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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 long-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 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 $1.26 \times 1.26 \times 1.26 = 2$), 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.

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Deceptive appearances
It is a well-known fact that many people don’t read the size information printed 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.

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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.

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