

decode Science Update 1_2011

Cognitive €-Science

How price perception works and how the impression of price changes depending on how it is communicated

March 2011

Welcome to the decode Science Update

Price – no other component of the Marketing Mix has such a direct effect on revenue, market share and margin (for better or worse). It always seems to be treated as something objective and 'rational', even though we often try to mitigate its effect by using varying subjective descriptions.

Experience shows us that the perception and impression of price are not completely objective: the difference between 3,98 € and 3,99 € seems dissimilar to that between 3,99 € and 4,00 € yet of course it's identical. Also, evidence shows that mid-priced products start to sell more as soon as a higher-priced variant is introduced. The list of so-called 'irrational' reactions to price is a long one so exactly what is the basis for this and how does it work?

Neuropsychological research into price makes a significant contribution to our understanding here; the fact that price perception depends not only on the objective price itself, but also on the manner in which price is presented. The research shows that ostensibly unimportant things like typeface, the size of the price or the euro symbol all have a definite effect on the impression of the price and consequent buying behaviour.

In this Science Update you'll find out what we can learn from research into pricing and how we can translate that into Marketing practice.

Happy reading!



Dr. Christian Scheier

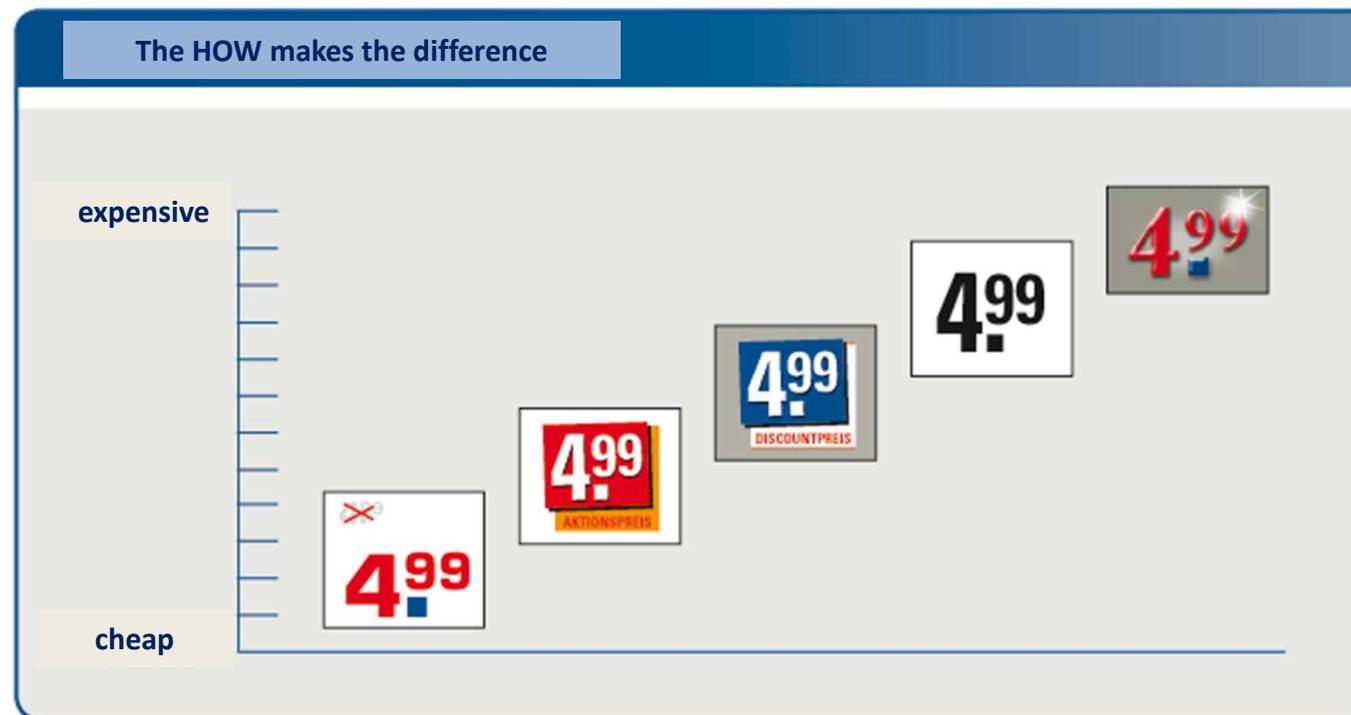


Dirk Held

Price perception depends on the 'how'

The perception of a price depends on how that price is presented. Let's look at a simple example.

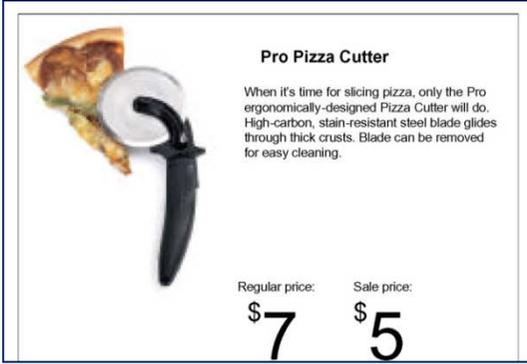
Glossiness, for example, codes 'premium' and makes an objectively identical price seem higher. Discount symbols reduce price perception. The feeling, impression and perception of price can all be altered via these implicit codes.



Price perception depends on the 'how'

That the graphical representation of a price has an influence on its perception is self-evident and easily comprehensible. How much price depends on implicit codes, though, is shown by the following example:

Does the distance, or spacing, between two prices matter? This was the question that a recently published study by the noted pricing researcher Keith Coulter in the *Journal of Consumer Psychology* looked into (Coulter & Norberg, 2009).

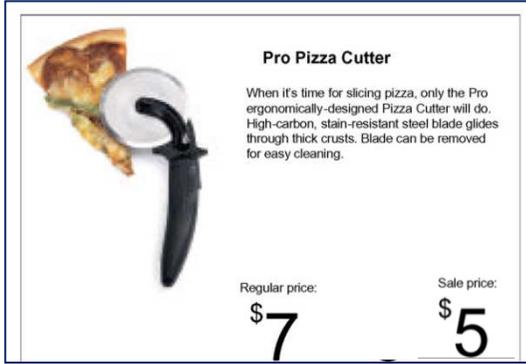


Pro Pizza Cutter

When it's time for slicing pizza, only the Pro ergonomically-designed Pizza Cutter will do. High-carbon, stain-resistant steel blade glides through thick crusts. Blade can be removed for easy cleaning.

Regular price: \$7 Sale price: \$5

Small distance between reference- and discount-price
= subjectively smaller discount



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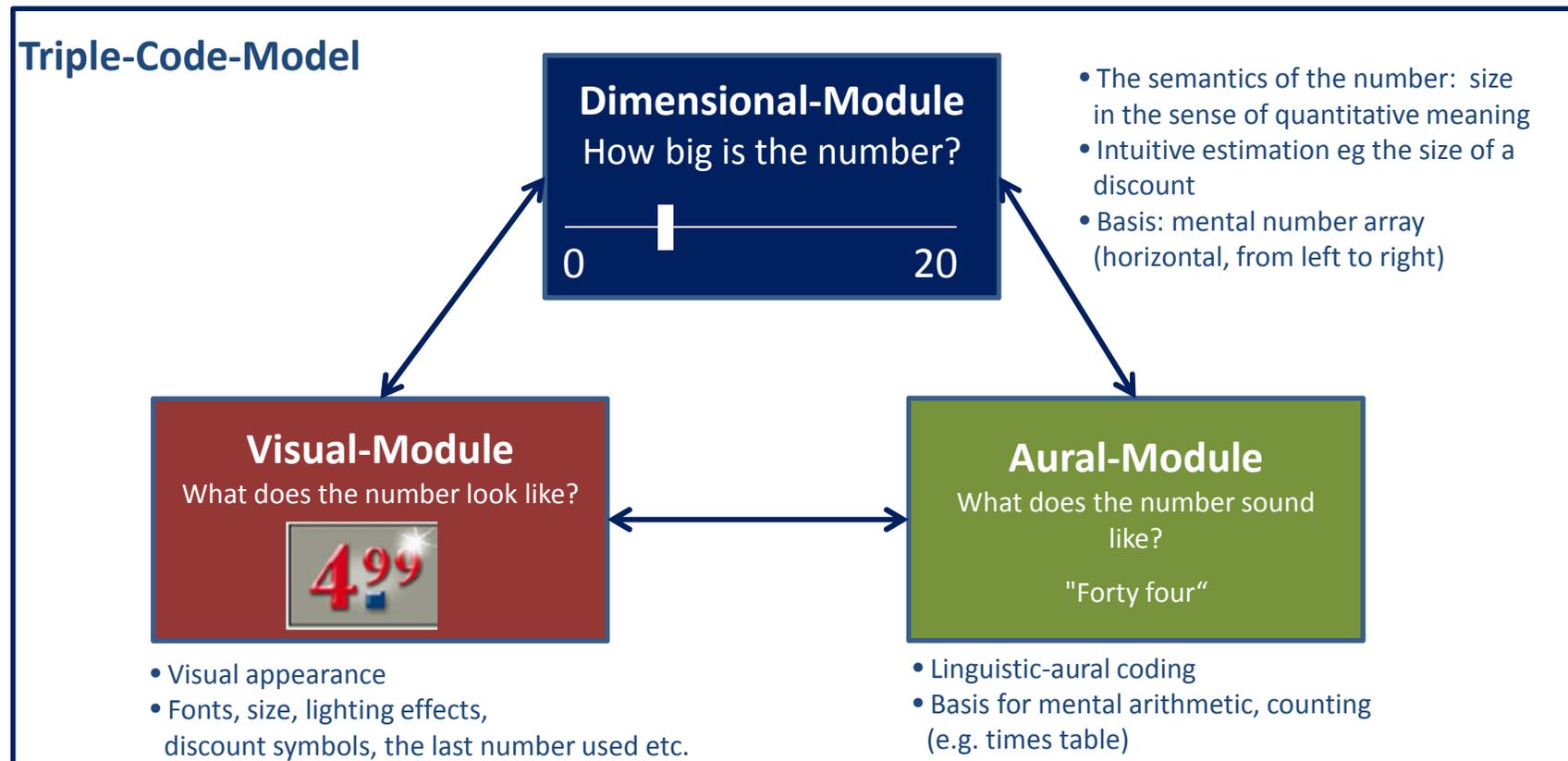
Greater distance between reference- and discount-price
= subjectively larger discount

The result: **the greater the horizontal distance between a reference price and a discount price, the greater the perceived difference between the two prices.** Thus, the perceived price discount increases and, with it, the attractiveness of the discount as well as the probability of purchase. This effect, however, only works on the horizontal axis, not the vertical one.

What's behind this effect? To understand it, let's take a look at what research has learnt about how people process figures and, hence, prices.

Triple-Coding: the mental representation of numbers

The fundamental finding is that numbers and prices are represented in the brain by three modules which interact with each other: a **Dimensional-Module**, a **Visual-Module** and an **Aural-Module**. Codes activate these modules – for example, the glossy effect addresses the Visual Module – so they can alter the perception and impression of the numbers



The Visual-Module: the Size-Congruency Effect

An important finding from the Triple Coding principle is this: the visual presentation of price influences, via the Visual-Module, price perception. Take a look at the following example. Objectively, the discounted price is identical in both cases (£5.99). In fact, one version led to considerably higher sales than the other. Which one would you choose, A or B?



To answer this, we need to look at a first principle of price perception: the **Size-Congruency Effect**. Studies show that people process numbers more quickly and intuitively when mentally big numbers are depicted large and mentally small numbers depicted small. **When the magnitude of the number is congruent with the size of its depiction.** Thus, in variant B the Visual-Module (size of depiction) is congruent with information in the Dimensional -Module (size of number): the larger number (£8.00) is depicted larger.

As a result of this effect **Variant B led to a sales increase of 28%**

The Aural-Module: Big Deals, small Sounds

We've just looked at examples of how the visual presentation of price changes perception of that price, how the Visual-Module affects the Dimensional-Module. So what about the Aural-Module – can that also affect price perception? Let's look at an experiment published in the *Journal of Consumer Research*. In this, a group of people were offered ice-cream costing \$7.66, and a matching group were offered the same for \$7.22.



\$7.66



\$7.22

Objectively, the lower price (\$7.22) is the better deal. In fact, more people bought the ice-cream at the more expensive price of \$7.66. Why? The reason lies in the Aural-Module. So-called Embodiment-Research proved long ago that certain vowels and consonants are associated with the perception of e.g. 'small' and 'big'. **Small things often go with vowels like 'i', large things often correspond with vowels like 'o' or 'a'**. This phenomenon, which happens in all languages, is known as *Phonetic Symbolism*.

So how can this implicitly-held meaning in phonetics affect price perception? Say the two prices out loud. \$7.66 sounds smaller (2 x 'i', "sixty-six") than \$7.22 ("twenty-two"). The authors of the study concluded the following: "The mere sound of numbers can influence and distort the perception of numbers unconsciously" Just like the Visual-Module, the Aural-Module can influence perception of price: if something 'sounds' small, it'll be perceived as small(er)!

Anchor-Effect: the sequence rules

There's also another way to change price perception: the so-called **Anchor-Effect**.

If we have three products in our range, priced from low to premium, which one should we present first to prospective customers? Or doesn't the order matter? One often sees pricelists that start with the cheapest product and end with the most expensive, so as not to scare the customer. What does research tell us about this? The findings are extremely clear:

1. The order makes a significant difference and
 2. it's often advantageous to show the most expensive product first.
- Why? **Because the expensive product acts like an anchor, and every piece of pricing information that follows will be judged relative to that price – and, hence, cheaper.** Even the supposedly objective Dimensional-Module perceives numbers in a relative, rather than an absolute, sense. The order in which we show prices (POS, print, web) influences price perception!

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If we first see a product costing \$199.95, then another product costing \$29.95 seems considerably cheaper than if we had seen it without the higher pricing anchor. The anchor-effect is extremely robust and mostly implicit. In the previous example showing the price cut from £8.00 to £5.99 this effect works even harder; by showing the reference price in large font it makes the sale price seem even more attractive.

Implications for Marketing

What we've shown you in this Update is only a fraction of the scientific learnings on price perception. However, even this demonstrates a key point: **the way in which price is presented is, in itself, a powerful lever, without even having to change the actual price, let alone the product.**

When designing POS, printed materials or websites there are many opportunities to affect price perception and the sense, or feeling, of price that you communicate.

The Triple-Coding Model can help systematically to manage how price should be depicted across all relevant Touchpoints.

Advice: Due to the depth of research available on price perception as well as its relevance to Marketing practice, decode offers an **Inhouse-Workshop** specifically on this topic. Designed for those involved with Brand, Channel, Trade and Customer management, this is a hands-on way to learn the theory and practice and transfer it to the day job.

Tips for further reading

Coulter, Keith S. and Patricia A. Norberg (2009), The Impact of Physical Distance on Price Discount Perceptions, *Journal of Consumer Psychology*, 19 (2), 144–57.

Dehaene, Stanislas (1997), *The Number Sense*, Oxford: Oxford University Press.

Kruger, Justin and Patrick Vargas (2008), Consumer Confusion of Percent Differences, *Journal of Consumer Psychology*, 18 (January), 49–61.

Welcome to the discussion!

decode Marketingberatung GmbH

Graumannsweg 19
D – 22087 Hamburg

Telefon: 040 / 227 59 208

info@decode-online.de



Dr. Christian Scheier
Joint Managing Director



Dirk Held
Joint Managing Director



Cornelia Bruns
Customer Relationship Management