



Institute for Market-Oriented Management

Competence in Research & Management

Prof. Dr. Hans H. Bauer, Prof. Dr. Dr. h.c. mult. Christian Homburg, Prof. Dr. Sabine Kuester

IMU Research Insights # 007

Can service customers handle price complexity?

Sabine Kuester
Sven Feurer
Monika Schuhmacher

2012

source: <https://doi.org/10.24451/arbor.14390> | downloaded: 7.2.2023



UNIVERSITY OF MANNHEIM
BUSINESS SCHOOL

Relevance of Topic

Dividing one all-inclusive price into price components is often assumed to have favorable effects for firms. However, a large number of price components renders pricing schemes complex. This **price complexity** is difficult to handle for customers.

→ There is need to investigate how customers react to price complexity that arises from different pricing schemes.

Investigated industries

Complex pricing schemes are often found in service industries in which customers enter into an ongoing formal relationship with the provider, e.g. telecommunication, insurance, B2B services etc.

→ The present study uses the example of a mobile service provider.

Study Characteristics

Goal: Understand the impact of price complexity on perceived price fairness and attitudes towards the offer.

Method: Online experiment with 260 customers who were asked to evaluate two-year mobile phone offers that differed in the degree of price complexity.

Key Learnings

- Price complexity has a negative effect on customers' perceived price fairness and attitudes towards the offer.
 - Splitting up prices in multiple components may have serious drawbacks for firms.
- Customers with a low predisposition to enjoy complex thinking and problem-solving („need for cognition“) show strong negative reactions to complex prices; customers high in need for cognition show positive reactions.
 - Service providers should carefully consider pricing practices that are perceived negatively by a large customer group.

- Topic Relevance and Introduction

- Key Questions for Service Providers

- Study Characteristics

- Results

- Learnings for Managers

- References

- Contact and Further Information

Importance of complexity for customer behavior

Complexity poses “high cognitive demands are placed on the task-doer“, but individuals’ capabilities are generally limited.

(Campbell 1988, p. 43; Miller 1956, Malhotra 1982)

Research has shown that complexity can exhaust customers’ information processing capabilities, leading to negative consumption experiences and dysfunctional decision making with negative consequences for firms.

(Iyengar and Lepper 2000)

→ Splitting up prices in multiple component may cause complexity that burdens customers in their evaluation of prices.

→ Little research has addressed **price complexity** and its effect on customer behavior.

Prices may be cognitively demanding!

Researchers agree that the way in which price information is presented influences customers' value perceptions as well as customer demand.

(Bertini and Wathieu 2008; Iyengar et al. 2011; Schlereth, Skiera, and Wolk 2011)

→ Whether the effect is positive or negative remains unclear, but previous research indicates that customers may have difficulties in evaluating multiple price components.

(e.g. Estelami 1997, 1999)

So far, previous research has not accounted for the complexity that customers face when they encounter pricing schemes with multiple components (see example).

→ Can prices be complex such that they exhaust customers information processing capabilities?

Example: Phone tariff of a German mobile service provider

Tarifpreis ohne Handy	statt 4,95 € 4,46 €¹⁾
10% Online Rabatt bei Neuvertrag	12 Monate 10% Grundpreis sparen
Inklusivminuten in alle Netze	30
Weekend Flat ins Festnetz und ins Telekom Mobilfunknetz	kostenlos
Kostenüberblick	
Ins dt. Festnetz	0,29 €
Ins Telekom Mobilfunknetz	0,29 €
In anderen dt. Mobilfunknetzen	0,29 €
Zur Mobilbox	0,29 €
SMS	
SMS Inland, alle Netze	0,19 €
Allgemeines	
Mindestlaufzeit	24 Monate
Bereitstellungspreis	24,95 €
Zubuchbare Optionen	
MyPhonebook	kostenlos
NEU: Mobilbox Pro	kostenlos
Details	
Tarif buchen	

Source: www.t-mobile.de (accessed 08/2011)

Key Question 1

What is the effect of price complexity on customers' evaluation of prices?

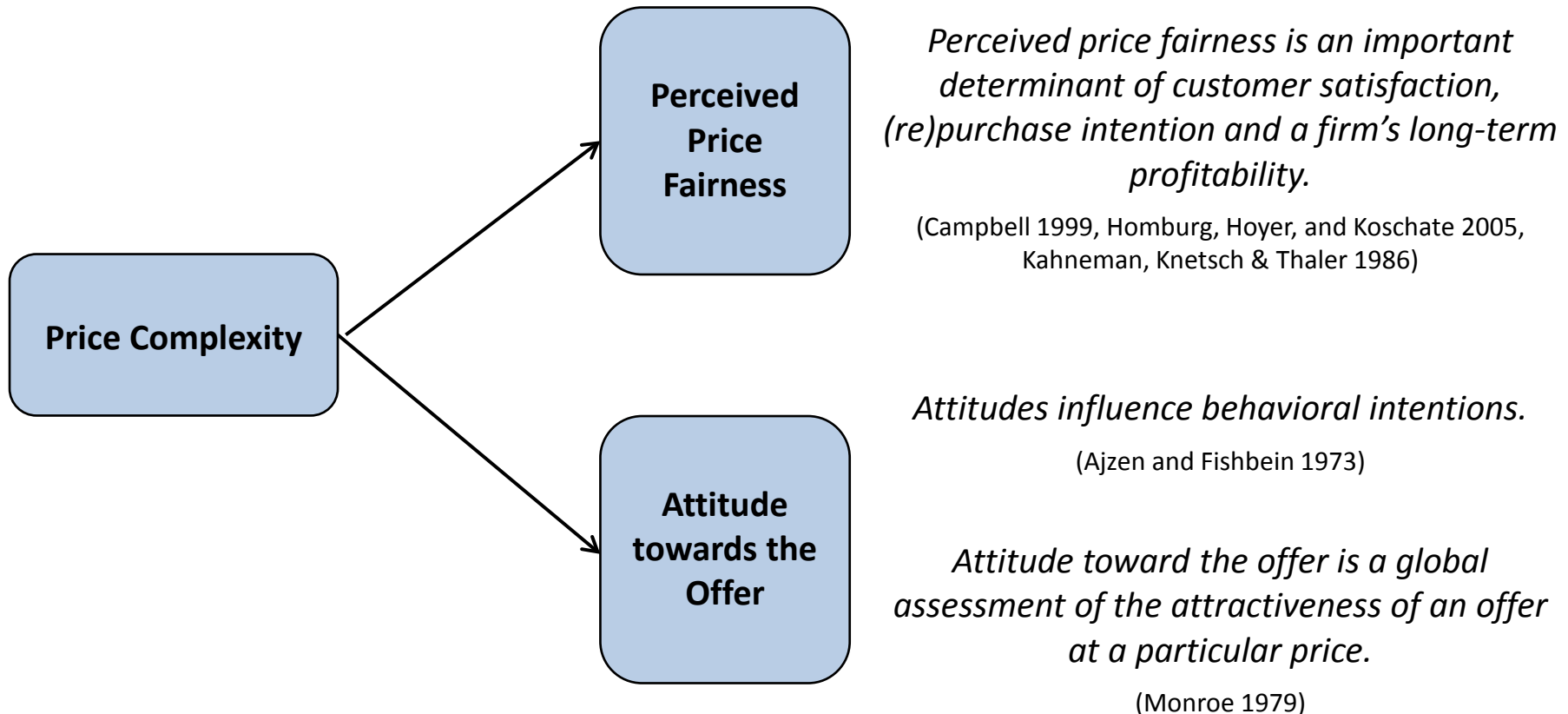
Key Question 2

Are there customer groups who can handle price complexity better than others?

Because price complexity is cognitively demanding, the general effort exerted to evaluate such a price can be interpreted as “costs of thinking”.

(Shugan 1980, p.100)

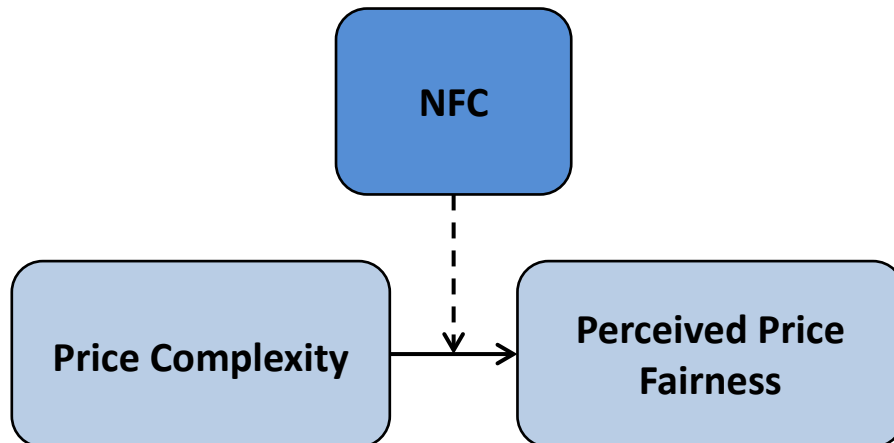
→ How does this affect customer's evaluation of prices?



“Costs of thinking” are highly subjective. They should depend on the **extent** to which price complexity is perceived as a burden by customers.

→ How does this affect customer’s evaluation of prices?

Need for cognition (NFC) is a personality trait that may affect how customers perceive complexity. This should alter their perceptions of price fairness.



NFC refers to an individual’s tendency to engage in and enjoy thinking.

(Cacioppo and Petty 1982)

Individuals high in NFC tend to have positive attitudes toward complexity and tasks that require problem solving; individuals low in NFC lack intrinsic motivation and therefore avoid complexity.

(Haugtvedt, Petty, and Cacioppo 1992; Kim and Kramer 2006)

Main Study

Data collection:

- Online experiment. An email with an invitation to participate voluntarily along with an embedded link to the study was sent to a graduate student panel.
 - Mobile phone tariff was used as stimulus.
 - Every participant was provided with a consumption pattern (see slide 10), then randomly allocated to one of the experimental conditions and asked to evaluate the (mobile phone) tariff.
 - Three experimental conditions of price complexity: low vs. medium vs. high price complexity. In all conditions, the monthly cost of the offer was 50€ (see slide 10).
- The experimental conditions differed ONLY in complexity:
- low complexity: basic price only (implying an all-inclusive price)
 - medium complexity: basic price, four usage-dependent surcharges
 - high complexity: basic price, four usage-dependent surcharges, charge for the handset

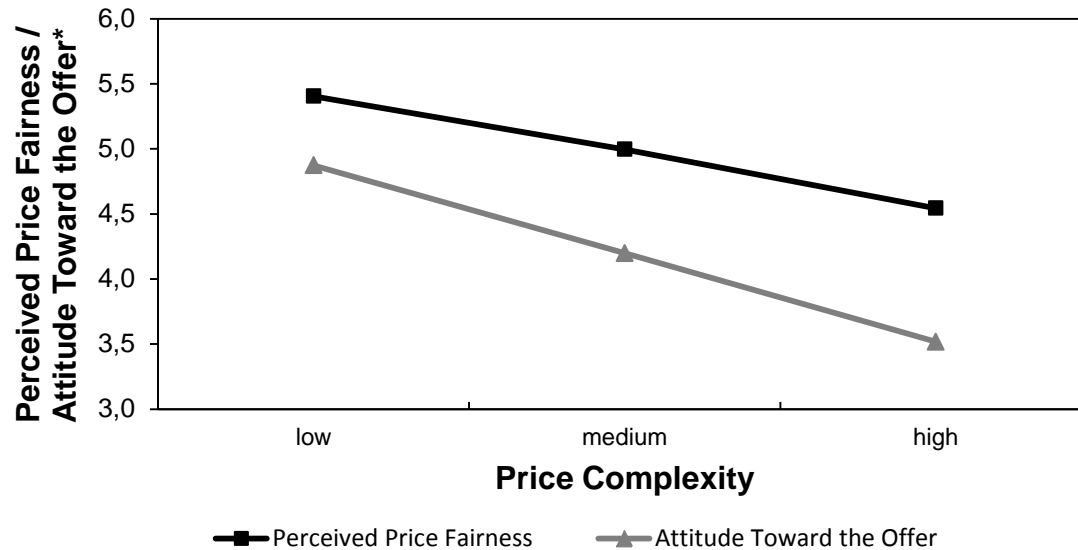
Sample size:

- 260 students participated in the experiment (42% female, and 49% in the modal age group of 25-29 years)

Experimental condition and consumption pattern

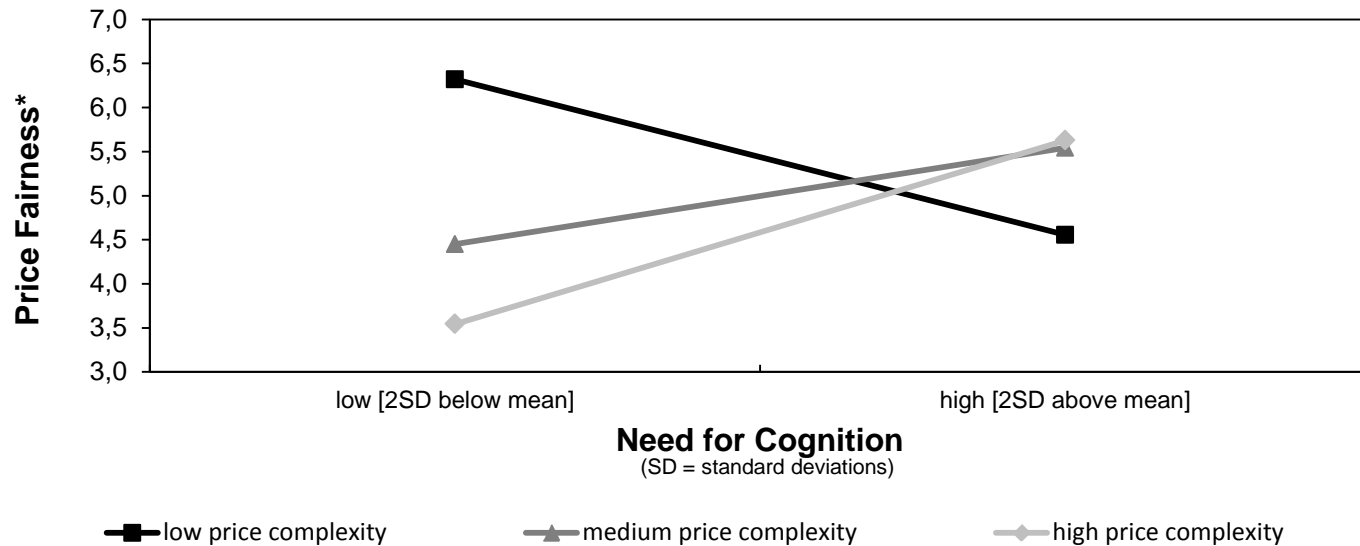
	Experimental Price Complexity Conditions		
	low	medium	high
Basic price per month	50.00 €	23.00 €	9.99 €
Provision charge	-	-	No charge: save 24.95 € !
HSDPA usage	inclusive	inclusive	inclusive
WLAN Flatrate	inclusive	inclusive	inclusive
Price per minute for calls			
• Landline numbers	free of charge	0.09 €	0.11 €
• T-Mobile Numbers	free of charge	free of charge	free of charge
• Other network providers' numbers	free of charge	0.09 €	0.19 €
Prices per SMS			
• To T-Mobile numbers	free of charge	free of charge	free of charge
• To other network providers' numbers	free of charge	0.09 €	0.09 €
Prices per MMS			
• To T-Mobile numbers	free of charge	free of charge	free of charge
• To other network providers' numbers	free of charge	0.49 €	0.49 €
Contact duration	24 months	24 months	24 months
T-Mobile G1 Smartphone	inclusive	inclusive	24.24 €

Given consumption pattern	
<p>Calls (per month):</p> <ul style="list-style-type: none"> • Landline numbers (100 minutes), • T-Mobile network numbers (100 minutes), and • Other numbers (100 min.). 	<p>Messages (per month):</p> <ul style="list-style-type: none"> • T-Mobile network (100 SMS) • Other numbers (100 SMS), and • Zero MMS.



Price complexity shows a significant negative impact on both perceived price fairness and attitude towards the offer.

*) Price Fairness was measured on a 7-point scale with 1 indicating “very unfair” and 7 indicating “very fair”. Attitude towards the offer was measured on a 7-point scale with 1 indicating “very unattractive” and 7 indicating “very attractive”.



- **Customers low in NFC:** The higher the complexity, the lower the perceived price fairness.
→ Price complexity has a strong **negative** effect on customers' price fairness perceptions.
- **Customers high in NFC:** The higher the complexity, the higher perceived price fairness.
→ Price complexity has a weak **positive** effect on customers' price fairness perceptions.

*) Price Fairness was measured on a 7-point scale with 1 indicating "very unfair" and 7 indicating "very fair".

Learning 1

Multiple price components render a price to be complex. This complexity is cognitively demanding for customers.

Learning 2

Since customers information processing capacity is limited, this has an impact in customer evaluations of the prices. On average, price complexity has a negative effect on customers' perceptions of price fairness and attitudes towards the service offer.

Learning 3

Customers with a low predisposition to enjoy complex thinking and problem-solving („need for cognition“) show strong negative reactions to complex prices due to high “costs of thinking”. Customers high in need for cognition show a reversed (however weaker) effect pattern because they tend to enjoy complexity and do not perceive it as a cost.

Learning 4

Splitting up prices in multiple components may have serious drawbacks for major customer segments. Service managers therefore should carefully consider such practices.

- Ajzen, Izek and Martin Fishbein (1973). Attitudinal and normative variables as predictors of specific behavior. *Journal of Personality and Social Psychology*. 27(1):41-57.
- Bertini, Marco and Luc Wathieu (2008). Research note – Attention arousal through price partitioning. *Marketing Science*, 27(2):236-46.
- Cacioppo, John T., and Richard E. Petty (1982). The need for cognition. *Journal of Personality and Social Psychology*, 42(1):116-31.
- Campbell, Donald J. (1988). Task complexity: A review and analysis. *Academy of Management Review*. 13(1):14-52.
- Campbell, Margaret C. (1999). Perceptions of price unfairness: Antecedents and consequences. *Journal of Marketing Research*, 36(2):187-99.
- Estelami, Hooman (1997). Consumer perceptions of multi-dimensional prices. *Advances in Consumer Research*, 24(1):392-99.
- Estelami, Hooman (1999). The computational effect of price endings in multi-dimensional price advertising. *Journal of Product & Brand Management*, 8(3):244-56.
- Hagtvedt, Curtis P., Richard E. Petty, and John T. Cacioppo (1992). Need for cognition and advertising: Understanding the role of personality variables in consumer behaviour. *Journal of Consumer Psychology*. 1(3):239-60.
- Homburg, Christian, Wayne D. Hoyer, and Nicole Koschate (2005), Customers' reactions to price increases: Do customer satisfaction and perceived motive fairness matter? *Journal of the Academy of Marketing Science*. 33(1):36-49.
- Iyengar, Sheena S. and Mark R. Lepper (2000), When choice is demotivating: Can one desire too much of a good thing? *Journal of Personality and Social Psychology*. 79(6): 995-1006.
- Iyengar, Raghuram, Kamel Jedidi, Skander Essegaier, and Peter J. Danaher (2011). The impact of tariff structure on customer retention, usage and profitability of access services. *Marketing Science*. 30(5):820-836.
- Kahneman, Daniel, Jack L. Knetsch, and Richard Thaler (1986). Fairness as a constraint of profit seeking: Entitlements in the market. *American Economic Review*. 76(4):728-741.
- Kim, Hyeong M. and Thomas Kramer (2006), The moderating effects of need for cognition and cognitive effort on responses to multi-dimensional prices, *Marketing Letters*, 17(3): 193-203.
- Malhotra, Naresh K. (1982), Information load and consumer decision making. *Journal of Consumer Research*. 8(4): 419-30.
- Miller, George A. (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information. *Psychological Review*. 63(2):81-97.
- Monroe, Kent B. (1979), *Pricing: Making profitable decision*. New York: McGraw Hill.
- Schlereth, Christian, Bernd Skiera, and Agnieszka Wolk (2011). Measuring consumer preferences for metered pricing of services", *Journal of Service Research*. 14(4):443-59.
- Shugan, Steven M. (1980). The cost of thinking. *Journal of Consumer Research*. 7(2):99-111.

The **Institute for Market-Oriented Management (IMU)** at the University of Mannheim (Germany) considers itself to be a forum for dialogue between scientific theory and practice. The high scientific and academic standard is guaranteed by the close networking of the IMU with the three Chairs of Marketing at the University of Mannheim, which are highly renowned on a national and international level. The Academic Directors of the IMU are Prof. Dr. Hans H. Bauer, Prof. Dr. Dr. h.c. mult. Christian Homburg and Prof. Dr. Sabine Kuester.

If you are interested in further information or have any questions, please contact us at:

Institute for Market-Oriented Management
University of Mannheim
L5, 1
68131 Mannheim / Germany
Phone: 0621 / 181-2388
E-Mail: feurer@bwl.uni-mannheim.de

or visit our website at: www.imu-mannheim.de.

The Authors:

Prof. Dr. Sabine Kuester holds the chair of Marketing III at the University of Mannheim. She is also Director of the Institute of Market-Oriented Management and Academic Director of the Fulltime MBA Program at the Mannheim Business School.

Dipl.-Kfm. Sven Feurer is Teaching and Research Assistant at the chair of Marketing III at the University of Mannheim.

Dr. Monika C. Schuhmacher is Associate Professor at the chair of Marketing III at the University of Mannheim.