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The Impact of the Degree of Similarity Between Private Labels and Original National Brands on Consumer Buying Behaviour

– an Empirical Investigation Based on German Household Panel Data



Table of Contents

Table of Contents	I
Table of Figures	III
Preface of the Authors	V
<i>Overview of the Research Results</i>	VII
1. Introduction to the Problem	1
2. Research Framework	3
2.1. Assortment- and Price-Related Reasons for the Proliferation of Private Labels.....	3
2.2. National Brands Versus Private Labels	5
2.3. Current Academic Literature Related to Copycats	9
3. Hypotheses Framework and Model	11
3.1. Derivation of Research Hypotheses.....	11
3.2. Effect of Private-Label Purchases (by Degree of Similarity).....	11
3.3. Effect of Original National Brand Purchases	12
3.4. Effects of Brand Quality Esteem and Price Consciousness.....	13
3.5. Socio-Demographic Control Variables.....	15
3.6. Structural Model	15

4. Empirical Tests of the Hypotheses	17
4.1. Database, Methodology, and Research Design	17
4.2. Measures of Model Constructs	19
4.3. Model Results	20
5. Conclusions.....	23
5.1. Results and Implications for Retailers, the Branded Goods Industry, and Competition Policy.....	23
5.2. Limitations and Further Research.....	25
References	27
The Authors of the Research Paper.....	37
Other Research Papers	41
Series of Theses (Marketing, Retailing und Management)	45

Table of Figures

Figure 1: Country Comparison of Market Shares of Private Labels (2014).....5

Figure 2: Framework for Supporting Private Labels7

Figure 3: Structural Model at a Glance 16

Figure 4: Results of the Hypotheses Tests22



Preface of the Authors

Purpose – Conventional wisdom suggests that an imitation brand benefits more from the reputation of the national brand that it copies when their degree of similarity increases. Noting some recent challenges to this traditional perspective, this research article seeks to enhance understanding of the varying effects of more or less imitative private-label brands on consumer buying behaviour. It also examines whether differences in brand choice behaviour might be explained by individual differences across shoppers.

Design/methodology/approach – This research relies on a consumer panel encompassing approximately 20,000 representative households from Germany. The study period spans three consecutive years (2005–2007). Structural equation modelling provides the test of the hypothesized relationships.

Findings – The hypotheses tests reveal clear evidence that moderately similar private labels likely fare better in the market than blatant brand imitations. Regarding the effect of individual consumer characteristics on brand choice behaviour, the results indicate rather weak effects.

Originality/value – The study findings are somewhat counterintuitive: Moderately similar imitations perform better than blatant imitations. To the best of the authors' knowledge, this study is the first to draw this conclusion on the basis of real products, purchased in a natural purchasing environment.

Keywords – private labels, imitation strategy, degree of similarity, copycats, grocery sector

Paper type – Research paper

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Overview of the Research Results

Chapter 1. Introduction to the Problem

- In contexts featuring ever-increasing retail concentration, private labels, whose overall appearance is more or less reminiscent of leading national brands, have exhibited substantial cross-border proliferation.

Chapter 2. Research Framework

- The origins of the increasing proliferation of private labels do not really rely on their degree of similarity to the original branded goods but rather on the assortment and pricing policies. The degree of similarity to an original national brand is pertinent but not a primary influence.

Chapter 3. Hypotheses Framework and Model

- The hypotheses account for the degree of similarity between private labels and original national brands by differentiating dissimilar, low-similarity, moderate-similarity, and high-similarity private labels.

Chapter 4. Empirical Tests of the Hypotheses

- From a consumer perspective, moderately similar private labels are not only preferred to completely dissimilar private labels and low-similarity private labels, but also to high-similarity private labels. The competitive relationship between original national brands and moderately similar private labels accordingly is the strongest one.

Chapter 5. Conclusions

- Retailers should position their own brands in a way that is not too close to the trade dress (appearance) of leading brands. A comparison of path coefficients indicates that private labels rated as moderately similar enjoy the strongest positive effect in terms of private-label market share at the household level.
- For manufacturers, the findings show that moderately similar private labels can represent a greater threat to their national brands than highly similar versions.



1. Introduction to the Problem

Retail concentration continues to increase, and private labels that mimic the general appearance of leading national brands have achieved substantial cross-border proliferation. These so-called copycats or look-alikes have existed in European markets (e.g., Germany, France, UK) for more than three decades; they increasingly are making their presence felt beyond the European arena and especially in the United States.¹ When they design their private-label products, most retailers are keen not to exceed legal boundaries.² Unlike true copies or fakes, copycats do not claim to be identical to the branded originals³ but still adopt a few attributes of the original products, such as their basic shape, colour, or packaging.⁴ In this sense, a typical copycat operates in something of a legal grey zone,⁵ where it seeks to leverage the reputation of well-established, existing national brands.

Proliferation
of copycats

Definition
of copycats

Such attempts to benefit from the efforts of successfully brands have prompted accusations of free-riding,⁶ because with their lower research and development and marketing costs, imitative private labels can charge lower prices than the branded goods they imitate.⁷

Accusations
of free-riding

In this context, a copycat brand's ability to share the good reputation of the original national brand seemingly should increase with their degree of similarity.⁸ Yet some recent studies question this conventional wisdom, without reaching a clear conclusion.⁹ In response, the current study seeks to determine the influence of the degree of similarity between private-label and national brands on consumers' purchasing behaviour, by addressing three main research questions.

Objective
of the research
paper

¹ KAPFERER 1995a; HUGHES 1997; WIECZOREK 2004; WALSH/MITCHELL 2005a; HAWKINS 2007; BERNITZ 2009.

² BERNITZ 2009; DOBSON/CHAKRABORTY 2009.

³ D'ASTOUS/GARGOURI 2001.

⁴ E.g., LOKEN/ROSS/HINKLE 1986; FOXMAN/MUEHLING/BERGER 1990; KAPFERER 1995b; VAN HOREN/PIETERS 2012a.

⁵ ZAICHKOWSKY 2006.

⁶ COLLINS-DODD/ZAICHKOWSKY 1999.

⁷ RAFIQ/COLLINS 1996; DOBSON 1998.

⁸ LOKEN/ROSS/HINKLE 1986; WARD et al. 1986; FOXMAN/BERGER/COTE 1992.

⁹ E.g., VAN HOREN/PIETERS/STAPEL 2009; VAN HOREN 2010; VAN HOREN/PIETERS 2012b; STEENKAMP/GEYSKENS 2014.

Research questions

First, what degree of similarity exerts the strongest positive influence on the extent to which households purchase private labels? Second, what degree of similarity leads to the most intense competitive relationship between private labels and the corresponding branded items? Third, differences in purchasing behaviour also depend on individual consumer traits, so can the purchase decision between national brands and more or less strongly imitative private labels be explained according to the attributes of the buyers in question?

Structure of the research paper

Following this introduction, the current article outlines the research framework for the investigation, including insights into the current state of research into private-label proliferation and brand imitation (Section 2). The hypotheses framework in Section 3 is tested using structural equation modelling, drawing on German household panel data (Section 4). The discussion of the main results reveals several implications for retailing and industry, as well as for competition policy. Finally, this article concludes with some limitations of the investigation and suggestions for further research (Section 5).

2. Research Framework

2.1. Assortment- and Price-Related Reasons for the Proliferation of Private Labels

In the past, retailers purchased and distributed manufacturers' goods. Today, they also own and market their own private labels and sometimes even run the production process. As a result, they compete with their upstream business partners in the branded goods industry, which has been referred to as a double-agent approach.¹⁰

Double-agent approach

The origins of the increasing proliferation of private labels over recent decades¹¹ mostly entail retail assortment and pricing policies, rather than their degree of similarity with branded goods. Instead, the degree to which private labels are similar to national brands represents a sort of accompanying aspect that can affect their success.

Proliferation of private labels traces back to assortment- and price-related reasons

Assortment-related reasons for the proliferation of private labels mainly reflect the growing range of products that are available as private labels in retail outlets. Both the number and the share of private labels has increased over time.¹²

Assortment-related reasons

With regard to *price-related reasons*, legal frameworks enable retailers to position their private labels relative to rival products (i.e., national brands) to increase their acceptance among consumers. For example, the European prohibition of resale price maintenance, a statutory regulation that favours private labels, provides a strong, corresponding legal framework. Specifically, Article 101 I TFEU (Treaty on the Functioning of the European Union) and the corresponding guidelines of the European Commission on vertical restraints prohibit both direct price fixing in contract provisions and indirect price fixing imposed by certain condition systems or threats from one of the actors.¹³ Because of these sorts of regulations, retailers enjoy price sovereignty over their assortment, such

Price-related reasons

Prohibition of resale price maintenance

Article 101 I TFEU

Price sovereignty of retailers

¹⁰ OLBRICH/BUHR 2004; OLBRICH/HUNDT/JANSEN 2016.

¹¹ E.g., OLBRICH/GREWE 2009; OLBRICH/GREWE/ORENSTRAT 2009.

¹² HOCH 1996; RICHARDSON/JAIN/DICK 1996; COTTERILL/PUTSIS/DHAR 2000; DELVECCHIO 2001; JUHL/KRISTENSEN/ØSTERGAARD 2002; SAYMAN/HOCH/RAJU 2002; WARD et al. 2002; PAUWELS/SRINIVASAN 2004; BONANNO/LOPEZ 2005; ANSELMSSON et al. 2008; DOBSON/CHAKRABORTY 2009; OLBRICH/GREWE 2009.

¹³ Article 101 I TFEU; EUROPEAN COMMISSION 2010.

that they determine the prices of not just their private labels but also the national brands they sell. Therefore, retailers adjust the price gap between private labels and national brands as much as they wish.¹⁴

Empirical study	Using sales data from German consumer goods retailers, GREWE investigates how retailers' assortment- and price-related measures affect category unit sales and euro sales. ¹⁵ The assortment-related measures, conducted on the basis of a partial least squares (PLS) approach, ¹⁶ indicate that a larger number and a greater share of listed private labels both are associated with increased unit and euro sales, though only in discount stores. In supermarkets and hypermarkets, increasing the number and share of listed private labels negatively affects sales, suggesting that the frequent practice of supermarkets and hypermarkets to expand their range of private labels and limit their range of national brands is surprising. ¹⁷ The pricing policy measures instead reveal the expected results: GREWE finds that category unit sales and euro sales are the higher when the prices per kilogram for private labels and national brands are lower.
Effects of the number and share of private labels on category unit sales and category euro sales	
Effects of the prices per kilogram on category unit sales and category euro sales	
Degree of similarity of private labels to national brands	In addition to assortment and pricing policy reasons for the proliferation of private labels, as discussed frequently in prior literature, ¹⁸ the degree of similarity of these proliferating private labels to the original national brands may determine their success.

¹⁴ E.g., OLBRICH/BUHR 2004; OLBRICH/GREWE 2013.

¹⁵ For detailed information on the findings of the investigation and its interpretation, see GREWE 2010.

¹⁶ For a well-organized critique of PLS, see RÖNKKÖ/EVERMANN 2013.

¹⁷ For an analysis of possible reasons, see GREWE 2010.

¹⁸ E.g., OLBRICH/BUHR 2004; OLBRICH/GREWE 2009; GREWE 2010; OLBRICH/GREWE 2013.

2.2. National Brands Versus Private Labels

The penetration of a wide assortment of private labels at various price and quality levels, along with their active promotion by retailers, has prompted consumers to shift their purchase decisions accordingly.¹⁹ Figure 1 provides an overview of the market shares of private labels in the grocery retail sectors (excluding fresh produce) of selected European nations. In 2014, Italy indicates a low degree of private label purchases, whereas in Switzerland, almost half of total turnover features private labels. In Germany, the market share of private labels is 34.5 per cent.

Increasing use of private labels is not limited to Germany

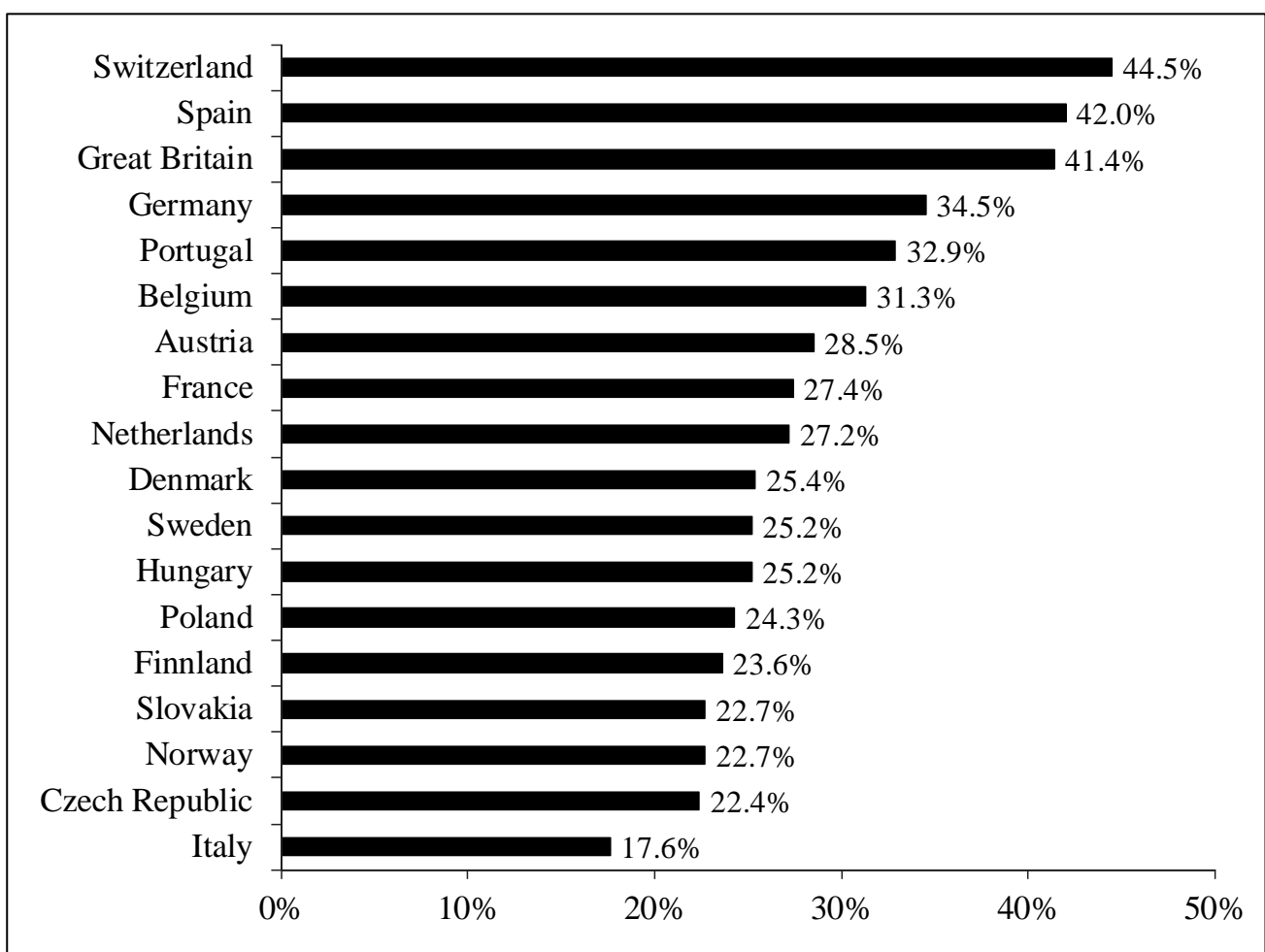


Figure 1: Country Comparison of Market Shares of Private Labels (2014)²⁰

¹⁹ For a detailed discussion of the competition between national brands and private labels, see HUNDT 2014, pp. 159-168; OLBRICH/HUNDT/JANSEN 2016.

²⁰ Based on METRO AG 2015, p. 135.

- Price sovereignty of retailers Competition between national brands and private labels in Europe largely hinges on retailers' pricing decisions. Their price sovereignty allows retailers to adopt pricing tactics that benefit them. In this context, national brands are sometimes sold with aggressive price campaigns.²¹ Special price offers from retailers can readily undermine the national brand price positioning and contribute systematically to the erosion of consumers' willingness to pay for national brands. Retailers also attract consumers to their stores by offering 'door-buster' discount prices for well-known national brands. Such tactics may cause the brands to lose their elevated position among consumers, such that private labels might capture their market share.
- Umbrella pricing Retailers also might employ national brands in an 'umbrella pricing' approach.²² That is, to increase their private-label sales, retailers frequently use the prices of national brands as reference information. When they price the national brands significantly higher, their private labels appear more affordable and attractive. To enhance this effect, they often highlight the lower prices of private labels on shelves and flyers, leveraging the similarity in appearance between the private-label products and national brands.²³ This approach lowers consumers' loyalty to and willingness to pay for national brands, thereby prompting a demand shift.²⁴

Figure 2 details a framework of the actions that retailers often take to support their private labels, by influencing consumer perceptions.

²¹ OLBRICH/HUNDT/GREWE 2014.

²² OLBRICH 2001; OLBRICH/GREWE 2013.

²³ OLBRICH/GREWE 2013. For a comprehensive analysis of the effects of imitative private labels on consumer behavior, see ORENSTRAT 2014.

²⁴ OLBRICH/HUNDT, in press.

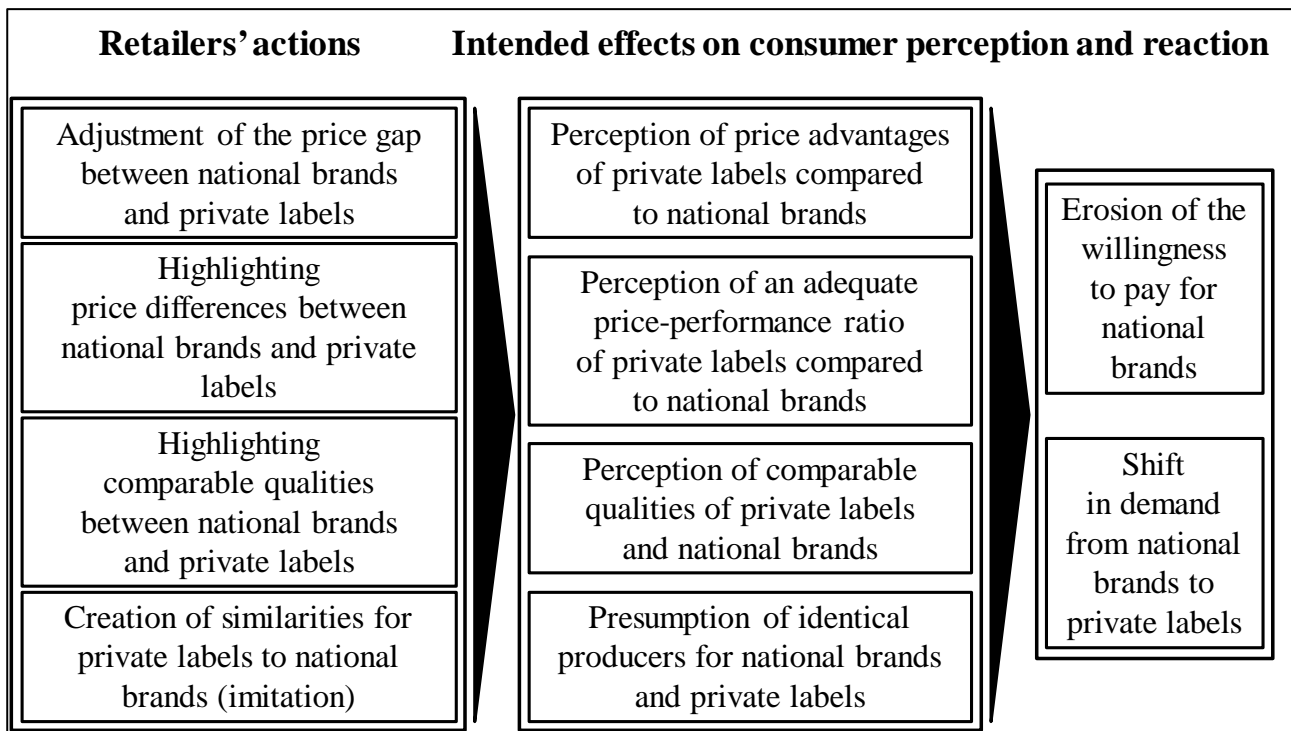


Figure 2: Framework for Supporting Private Labels²⁵

For example, when retailers advertise the price gaps between national brands and their private labels, consumers likely notice the price advantage. However, this price difference perception usually is not sufficient to initiate a demand shift; rather, the retailer also must signal the comparable quality of its private label, to achieve an adequate price–performance evaluation. Positioning of private labels as similar to leading national brands helps imply their similar quality and benefits. Then by directly highlighting price differences (e.g. ‘comparable quality at lower prices’), retailers can shift demand and increase consumer loyalty to their private labels. Together with this positioning, retailers often design corresponding marketing tools (e.g. package designs, advertising campaigns, taste, price campaigns) to support their strategy.

Price gaps between national brands and private labels

As private labels increasingly function to help build the retailer’s image, competition also extends to product quality. By offering passable quality at low prices, retailers increase private-label purchases and also improve their positions relative to other private-label retailers.²⁶ In competitive

Competition extends to product quality

²⁵ Adopted from HUNDT 2014, p. 168; OLBRICH/HUNDT/JANSEN 2016, p. 66.

²⁶ OLBRICH/JANSEN 2014; OLBRICH/HUNDT/JANSEN 2016; OLBRICH/JANSEN/TELLER 2016; OLBRICH/JANSEN/HUNDT 2017.

frameworks, private labels and national brands also might eventually equilibrate in consumers' perceptions. STEENKAMP, VAN HEERDE, and GEYSKENS show that perceptions of qualitative differences between national brands and private labels and willingness to pay more for national brands are strongly influenced by packaging design for example.²⁷

Stimulus
generalization

As this equilibration takes place, the concept of 'stimulus generalization' becomes more relevant.²⁸ Consumers recognize the advantages of national brands only when those brands have distinctive packaging and are clearly distinguished from private labels. If the packaging of private labels closely resembles that of leading national brands, the similarities often cause confusion,²⁹ and packaging is no longer a unique selling point. If consumers believe private labels are produced by leading national brands, they also are unlikely to perceive quality differences between them.³⁰

Qualitative
superiority of a
national brand
depends on the
life cycle of
private labels

Finally, the risk to the national brand's qualitative superiority depends on its life cycle.³¹ In some markets, private labels have reached a mature phase, but in others, they remain in the development phase (Figure 1). Perceived quality differences between national brands and private labels are smaller in the mature settings than in development. Therefore, as life cycles persist, marked by new publications of test results, consumer articles, and personal testimonies about private-label offerings, the perceived quality of private labels and national brands appears increasingly equivalent, undermining traditional price-quality associations. STEENKAMP, VAN HEERDE, and GEYSKENS thus conclude that consumers are willing to pay less for national brands when private labels are in the mature phase and in widespread use.³²

²⁷ STEENKAMP/VAN HEERDE/GEYSKENS 2010.

²⁸ KAPFERER 1995a, 1995b; TILL & PRILUCK 2000; WALSH/MITCHELL 2005b.

²⁹ RAFIQ/COLLINS 1996.

³⁰ COELHO DO VALE/VERGA MATOS 2015.

³¹ STEENKAMP/VAN HEERDE/GEYSKENS 2010.

³² STEENKAMP/VAN HEERDE/GEYSKENS 2010.

2.3. Current Academic Literature Related to Copycats

In academic literature, a copycat mostly appears in assessments of consumer confusion,³³ especially research that seeks to develop measures of consumer confusion. Some early studies focused on confusion phenomena that might originate with physical product similarities, using interviews and laboratory or field experiments.³⁴ However, small sample sizes, a lack of representativeness, no consideration of different degrees of similarity, and insufficient links to actual buying behaviour have limited these findings and their ability to describe real-life phenomena.

Copycats and consumer confusion

Limitations of early works

A notable exception is a 2004 study commissioned by the European Brands Association (AIM). Using household panel and survey data covering a vast number of product categories and countries, STEENKAMP et al. identify several drivers of private-label success, such as packaging similarity between national brands and private labels. When packaging resemblance is high, many consumers simply cannot tell private labels from national brands.³⁵

One study without these limitations

Other research addresses the determinants of consumer evaluations of copycats,³⁶ and this stream of studies often explicitly considers different degrees of similarity, using laboratory experiments with partly fictitious products from different categories. Students who were paid modestly for their participation, served as participants. One study even includes a household Internet panel instead of the usual student sample.³⁷ The findings support the robustness of the results from prior research.³⁸

Younger works from a consumer-sided evaluation of copycats

Studies with fictitious products

³³ E.g., KAPFERER 1995b; BALABANIS/CRAVEN 1997; MITCHELL/PAPAVASSILIOU 1999; MITCHELL/WALSH/MO 2005; WALSH/MITCHELL 2010.

³⁴ For a systematic presentation of numerous measurement approaches, see MITCHELL/KEARNEY 2002.

³⁵ STEENKAMP et al. 2004.

³⁶ VAN HOREN/PIETERS/STAPEL 2009; MICELI/PIETERS 2010; VAN HOREN 2010; VAN HOREN/PIETERS 2012b.

³⁷ See VAN HOREN 2010, pp. 52-56; VAN HOREN/PIETERS 2012b, pp. 88-90.

³⁸ The research findings of VAN HOREN and PIETERS are supported by a recent publication that relies on the same data set used for the AIM study; see STEENKAMP/GEYSKENS 2014.

Improvement
in this study
by considering
existing
products and
using real
purchase data

To validate extant studies, another option might be to examine the effects of different degrees of similarity with existing products, in real purchasing conditions. That is, the inclusion of real purchase data, obtained from household panels, represents a promising approach. Panel purchase data also can generate insights into the precise impact of different degrees of similarity on sales of original national brands. The present research therefore adopts this approach, in an effort to extend the foundation of knowledge about private labels.

3. Hypotheses Framework and Model

3.1. Derivation of Research Hypotheses

To gain a deeper understanding of the influence and effects of more and less similar private labels, this section proposes a structural framework that contains several categories of hypotheses. Specifically, this section outlines hypotheses pertaining to the effects of private-label purchases (according to their degree of similarity), a hypothesis related to the effect of original national brand purchases, and predictions about the effects of two notable characteristics: brand quality esteem and price consciousness. Socio-demographic traits also function as control variables in the overall model. Accordingly, the partly decade-old research results on the influence of person-related characteristics are examined regarding their current relevance.

Main concern of this study

3.2. Effect of Private-Label Purchases (by Degree of Similarity)

Imitative private labels usually are offered at lower prices than their branded equivalents,³⁹ such that by deliberately copying a well-known branded product for a lower price, imitators intensify competition in the market. In contrast, private labels that stand out, due to their differentiated market presence, would not be regarded as competitive products.

Effect of the degree of similarity on the state of competition

If these considerations are valid, an increase in private label purchases, assuming a certain similarity level, should enhance the market share of private labels at the household level (calculated as a household's aggregated private label purchases as a percentage of total purchases). Therefore, this study predicts:

Effects on the market share of private labels

³⁹ WARLOP/ALBA 2004, p. 22; LUBBERGER/ROMEO 2009, p. 4.

Resulting
hypotheses 1-6

- H1.* With increasing purchases of completely dissimilar private labels, (a) purchases of original national brands decline, and (b) the market share of private labels at the household level increases.
- H2.* With increasing purchases of low-similarity private labels, (a) the purchases of original national brands decline, and (b) the market share of private labels at the household level increases.
- H3.* With increasing purchases of moderate-similarity private labels, (a) the purchases of original national brands decline, and (b) the market share of private labels at the household level increases.
- H4.* With increasing purchases of high-similarity private labels, (a) the purchases of original national brands decline, and (b) the market share of private labels at the household level increases.
- H5.* The positive influence of private label purchases on the market share of private labels at the household level is the stronger at greater degrees of similarity.
- H6.* The negative influence of private label purchases on the purchase of original national brands at the household level is stronger at greater degrees of similarity.

3.3. Effect of Original National Brand Purchases

Relationship
between
national brand
and private
label purchases

An increase in purchases of original national brands also might imply a decline in private-label purchases.

Therefore, this study predicts:

Resulting
hypothesis 7

- H7.* Increasing purchases of original national brands are associated with a decline in the market share of private labels at the household level.

3.4. Effects of Brand Quality Esteem and Price Consciousness

Research on consumer behaviour includes several empirical studies of the cause-and-effect connections between attitudes and buying behaviour,⁴⁰ as well as studies of consumers' purchase intentions.⁴¹ This distinction is important; purchase decisions have only limited predictive utility for future buying behaviour. This weak predictive value arises because expressed purchase intentions do not always lead to actual purchases, and many purchases are impulsive, without any previous purchase intentions.⁴²

Literature review

Focus only on purchase intentions in some studies

In this sense, empirical work on the connection between attitudes and purchase decisions has limited power to explain actual buying behaviour. Therefore, as one of its main contributions, the current study investigates actual, real-world buying behaviour and how it is determined by consumers' brand/quality orientation (i.e., brand quality esteem) and price consciousness.

Contribution of the present research paper is to look at actual real-world buying behaviour

Many studies on the influence of these person-related characteristics come to the conclusion that brand/quality-oriented consumers tend to be unenthusiastic about private labels. Depending on the specific study, this negative stance is reflected in the number of private label purchases, in the store (or private) brand proneness or the expressed purchase intentions.⁴³ However, WALSH and MITCHELL find no empirical evidence of a negative connection between brand consciousness and intentions to purchase private labels. This outcome might reflect the evolution of private labels, whose quality and reputations have improved in recent years.⁴⁴ Considering these circumstances, and in contrast with a traditional view, this study therefore predicts no significant connection between brand quality esteem and loyalty to private labels. These considerations give rise to the following hypothesis:

Brand/quality-oriented consumers tend to be unenthusiastic about private labels

Contrary results in a more recent study

⁴⁰ BURTON et al. 1998; GARRETSON/FISHER/BURTON 2002; OLBRICH/WINDBERGS 2006.

⁴¹ ZIELKE/DOBBELSTEIN 2007; WALSH/MITCHELL 2010.

⁴² NAMIAS 1959, p. 26.

⁴³ E.g., AILAWADI/NESLIN/GEDENK 2001, pp. 84-85; BALTAS/ARGOULIDIS 2007, p. 335; AILAWADI/PAUWELS/STEENKAMP 2008, p. 24; MARTÍNEZ/MONTANER 2008, p. 487.

⁴⁴ WALSH/MITCHELL 2010, p. 7. For a further discussion and empirical investigation of the price-quality relationship and its implications for pricing strategies for private labels, see OLBRICH/JANSEN 2014.

Resulting hypothesis 8

H8. The extent of brand quality esteem does not have a significant effect on the market share of private labels at the household level.

Brand/quality consciousness may exert a positive effect on consumer preferences for national brands

Still, brand/quality consciousness may exert a positive effect on consumer preferences for national brands. Empirical confirmation of this effect comes from SETHURAMAN,⁴⁵ who argues that consumer willingness to pay a price premium for national brands over private labels is stronger when the consumer is more quality sensitive. These findings also correspond with AILAWADI, NESLIN, and GEDENK'S finding that quality consciousness correlates negatively with store brand usage.⁴⁶ Against this background, the following hypothesis is tested:

Resulting hypothesis 9

H9. The extent of brand quality esteem has a positive effect on purchases of original national brands.

The lack of consistency between *H8* and *H9* is intentional and treated as an opportunity to put the literature-based derivation of the hypotheses to the test.

Price consciousness may exert a positive effect on consumer preferences for private labels

Finally, the positive connection between price consciousness and the market share of private labels at the household level is consistently supported. Prior studies primarily measure intentions to buy private labels or store brand proneness,⁴⁷ though OLBRICH, HUNDT and GREWE propose and test a comprehensive structural equation model of consumers' willingness to pay (WTP). With multifaceted household panel data, these authors can estimate the relationships of socio-demographic, psychographic, and actual purchasing behaviour variables simultaneously. The results show that consumers of private labels have a comparatively low WTP, and their purchases can be attributed to their price consciousness and discount orientation.⁴⁸ Conversely, less price-conscious consumers might display a higher affinity for branded goods. In response to these considerations, the following hypothesis is tested:

⁴⁵ SETHURAMAN 2001.

⁴⁶ AILAWADI/NESLIN/GEDENK 2001.

⁴⁷ See, for instance, BURGER/SCHOTT 1972; BURTON et al. 1998; SINHA/ BATRA 1999; BATRA/SINHA 2000; HSU/LAI 2008; MARTÍNEZ/MONTANER 2008; GLYNN/CHEN 2009; LIN/MARSHALL/DAWSON 2009.

⁴⁸ OLBRICH/HUNDT/GREWE 2014.

- H10.* Consumer price consciousness has (a) a negative effect on purchases of original national brands and (b) a positive effect on the market share of private labels at the household level.

Resulting hypothesis 10

3.5. Socio-Demographic Control Variables

From a theoretical, conceptual perspective, socio-demographic attributes should have subordinate importance. However, factors such as household size, number of children under 14 years of age, total net household income, and age of the head of the household may offer some explanatory power. In particular, actual buying behaviour (i.e., market share of private labels at the household level) and the manifestations of the psychographic attributes (i.e., price consciousness and brand quality esteem) might be attributed to the socio-demographic profiles of the panel households. Therefore, the current analysis includes the listed socio-demographic attributes as control variables.

Subordinate importance of socio-demographic attributes

Inclusion of socio-demographic attributes as control variables

3.6. Structural Model

The derived hypotheses lead to the structural model presented in Figure 3. In contrast with extant literature that relies on partial models and seeks to support them with a restricted database (e.g., interview data), the model in this study combines socio-demographic and psychographic dimensions, as well as actual purchasing behaviour, within a complex and comprehensive theoretical framework.

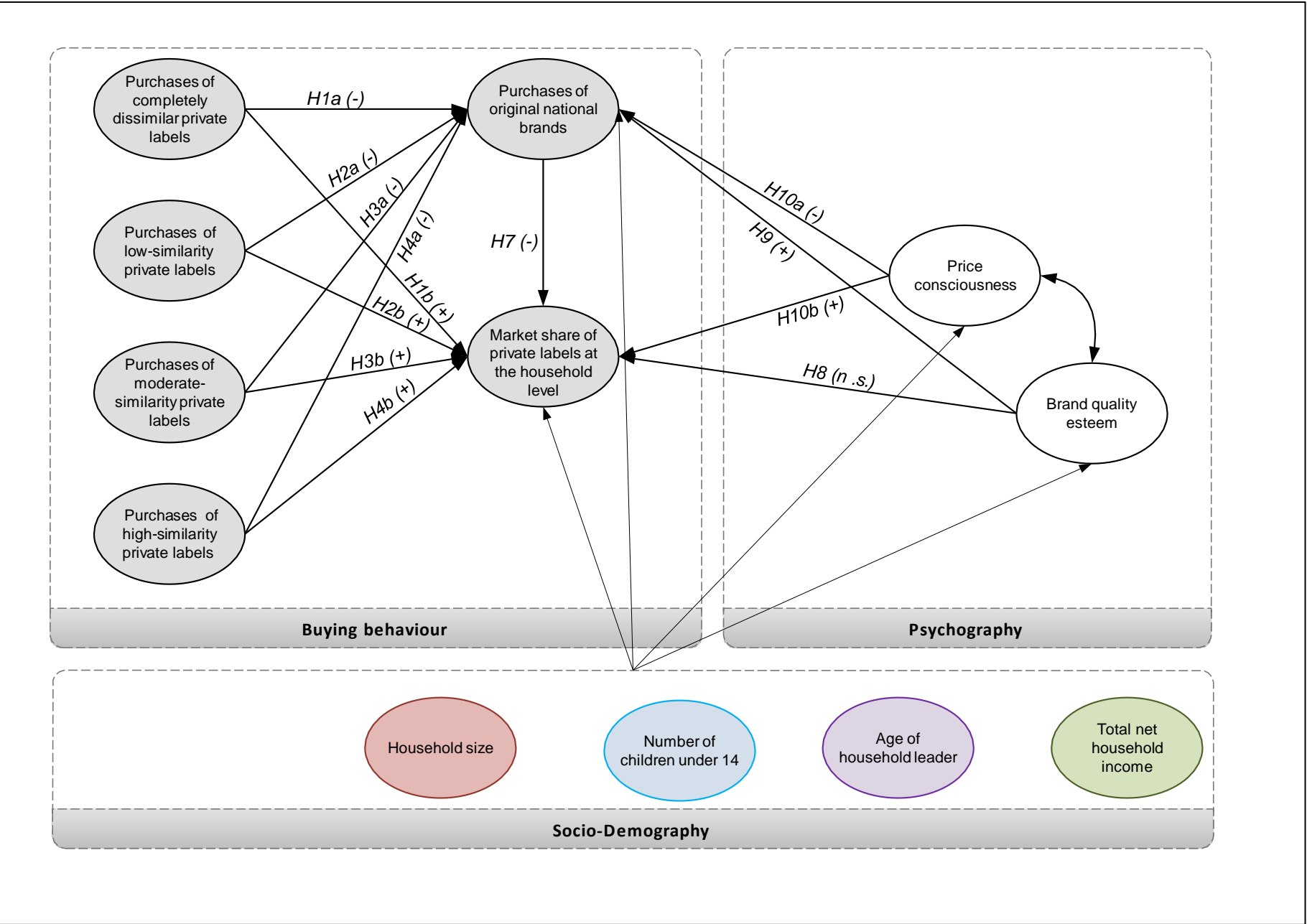


Figure 3: Structural Model at a Glance

4. Empirical Tests of the Hypotheses

4.1. Database, Methodology, and Research Design

The analysis relies on data from a consumer panel that covers approximately 20,000 representative households from Germany. In addition to continuously recorded event data for selected food purchases, the database contains annual, cross-sectional socio-demographic attributes and attitudes. The study period begins on 1 January 2005 and ends on 31 December 2007. The surveyed food purchases refer to cereals, coffee pods, yoghurt, and chocolate bars.

Database

The selection of product segments reflected several tests, which sought to identify segments that stand out due to the high market penetration of imitative private labels. For these preliminary investigations, the authors examined the assortments of various retail chains, spanning several outlet formats. Due to their dominant positions in the food retail sector, this study focused mainly on hypermarkets, supermarkets, and discount stores.

Product segments with a high private label penetration

Next, independent consumer reports published on Internet portals, such as *ciao.de*, *dooyoo.de*, and *yopi.de*, informed the identification of certain product segments as rich in copycats, supported by assortment inspections and confirmed by a wide range of consumers.

Analysis of consumer reports published on Internet portals

Therefore, the panel data were supplemented with a variable that indicates the similarity of the private label to the leading brand in each product segment. Specifically, a pairwise comparison of original national brands and their respective private-label copycats assessed packaging features, including colour, graphics/designs, and text/typography. The findings of several studies formed the basis for selecting these similarity criteria.⁴⁹ That is, prior research shows that packaging colours have the greatest impact on evaluations and perceptions of product packages, whereas text/typography exerts the weakest impact. These conceptual differences were taken into account for this study through the use of weighting factors.

Evaluation of private label resemblance to the leading original brand

Colour
Text/typography

⁴⁹ See SLOOT/VAN AALST 2005, pp. 24-25; KAPFERER 2012, p. 105.

Market share of private labels at the household level	The share of private-label purchases, as a percentage of the household's total purchases, also was integrated into the database as a variable. This calculation included both shopping frequencies and purchase quantities and expenditures, over one calendar year, for each household. ⁵⁰ To ensure a viable calculation, all panel participants must have made a minimum number of purchases. Specifically, households with fewer than 12 purchases in total were excluded from the sample. Furthermore, the data must reflect a complete recording of all purchases by the household during the study period. Panels normally show more or less intensive fluctuations, ⁵¹ and this study includes only households that continuously reported their purchases for the entire study period.
Elimination from the database	Any private-label purchases that could not be evaluated in terms of the similarity to the national brand, because the study data did not include a usable product photograph, also were eliminated from the database. Finally, purchase cases involving national brands that did not have any copycat brand were excluded too.
Data records	The data preparation and cleaning produced a sample of 11,211 households (weighted), who produced $n = 25,232$ (weighted) data records. Each data record comprises the following data fields: household ID, year, annual household attributes (psychographic/socio-demographic), annual purchase frequencies, quantities purchased, and total expenditures (differentiated according to private labels in different similarity categories and original national brands). The values are 'weighted' in that they are purely arithmetical factors, and statistical weights were assigned to elements of the sample. This procedure is common in panel analysis; it enables the formation of a structural identity for the sample and wider populations.
Meaning of the term 'weighted'	

⁵⁰ To carry out the annual calculation, the purchase data were aggregated to the annual level.

⁵¹ KISH 2004, pp. 175-181.

4.2. Measures of Model Constructs

To measure the four exogenous, purchase-related constructs, which differ in their similarity to the leader brand, the pertinent variables assess absolute purchase frequencies, absolute purchasing quantities, and absolute expenditures. Analogously, the construct ‘purchases of original national brands’ is measured by absolute purchase frequencies, absolute purchasing quantities, and absolute expenditures for national brands. The endogenous market share of private labels at the household level construct is measured with the manifest variables relative purchase frequencies, relative purchasing quantities, and relative expenditures.

Measurement of the purchase-related constructs

All the socio-demographic control variables are single-item constructs. There is only one meaning for each construct, which can be described completely by a single item, so this procedure seems appropriate.

Measurement of the socio-demographic constructs

Three psychographic characteristics (attitude toward branded products, quality orientation of the household leader, and quality consciousness of the household leader) are used to measure the endogenous construct brand quality esteem.⁵² Price consciousness is measured by a single indicator variable of the same name (reflective).⁵³

Measurement of the psychographic constructs

The choice of a consistent, reflective model specification stems from theoretical and empirical considerations, following COLTMAN et al.’s guidelines.⁵⁴

Reflective model specification

The local fit indices are all within an acceptable to very good range: indicator reliability ≥ 0.365 , factor reliability ≥ 0.720 , and average variance extracted (AVE) ≥ 0.827 (with one exception). The Fornell-Larcker criterion also is met ($AVE(\xi_i), AVE(\xi_j) > r^2(\xi_i, \xi_j)$). These results indicate the high reliability of the construct measurement, as well as the presence of convergent and discriminant validity.⁵⁵

Fit indices

⁵² The attitude toward branded products and quality orientation items stem from a factor analysis carried out by the data collecting research institute.

⁵³ The price consciousness item is a summative index, based on the value of three item pairs.

⁵⁴ COLTMAN et al. 2008, p. 1252.

⁵⁵ FORNELL/LARCKER 1981.

4.3. Model Results

Covariance-based structural equation analysis

The estimation of the model relied on covariance-based structural equation analysis in Mplus (version 6.1),⁵⁶ with a maximum likelihood estimator and robust standard errors (MLR). The model achieved acceptable overall goodness of fit: confirmatory fit index = 0.906, Tucker–Lewis index = 0.879, root mean square error of approximation = 0.031, and standardized root mean residual = 0.045.

Structural equation models can only analyse linear relationships, so this research does not address non-linear relationships. In the case of non-linear relationships, the parameter estimates may be biased, which would require a modification of the approach. Researchers must decide to what extent the postulated relationships are appropriate for linear assumptions, which is a general problem of structural equation modelling.

H2, H3, H4 and H7 confirmed

According to the values obtained from the command-line-based software Mplus, the results are partly compatible with the postulated cause-and-effect relationships. Most of the relationships predicted by *H1, H2, H3, H4, and H7* were confirmed, with the exception of the postulated effect of completely dissimilar private labels on purchases of original national brands (*H1a*).

H1 with exception of H1a confirmed

H5 rejected

From a consumer perspective, moderately similar private labels appear preferred to all other forms: not just completely dissimilar and low-similarity private labels but also to highly similar private labels. Therefore, *H5* must be rejected.

H6 rejected

The competitive relationship between original national brands and moderately similar private labels also is the strongest. Therefore, the widespread view that original national brands suffer most from strikingly close imitations cannot be confirmed, and *H6* also is rejected.

Mixed picture regarding the socio-demographic control variables

Regarding the effect of the control variables, a mixed picture emerges. Generally, the size and significance of the path coefficients do not support a relevant connection between socio-demographic characteristics and buying behaviour (cf. path coefficient of household size on the purchase of original national brands). However, the findings indicate at least a partial, highly

⁵⁶ MUTHÉN/MUTHÉN 1998-2010.

significant ($p < 0.01$) and meaningful (path strengths $> |0.2|$) connection between socio-demographic traits and the attitudinal characteristics. That is, the investigated socio-demographic variables might not have a direct effect on buying behaviour, but they can contribute to explaining the psychographic constructs, which in turn affect purchases.⁵⁷ For example, the age of the head of household and net household income, with respective path strengths of 0.254 and 0.204, exert a strong positive effect on brand quality esteem.

In turn, brand quality esteem has a statistically significant but weak effect on buying behaviour (*H8*, *H9*) (path strengths $< |0.2|$), as does price consciousness (*H10*). Therefore, the data do not indicate a substantial influence of psychographic characteristics on buying behaviour, and the results are generally consistent. This study thus rejects *H8* but affirms *H9*.

H8 rejected,
H9 and *H10*
supported
(only weak
effects)

Figure 4 details the outcomes of the hypotheses tests.

⁵⁷ For similar results based on household panel data, see OLBRICH/HUNDT/GREWE 2014.

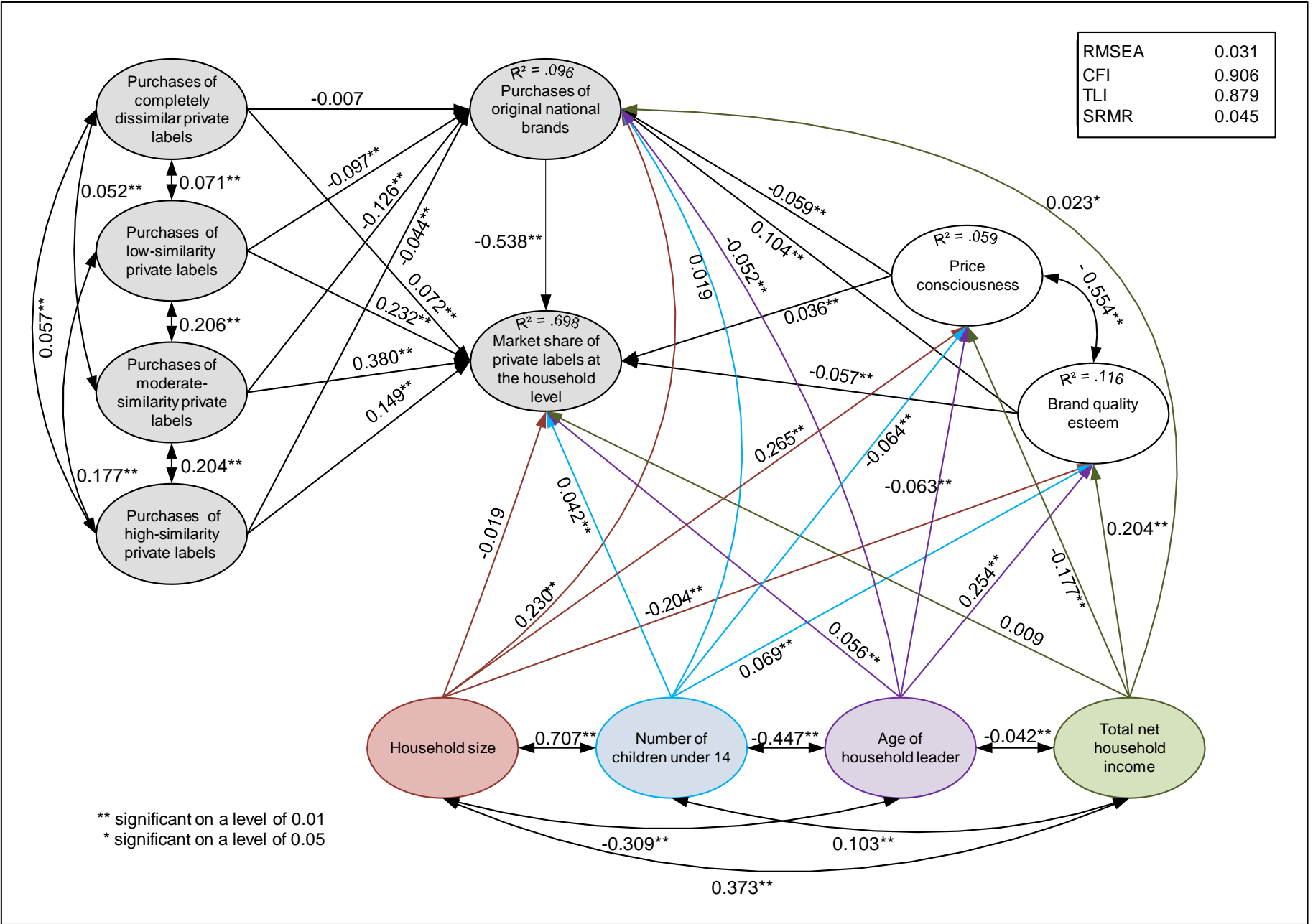


Figure 4: Results of the Hypotheses Tests

5. Conclusions

5.1. Results and Implications for Retailers, the Branded Goods Industry, and Competition Policy

The empirical tests of the central hypotheses provide clear evidence that retail companies should position their own brands to be not too similar to the trade dress or appearance of leading brands. A comparison of path coefficients indicates that private labels rated as moderately similar have the strongest positive effect on private-label market share at the household level. In line with findings by VAN HOREN, PIETERS, STEENKAMP and GEYSKENS, the rivalry between original national brands and moderately similar private labels is the most intense. From a manufacturer's point of view, moderately similar private labels represent a greater threat to their national brands than highly similar private labels. The dominating effects of moderate degrees of similarity, compared with high degrees, may result from consumers' awareness or scepticism toward unethical persuasion tactics by imitators that are too close to the original brands.⁵⁸ As VAN HOREN and PIETERS argue, "Consumers realize that the [high similarity] copycat tries to leverage the reputation of the leader brand through imitation."⁵⁹

Private labels rated as moderately similar have the strongest positive effect on private-label market share

However, developing private labels that maintain a certain distance from the leader brand grants retailers considerable (image) advantages. Moreover, by refraining from copying too closely, retailers skirt the threat of resentment and anger by branded goods colleagues, which might help them avoid strain in their channel relationship.

Less conflicts with brand manufacturers

In these settings, managers must recognize that, in addition to highly similar private labels, less obviously imitative private labels might have negative effects for consumers. All degrees of similarity have some potential to raise consumer preferences. Therefore, even private labels with only a low to moderate degree of similarity can benefit from the reputation of the original national brand and induce consumers to make false assumptions (e.g., about

Conclusions from the perspective of competition policy and managerial implications

⁵⁸ FRIESTAD/WRIGHT 1994; WARLOP/ALBA 2004, p. 22; VAN HOREN/PIETERS/STAPEL 2009; MICELI/PIETERS 2010; VAN HOREN 2010; VAN HOREN/PIETERS 2012b; STEENKAMP/GEYSKENS 2014, p. 9.

⁵⁹ VAN HOREN/ PIETERS 2012b, p. 85.

the product's origin or quality). Ignoring this effect is not in the best interest of consumers.

Compatibility
with existing
law

In this sense, the empirical findings also offer some compelling conclusions for national competitive policies. In legal disputes, it is regularly left to the courts to rule about whether a particular product is compatible with existing law (e.g. intellectual property and consumer law). Precedent judgements thus set broad boundaries for product design and advertising measures.⁶⁰

Brand manu-
facturer as
supposed
manufacturer
of imitative
private label

When it comes to the evaluation of brand imitations, consumer-friendly rulings generally presuppose that cleverly commercialized products can deceive consumers, even if outright product confusion might not occur.

That is, consumers may tend to ascribe the same origin or quality levels to imitative private labels as to their branded counterparts, even if they encounter distinctive packaging features. There are two fundamentally different situations then: Consumers might mistakenly ascribe ownership of the private label to the manufacturer of the branded product, or they may recognize that it is a private label but incorrectly assume that the manufacturer of the branded product has produced it on behalf of the retail company.

Statutory
framework

Highly
concentrated
retail industry
has various
options

Creating a statutory framework to prevent anti-competitive behaviours is the responsibility of the legislator.⁶¹ However, current laws offer various options to the highly concentrated retail industry to exert effects on competition.⁶² Retailers' private-label copycats have proved highly effective instrument for gaining competitive advantages. A striking distortion effect arises if consumers develop false assumptions and thus shift their purchases to copycats (rather than branded products). These presumptions can refer to the identity of the manufacturer and/or the product quality. Due to their visual resemblance to a leading brand, brand imitations can contribute substantially to such misperceptions. The resulting diversion of customer demand jeopardizes both the competition between retail companies and that between manufacturers.⁶³

⁶⁰ See WIECZOREK 2004, pp. 29-56 for a selection of copycat-related judgments by British, German, and Austrian courts.

⁶¹ KIRCHNER 2004, pp. 310-313.

⁶² OLBRICH/GREWE/ORENSTRAT 2009.

⁶³ DOBSON 1998.

Therefore, legislative efforts should be aimed at preventing the appearance of misleading retailer practices. A starting point might come from existing regulations about comparative advertising, combined with bans on vertical price fixing.⁶⁴ Their interaction forms a ‘breeding ground’ for retailer tactics that can lead consumers to false assumptions and suboptimal purchase decisions. As real-world examples, retail companies often conduct widespread advertising campaigns in which they compare their private labels with their respective counterparts on price and quality.⁶⁵

Legislative efforts

In summary, competition policy might contribute decisively to reinforcing consumer protections and reducing information asymmetries.

Competition policy

5.2. Limitations and Further Research

The empirical insights gained through this work contribute to understanding the effect of brand imitations, though this investigation also is subject to some restrictions that suggest some directions for further research.

Directions for further research

A central limitation arises from the degree of similarity variable. The novel method, devised by the authors to measure this variable, was formulated to evaluate private-label similarity as objectively as possible, yet the results cannot claim to be totally free of subjective biases. The extent of perceived product similarity depends fundamentally on the individual characteristics of the observer (e.g., involvement, purchase experience). Thus, some households in the database might have evaluated the degree of similarity differently than determined for this study. Additional research might use a household sample in which all reporting households evaluate private labels they have purchased in terms of their similarity to established branded products.

Variable ‘degree of similarity’

Further content-related limitations result from the number and type of product segments taken into account. The investigation focuses on selected product segments, so the generalizability of the conclusions is uncertain. Continued studies could extend the investigation to other product segments;

Number and type of product segments

⁶⁴ See, for instance, OLBRICH/GREWE 2009; GREWE 2010, p. 219; HUNDT 2015 for critical discussions of the ban on vertical price fixing.

⁶⁵ For a specific example, see, for instance, OLBRICH/GREWE/ORENSTRAT 2009, pp. 239-240; OLBRICH/GREWE 2009, pp. 933-934.

in turn, comparative research might study the effects across product segments. A segment-specific analysis of the cause-and-effect relationships may provide new insights into possible particularities of specific segments.

Number of
psychographic
constructs

An additional need for research stems from the limited number of psychographic constructs (brand quality esteem and price consciousness) used in this study. Including additional, alternative constructs of this type promises to increase knowledge with regard to actual buying behaviour.

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