



Product Variety and Loyalty to National Brands – A Combined Measurement of Purchase Sequence and Coverage of Demand

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Abstract. The manufacturer brand industry is continuously faced with the challenge of retaining their current customers and acquiring new ones. Increasing brand loyalty can help to face these challenges and to compete in the market. In this paper, a combined behavioral approach to measure customer loyalty is presented and empirically analyzed using national brands (NBs) of chocolate bars. This innovative measurement integrates both concepts of purchase sequences and coverage of demand. The derived hypotheses are tested by a multilevel analysis using the pooled-OLS method. The negative effect of product prices of NBs on the number of loyal households is moderated by leading NBs (top 10). The higher the price of a leading NB, the lower the number of loyal households to this NB. In contrast to price, neither purchase frequency nor the number of competing NBs influence NBs loyalty of households. The positive influence of the NBs' product variety is particularly strong compared to the other variables. Through the specific use of product variety, on the one hand, consumers with a high exploratory propensity can be bound to the NB. On the other hand, product variety can be used to attract and persuade new households to the NB.

Keywords: Customer retention · Household's brand loyalty · Household panel data · Manufacturer brand industry · National brand (NB) · Product variety

1 Introduction

In saturated markets, market shares can primarily be increased by displacing competing providers. Brand loyalty is increasingly relevant in consumer goods markets that are characterized by consumers with changing purchasing decisions toward different products (Diller and Goerd 2005; Kabadayi and Alan 2012; Ferreira and Coelho 2015;). Furthermore, in highly competitive markets, a large share of new products is introduced by a small number of companies (Hermann and Huber 2013). An increase in product variety can thus be observed in numerous product groups (Sharma and Nair 2017). For example, manufacturers offer different varieties of a brand with small gradations

of different cacao percentages or exotic flavor combinations (Lindt 2020; Milka 2020). Product variety may exploit new market segments and, subsequently, increase the market share of these brands (Hermann and Huber 2013). By avoiding customer churn, product variety indirectly influences a brand's market share as well (van Trijp and Steenkamp 1992; Koppelman et al. 2001; Koppelman et al. 2002). Both effects potential lead to consumers developing brand loyalty and contributing to the long-term increase in market share.

In contrast to existing research, we present and empirically analyze a combined behavioral approach to measure the national brands (NBs) loyalty of households. For our approach of brand loyalty, the concept of purchase sequence is combined with the concept of demand coverage. This innovative measurement approach is superior to previous approaches for measuring loyalty because a household is only evaluated as loyal if the household is continuously loyal to the brand over multiple periods and satisfies more than half of his demand with this brand in each of these periods. This study thus provides a novel measurement approach for measuring brand loyalty. Considering household data over ten years, we empirically analyze our new approach using NBs of chocolate bars in the German food retailing sector.

2 Theoretical Background and Hypotheses Development

2.1 Brand Loyalty

There is a consensus in the literature that brand loyalty is determined by an attitudinal and behavioral component. As a consequence, there are attitudinal, behavioral, and combined approaches to measure brand loyalty. Attitudinal approaches generally use questionnaires to investigate pre-purchase constructs such as brand loyalty or the quality of the consumer-brand relationship whereas behavioristic approaches investigate actual purchases of consumers based on data of actual purchase behavior (Nolte 1976). The present study falls into the later group and focuses on the behavioral component. The concept of purchase sequence and the concept of demand coverage are among the most commonly used behavioristic methods for inferring brand loyalty (Nolte 1976).

The measurement of brand loyalty based on purchase sequences primarily stems from Brown (1952). Related to the coverage of demand, the measurement of brand loyalty is determined by the ability to satisfy consumer needs in an observed period (Cunningham 1956). An advantage of the concept related to the coverage of demand is the possibility to directly compare brand loyalty of the observed consumers (Nolte 1976). However, this concept does not take into account at which time the household bought the respective brands. Another (immanent) point of criticism regarding this concept is that the frequency of purchases is neglected. With each purchase, consumers renew their decision for or against a brand. As a result, less frequent purchases of a brand can lead to a lower probability of switching brands (Rao 1969). The continuity of demand over several purchases can therefore not be measured by the concept of demand coverage, limiting the usefulness of measuring brand loyalty by this concept. However, this limitation can be overcome by combining the concept of purchase sequence with the concept of demand coverage. Farley (1964a, 1964b) supplements the concept of demand coverage such that

consumers are identified as loyal if they satisfy most of their needs in two consecutive periods with the same brand.

The operationalization of NBs loyalty of households for the present analysis is introduced in Sect. 3.1.

2.2 Hypotheses Development

For substitutable consumer goods, such as chocolate bars, price elasticity generally tends to be high. As product price rises, consumers increasingly switch to cheaper alternatives (Krishnamurthi and Raj 1991; Pindyck and Rubinfeld 2009). Increasing product prices of NBs also leads to reduced market shares of NBs (Olbrich et al. 2017; Brüggemann et al. 2020). Reduced NBs' market shares that are due to higher product prices lead to decreases in brand loyalty. Further, the price of leading NBs moderates the relationship between NBs' price and NBs' loyalty of households because leading brands are often selected for price reductions (Möser 2001). We derive the following hypotheses regarding the influence of price on the number of brand-loyal households:

H1: *The higher the price of a NB, the lower the number of loyal households of this NB.*

H2: *The negative effect of the price of a NB on the number of loyal households of this NB is moderated by leading NBs (top 10).*

The purchase frequency indicates how often a household buys products of a particular product group per month. The more frequently purchasing acts occur, the more often households are faced with the choice of choosing an already purchased brand once again or selecting a competing brand (Casteran et al. 2019). Therefore, we propose the following hypothesis for the effect of shopping frequency on the number of loyal households towards NBs:

H3: *The higher the purchase frequency of chocolate bars, the lower the number of loyal households of the observed NB.*

The demand for variety may have a stronger influence on purchase decisions than their satisfaction with a brand or product (Faison 1977; Raju 1980; Hoyer and Ridgway 1984). According to Diller and Goerd (2005), the range of the entire product portfolio hurts loyalty. As consumers are presented with more variety in a product group, more purchases tend to be distributed among different products of different brands (Diller and Goerd 2005). Therefore, the number of products of competing NBs negatively affects the number of brand-loyal households:

H4: *The more product variety provided by competing manufacturers, the lower the number of loyal households of the observed NB.*

The simultaneous availability of different varieties of the same brand enables consumers to switch within the varieties of the brand without churning to the competition

(van Trijp and Steenkamp 1992; Mason and Milne 1994; Koppelman et al. 2001; Koppelman et al. 2002). Consumers thus express desire for variety. Consequently, product differentiation, depending on the product varieties, creates differences in household needs and shifts in their decision processes. Thus, we anticipate a positive effect of the number of product variants:

H5: *The more product variety of a NB is offered, the higher the number of loyal households of this NB.*

2.3 Research Model

In accordance with the research hypotheses, the number of households that are loyal to a NB is described by the following equation:

$$loyal_m = c + \beta_1 p_m + \beta_2 p_m * leader_m + \beta_3 purchase + \beta_4 pvc_m + \beta_5 pv_m + \varepsilon_m$$

with

$loyal_m$	=	number of loyal households towards the NB m ,
c	=	constant term,
p_m	=	price of the NB m ,
$leader_m$	=	binary classification of the NB m as market leader,
$purchase$	=	purchase frequency of NBs in the product group,
pvc_m	=	competing product varieties with the NB m ,
pv_m	=	product variety of the NB m ,
$\beta_j, (j = 1, \dots, 5)$	=	regression coefficients, and
ε_m	=	error term.

3 Empirical Analysis

3.1 Data Collection and Operationalization

The empirical study is based on a German consumer household panel provided by the GfK. The data were collected between January 2006 and December 2015 and include information from 86,992 households on chocolate bar purchases. Due to fluctuation, not all households report over the entire period of ten years. At any point in time, around 30,000 households reported their purchases. For each purchase by a household, the data provides the date of purchase, product name, brand, manufacturer, purchased quantity, and product price. In addition, the data allows differentiating between NBs and private labels (PLs). In total, the data set contains 3,943,199 purchase records and information on 227 NBs and 104 PLs. The product group of chocolate bars is particularly suitable for this study. The product group chocolate bars represents a saturated market. Chocolate bars are bought by a large number of households. The product varieties show only limited differences in terms of their possible uses. Similarly, chocolate bars are generally consumed hedonistically associated with low risks of potentially bad purchase decisions.

Consequently, earlier studies use such product groups, e.g., candy, jelly, and pralines, to investigate variety-seeking behavior and brand loyalty (van Trijp 1994; Inman 2001).

This analysis is based on monthly aggregated data of NBs. Each row of these aggregated data represents one NB per month. For the purchase sequence, only NBs that can be observed for at least three consecutive years are considered. In total, 166 NBs are thus included in the empirical analysis. As not all of these NBs are represented over the entire period, the data consists of 9,041 data rows. The empirical analysis considers prices standardized per 100 grams in order to ensure that prices of different products are comparable. These standardized prices are then aggregated to monthly average prices per 100 grams for each brand. The market-leading NBs are the ten brands with the highest turnover over the observation period. The purchase frequency calculates as the sum of all purchases made within one month in the product group in relation to the number of participating households in the observation period. By considering the product variety through the different Global Trade Item Numbers (GTIN), differentiations in the taste of the chocolate bars as well as in the package size are considered at the same time. The GTINs are used to determine the product variety for each of the NBs. All other GTINs that do not represent the observed NB are assigned to the product variety of competing NBs.

In this analysis, households who are loyal to a particular NB are identified based on a behavioral approach that combines the concept of purchase sequence with the concept of demand coverage. Here, an observed household is considered to be loyal if it covers more than 50% of its needs via the same NB in at least three consecutive time periods. Accordingly, a household is considered to be loyal to a NB in a period t_2 to t_0 if it fulfills the following conditions.

$$CoD_{i,t-2} > 0,5; CoD_{i,t-1} > 0,5; CoD_{i,t_0} > 0,5$$

with

$$CoD_{i,t} = \frac{\text{purchased quantity of the NB}_{i,t}}{\text{total purchased quantity in the product group}_{i,t}}$$

and

CoD: coverage of demand
i: household *i*
t: year *t*.

Since the underlying data set consists of household panel data, it is assumed that the household leaders do not only buy products from the same product group for different purposes, but also different family members. For this reason, a comparatively low threshold value of over 50% was chosen as an indication of loyalty. In addition, the selected threshold allows households to be associated with only one NB per period. However, we acknowledge that it is conceivable that a household consists, for example, of two people each of whom may be loyal to a different NB. However, the concept of demand coverage is not sufficient to adequately measure brand loyalty. Single purchases by households that do not usually buy chocolate bars would otherwise also be considered loyal when considering only the satisfaction of needs.

In this study, the minimum value of three consecutive observation periods required by Tucker (1964) and Stafford (1966) is accommodated. Thereby, the temporal component of purchase sequences is considered even more strongly, with three consecutive periods (in years). In contrast to Farley's approach (1964a, 1964b), only households that satisfy more than 50% of their needs through a brand not only in the short term but over several periods are considered as brand loyal. The requirement of at least three consecutive periods in which a correspondingly high level of demand is met through one NB gives some continuity to brand loyalty. Moreover, the long observation period provides the opportunity to measure the acquisition and churning of the loyalty of households to a NB.

3.2 Results

The model is estimated using the statistical software R 3.5.2 and the pooled-OLS method (Lafley and Martin 2017) with the R package *plm* (Croissant 2008). Results of the correlation analysis are with one exception below a value of 0.30. The correlation between the price of the leading NBs (top 10) and the product varieties of the observed NB correlates to 0.755. This means that the leading NBs charge higher product prices for a higher product variety of NBs, in particular considering innovation and development costs. In addition, we tested for multicollinearity. The variance inflation factor (VIF) ranges between 1.00 and 2.41. Thus, there is no indication of multicollinearity (Hair et al. 2014). The corrected coefficient of determination of the analysis with $R^2 = 0.371$ indicates a moderate degree of explanation (Chin 1998).

The price of NBs (H1), the price of leading NBs (top 10) (H2), the purchase frequency of NBs (H3), and the product variety of competing NBs (H4) negatively influence the NBs loyalty of households. The empirical results for the purchase frequency of NBs (H3) and the product variety of competing NBs (H4) show standardized regression coefficients below 0.1. Due to this low standardized coefficient, these results are not analyzed in more detail (Lohmöller 1989; Seltin and Keeves 1994). The data also indicates a significant positive correlation between NBs product variety and households' NB loyalty (H5). Due to the significant interaction between price of NBs and leading NBs (top 10), hypothesis H1 is not supported. Hypotheses H2 and H5 are supported. Hypothesis H3 is rejected due to the low standardized coefficient and hypothesis H4 is rejected due to the sign.

An overview of the measured standardized regression coefficients as well as their significance is given in Table 1.

3.3 Discussion

As the moderation effect of leading NBs is significant, we do not discuss the main effect of NB price here. Nonetheless, we controlled for the main effect without moderation and correspondingly found a very weak standardized coefficient. The price of the NBs has a significant negative effect on the number of loyal households moderated by leading NBs. This negative influence of the price of the leading NBs on the number of loyal households indicates, on the one hand, the dominance of the market-leading NBs. On the other hand, the results indicate that the price for all other NBs may not have a relevant influence on the number of loyal households. However, an explanation for the moderate influence of

Table 1. Empirical results

Independent variable	Hypotheses	Standardization coefficient	p-value	Hypothesis supported
Price of NBs	– (H1)	–0.116	<.001	No
Price of leading NBs (Top 10)	– (H2)	–0.221	<.001	Yes
Purchase frequency of NBs	– (H3)	–0.042	<.001	No
Product variety of competing NBs	– (H4)	0.029	<.001	No
Product variety of NBs	+ (H5)	0.749	<.001	Yes

the price of leading NBs may be that chocolate bars are bought at promotional prices in increased quantities. As a result, only a few purchases constitute most of the quantity sold. Furthermore, due to the saturated and competitive market of chocolate bars, the prices of chocolate bars might not be highly volatile. Nevertheless, the use of price reductions can positively influence the market share of NBs, at least in the short term (Nijs et al. 2001; Srinivasan et al. 2004). The intense competition may also lead to an equivalent response by competitors. Both, the short-term increase in market share and the reaction of competitors do not lead to a long-term increase in household NBs loyalty. Intending to influence non-leading NBs on household brand loyalty, there is need for further research. A long-term low price of leading NBs can increase the number of loyal households but this effect can be dynamically reduced by intense competition in such saturated markets.

Contrary to expectations, the purchase frequency of chocolate bars is not a predominant factor on NBs loyalty of households. This result is possibly due to the high purchase frequency of loyal households. Particularly in the case of habitualized purchases, such as chocolate bars, this may result in a high level of loyalty despite a high purchase frequency.

The hypothesis, that brand loyalty decreases with the increase of product varieties of competing NBs is not confirmed. The entire assortment of all chocolate bars may be sufficiently large and possibly confusing for consumers. Consequently, additional product varieties of competing NBs cannot be perceived by consumers as an increase in their choice. Furthermore, many possibilities may confuse consumers rather than offering them an additional benefit. In these cases of the overchoice-effect, consumers usually prefer to fall back on what they already are familiar with (Berger et al. 2007; Shah and Wolford 2007; Sela et al. 2009; Yan et al. 2015). This explains the positive and weak relationship between product varieties of competing NBs and the loyalty of households. Accordingly, an increase in the product varieties of competing NBs can lead to consumers canceling a purchase or reverting to familiar products. Neither of these leads to a reduction in NBs loyalty of households.

An additional product variation increases the NBs loyalty of households, as expected. In the empirical analysis, the product variety of a NB has the strongest impact on the loyalty of the observed households. This suggests, that consumers tend to switch products within the product portfolio of the preferred NB. This finding is particularly relevant for the manufacturer brand industry, as it can specifically retain consumers by providing appropriate product varieties. However, it should be mentioned that the availability of a further variant is usually not the only aspect in the context of product variety, but that communication and distribution strategies are usually used as well. New product variations are frequently advertised separately in the media or at the point of sale with the help of additional displays. In this context, existing NB's product variations can benefit from the promotion of the new variation (Hätty 1989; Zatloukal 2002). Furthermore, a new product variation can also benefit from consumers' previous positive experiences with the NB or a positive brand image (Phau and Cheong 2009; Pina et al. 2010; Dwivedi and Merrilees 2013). In addition, if a NB succeeds in expanding its retailing shelf space via new product variations, consumers become more aware of said NB.

The present empirical analysis shows that there is a strong influence of a NBs' product variety on the number of loyal households towards a NB. The manufacturer brand industry should take this finding into account when planning and managing their product portfolio, particularly in saturated and highly competitive markets. Product variety can further help to convince consumers to buy the NB in the long run. The relevance of product policy is illustrated by the fact that this influence is stronger than the influence of product prices.

4 Concluding Remarks

4.1 Summary

For the first time, a combination of the concept of purchase sequence and the concept of demand coverage is presented to measure brand loyalty. So, this paper constitutes a combined behavioral approach to measure the loyalty of households to NBs (Olbrich and Springer-Norden 2021). Furthermore, this study provides new insights for the manufacturers on the effect of product prices, purchase frequency, and product variety on the number of loyal households towards a NB. We find that this loyalty can predominantly be influenced by the product variety of NBs. The price of NBs is moderated by the leading NBs. These prices of leading NBs influence the loyalty of households to NBs. Manufacturers need to consider the effect of prices that, however, are subject to the regulatory restrictions of the prohibition of retail price maintenance (Olbrich and Buhr 2005). Since only the manufacturer brand industry can directly influence the product variety of its products, these results are predominantly relevant for the manufacturers. The present study shows that the use of product variety is a useful instrument for NBs to increase the NBs' loyalty of households. The specific use of product variety can retain consumers to the NB even if they have a high exploration propensity. This is supported in particular by the comparatively weak effect of product variety of competing NBs. In addition, NBs' product variety can attract new consumers.

4.2 Limitations and Further Research

The threshold value of 50% for demand coverage and the sequences for measuring loyalty should be carefully reviewed in future studies. The relationship between the product variety of NBs and the number of loyal households only applies to the product variety within one NB. If a manufacturer launches additional NBs, this may negatively affect the number of loyal households. For leading NBs, this can also reduce the prevalence of their original NBs. By focusing on purchase data of chocolate bars, the results are based on a suitable but single product group. Furthermore, other factors, such as brand image or in-store promotions, were not available to us. Naturally, economic efficiency needs to include costs, for example, for the design and implementation of product varieties.

Further research can expand on this analysis by adding such influencing factors and extending to structurally different product groups. For example, coffee is expected to have higher prices and a lower frequency of purchase. Hair shampoo and laundry detergent are other examples of product groups that are usually consumed by all households and which, in contrast to food, can be differentiated particularly by smell. We also plan to extend our analysis to PLs in the future. This may further uncover differences between NBs and PLs.

PLs' loyalty of households could face particular challenges due to promotional prices of NBs, which may necessitate specific competitive strategies. The additional consideration of PLs allows the analysis of competition between PLs and NBs and in particular pricing strategies by retailers at the point of sale. Future research can specifically compare our approach to other approaches and verify its superiority.

References

- Berger, J., Draganska, M., Simonson, I.: The influence of product variety on brand perception and choice. *Mark. Sci.* **26**(4), 460–472 (2007)
- Brown, G.H.: Brand loyalty – Fact or fiction? *Advertising Age* **23**, 53–55 (1952)
- Brüggemann, P., Olbrich, R., Schultz, C.D.: Competition between national brands and private labels: determinants of the market share of national brands. In: Martínez-Lopez, F.J., Gázquez-Abad, J.C., Breugelmans, E. (eds.) *Advances in National Brand and Private Label Marketing. NB&PL 2020*, pp. 39–49, Springer Proceedings in Business and Economics. Springer, Cham (2020)
- Casteran, G., Chrysochou, P., Meyer-Waarden, L.: Brand loyalty evolution and the impact of category characteristics. *Mark. Lett.* **30**(1), 57–73 (2019)
- Chin, W.W.: The partial least squares approach to structural equation modelling. In: Marcoulides, G.A. (ed.) *Modern Methods for Business Research*, pp. 295–358. Lawrence Erlbaum Associates Publishers, London (1998)
- Croissant, Y., Millo, G.: Panel data econometrics in R: the plm package. *J. Stat. Softw.* **27**(2), 1–43 (2008)
- Cunningham, R.M.: Brand Loyalty – what, where, how much? *Havard Bus. Rev.* **34**(1), 116–126 (1956)
- Diller, H., Goerd, T.: Die Marken- und Einkaufsstättentreue der Konsumenten als Bestimmungsfaktor der Markenführung im vertikalen Beziehungsmarketing. In: Esch, F.-R. (ed.) *Moderne Markenführung – Grundlagen, innovative Ansätze, praktische Umsetzungen*, pp. 1209–1224. Springer, Wiesbaden (2005)

- Dwivedi, A., Merrilees, B.: Brand extension feedback effects: towards a mediated framework. *J. Consum. Mark.* **30**(5), 450–461 (2013)
- Faison, E.W.J.: The neglected variety drive: a useful concept for consumer behavior. *J. Consum. Res.* **4**(3), 172 (1977)
- Farley, J.U.: “Brand Loyalty” and the economics of information. *J. Bus.* **37**(4), 370–381 (1964a)
- Farley, J.U.: Why does “brand loyalty” vary over products? *J. Mark. Res.* **1**(4), 9–14 (1964b)
- Ferreira, A.G., Coelho, F.J.: Product involvement, price perceptions, and brand loyalty. *J. Prod. Brand Manag.* **24**(4), 349–364 (2015)
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., Tatham, R.L.: *Multivariate Data Analysis*, Harlow (2014)
- Hätty, H.: *Der Markentransfer*, Heidelberg (1989)
- Hermann, A., Huber, F.: *Produktmanagement – Grundlagen – Methoden – Beispiele*. Springer, Wiesbaden (2013)
- Hoyer, W.D., Ridgway, N.M.: Variety seeking as an explanation for exploratory purchase behavior – A theoretical model. *Adv. Consum. Res.* **11**(1), 114–119 (1984)
- Inman, J.J.: The role of sensory-specific satiety in attribute-level variety seeking. *J. Consum. Res.* **28**(1), 105–120 (2001)
- Kabadayi, E.T., Alan, A.K.: Brand trust and brand affect: their strategic importance on brand loyalty. *J. Glob. Strategic Manag.* **11**(6), 81–88 (2012)
- Koppelman, U., Brodersen, K., Volkmann, M.: Variety Seeking – Manchmal reizt auch nur das Neue (Teil I). *Absatzwirtschaft* **48**(12), 56–63 (2001)
- Koppelman, U., Brodersen, K., Volkmann, M.: Variety Seeking – Wie Sie von der Neugier Ihrer Kunden profitieren (Teil II). *Absatzwirtschaft* **49**(1), 44–47 (2002)
- Krishnamurthi, L., Raj, S.P.: An empirical analysis of the relationship between brand loyalty and consumer price elasticity. *Manage. Sci.* **10**(2), 172–183 (1991)
- Lafley, A.G., Martin, R.L.: Customer loyalty is overrated. *Harvard Bus. Rev.* **95**, 47–54 (2017)
- Lohmöller, J.-B.: *Latent variable path modeling with partial least squares*. Springer, Heidelberg (1989)
- Lindt: Lindt Homepage (2020). <https://www.lindt.com/>
- Mason, C.H., Milne, G.R.: An approach for identifying cannibalization within product line extensions and multi-brand strategies. *J. Bus. Res.* **31**(2–3), 163–170 (1994)
- Nijs, V.R., Dekimpe, M.G., Steenkamps, J.B.E., Hanssens, D.M.: The category-demand effects of price promotions. *Mark. Sci.* **20**(1), 1–22 (2001)
- Milka: Milka Homepage (2020). <https://www.milka.com/>
- Möser, A.: Preisstrategien im deutschen Lebensmitteleinzelhandel – eine empirische Analyse. *Agrarwirtschaft* **50**(3), 214–217 (2001)
- Nolte, H.: *Die Markentreue im Konsumgüterbereich*, working paper. Brockmeyer, Bochum (1976)
- Olbrich, R., Springer-Norden, M.R.: Der Einsatz von Produktdifferenzierung. In: Olbrich, R. (ed.) *Berichte aus dem Lehrstuhl für Betriebswirtschaftslehre, insb. Forschungsbericht, FernUniversität in Hagen, Marketing* (2021)
- Olbrich, R., Buhr, C.-C.: Who benefits from the prohibition of resale price maintenance in European competition law? – the case of food retailing. *Eur. Competition Law Rev.* **26**(12), 705–713 (2005)
- Olbrich, R., Jansen, H.C., Hundt, M.: Effects of pricing strategies and product quality on private label and national brand performance. *J. Retail. Consum. Serv.* **34**, 294–301 (2017)
- Phau, I., Cheong, E.: How young adult consumers evaluate diffusion brands: effects of brand loyalty and status consumption. *J. Int. Consum. Mark.* **21**(2), 109–123 (2009)
- Pina, J.M., Iversen, N.M., Martinez, E.: 2010: feedback effects of brand extensions on the brand image of global brands – a comparison between Spain and Norway. *J. Mark. Manag.* **26**(9–10), 943–966 (2010)

- Pindyck, R.S., Rubinfeld, D.L.: *Microeconomics*, 7th edn. Upper Saddle River, New York (2009)
- Raju, P.S.: Optimum stimulation level – Its relationship to personality, demographics, and exploratory behavior. *J. Consum. Res.* **7**(3), 272–282 (1980)
- Rao, T.R.: Consumer's purchase decision process: stochastic models. *J. Mark. Res.* **6**(3), 321–329 (1969)
- Sela, A., Berger, J., Liu, W.: Variety, vice, and virtue: how assortment size influences option choice. *J. Consum. Res.* **35**(6), 941–951 (2009)
- Seltin, N., Keeves, J.P.: Path analysis with latent variables. In: Husén, T., Postlethwaite, T.N. (eds.) *The International Encyclopedia of Education*, 2 edn. pp. 4352–4359, Oxford (1994)
- Shah, A.M., Wolford, G.: Buying behaviour as a function of parametric variation of number of choices. *Psychol. Sci.* **18**(5), 369–370 (2007)
- Sharma, A., Nair, S.K.: Switching behaviour as a function of number of options – how much is too much for consumer choice decisions? *J. Consum. Behav.* **16**(6), e153–e160 (2017)
- Srinivasan, S., Pauwels, K., Hanssens, D.M., Dekimpe, M.G.: Do promotions benefit manufacturers, retailers, or both? *Manage. Sci.* **50**(5), 617–629 (2004)
- Stafford, J.E.: Effects of group influences on consumer brand preferences. *J. Mark. Res.* **3**(1), 68–75 (1966)
- Tucker, W.T.: The development of brand loyalty. *J. Mark. Res.* **1**(3), 32–35 (1964)
- van Trijp, H.C.M.: Product-related determinants of variety-seeking behavior for foods. *Appetite* **22**(1), 1–10 (1994)
- van Trijp, H.C.M., Steenkamp, J.-B.E.M.: Consumers' variety seeking tendency with respect to foods – measurement and managerial implications. *Eur. Rev. Agric. Econ.* **19**(2), 181–195 (1992)
- Yan, H., Chang, E.-C., Chou, T.-J., Tang, X.: The over-categorization effect – how the number of categorizations influences shoppers' perceptions of variety and satisfaction. *J. Bus. Res.* **68**(3), 631–638 (2015)
- Zatloukal, G.: *Erfolgsfaktoren von Markentransfers*. Gabler Edition Wissenschaft, Wiesbaden (2002)