

Store Brands in Consumer Durables - A Success Story

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Abstract

Objectives: The paper aims to study the influences of price, store image, perceived quality, and brand association on customer satisfaction of electronic store brands. Is introducing store brand in electronic goods advantageous for the retailer? What makes the consumer to purchase a store brand? **Methods/Statistical Analysis:** The paper uses multivariate statistical techniques to understand the reasons behind the purchase of the store brands (both small and big appliances). This paper provides empirical insights about how the introduction of store brands is giving the retailer the competitive edge. **Findings:** The consumer prefers the store brand due to the store image, price, perceived quality and brand association of the retailer. Of these factors the most influential is the perceived quality. Examination of the preference of the consumer reveals that the retailer is able to retain his shoppers due to store brand. The prices have to be set carefully along with the increased perceived quality to retain them. Lately, many big retailers have added store brands in their assortment in all their product categories which is discussed in the media with their implications on the dominated channel management. **Applications/Improvement:** The main motivation for this research is the Neilson report on Global Private Label. This study provides a comprehensive evaluation of that trend especially with consumer durables.

Keywords: Electronic Consumer Durables, Multivariate Analysis, Perceived Quality, Store Brands, Store Image

1. Introduction:

Store brands are not necessarily a threat. It's a challenge and an opportunity by Swedish, Marketing Director, Saatchi and Saatchi X survey. Store brands are growing at a faster pace and in fact have doubled when compared with the famous brands in the past decade. Store brand's growth is partially driven by what's available on store shelves; that is, it's often-market driven. There is more talk these days in the media about retailer's brands being successful for one reason or the other in this world. The consumer needs more better value for their money. This is achieved through store brands. The store brand worldwide is estimated to be a business with revenue exceeding one trillion US dollars¹. The success of these brands is seen regardless of their category.

These store brands are in their incipient stage in developing Asian countries, as the organized retail was introduced during the 1990's. The sale value of store brands is less than 5% in developing Asian countries like

China and India. So we cannot assume that what works in one market may work with another market.

India has only 5% of modern trade compared to 50% in other Asian countries. The store brands have been very successful in India with a growth of 27% between 2012 to 2014 (**Neilson Global Report 2015**).

Store brands are becoming an important strategy for retail enterprises to compete with other marketing channels and preserve customer satisfaction. The market review of store brands is still an emerging idea with an increasing acceptance by consumers. The early growth of store brands is confined to groceries and apparels which is expected to expand into other categories².

This study has also forecasted the launch of a good number of store brands in India. The store brands are spreading their focus on high technology electronic gadgets like mobiles, washing machines, electronic accessories, microwave, LCDs, air conditioners and other domestic appliances. The store brands are growing faster than the manufacturer's brands in India with respect to

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consumer durables. Today's face of the retailer is seen through the store brands.

The private label reality is significant and mostly growing but not everywhere (Source: Neilson 2009), Figure 1.

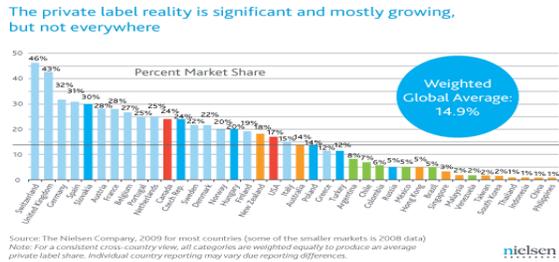
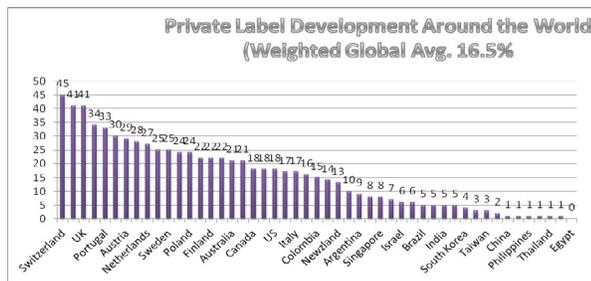


Figure 1. The Private Label Reality is Significant and Mostly Growing but not everywhere (Source: Neilson 2009).

Private Label Development around the world (Source: Neilson 2015), Figure 2.



*Source: Nielsen 2015 (Figure.1 and 2)

**scale in %

Figure 2. Private Label Development around the World (Source: Neilson 2015).

A few researchers have researched the reasons influencing the store brand purchase over past decades. However, the volume of study on store brands is less than that on National brands.

The article is dealing with the following key issues:

- Factors Influencing the Customer Satisfaction of private label electronic consumer durables.
- Is the product assortment with store brands in these retail outlets bringing out differentiation?

First, we discuss the circumstances under which these key issues are addressed.

Next, we proceed with our research approach, introduce the data and discuss our findings.

This is followed by conclusions, recommendations, limitations and future research areas.

This article has identified the factors based on the literature review and then draw conclusion on the customer satisfaction of the store brand electronic consumer durable products. Quality, Price, Price-Quality Association and brand loyalty are the factors identified and proved by³. The purchase decision of private label brands by the consumers confide on certain external factors like brand name, store name, price (assess the quality) and risk (to judge the quality).

The researcher has identified the Dimensions from literature as price, perceived quality, brand association and store image to find its impact on customer satisfaction.

2. Price:

The author states that store brands are preferred by the consumers as they are cost effective. There is a wider price gap between the private labels and national brand products. This pricing strategy helps the store brand to be accepted by consumers⁴. To increase the brand loyalty the retailers first introduce low cost brands then slowly introduce to standard and premium store brands.

2.1 H1: The Store Brand Dimension Price Positively Influences the Customer Satisfaction

2.1.1 Brand Association

The brand is created to win competitive advantage over its competitors. The store brands are created to win a competitive edge with respect to other retailers and National Brand. Very few studies are there on how to strengthen the image of store brands^{5,6,7,8}. Theoretical studies have inferred the brand image happens through brand associations, perceived quality and the emotions attached to the brand⁹. The research on brand association for store brands shows that consumers buy fewer products which actually requires trial or experience¹⁰.

2.2 H2: The Store Brand Dimension Brand Association Positively Influences the Customer Satisfaction

2.2.1 Store Image

Store's image as an attitude in consumers' consciousness both functional and physiological factors. He was the first

researcher to carry out the research on store image¹¹. The retailers develop competitive advantage through participation with channel partners, to support stable markets for their products, better display and in-store promotions which will lead an outlet to greater profitability. Such is the significance of store image^{12,13,14}. The way in which a consumer perceives the quality of brands and service provided by the stores are considered to be the antecedents of store image. The store image consists of store atmosphere, category management, and sales person's service.

2.3 H3: The Store Brand Dimension Store Image Positively Influences the Customer Satisfaction

2.3.1 Perceived Quality

Perceived Quality plays a key role in consumer perception of quality and purchase of the store brand products^{15,16}. The benefits related to the better perceived quality of store brand are highlighted¹⁷. Quality is an essential element which encourages consumers to use store brand: If the quality of all brands available in the particular category is almost similar then store brands sales increases^{18,19} states that quality perceptions form a critical component of a brand's identity. The retailers improve the quality perception of their store brand by decreasing the perceived risk and increasing the product quality, packaging. These three aspects are dealt with in our article.

- Risk is defined as the quality variability of store brands and variations in quality between National brands and store brands²⁰ but we are confining our article with the first part alone. Perceived risk plays a essential role in determining the perceptions of quality and the satisfaction of the store brand purchase^{21,22}.
- Product quality is determined by the performance of the product, reliability and safety to the user²³.
- Packaging is a vital element in the retailer's marketing strategy; the packaging factor has undergone a redesign, thereby resulting in products looking similar to that of National brands²⁴. The success of the store brands is due to the high quality. The juxtaposition of a product's quality through advertisements is customary, the reason for which is the high correlation relationship between product quality and product comparison²⁵.

2.4 H4: The Store Brand Dimension Perceived Quality Positively Influences the Customers Satisfaction

2.4.1 Customer Satisfaction

In this article customer satisfaction is used as a measure to find the success of the store brand. The customer satisfaction of a consumer is measured by his shopping frequency, tolerance to price increases, customer retention over time, share-of-wallet within a product category and word-of-mouth effects^{26,27}. In an another research, the customer satisfaction is measured by fourteen factors which are ranked as below (1) repair (2) overall quality (3) product compatibility (4) competitive price (5) worthiness (6) reliability (7) usage experience (8) after sales service (9) responsiveness (10) customer service (11) loyalty programs (12) warranty (13) pre sales (14) sales person's behavior for durable white goods market in Chennai²⁸.

The researcher²⁹ states, "with store brands, the retailers can better differentiate themselves and their brands and can increase customer satisfaction". However, recent evidence has suggested there are limits to this approach³⁰.

2.5 Proposed Research Model

Private Label Model-is the model with the constructs created by the researcher is depicted in Figure 3.



Figure 3. The Private Label Model.

3. Method:

3.1 Quantitative Research:

Descriptive research was employed to understand and explore consumer's intentions, subjective experiences and motivations for satisfaction of electronics store brands³¹. Area sampling is method is used to collect data. One of the primary applications of cluster sampling is area sam-

pling, where the clusters are the Chennai city blocks. The sample size of 200 is used for this study. The Structural Equation Model is used for analysis. There are 30 items in the questionnaire.

4. Data:

The Cronbach's alpha (reliability coefficient) values for the rating scale was obtained using the SPSS package (16), the values for pilot studies and surveys was found to be 0.905 and 0.946 respectively. For each construct the Cronbach's alpha (reliability coefficient) values for price are 0.786, Brand Association is 0.748, Store Image is 0.716, Perceived Quality is 0.836, Customer Satisfaction is 0.707 and Brand Loyalty is 0.762. An alpha value above 0.7 indicates good reliability^{32,33}.

Table 1. is showing the descriptive statistics of the variables used in my study. The variables have seen spread which is shown in skewness and standard deviation.

Table 1. Descriptive Statistics of the Variables

Variables	Mean	Standard Deviation	Skewness	Kurtosis
Price	3.244	0.87521	0.297	-0.249
Brand Association	3.94	0.68508	-0.261	0.01
Store Image	3.686	0.64826	-0.517	1.463
Perceived Quality	3.956	0.68337	-0.512	1.344
Customer Satisfaction	3.964	0.5651	-0.611	3.085

The data has been analysed in AMOS 21. The variables taken are confirmed using the Confirmatory Factor Analysis (Figure 4).

The CFA helps the researcher to understand whether the variables represent the constructs and the construct is measured through these variables. CFA is one of the multivariate analyses. CFA is used by the researcher, to decide, whether to continue the research or reject the preconceived model which is created on the basis of the theory³⁴. CFA is a test to confirm the measurement theory which the researcher is going to research. In the proposed model of study, it is assumed that there are no cross loadings.

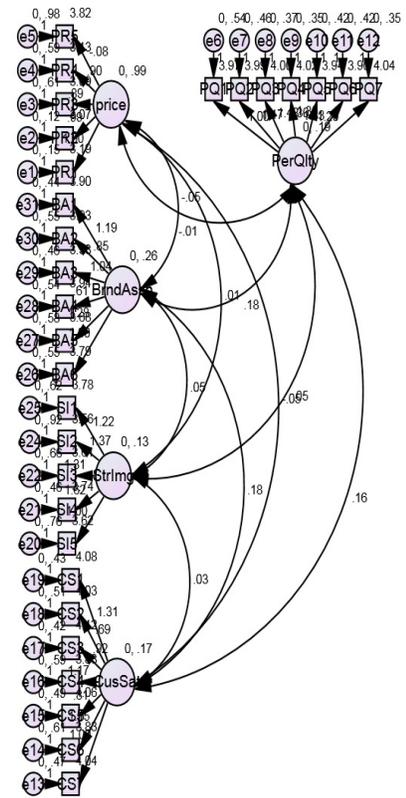


Figure 4. Confirmatory Factor Analysis of the Constructs.

4.1 Structural Equation Model (Figure.5) (Table 2, 3)

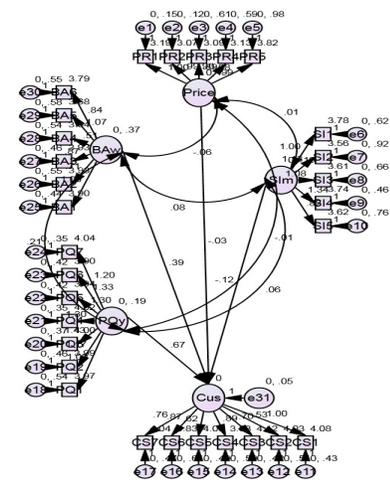


Figure 5. The Structural Equation Model.

In Figure 5, after identifying a potential model that best explains the data in terms of theory and model fit,

Table 2. Confirmatory Factor Analysis

		Constructs	Estimate	S.E.	C.R.	P
PR1	<---	Price	1			
PR2	<---	Price	0.986	0.026	37.788	***
PR3	<---	Price	0.891	0.041	21.952	***
PR4	<---	Price	0.903	0.04	22.46	***
PR5	<---	Price	-0.083	0.046	-1.799	0.046
BA6	<---	BrndAssn	1			
BA5	<---	BrndAssn	1.279	0.123	10.405	***
BA4	<---	BrndAssn	0.613	0.084	7.311	***
BA3	<---	BrndAssn	1.041	0.102	10.234	***
BA2	<---	BrndAssn	0.85	0.096	8.818	***
BA1	<---	BrndAssn	1.193	0.108	11.006	***
PQ1	<---	PerQty	1			
PQ2	<---	PerQty	1.175	0.119	9.878	***
PQ3	<---	PerQty	1.431	0.135	10.594	***
PQ4	<---	PerQty	1.305	0.126	10.341	***
PQ5	<---	PerQty	1.296	0.127	10.197	***
SI5	<---	StrImg	1			
SI4	<---	StrImg	1.624	0.276	5.879	***
SI3	<---	StrImg	1.307	0.212	6.167	***
SI2	<---	StrImg	1.374	0.261	5.258	***
SI1	<---	StrImg	1.215	0.226	5.368	***
CS7	<---	CusSat	1			
CS6	<---	CusSat	1.147	0.132	8.686	***
CS5	<---	CusSat	0.814	0.107	7.595	***
CS4	<---	CusSat	1.173	0.134	8.723	***
CS3	<---	CusSat	0.917	0.11	8.332	***
CS2	<---	CusSat	0.69	0.103	6.709	***
CS1	<---	CusSat	1.312	0.139	9.467	***
PQ6	<---	PerQty	1.326	0.129	10.249	***
PQ7	<---	PerQty	1.196	0.118	10.17	***

Table 3. The SEM Values of Significance

	Estimate	S.E.	C.R.	P	
Cus<---	-0.033	0.021	-1.583	0.114	-----
Price					
Cus<---	-0.121	0.062	-1.937	0.053	significant
SI _m					
Cus<---	0.385	0.085	4.536	***	significant
BA _s -					
Cus<---	0.675	0.124	5.445	***	significant
PQ _y					

Table 4. The Goodness of Fit Statistics for SEM Model

S.NO	Measures of fit	Output of Private Label Model	Acceptable Level for good fit
1.	Chi-square (χ^2) at p 0.05	1273.855	Significant
2.	Degree of freedom (d.f)	583	-
3	Normed χ^2	2.185	< 2 good; 2-5 acceptable
4	Comparative fit index (CFI)	0.855	Above 0.90

5	Bentler – Bonett Index or Normed Fit Index (NFI)	0.958	>0.90
6	Root mean squared error of approximation (RMSEA)	0.055	0.03 to 0.08
7	Non Centrality Parameter (NCP)	1856.861	-
8	Non Centrality Parameter, Lower boundary (NCPLO 90)	1708.078	-
9.	Parsimony adjusted NFI (PNFI)	0.795	-
10.	Parsimony adjusted CFI (PCFI)	0.855	-
11.	Minimum value of Discrepancy	4.89	-
12.	Lower Limit of FMIN (LO 90)	1.055	-
13.	Upper limit of FMIN (HI90)	1.389	-
14.	Browne-Cudeck Criterion (BCC)	2696.922	-
15.	ECVI	5.366	-
16.	LO90	5.068	-
17.	HI90	5.68	-
18.	MECVI	5.405	-
19.	HOELTER.05	236	<= 75 poor fit
20.	HOELTER.01	248	At least 200

Summary of Goodness of Fit Statistics and other values corresponding to the store brands Structural Equation Model

Table 2, 3 a Confirmatory Factor Analysis (CFA) using Structural Equation Modeling (SEM) is done to test the conceptual model. All tests of model invariance begin with a global test of the equality of covariance structures across groups. The data for all groups were analyzed simultaneously to obtain efficient estimates³⁵. The constraints used include, from weaker to stronger: (1) model structure, (2) model structure and factor loadings, and (3) model structure, factor loadings and unique variance.

4.2 Evaluation of Model Fit (Table 4):

In Table 4, several well-known goodness-of-fit indices were used to evaluate the model fit: the chi-square χ^2 , the Comparative Fit Index (CFI), the Unadjusted Goodness-Of-Fit Indices (GFI), the Normal Fit Index (NFI), the Tucker-Lewis Index (TLI), the Root Mean Square Error Of Approximation (RMSEA) and the Standardized Root Mean Square Error Residual (SRMR). Goodness-Of-Fit (GOF) indices provide “rules of thumb” for the recommended cutoff values to evaluate the data-model fit. The researcher³⁵ recommend using combinations of GOF indices to obtain a robust evaluation of model fit. The criterion values they list for a model with good fit are CFI > 0.90, TLI > 0.90, RMSEA < 0.08, and SRMR < 0.08 for assessing fit in structural equation modeling. Moreover, some researchers^{36,37} believe that these cutoff values are too rigorous and the results by the researcher³⁵ may have limited general ability to the levels of misspecification experienced in typical practice. Multiple fit indices should be used to assess goodness of fit like the χ^2 and the χ^2 / df is Normed Chi-square. Normed Chi square value is 2.185 where less than 5 is acceptable. States that, Goodness of Fit Index (e. g., GFI, CFI, NFI, TLI) and one badness of fit index (e.g., RMSEA, RMSR) are used to generally accept the model fit. In general practice, a “good enough” or “rough guideline” approach is that for absolute fit indices and incremental fit indices (such as CFI, GFI, NFI, and TLI), cutoff values should be above 0.90 (0.90 benchmark) and for fit indices based on residual matrix (such as RMSEA and SRMR), values below 0.08 are usually considered adequate. Analysis was done using AMOS.

Chi square is the fundamental statistical measure in SEM to quantify the differences within between the covariance matrices. When used as a GOF measure, the comparison is between observed and predicted covariance matrix of the constructs.

From the results it can be seen that RMSEA fit statistics for the model was 0.076, which shows the model can be considered fit³⁷.

5. Discussion:

The constructs in the model, i.e. brand association, perceived quality and store image are significant and have an impact on customer satisfaction. The highest impact is caused by the perceived quality (0.675) in determining the customer loyalty of electronic consumer durables. In this

study, perceived quality is measured through product features, easy to use, appearance, after sales service, warranty and safety of the product are measured. The customers are mainly satisfied with the life long warranty given by the retailers for their store brands. There is greater acceptance and familiarity of private label consumer durables due to increase in perceived quality. The research finally concludes that consumer feel that private label consumer durables have all the important features, they are stylistic in their look, consumer friendly and requires minimal or nil maintenance. An interesting finding in this research is that we can strongly conclude that price is no more the decision making factor in purchasing the store brands.

6. Conclusion:

From the research it is concluded that store brands of electronic Consumer durables are influenced by perceived quality, store image, and brand association which leads to customer satisfaction. The retailers cannot ignore National brands as they provide a benchmark for quality and brand positioning. They can study the factor which influences the brand image of National brands and determine how these factors impact their brands. This might help them to bring these factors to position their store brand products. Future researchers should have an objective of examining whether consumers calculate their savings judgment to purchase store brand consumer durable.

Every industry has a golden age, so it is the turn of store brands to enjoy that period all over the world. Store brands are here to stay and the key to their success is in the product assortment of the retailers. These possess a challenge of managing the shelf space of the stores. The retailers are tempting customers to try out new store brands by offering money back guarantee and return policy (no questions asked).

The research provides insight for category management through which the retailer tries to differentiate him from other competitors. The success of product assortment lies in increasing the overall sales of the retail outlet. The retailers were able to provide an optimum product mix along with store labels. The stock policy of the store generally determines the product assortment as it is based on the consumer's profile i.e. age, income, spending behavior. The other side of this is the shelf space allocations for both national and private labels. To finally conclude the

product assortment and retail salesperson is said to play an important role in differentiating the retail outlet. Thus this study helps in understanding that product assortment with store brands really differentiates the retailer.

6.1 Managerial Recommendations:

The store brand evolution is empowering the customer to demand more value for the money he is paying. This makes the consumer feel that he has made a real wise decision in purchasing the store brand. We ultimately conclude that these brands are becoming a real big threat to National brands.

The retailers can keep the store brands along with National brands so that the consumers can easily compare the prices and other features of all the available brands in that category. Innovation is another way of making the store brand to stay for some more time. This study has helped to identify that perceived quality is what is expected by consumers from their brands. The only way to do this is by constant innovation and quality improvement. Quality contributes to the real success of the store brand in the consumer electronic category.

7. References

1. Keith Lincoln, Lars Thomassen. Private Label: Turning the Retail Brand Threat into your Biggest Opportunity. First Edition. Kogan Page: UK; 2009 May.
2. Quality Perceptions of Private Label Brands: Conceptual Framework and Agenda for Research. February 2008 Available from <http://www.iima.ac.in/assets/snippets/workingpaperpdf/2008-02-04Abhishek.pdf>
3. Glynn MS, Chen S. Consumer-factors moderating, private label brand success: further empirical results. *International Journal of Retail and Distribution Management*. 2009; 37(11): 896-914.
4. Ekaterina Salnikova, John L Stanton, Neal H Hooker. Brand Battles: Are store brands acting more like National brands? *International Journal of Management Cases*. 2013; 15(4): 265-354
5. Reda S. Department stores struggle to reinvent troubled model. *Stores*. 2002; 84(7): 22.
6. Ailawadi KL, Pauwels K, Steenkamp JBEM. Private-label use and store loyalty. *Journal of Marketing*. 2008 Nov; 72(6): 19-30.
7. Batra R, Sinha I. Consumer-level factors moderating the success of private label brands. *Journal of Retailing*. 2000; 76 (2): 175-191.

8. Burton S, Lichtenstein DR, Netemeyer RG, Garretson JA. A scale for measuring attitude toward private label products and an examination of its psychological and behavioral correlates. *Academy of Marketing Science Journal*. 1998 Oct; 26(4): 293–306.
9. Regina Virvilaite, Migle Daily Diene Kaunas. Strengthening of a private brand: the aspect of a store's image. *Inzinerine Ekonomika-Engineering Economics*. 2012; 23(1): 90–8.
10. Ipek, Ilayda Askın, Nilay, Ilter, Burcu. Private label usage and store loyalty: The moderating impact of shopping value. *Journal of Retailing and Consumer Services*. 2016 July; 31: 72–9. 8p.
11. Martineau PD. The personality of the retail store. *Harvard Business Review*. 1958; 36: 47–55.
12. Boles, James S, Hiram C Barksdale, Jr., and Julie T Johnson. Business relationships: An examination of the effects of buyer–salesperson relationships on customer retention and willingness to refer and recommend. *Journal of Business and Industrial Marketing*. 1997; 12 (3–4): 253–63.
13. Ganesan, Shankar. Determinants of long-term orientation in buyer-seller relationships. *Journal of Marketing*. 1994 April; 58: 1–19.
14. Ishida, Chiharu, Janet E Keith, James R Brown, and James E Stoddard. The Contingency Effects of Supplier Influence Strategies and Their Implications for Retailer Cooperation. *Journal of Marketing Channels*. 2006; 14 (1–2): 23–48.
15. Dick A, Jain A, Richardson P. Correlates of store brand proneness: some empirical observations. *Journal of Product and Brand Management*. 1995; 4(4): 15–22.
16. Erdem, Zhao, Valenzuela. Performance of store brands: a cross-country analysis of consumer store-brand preferences, perceptions, and risk. *Journal of Marketing Research*. 2004 Feb; XLI: 86–100.
17. Aaker DA. *Building Strong Brands*, New York: Free Press; 1996.
18. Gonzalez-Mieres C, Diaz-Martin AM, and Trespalacios-Gutierrez JA. Antecedents of the difference in perceived risk between store brands and National brands. *European Journal of Marketing*. 2006; 40(1): 61–82.
19. Richardson PS, Jain AK and Alan D. Household store brand proneness: a framework. *Journal of Retailing*. 1996; 72(2): 159–185.
20. Richardson, Paul S, Arun K Jain, Alan Dick. Household store brand proneness: a framework. *Journal of Retailing*. 1996; 72(2): 159–185.
21. Dick A, Jain A, Richardson P. Correlates of store brand proneness: some empirical observations. *Journal of Product and Brand Management*. 1995; 4(4): 15–22.
22. Erdem, Zhao, Valenzuela. Performance of store brands: a cross-country analysis of consumer store-brand preferences, perceptions, and risk. *Journal of Marketing Research*. 2004 Feb; vol. XLI: 86–100.
23. Hu L, Bentler P. Cut off criteria for fit indexes in covariance structure analysis. Conventional criteria versus new alternatives. *Structure Equation Modelling*. 1999: 1–55.
24. Kuvykaite R, Auruskeviciene V. *Marketing astarptautinese-firmose: elektroninisvadovelis*. Kaunas: Technologija; 2001.
25. Therasa C, Vijayabanu C, Vijayanand V. An empirical approach to probe the relationship between advertisement and brand image – a rural perspective. *Indian Journal of Science and Technology*. 2016; 9(27): 1–9.
26. Hoch SJ, Banerji, S. When do private labels succeed? *Sloan Management Review*. Summer 1993: 57–67.
27. Guadagni, Peter M, John DC Little. A logit model of brand choice calibrated on scanner data. *Marketing Science*. 1983; 2(3): 203–38.
28. Grover R, Srinivasan V. Evaluating the multiple effects of retail promotions on brand loyal and brand switching segments. *Journal of Marketing Research*. 1992; 29(2): 76–89.
29. Krishnan AR, Hari K. Factors determining customer satisfaction in consumer durable white goods: factor analysis approach. *APJRBM. Sri Krishna International Research and Educational Consortium*. 2011 June; 2(6).
30. Moberg, Anders. Speech by President and CEO Anders Moberg. A hold Annual General Meeting. Amsterdam, The Netherlands; 2016. 06 October 2011 Available from <http://www.ahold.com/node/2347>
31. Ailawadi K, Lehmann DR. Brand equity easily measured by revenue premium. *Marketing News*. 2003; 37(22): 53–4.
32. Daymon C, Holloway I. *Qualitative Research Methods in Public Relations and Marketing Communications*, Routledge: London; 2002.
33. Gianfranco Walsh, Landau Louise M Hassan, Heriot, Edward MK Shiu. Why Consumers Buy Manufacturer Brands – Does Quality Really Matter? University of Strathclyde. ANZMAC; 2009 Abstract.
34. Beauducel A, Wittmann WW. Simulation study on fit indexes in CFA based on data with slightly distorted simple structure. *Structural Equation Modeling*. 2005; 12 (1): 41–75.
35. Browne MW, Cudeck R. Alternative ways of assessing model fit. In: Bollen KA and Long JS, Editors. *Testing structural equation models*. Newbury Park, CA; Sage; 1993: 136–162.
36. Marsh HW, Hau, Kit-Tai, Wen Z. In search of golden rules: comment on hypothesis-testing approaches to setting cut off values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling*. 2004; 11(3): 320–41.
37. Yuan Y, MacKinnon DP. Bayesian mediation analysis. *Psychological Methods*. 2009; 14: 301–322.