenging as each hydrocolloid has a unique fingerprint. Replacement of a functional ingredient such as gum arabic is complex and needs to be handled on a case by case basis, with careful analysis and measurement of the role it plays in the given product.

- **Don't forget the safety angle**

Naturally, reformulating for cost must not affect product safety. And ideally it should not

increase rates of microbial spoilage as this will impact shelf life.

Rigorous food safety assessments need to be conducted on any product which has undergone reformulation. These include challenge tests, chemical analysis, survival analysis and mathematical modelling (i.e. the Arrhenius model) to predict microbial activity and determine shelf life.

- **Consumer testing**

Manufacturers reformulating for cost need to be confident that changes are met with consumer approval, in terms of taste and overall perception. This is especially true of long-established products.

Leatherhead carries out extensive consumer and sensory testing comparing original versions of products with variants. This provides a detailed understanding of how changes impact overall enjoyment of a product.

### **The start of an honest debate**

Changing the price, recipe or look of an existing product can never be taken lightly. Decisions should be rooted in a full consideration of consumer implications and an understanding of alternative solutions. Clearly, food manufacturers need to operate profitably. But introducing changes by stealth is not good practice. Leatherhead believes the time is right to begin communicating more openly and honestly with consumers about the true cost of goods.

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## How Leatherhead can help

Leatherhead can work with your team to develop blueprints and drive focused innovation activity, including:

- Producing a consistently high quality product anywhere in the world
- Reformulating to meet trends such as 'natural' and 'clean label'
- Responding to new developments in manufacturing and processing
- Conforming to global, regulatory requirements
- Challenge testing to predict the shelf life of a product, validate efficiency of heat treatment or process, or understand behaviour of bacteria in the food

## About the author

Emma Gubisch is the Marketing Insight Manager at Leatherhead Food Research. She has experience in delivering insight projects for a range of social and commercial clients, covering consumer attitudes and behaviour, concept development, product marketing and market trends. Emma's particular expertise is in understanding and interpreting the viewpoints of key audiences, from the consumer who picks the product off the shelf to the journalist who writes about the latest food and drink trends.



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## About Leatherhead Food Research

Leatherhead Food Research provides expertise and support to the global food and drink sector with practical solutions that cover all stages of a product's life cycle from consumer insight, ingredient innovation and sensory testing to food safety consultancy and global regulatory advice. Leatherhead operates a membership programme which represents a who's who of the global food and drinks industry. Supporting all members and clients, large or small, Leatherhead provides consultancy and advice, as well as training, market news, published reports and bespoke projects. Alongside the Member support and project work, our world-renowned experts deliver cutting-edge research in areas that drive long term commercial benefit for the food and drink industry.

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## About Science Group plc

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