

# The art of optimizing the presentation of prices

Frankfurt, April 10<sup>th</sup>, 2019

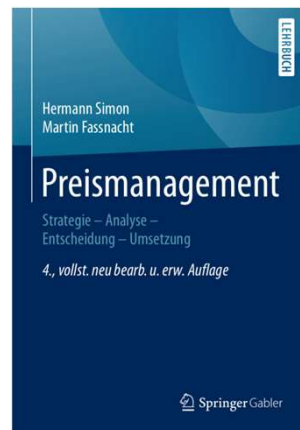
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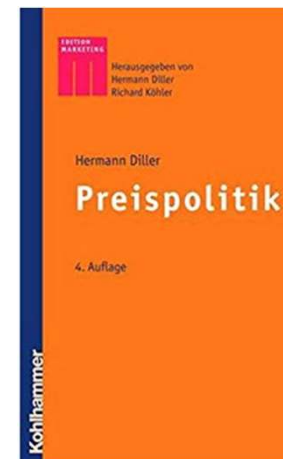
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# Presentation of prices: So far not a key aspect in text books on price management

## Research on relevance of price communication in pricing textbooks



Simon and Fassnacht devote **14** of over **600** pages to the subject of price communication in their book "Price Management"  
**= 2 %**



At Diller, "Pricing Policy", communication policy considerations are discussed in the chapter on Price Enforcement (totaling **20** out of **522** pages, after all, almost **4%**).

# Classic price management: focus on willingness to pay (WTP)

## Defining “Value to customer” and “Value of the customer”



# The „new“ claim: The irrational consumer as the standard

„Despite a body of literature on nudging people toward better decision-making (Thaler and Sunstein, 2009), there are not many real interventions successfully de-biasing consumers in mentioned inept decision-making.“ Houdek (2016).



Homer Simpson

or



Superman

“Drawing on aspects of both psychology and economics, the operating assumption of behavioral economics is that cognitive biases often prevent people from making rational decisions, despite their best efforts. (If humans were comic book characters, we’d be more closely related to **Homer Simpson** than to **Superman**.)” Ariely (2009)

# Behavioral Pricing: one of the mainstream research topics of the last decade

## Inconsistencies of behavioral pricing and economic theory

### Psychological Pricing Principles

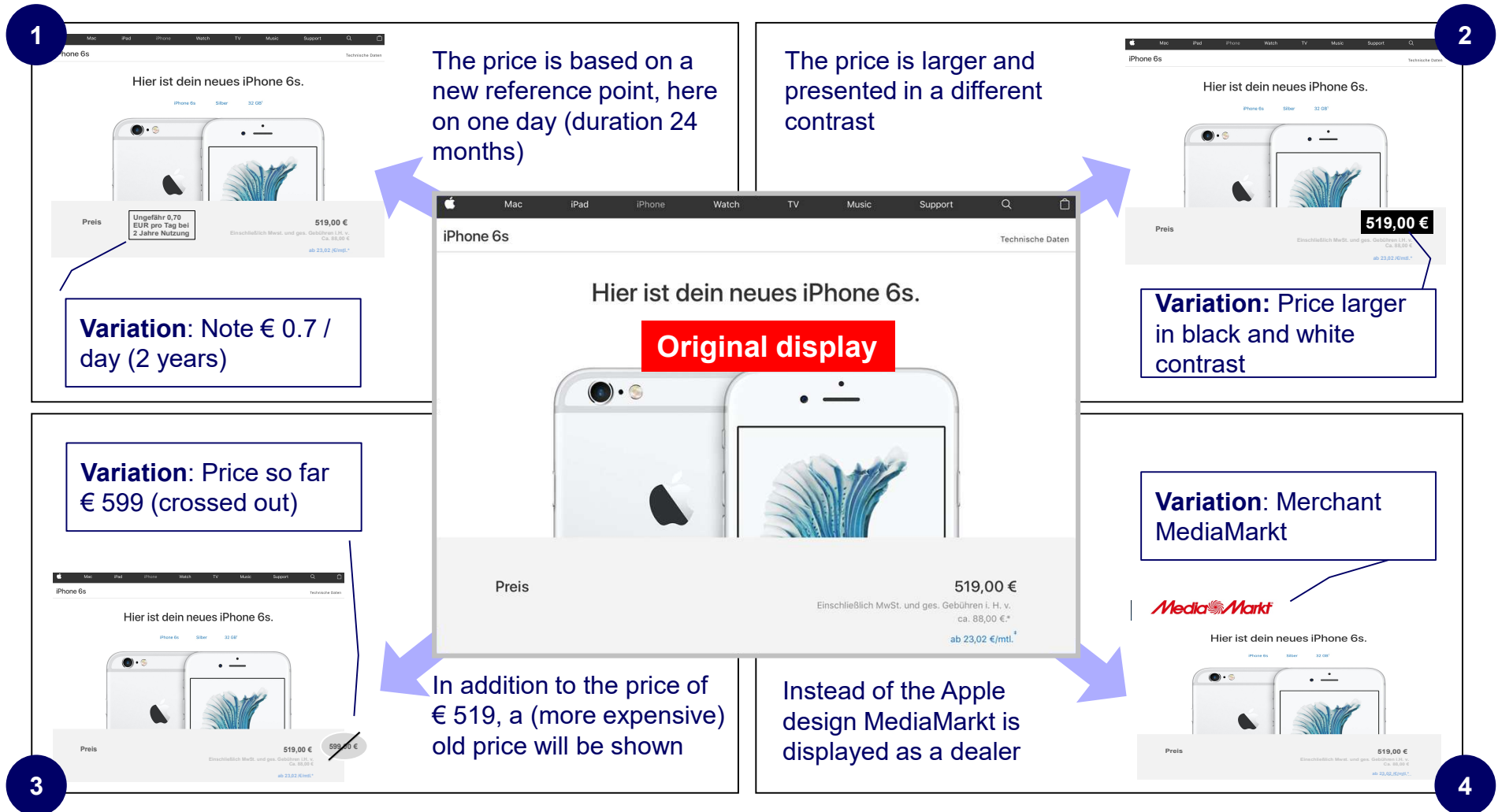
Framing Principles	Example Tactics/Recommendations	Primacy and Recency	Give Buyers Intended First and Last Impression
Positive Focus	"Save" instead of "Spend Less"	Price De-emphasis	List Units in Large Transactions before Price
Free Product		Product Sequence	Reveal Most Attractive Items First
Multiple Units		Price Sequence	Show High-Priced Products First and Adjust Message
Anchors			Show with Premium Items from Other Categories
Quantity Limits	Quantity Limits: „Limit 4 per Household“		Add Product that Makes Target Item More Attractive
Scarcity			Show More Variety with High Quality Items
Price Salience			Move and Reformat Sale Tag to Match Strategy
Spure Change Effect			"Load" Model and Let Buyer Drop Options
Pennies-a-Day Pricing	Pennies-a-Day Pricing: „Just 50-Cents per Day“		Adjust Discount Attribution within Bundle
Explicit Comparisons	"Less than a Cup of Coffee per Day"		Change Individual Item Prices to Sell Bundle
Multidimensional Pricing	"5 Payments of \$19"		Separate Shipping and Handling from Price
Trade-in Pricing			List Prices for Each Customization
Emotional Pricing		Asymmetric Competition	Strive to be Premium Brand in Category
Congruency Principles	Example Tactics/Recommendations	Signaling Principles	Example Tactics/Recommendations
Perceived Fairness		Odd-Ending Prices	Use Nines at the Right-End of Price
Typeface and Term		Price Color	Use Red Prices instead of Black when Targeting Men
Phonetic Symbols		Symmetric Prices	Make Price Vertical Mirror Symmetric
Package Design			Use Nonzeros to Suggest Price Precision
Label Design			Drop Commas and Dollar Signs in Prices
Package Dimensions			Reduce Buyer Forecasting of Price Change Timing
Context Principles	Example Tactics/Recommendations		
Price Expectations	Identify Environmental Cues that Buyers Use		Increase Prices in Small Steps
Compromise Effect	Adjust Product Line to Sell Middle Option		Reduce Price Enough, But Not Too Much
Consistent Pricing	Maintain Price		Choose Prices with More Syllables
External Reference Price	"Regularly \$35, Now \$29"		Describe Most Discounts with Percentages
Price Thresholds	Watch for Thresholds (Crossing has Large		Maintain Relative Price Spreads versus Competitors
			Increase Prices as a Quality Signal
			Raise Prices to Boost Perceive Performance

Source: Larson, R.B. (2014). Psychological Pricing Principles for Organizations with Market Power. Journal of Applied Business and Economics, Vol. 16(1), 11-25.

### Overview on academic research

- **Larson (2014)** reviews more than **fifty pricing psychology principles** for existing products, some of which may be inconsistent with traditional economic theories. Out of this portfolio:
  - ✓ **“Odd-ending pricing** involves using odd numbers, especially **nines**, on the right-hand side of prices. In many cases, prices that ended in nines ... produced higher sales than prices that were slightly higher or slightly lower.”
  - ✓ „Several studies concluded that **scarcity works** best with relatively high-priced, high-quality products.“
  - ✓ „**Pennies-a-day** pricing, where the price is described on a per-day basis, changes the temporal frame and can boost the demand.“

# There are different ways to influence consumer perception of prices



# Only a selection of famous effect in price presentation: left-digit-effect, scarcity-effect and „Pennies-a-day“-effect

## Typical positive evaluations concerning price perception biases



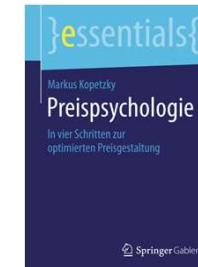
„ Broken prices such as **EUR 9.90** are **perceived as much cheaper** compared to round prices (eg EUR 10).“

Left-digit-effect



"No more than two pieces per customer": conditions that **signal scarcity** and strongly promote sales"

Scarcity-effect



„In price design, various studies have shown that consumers associate a **low absolute prices** with a lower subjective price level“

„Pennies-a-day“-effect

# Ryanair campaign Oct. 2015: in addition to the basic offer (actual advertisement), the presentation of the offer was systematically varied

## Experimental design to test promotional ads: Ryanair One Way Flights



\* Retrieved from <http://news.fluege.de/airline-news/ryanair-riesige-werbekampagne-fluege-ab-1999-euro/74515.html>



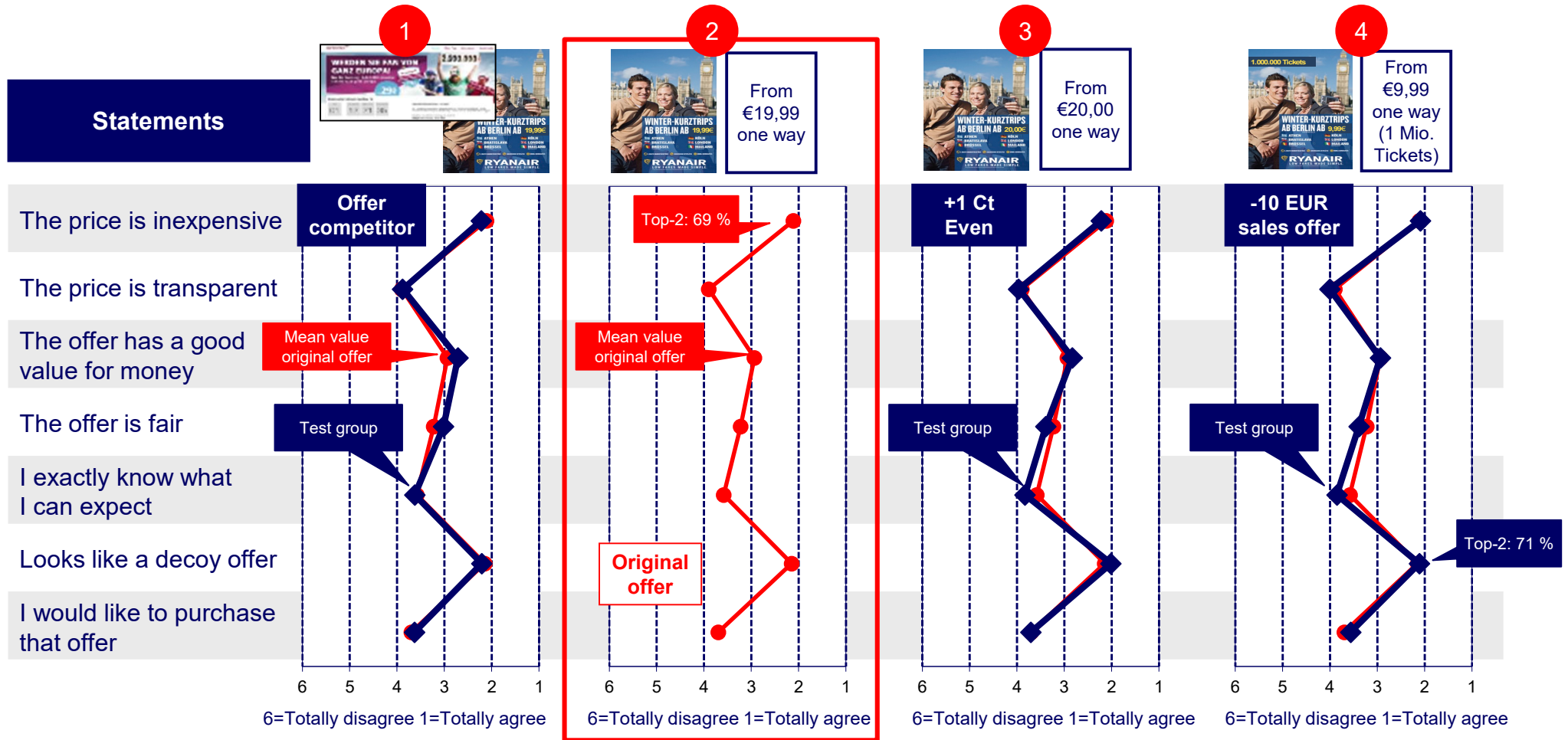
# Smartphone flat fee (1&1): besides the basic offer 3 modified offers are presented to test groups

## Experimental design to test promotional ads: Smartphone flat fee



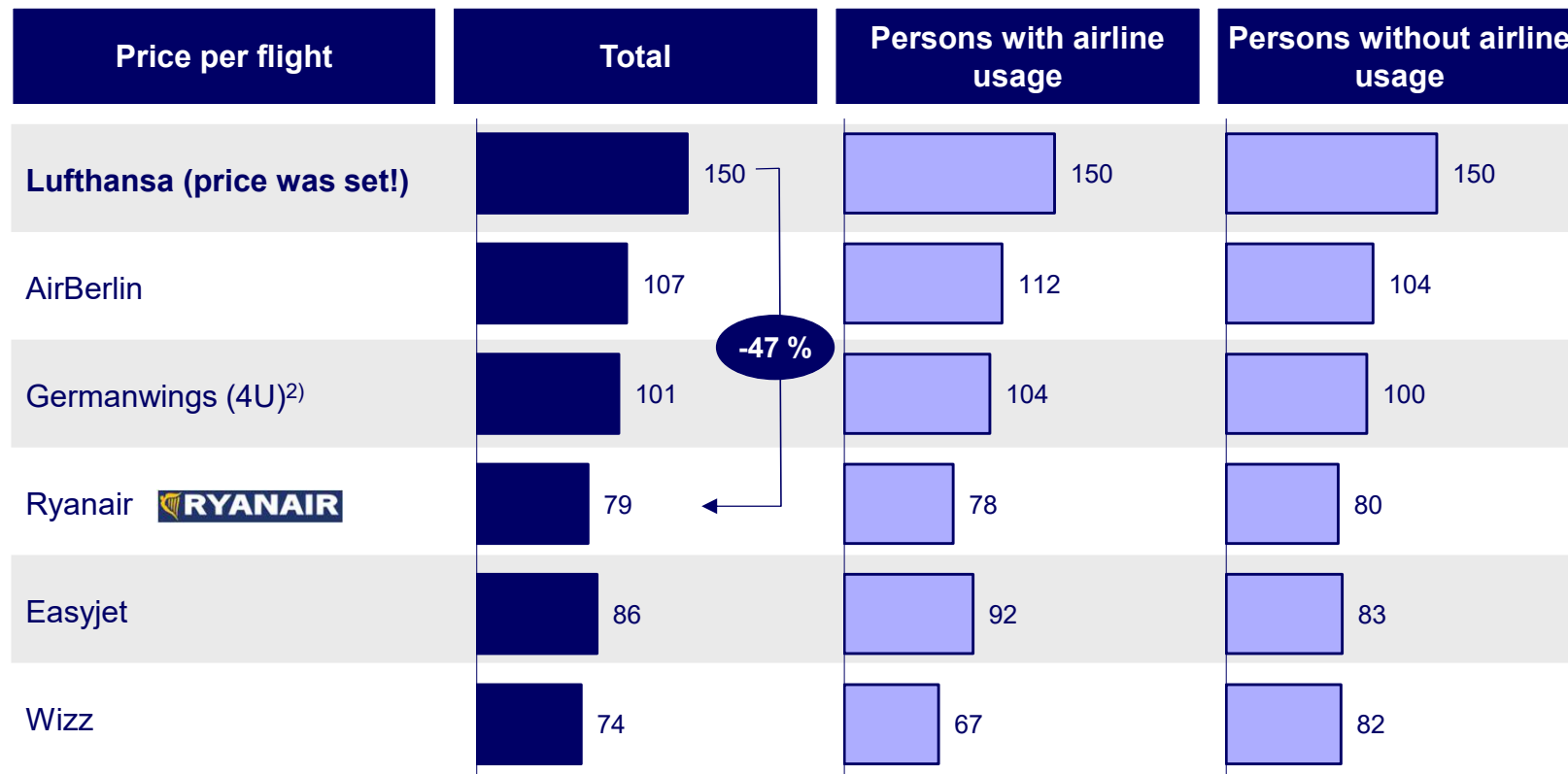
# Ryanair ad: strong approval for "inexpensive offer" and "decoy offer" across test groups - experimental factors without significant influence

## Statement evaluation: media campaign Ryanair (2015)



# The expected price (average price paid) of a Ryanair flight is about four times higher than the communicated reference price

Estimated price for a flight differentiated by airlines (EUR, mean values)<sup>1)</sup>



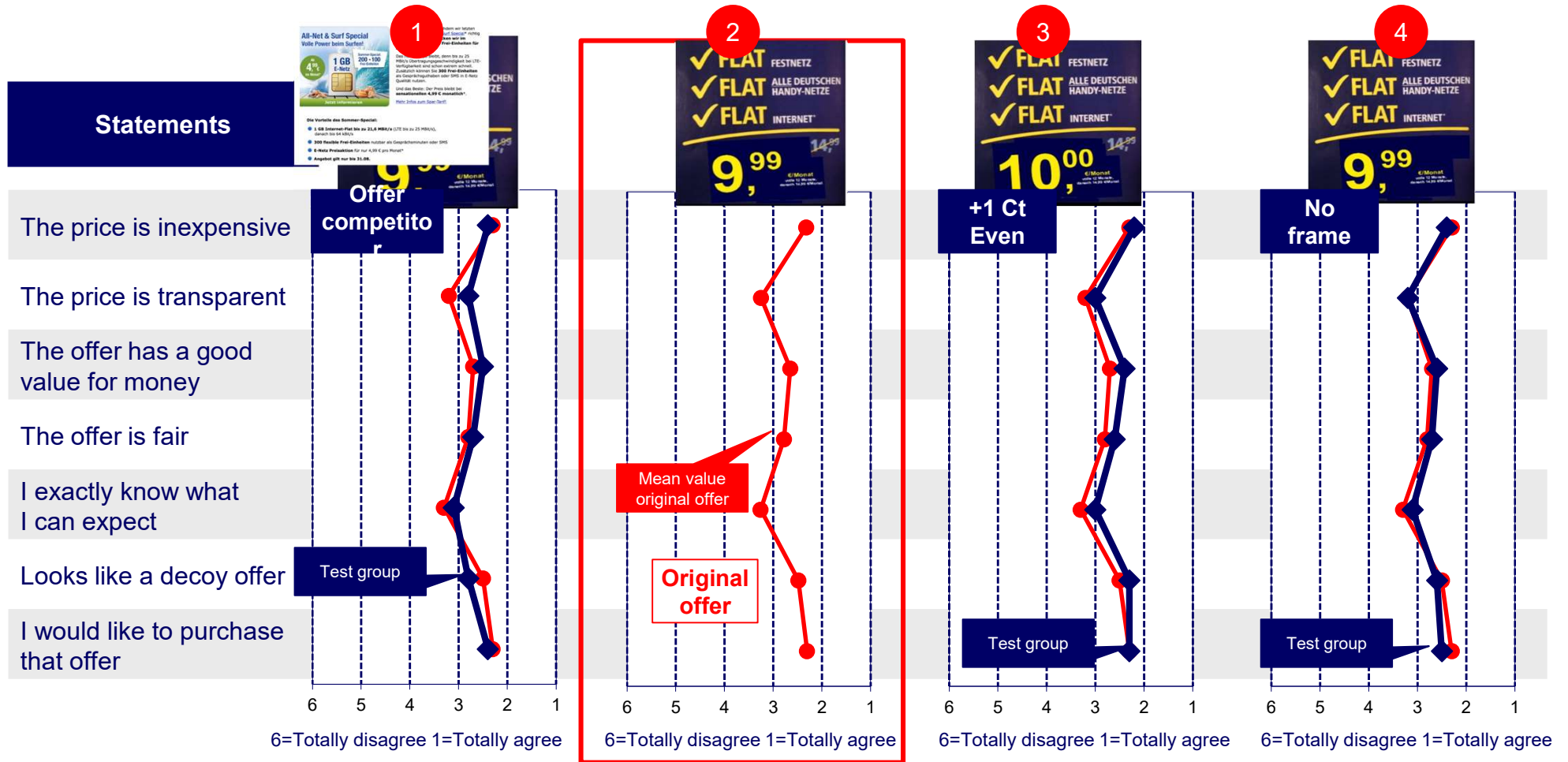
1) Only if known: Imagine an inner-European flight with Lufthansa would cost 150 EUR per route (1 adult, economy). What do you think, at what level the price for .. would be?

2) Germanwings has been rebranded to Eurowings in January 2016.

Source: **exeo** Strategic Consulting AG

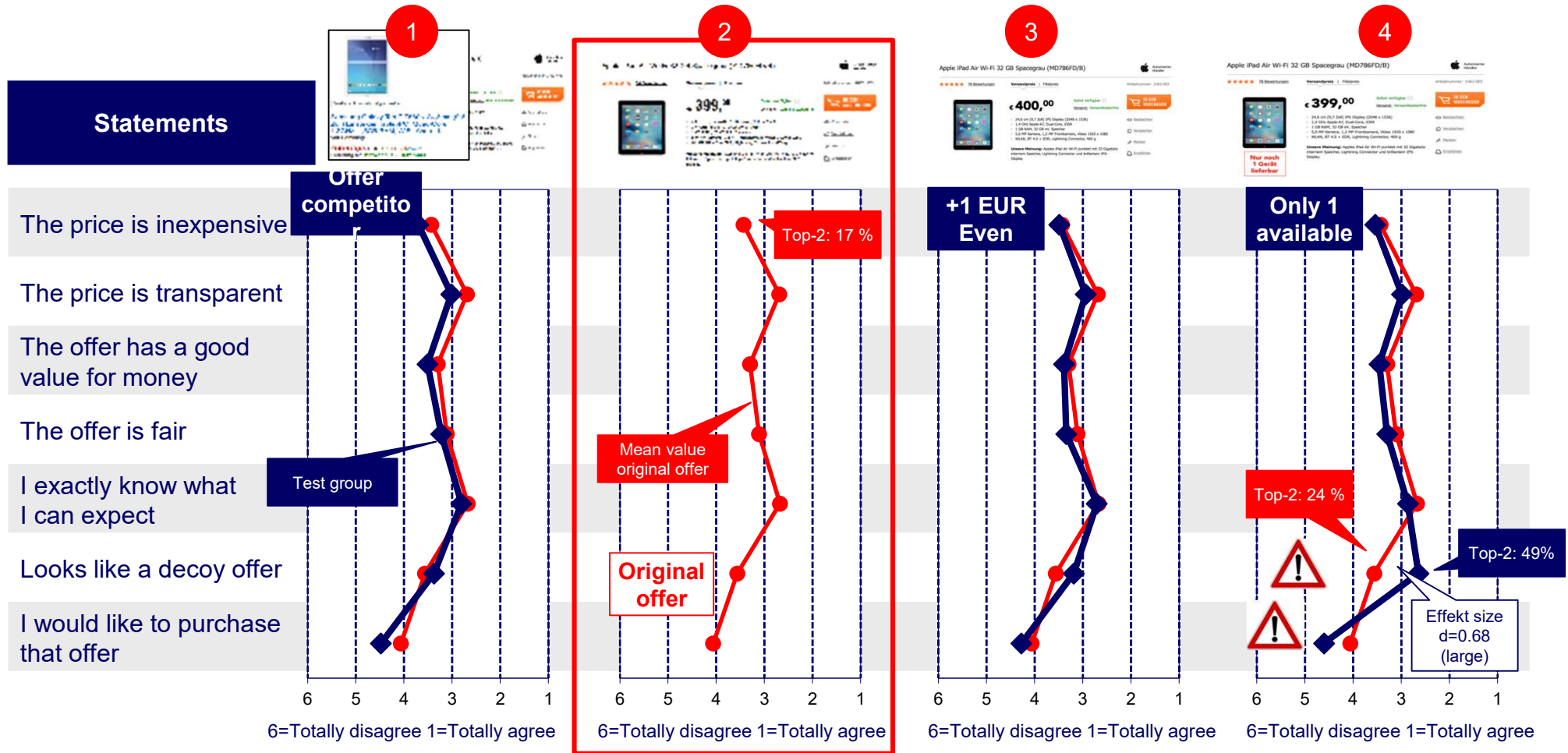
# No significant influence of competition information and missing price anchor (before EUR 14,99) on the price image profile

## Statement evaluation: Advertising for smartphone flatrate (1&1)



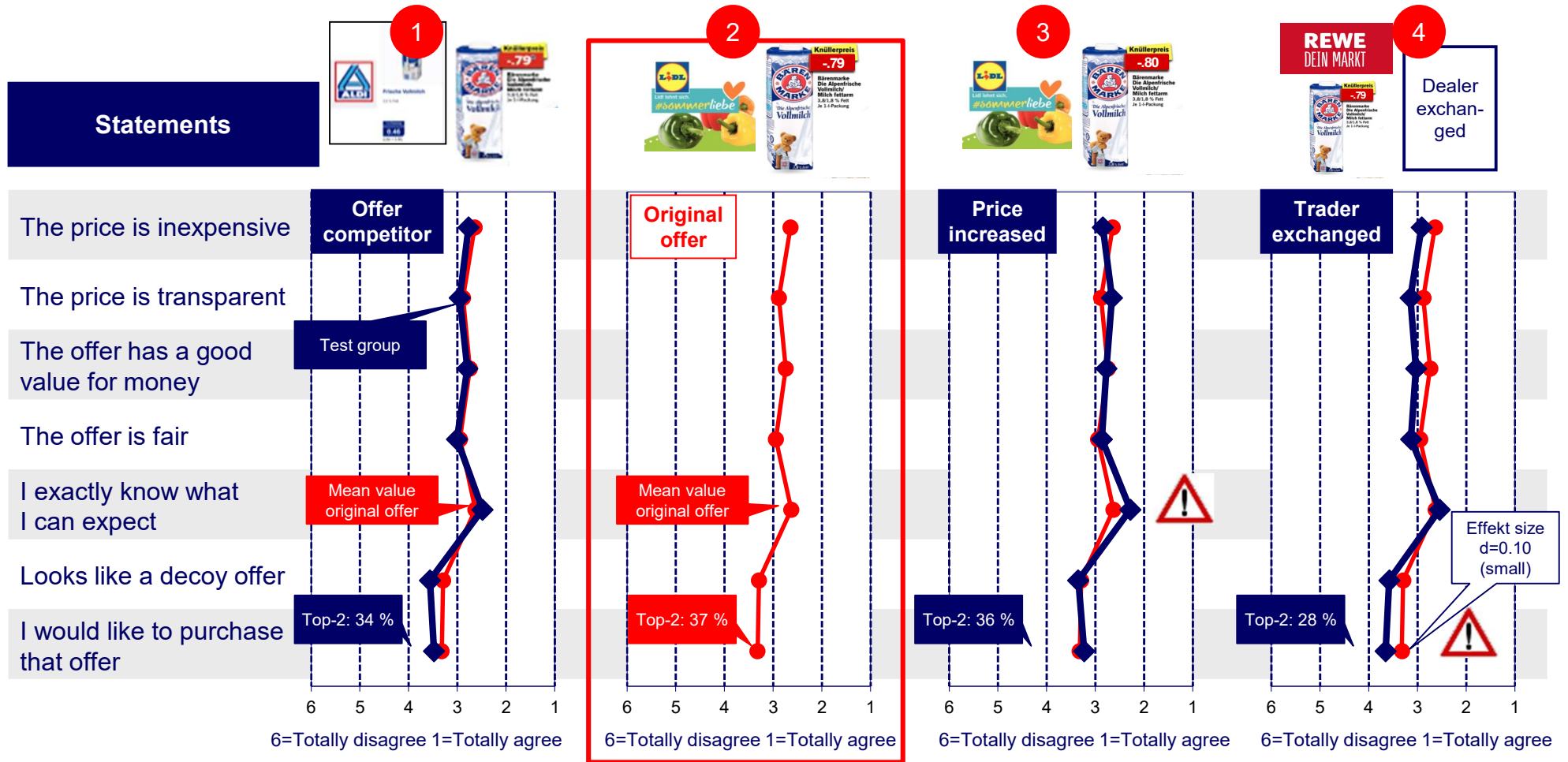
# iPad: the change in the information content and the price presentation has little influence on the image evaluation

## Statement evaluation: offer iPad Air



# Milk (Discounter Lidl): no significant odd-ending-effect – obviously the trading company has an influence on the products' price perception

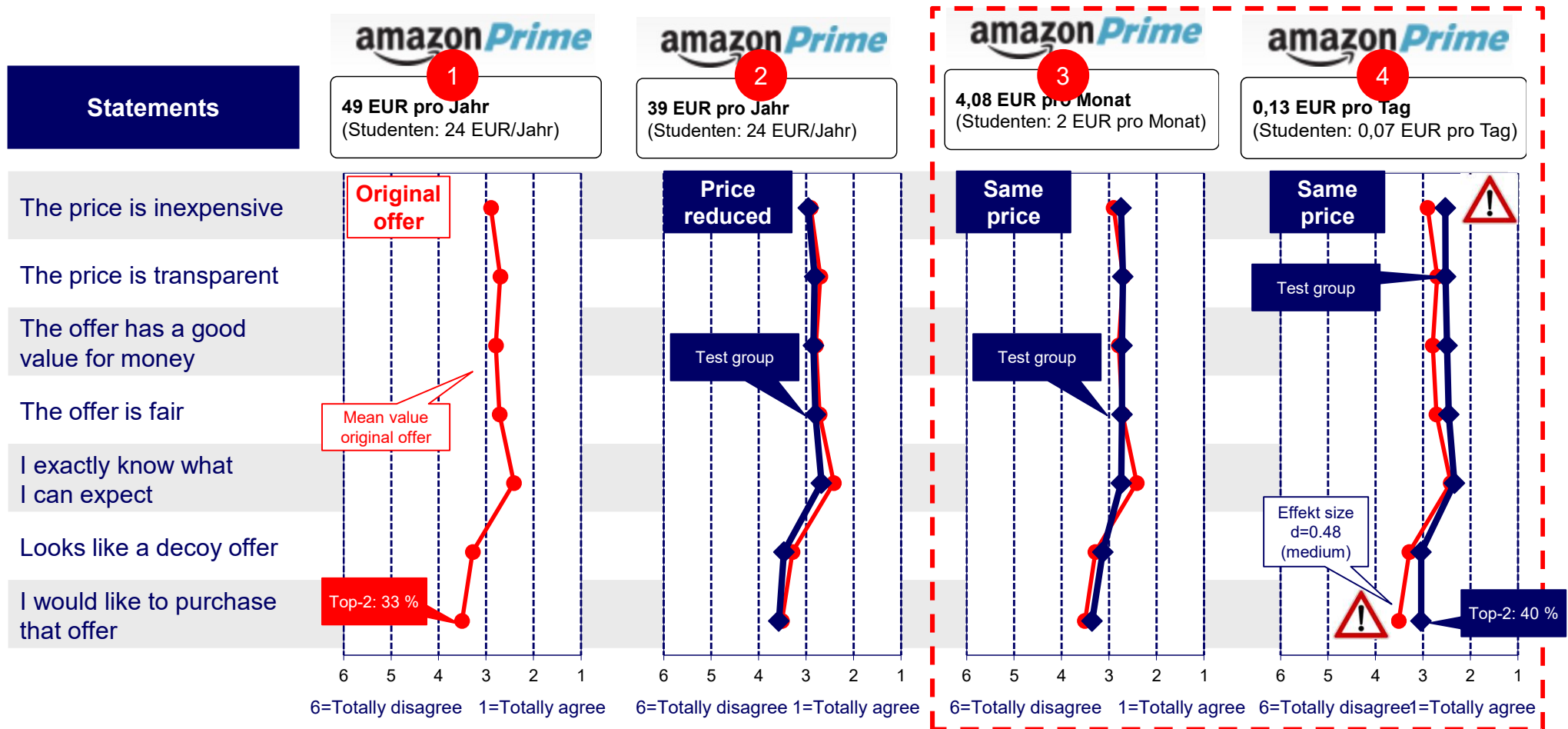
## Statement evaluation: Advertising “Bärenmarke” (offer at Lidl)





# Amazon Prime: experimental test to proof the „Pennies-a-day-Effect“: absolute price below 1 EUR work best

## Statement evaluation: promotion Amazon Prime



Significant differences ( $p < 0.10$ )

# In Nov. 2016 Amazon announced a price change for its Prime service : a price increase of > 40 %(per year)

Price change for Amazon Prime in Germany: Increase from EUR 49 to EUR 69 per year



**Price increase of  
EUR 20 (41 %)**

**... for existing  
customers:  
delayed price  
increase**

Liebe Kundin / lieber Kunde,

vielen Dank, dass Sie Mitglied bei Amazon Prime sind.

Wir schreiben Ihnen heute, um Sie darüber zu informieren, dass sich der Preis von Amazon Prime für neue Mitglieder am 01.02.2017 auf EUR 69 pro Jahr (das entspricht EUR 1,67 mehr pro Monat) ändern wird. Ihr nächster Mitgliedsbeitrag, der am 03.05.2017 fällig ist, wird allerdings noch einmal nur EUR 49 betragen, wenn Sie Ihre Prime-Mitgliedschaft fortsetzen. Der neue Preis fällt für Sie nicht bis zum 03.05.2018 an.

Wir haben Amazon Prime eingeführt, um Ihr Leben einfacher zu machen und Ziel unserer Arbeit ist es, dass Ihre Mitgliedschaft ein Schnäppchen ist. Einige Verbesserungen der letzten Zeit beinhalten:

- Erweiterung des Angebots von Millionen von Prime-fähigen Produkten, die schnell und gratis zu Ihnen nach Hause geliefert werden - ohne Mindestbestellwert
- Streaming von über 2 Millionen Songs - werbefrei - mit Prime Music
- GRATIS Same-Day Lieferung von über 1 Million Produkten in 20 deutschen Metropolregionen
- Tolle Angebote auf Tausende Artikel am Prime Day - Amazons größte Verkaufsaktion aller Zeiten, exklusiv für Prime-Mitglieder
- Aktuell sind mehr als 15.000 Titel für unbegrenztes Streaming verfügbar und es kommen ständig neue Filme und Serien dazu. Exklusive Highlights sind die zweite Staffel der Erfolgsserie "Mr. Robot" sowie die preisgekrönte Amazon Original Serie "Man in the High Castle"
- Vorteile wie unbegrenzter Fotospeicherplatz, früherer Zugriff auf alle Amazon Blitzangebote sowie kostenlose Spieleinhalte mit Twitch Prime

Und wir arbeiten weiter für Sie an Amazon Prime. Sie werden auch in Zukunft Neuigkeiten zu weiteren Prime-Vorteilen und exklusiven Prime-Angeboten erhalten. Sie finden eine Übersicht aller Prime-Vorteile unter [amazon.de/prime](https://amazon.de/prime).

Mit freundlichen Grüßen,

Ihr Amazon Prime Team

**Additional  
EUR 1,67 per  
months**

**...improved  
portfolio (value  
to customer)**



## New developments: unusual prices



**expert** 

**EXPERTEN-ANGEBOT DER WOCHE!**



**A+++**  
Spektrum  
A- bis D

**SIEMENS**  
Waschmaschine  
WM14G491

**555.-**

Unexpected prices: not  
EUR 549.-, not EUR 559,-

## New developments: Different prices per month - EUR 19.95 for the first three months (subscription model)

3 months \* EUR  
19.95 (EUR 59.85) +  
21 months \* EUR  
36.95 (EUR 775,95)  
= **EUR 835.80 (EUR  
34.80 / months)**

### Viele MagentaMobil Verträge

**19,95 €\*** mtl.

für die ersten 3 Monate  
und danach ab 36,95 €\* mtl.

**NUR BIS  
16.04.**

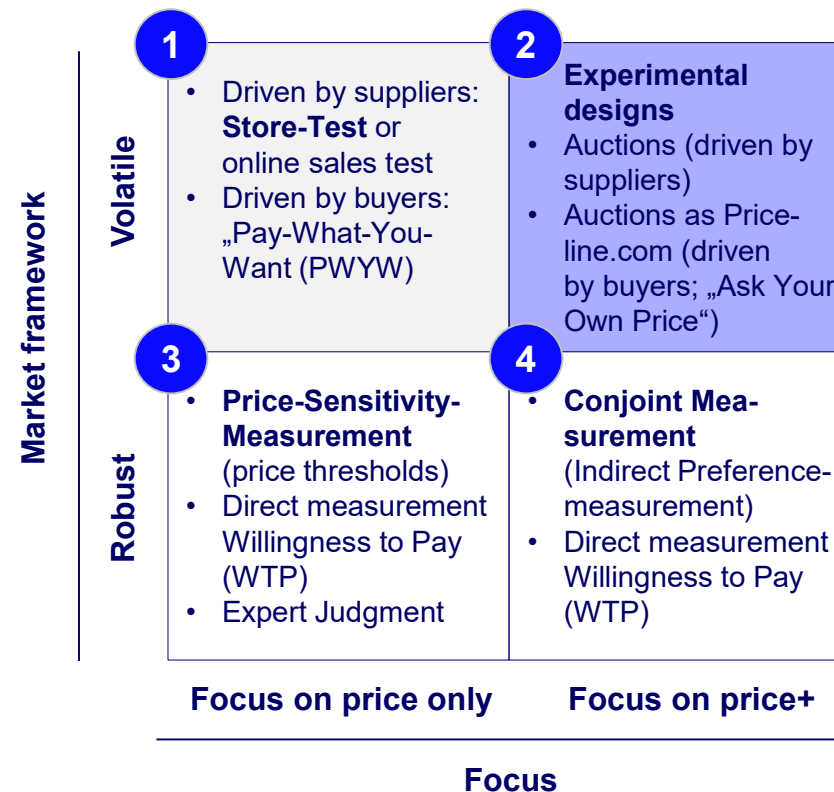
Zur Aktion!

 ..

ERLEBEN, WAS VERBINDET.

# Today, there is a toolset of different methods to optimize prices available – experimental designs are one option

## The toolset for decision making in pricing



# Outlook: what are the basic learnings?

## And: what can we do to improve the decision-making in pricing?



### Conclusion 1

- There are biases in the consumers' price perception, but this is not necessarily the rule.

### Conclusion 2

- Most (of the own) experiments indicate that consumers' price perceptions are relatively robust.

### Conclusion 3

- The assumption of the Homo Oeconomicus is as wrong as the assumption of the irrational consumer.

### Conclusion 4

- Behavioral pricing is an important aspect in pricing, but clear instructions for action (if ... then ...) are difficult to derive.

### Conclusion 5

- Experimental online designs represent an effective and cost-efficient method to measure price image effects.

Source: **exeo** Strategic Consulting AG