

ROTTERDAM SCHOOL OF MANAGEMENT, ERASMUS UNIVERSITY

▶ **Sustainability as a team sport**

Lesa Sawahata interviews Gail Whiteman

▶ **Boosting revenues in the self-storage warehouse industry**

by René de Koster

▶ **How to manage consumers' packaging perceptions**

by Nailya Ordabayeva

▶ **Do bank bailouts have a silver lining?**

by Lars Norden, Peter Roosenboom and Teng Wang

▶ **How performance appraisals can encourage ethical behaviour**

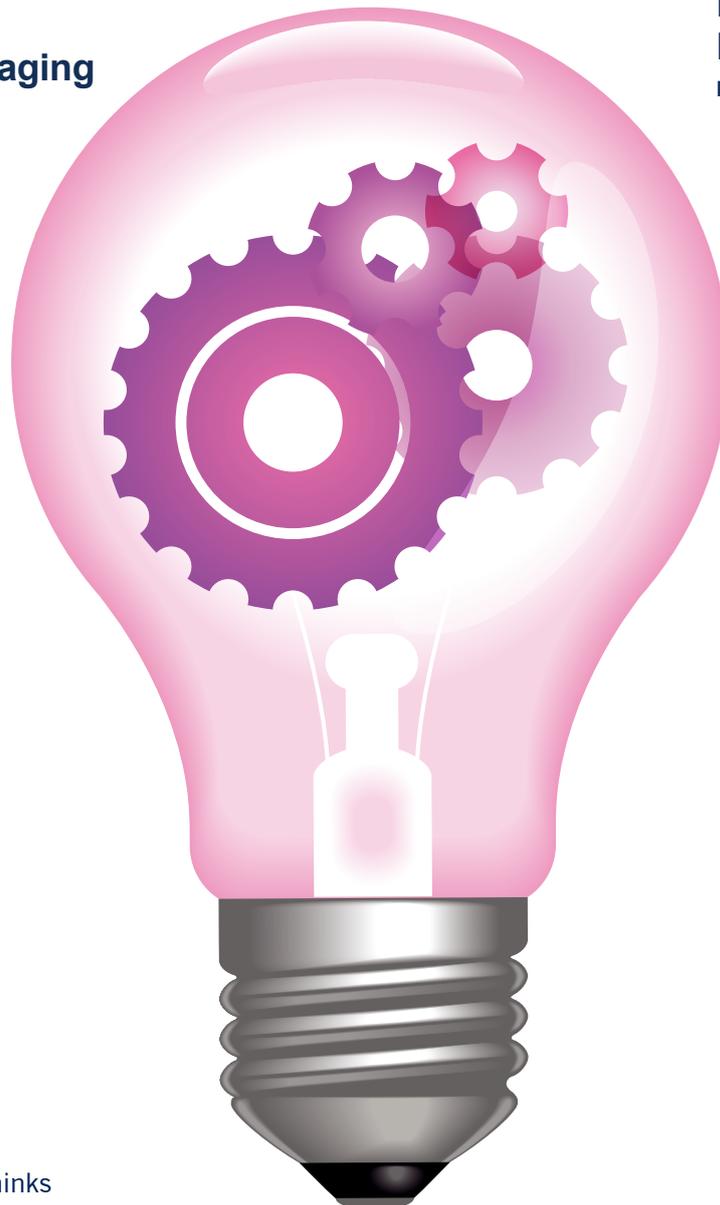
by Gabriele Jacobs

▶ **Change for change's sake? Internal responses to external challenges**

by Henk W. Volberda

▶ **Why mortgage lenders need better-educated borrowers**

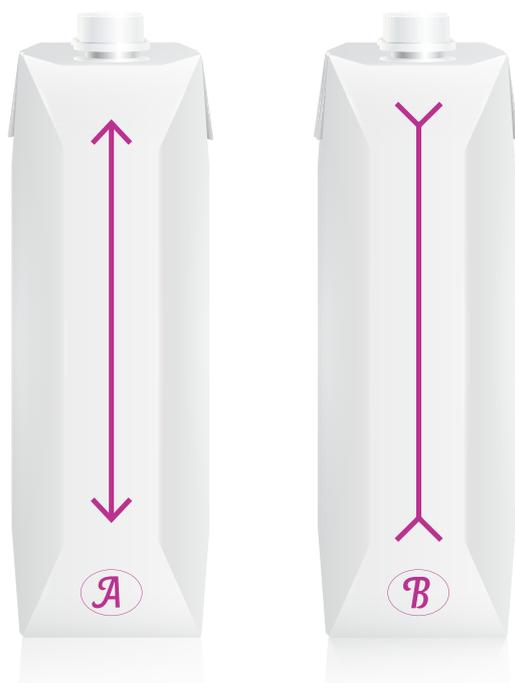
by Ruben Cox



How to manage consumers' packaging perceptions

by Nailya Ordabayeva

Marketers are constantly confronted with new complexities in consumer markets. Withstanding significant changes in the economy, as well as growing competition from private labels, is a major challenge. In today's turbulent environment, packaging has emerged as a tool to help marketers preserve profitability.



The packaging of fast moving consumer goods has changed frequently and dramatically for years, especially since the 1960s, as producers have fought for positioning, brand recognition, and customer loyalty. In this context, it has become crucial to understand more about how consumers perceive and respond to changes in product packaging.

Package impressions play an important part in consumption patterns, and when consumers' impressions do not match expectations, disappointment and dissatisfaction may not only have an immediate impact on sales and profitability, but can also lead to longer-term damage to brand credibility. While many past studies documented errors in consumers' judgments of relative

differences in package size, little has been known about what causes these errors and how they can be avoided.

Our research unveils a major cause of biased package perceptions: people's tendency to use an incorrect strategy to estimate the changes in package size. This process is captured by our AddChange model, which can effectively predict and manage consumers' impressions of package and portion size.

Why size matters

With rising costs of commodities and changing legislation concerning waste and pollution, companies need to find ways to retain customers without raising prices beyond an affordable level. At the same time, they must take consumers' needs and preferences into account.

Over the past several decades, people have become accustomed to the supersized packaging in many product categories that reflected a sense of affluence and abundance. The supersizing trend has been especially pronounced in the food industry, where supersized fast food and snack portions have become the norm in many places. However, unforeseen negative side effects are beginning to take their toll. In addition to increased waste disposal issues, supersizing is considered to have contributed to ▶

How to manage consumers' packaging perceptions (continued)

by Nailya Ordabayeva

over-consumption, weight gain, and a rise in obesity to epidemic proportions. Public health authorities in Western countries have therefore become concerned about the influence of supersizing on consumer health.

To address these concerns and to retain profits in the recent recession, many marketers have started to downsize their products. Yet the downsizing attempts have raised the suspicion of customers who are afraid of being tricked into paying the same price for less volume. In the wake of these developments, it has become crucial for marketers to be able to accurately predict consumers' perceptions of changes in packages, and to design packages that can boost

on labels and instead infer product size from their perceptions of packages. But perceptions are biased. Specifically, perceptions are influenced by the shape and size of the packaging. For example, elongated containers are often seen as larger than equivalent wide and short containers. In addition, people generally underestimate the changes in package volume, especially when packaging changes along two or three spatial dimensions as opposed to just one dimension.

In a series of studies, we attempt to explain these perceptual errors. We find that when judging the changes in package size, people tend to use an incorrect mathematical rule to arrive at their conclusion: they add, instead of

= 2), people will add the 26 per cent in height, width and depth. As a result, they will think that the size of the box has increased by 78 per cent (because $26 + 26 + 26 = 78$ per cent) when in reality it has increased by 100 per cent.

Formula for accuracy

The AddChange model, which we have developed to capture this additive process, can accurately predict consumers' perceptions of package size without the need to develop prototypes and conduct market tests. It can also be used to predict consumers' perceptions across various conditions: when packages change along one, two, or three dimensions in space and when packages become elongated.

A particularly useful function of the model is that it can be used at the outset of a design or redesign process to create packages that will achieve the desired perceptions of volume. For example, in one study we used the model to downsize packages by up to 24 per cent in such a way that consumers would perceive all of the volume reduction, or no change in volume whatsoever.

In other words, the AddChange model can be used to effectively increase or decrease the accuracy of consumers' package perceptions, depending on marketers' goals. Thus, given strict legislation and the growing

“...the AddChange model can be used to effectively increase or decrease the accuracy of consumers' package perceptions, depending on marketers' goals.”

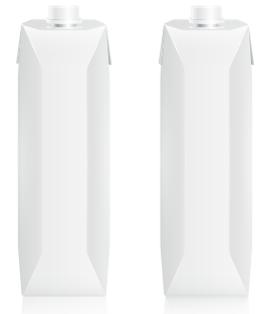
profitability while securing customer acceptance. In our new research, we have developed a model that can help managers achieve these goals.

Deceptive appearances

It is a well-known fact that many people don't read the size information printed

multiplying, the changes in individual package dimensions. In other words, people choose an easier additive rule to solve a multiplicative problem.

For example, if a box of popcorn doubles in size through a proportionate 26 per cent increase in height, width, and length (because $1.26 \times 1.26 \times 1.26$



desire of many companies to achieve genuine sustainability goals, increasing the accuracy of consumers' perceptions of package sizes has multiple benefits, in addition to preventing consumer backlash and loss of customer loyalty due to disappointment and feelings of deception.

Sustainable solution

The benefits of the AddChange model apply to everyone concerned: marketers can use the model in order to determine the changes required to produce packaging that effectively creates a desired perception of volume. To help managers with this task, we have developed a downloadable Microsoft Excel tool, which is based on the AddChange model and can be readily applied. Managers can use this tool to learn which package changes will trigger the most or the least accurate response by consumers without spending any money on developing prototypes or market testing.

Consumers can use our findings to better keep track of actual package size changes and to make more informed consumption decisions. Specifically, armed with this knowledge, they can stay more informed about package size. Understanding the impact of different sizing, consumers can choose packages that change along a single spatial dimension and avoid packages

that change along multiple dimensions or grow more elongated. In addition, our studies show that consumers can also help themselves to make more accurate size comparisons by weighing packages by hand, where possible, prior to buying them.

Broad implications

The use of the AddChange model can bring about positive results from many points of view. Consumers can use the model to keep track of the changes in packages and food portions and to better monitor consumption. Public health officials can use the model to endorse certain types of package changes that enhance consumers' accuracy and reduce over-consumption and waste.

Finally, marketers can use the model to predict consumer response to various package changes and to design packages that can effectively boost profits. Such packages should naturally balance consumer perceptions against package production costs, design aesthetics, and shelf placement issues. In sum, the AddChange is a useful managerial tool that can help marketers retain their customers, while promoting consumer wellbeing at the same time. ■

The AddChange macro is downloadable from hdl.handle.net/1765/39532.

This article is based on the paper *Predicting and Managing Consumers' Package Size Impressions*, written by Nailya Ordabayeva & Pierre Chandon and published in the *American Marketing Association Journal of Marketing*, Vol. 77 (September 2013), 123-137.

Nailya Ordabayeva is Assistant Professor of Marketing, Department of Marketing Management, Rotterdam School of Management, Erasmus University. [EMAIL nordabayeva@rsm.nl](mailto:nordabayeva@rsm.nl)

Pierre Chandon is L'Oréal Chaired Professor of Marketing, Innovation and Creativity, INSEAD, and member of the Institute of Cardiometabolism and Nutrition.

► RSM Expertise

Marketing is an area of business with lots of impact in daily life, and its dynamic evolution depends upon daring new ideas and high quality research. The Department of Marketing Management at RSM is renowned for its leading marketing research, the volume and quality of which places its faculty members among the most productive scholars in Europe.

[WEB www.rsm.nl/research/marketing-management/](http://www.rsm.nl/research/marketing-management/)