Lightweight glass containers: understanding consumer perceptions

Lightweight glass containers offer commercial benefits for manufacturers, retailers and brand owners – and can be developed without compromising consumer appeal or product durability.

A major new study for the food and drink sector has found that lightweight glass packaging can unlock significant cost savings, while retaining brand appeal.

Lightweight glass containers offer a resource-efficient solution, with the potential to save over 150,000 tonnes of glass packaging each year.

Brand owners, manufacturers and retailers have already begun to adopt lightweight glass, with great success. And as a growing body of evidence reveals, innovative weight reductions can be achieved without undermining consumer appeal.

Introducing Container Lite

A major industry-wide initiative called Container Lite has increased understanding of how consumers respond to lightweight glass packaging.

Funded by WRAP (Waste & Resources Action Programme) and managed by Faraday Packaging Partnership, the project saw leading glass manufacturers, brand owners, retailers, academics and industrial experts work together to research, develop, trial and launch a series of lightweighted glass containers.

Designs were put through extensive consumer trials – revealing valuable insights into the way consumers think about glass packaging, and make purchasing decisions.

The project proved that an imaginative, well-researched and customer-focused approach to lightweighting can protect, and even enhance, core brand values – making it a commercially viable option.

The research overview

Container Lite offered a unique opportunity to find out what consumers really think about lightweight glass bottles and jars.

Experts at the Institute of Psychological Sciences at the University of Leeds carried out a wide range of studies to gauge consumer reactions, including:

- psychophysics tests - consumers were asked to compare glass packaged products that looked similar or identical, to find out how successfully they could detect differences in weight;
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- in-store observations - shoppers were observed while they were browsing the supermarket aisles, to discover if they compare the weight of products when making purchasing decisions;

- focus groups and profiling studies - researchers gathered feedback from consumers about how glass compares to alternative packaging materials and the perceived advantages and disadvantages of lightweight glass; and

- eye-tracking - hi-tech infrared equipment was used to see how different bottle designs draw the customer’s eye.

How sensitive are shoppers to changes in packaging weight?
The question is a crucial one – as it can help designers, manufacturers, retailers and brand owners to decide how lightweighting can affect customer preferences. Container Lite tests found:

- participants struggled to detect a 5-10% difference in glass container weight, even when expecting a weight difference;

- when tests were ‘uncued’, weight differences of up to 40% (for an empty container) and 20% (for a full container) went undetected among a sizeable number of participants; and

- in real-life scenarios (e.g. a supermarket) consumers very rarely compared the gross weight of two products at the same time when making a purchasing decision.

Dr Steve Westerman, senior lecturer at the University of Leeds’ Institute of Psychological Sciences, said: “The findings provide encouraging evidence that reductions in packaging weight can go undetected by the consumer. This is especially true in non-laboratory conditions, when direct weight comparisons are rarely made.”

The psychology of lightweighting
Consumers’ attitudes to lightweight packaging depend on a host of complex factors, from the type of product to the social setting and the age of the consumer.

- Some products are more susceptible than others to a loss of ‘premium’ image through lightweighting. This is particularly true of expensive items such as spirits or champagne.

- The most common practical concern with lightweight glass is its perceived fragility.

- Consumers interact with packaging in different ways, and this can affect their ability to detect lightweighting. For example, a jar of cooking sauce is emptied quickly, while a beer bottle is held for longer.

- Changes in container shape (especially height reductions) can generate a range of reactions from consumers, depending on the type of product, as the adjacent Co-op case study reveals.

- Age can be a factor. Older consumers are less concerned with the ‘premium’ image of glass than younger consumers – and are more likely to take a pragmatic view towards lightweight containers.

- Consumers have different priorities for packaging, depending on the context. In some settings, quality may have high priority, while in other settings, practicality may be the main concern.
Dr Westerman said: “The evidence suggests that brand owners and manufacturers need to consider the potential of lightweighting on a product-by-product basis, rather than take a generic approach across all product lines. Some products and consumer groups can be more sensitive to change than others.”

**Grolsch: lightweighting an iconic brand**

International beer company Coors Brewers Ltd has launched a lightweight version of its 300ml Grolsch bottle.

Coors Brewers Ltd and glass manufacturers O-I and Rockware, explored a wide range of new bottle design concepts.

The new packaging needed to look dynamic, maintain strong customer appeal and brand identity, as well as being practical and resource efficient.

Designs were put through rigorous consumer perception trials, including an eye-tracking study using hi-tech infrared equipment to see how different bottle designs drew the consumer’s eye.

The chosen design retained the classic Grolsch bottle profile, but with a 13% weight reduction, saving 4,500 tonnes of glass each year.

The design proved so successful that Coors Brewers Ltd have further lightweighted their 300ml Grolsch and Coors Fine Light bottles, saving an additional 4,000 tonnes each year.

The latest Grolsch bottle features a stylish embossed logo, enhancing the product’s premium image and reducing weight.

David Wiggins, head of packaging development at Coors Brewers Ltd said: “The new bottle looks superb. It proves that a lightweight bottle can be cost-effective, practical and retain strong commercial appeal. We’re delighted with the results.”

**Co-op: big jar, little jar**

Some food products can be more suitable for lightweighting than others.

As part of Container Lite, the Psychology of Design Group at the University of Leeds looked at the potential of lightweighting and rationalising a range of Co-op own-brand food containers, by reducing the number of different containers used for similar products to bring efficiencies in manufacturing and filling processes.

The research revealed some fascinating results. For some products (pasta sauce and pickles), the original tall jars were regarded as more elegant and practical. They were also perceived to contain more product.

For other products, especially those that required a lever to access the contents, the shorter, squatter lighter jars came out on top.

**Moving forward**

Container Lite has been successful in raising industry awareness and increasing the momentum of lightweighting and other industry initiatives. There are further innovations on the horizon.

- WRAP is funding further lightweighting trials and consumer perception studies in the wine, food, beer and spirits sector. This will be completed by March 2008.

- There is an opportunity to consider the increased use of recycled glass in lightweighted glass containers. This is being explored alongside current glass lightweighting trials.

- Bulk importation of wine, and bottling in the UK using lighter containers, presents an opportunity to reduce glass waste and reduce costs. Projects have been established to explore this opportunity.
More detail on the Container Lite project including a case study and full technical report, plus sector specific case studies are available from www.wrap.org.uk/retail

WRAP continues to work with the glass container supply chain on projects to increase the use of recycled glass in products, and to reduce the amount of material used in glass packaging.

To learn more about these initiatives, or to find out how WRAP can assist your business, please contact the Retail Innovation team at WRAP. Tel: 01295 819686; email: retail@wrap.org.uk

The WRAP Retail Innovation team works with retailers and their supply chains to reduce the amount of packaging and food that households throw away.