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# Unit Pricing



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Lena Himbert

# Unit Pricing

Empirical Investigations of its Influences  
at the Product and Retailer Levels

With a foreword by Prof. Dr. Stefan Roth



**Springer** Gabler

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Dissertation Technische Universität Kaiserslautern, 2015

ISBN 978-3-658-13475-4      ISBN 978-3-658-13476-1 (eBook)  
DOI 10.1007/978-3-658-13476-1

Library of Congress Control Number: 2016939260

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# Foreword

In addition to the product price, retailers have to indicate the unit price for pre-packaged products. For liquid products, the unit price has to be stated as price per hundred milliliters, or price per liter, and for other products as price per hundred grams, or per kilogram. However, although these requirements are binding, retailers have numerous possibilities to influence the indication and presentation of the unit price. For example, there are exemptions for small retailers from unit pricing and retailers can indicate unit prices for small package sizes as price per hundred milliliters or hundred grams, while for larger package sizes the unit price has to be indicated as price per liter or kilogram.

With the introduction of unit pricing in the marketplace, research also focused on the indication and presentation of unit price information. In the beginning, this stream of research focused on the question, whether consumers are aware of unit prices and whether consumers take unit prices into consideration when shopping. However, until today there is no sufficient investigation on the aspect, if the indication and the presentation of unit prices can be used to influence the perception and evaluation of certain offers and their prices.

Therefore, Lena Himbert set herself the task to investigate these influences in detail. For this purpose, first the state of the unit price research has been thoroughly analyzed. Based on this literature analysis, Lena Himbert identified a number of gaps in research, she aims to address with this dissertation. In particular, she investigates the influence of unit pricing on the product level and on the retailer level. For both areas of research, Lena Himbert develops theory-based research hypotheses that are tested with four experimental studies. With these studies Lena Himbert addresses several of the before identified research gaps, while also highlighting additional need for research in these areas.

Lena Himbert succeeded to write an excellent dissertation. Essential research gaps are identified as well as empirically addressed. Thereby, on the one hand, an important contribution to this area of research has been made and on the other

hand, a number of research gaps were identified that have to be answered by future studies. I wish this work the interest of a wide readership and the inspiring impact to encourage future research projects.

Prof. Dr. Stefan Roth

Kaiserslautern, January 2016

# Preface

When shopping for pre-packaged products, consumers are offered a variety of product and price information at the point of purchase. To name some of the information available, retailers and manufacturers offer the customer information on package size, nutrition facts, ingredients, brand name and overall price. Oftentimes consumers are not able to consider all the information when making a decision for a product, due to time restrictions or cognitive constraints. The unit price is a price information given to the consumer that integrates the package size information into the price information and thereby lowers the information load for the consumers in the shopping situation. While in many geographical regions the indication of unit prices is regulated by the national legislature, retailers have considerable leeway concerning the unit price format. Aspects that can be varied are the unit of measure utilized (e.g., price per kg vs price per 100 g) as well as the unit price color or font size. There is little to no previous research that gives advice to retailers how they should indicate the unit price on the price label. This represents a severe gap in research as it can be assumed the unit price layout influences consumer behavior in various ways. Furthermore, previous research did not address the influence of unit price availability and unit price prominence on the consumer's attitude towards a retailer. Therefore, the aim of this dissertation is to analyze the influence of unit prices on consumers' attitude towards products as well as retailers.

I was engaged in researching and writing this thesis from May 2011 to May 2015, during my time as scientific research assistant at the University of Kaiserslautern.

I would like to express my sincere gratitude to my advisor Prof. Dr. Stefan Roth for supporting me during these four years. He has been actively interested in my work and has always been available to advise me. I am grateful for his motivation, patience, and immense knowledge.

I also would like to thank the members of my PhD committee, Prof. Dr. Reinhold Hölscher, Prof. Dr. Matthias Baum and Prof. Dr. Oliver Wendt, for their effort and support. Thank you for letting my defense be an enjoyable moment.

Completing this work would have been all the more difficult were it not for the support and friendship of my colleagues at the chair of Marketing, Dr. Eduard Stoppel, Dipl.-Wirtsch.-Ing. Lucas Pfisterer, Dr. Kathrin Bösener, Dr. Thomas Robbert, Dr. Thomas Schmidt, Dipl.-Wirtsch.-Ing. Sascha Sohn, Dipl.-Wirtsch.-Ing. Lennart Straus, Dr. David Zitzlsperger.

I also wish to thank Prof. Dr. Stephan Zielke for his advice and sharing his pricing knowledge, especially during the weeks I spent at the University of Aarhus.

In regard to my experimental studies, I also wish to thank all of the respondents, without whose cooperation I would not have been able to conduct this analysis.

For the non-scientific side of my thesis, I particularly want to thank Bastian Hauschild. Thank you for your love, patience, support, and unwavering belief in me. I also want to thank my parents, Ursula and Jürgen Himbert, my sister, Lisa Himbert, and my brother, Hannes Himbert, for their continued encouragement and unconditional love.

I hope you enjoy your reading

Lena Himbert

Cologne, January 2016

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# List of Abbreviations and Acronyms

AMA	American Marketing Association
ANOVA	analysis of variance
art.	article
AVE	average variance extracted
B-2-B	business-to-business
B-2-C	business-to-consumer
EC	European Community
EDLP	everyday low price
EEC	European Economic Community
ERP	external reference price
EU	European Union
e.g.	exempli gratia (for example)
et al.	et alii (and others)
etc.	et cetera (and the rest)
FPackV	Fertigpackungsverordnung (Pre-Packaging Order)
i.e.	id est (that is)
g	gram(s)
IRP	internal reference price
kg	kilogram(s)
l	liter(s)
M	mean
Mar.	March
ml	milliliter(s)
n.s.	not significant
Oct.	October
PAngV	Preisangabenverordnung (Quotation of Prices Order)
para.	paragraph
PLS	SmartPLS

PTPK	pricing tactic persuasion knowledge
SD	standard deviation
sec.	section
SEM	structural equation model
SPSS	IBM SPSS Statistics 22
USA	United States of America
VAT	value-added tax
vs	versus

# List of Symbols

$a$	constant of integration
$\alpha$	Cronbach's alpha
$\beta$	path coefficient
$UP_S$	unit price of smaller package size
$UP_L$	unit price of larger package size
$I$	stimulus
$\Delta I$	stimulus change
$K$	constant ratio
$k_{it}$	budget constraint for product (category) $i$ at the time $t$
$P$	price
$p$	price for product $i$
$p^*$	reference price for product $i$
$\bar{p}$	value equivalent of product $i$
$\Delta P$	price change
$PLP_i$	price-level perception for product $i$
$Q$	perceived quality level
$R$	response
$S$	stimulus magnitude
$w$	total utility of paying the price $p$ for a product $i$ when the consumer's reference price is $p^*$