



Impact of retailer personality on consumer-based retailer equity

Impact of retailer personality

An empirical study of retail brands

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Abstract

Purpose – The purpose of this paper is to explore the impact of retailer personality on consumer-based retailer equity.

Design/methodology/approach – The authors developed a retailer personality scale and find its impact on consumer-based retailer equity by adopting the scale developed by Pappu and Quester. A mall-intercept survey was undertaken using a systematic sampling of department store shoppers of age 18 years and above in a metropolitan city, Kolkata, India. The questionnaire was used to collect data from seven department retail brands. The impact of each retailer personality dimension on each consumer-based retailer equity dimension was explored, using structural equation modeling.

Findings – The study proposed a five-dimensional scale to measure department store personality. Results indicated that the three dimensions of store personality, namely sophistication, dependability and empathy, have significant positive impact on each consumer-based retailer equity dimension except one (empathy → retailer loyalty). The remaining two dimensions of retailer personality, namely authenticity and vibrancy, have no impact on each consumer-based retailer dimension.

Originality/value – The paper is the first to propose a scale for measuring department store personality and to explore the link between retailer personality and consumer-based retailer equity.

Keywords India, Department stores, Consumer behaviour, Retailer personality, Scale development, Consumer-based retailer equity

Paper type Research paper

1. Introduction

The concept of brand equity has been widely discussed in marketing literature and recently being discussed in retailing literature. Brand equity is conceptualized as the marketing outcome or effect that accrues to a product with its brand name compared to those that would accrue if the same product did not have the brand name (Keller, 2003; Aaker, 1991; Farquhar, 1989). A considerable number of researchers such as Feldwick (1996), Keller (1993), Aaker (1991), Park *et al.* (1991), Aaker and Keller (1990) and Farquhar (1989) had written extensively about the concept of brand equity and about how to build, manage, and extend it. Brand with high level of equity performs a number of salient functions including inelastic price sensitivity, sustained price premiums, successful expansion into new categories, high market shares, competitive cost structures and high profitability (Keller and Lehmann, 2003). The theory of branding and brand management principle can be applied to retail brand or retailer albeit with certain variation (Ailawadi and Keller, 2004). As a result, the concept of retailer equity has recently emerged in the marketing literature, with practitioners (Kramer, 1999) and marketing researchers (Keller, 2003) suggesting that, similar to brands, retailers possess equity (Pappu and Quester, 2006; Arnett *et al.*, 2003) which



is termed as retailer equity (Pappu and Quester, 2008, 2006). Just as brand equity has been referred to as consumer-based brand equity (Pappu *et al.*, 2005; Yoo and Donthu, 2001) which involves a set of memory-based associations to a particular brand that exists in the minds of consumers (Keller, 2003), the equity that consumers associate with a retail brand or retailer is referred to as consumer-based retailer equity (Pappu and Quester, 2006). Much research focuses on developing consumer-based retailer equity measurement tools (Pappu and Quester, 2006; Arnett *et al.*, 2003), no empirical study attempts to understand the process of brand equity formation over time through an examination of antecedents. Likewise, brand personality influences consumer-based retailer equity (Valette-Florence *et al.*, 2011; Aaker, 1996; Keller, 1993), we posit retail brand personality influences consumer-based retailer equity. Thus, the objective of the present study is to explore the impact of retail brand personality on consumer-based retailer equity.

2. Background

In recent years, retailers are facing a challenging environment in terms of more demanding consumers, slow-growth markets, and intensified competition (Bloemer and Odekerken-Schroder, 2002; Sirohi *et al.*, 1998). At a time when retailers face such a challenging environment (Schoenbachler and Gordon, 2002), a better understanding of retailer brand equity is strategically important for retail managers (Pappu and Quester, 2008). The retailer equity could be considered as an important indicator of retailer's performance (Pappu and Quester, 2008). Another study found that retail sales now represent a declining share of consumer expenditures in several Western economies, because of factors such as ageing populations, changing consumption patterns and saturation in demand (Webb, 2000). As a result, brand equity creation has increasing significance for retailers in order to maintain and improve their economic performance (Pappu and Quester, 2006). Indeed, retailers have recognized the power of branding and are increasingly focusing on brand building (Feuer, 2005). For example, the US clothing retailer Abercrombie & Fitch adopted this strategy successfully in the late 1990s to improve sales and profitability (Nannery, 2000). Consumer perceptions in the market place can be apprehended through measurement and tracking of equity associated with a retail brand (Pappu and Quester, 2008). In addition, retailing continues to change with "unprecedented number of mergers and consolidations" (William, 1997, p. 1). Hence:

[...] it would be helpful for the acquiring firm, to look at the equity levels of the target retailer brand, as such intangible assets could serve as surrogate indicators of a target firm's performance (Pappu and Quester, 2008, p. 425).

However, inspite of this increased focus on retail branding, the extant marketing literature offers little insight into the concept of retail brand equity (Pappu and Quester, 2006).

Measuring the personality of retailers is another important antecedent to a firm's economic performance. More than 50 years ago, Martineau (1958) had suggested that a retailer has personality and the measurement of it is possible. Later on several empirical studies had confirmed this phenomenon (Willems *et al.*, 2011; Helgeson and Supphellen, 2004; d'Astous and Lévesque, 2003). Recently retailing researchers aiming at measuring the concept of retail brand personality showed that this concept is a useful tool to position and differentiate retailers (Zentes *et al.*, 2008; Ambroise *et al.*, 2003; Merrilees and Miller, 2001), particularly within the competing markets where objective

differentiation is difficult and thus the new tool becomes highly interesting and attractive for retailers (Louis and Lombart, 2011). Martineau (1958) argued that retail brand personality is very crucial to decide where from consumers buy when price, quality and service are constant. A strong brand personality is invaluable for building consumer-based brand equity (Aaker, 1996; Keller, 1993). Very recent study (Valette-Florence *et al.*, 2011) explored the impact of brand personality on consumer-based brand equity in product branding context. However, retail brand personality is different from product brand personality on two accounts including “the source of inferences of personality construction is different in the two cases and favorableness of traits” (d’Astous and Lévesque, 2003). To our knowledge, till date no study has explored this impact in retail branding context. This gap motivates us to conduct this project in “department retail branding” context. Here the department retail brand means department retail stores as brands (Zentes *et al.*, 2008; Ailawadi and Keller, 2004).

3. Conceptualization of the constructs

3.1 Consumer-based retailer equity

Existing studies provide different conceptualizations of retailer brand equity from consumer-perspective. Different authors used different terms to refer to retailer brand equity. For instance, Hartman and Spiro (2005) had used the term “customer-based store equity” drawing mainly from Keller’s (1993) conceptualization of customer-based brand equity. Based on Keller’s (1993) definition of brand equity, Hartman and Spiro (2005, p. 1113) defined consumer-based store equity as “the differential effect of store knowledge on customer response to the marketing of the store”. However, their conceptualization of “customer-based store equity” does not account for perceived quality and retailer loyalty, the two important dimensions of consumer-based retailer equity (Pappu and Quester, 2006). Arnett *et al.* (2003) used the term “retailer equity” and drew from the services marketing, branding and retailing literatures to conceptualize retailer brand equity. They defined retailer equity as a:

[...] set of brand assets and liabilities linked to a store brand (e.g. Wal-Mart), its name and symbol, that add to or subtract from the perceived value of the store brand by its customers (or potential customers) (p. 168).

However, their definition of retailer equity has been recently criticized on several grounds:

[...] lack of empirical evidence for the structural similarity between brand and retailer equity; lack of clarity regarding the number and nature of dimensions; lack of discriminant indicators for measuring retailer associations (Pappu and Quester, 2006).

Overcoming these limitations and paralleling with Aaker’s (1991) definition of brand equity, Pappu and Quester (2006) by using the term consumer-based retailer equity defined it as “the value associated by the consumer with the name of a retailer, as reflected in the dimensions of retailer awareness, retailer associations, retailer perceived quality and retailer loyalty”. Subsequently Decarlo *et al.*’s (2007) conceptualization of retailer brand equity is similar to that of Hartman and Spiro (2005). Therefore, we have adopted Pappu and Quester’s (2006) definition of consumer-based retailer equity in this study.

3.2 Retail brand personality

Although symbolic use of brand is the recent marketing trend in marketing research, the retail store/brand personality has been discussed almost 50 years ago. Martineau (1958) introduced the idea that stores have personality. Retail brand personality is “the way in which the store is defined in the shopper’s mind, partly by its functional qualities and partly by an aura of psychological attributes” (Martineau, 1958). The potential sources of inference for construction of a retail store/brand personality are layout and architecture, symbols and colors, advertising, and sales personnel (Martineau, 1958). Though, Martineau (1958) used the term retail brand personality in his article, he actually discussed the concept of retailer image which is argued here as a different construct. Retailer image is defined as “a mental representation that encompasses all dimensions that are associated with a store (value for money, product selection, quality of service, etc.)” whereas retail brand personality is “restricted to those mental dimensions that correspond to human traits” (d’Astous and Lévesque, 2003). For instance, though product variety is an important attribute of an overall store image, it is clearly not a personality trait, as it is not attributed to a human being (d’Astous and Lévesque, 2003). Similar argument had been made by Batra *et al.* (1993) in distinguishing between brand image and brand personality. Based on this concept of retail brand personality and following the definition given by Das *et al.* (2012), we define department store personality as “a consumer’s perception of the human personality traits attributed to a department store”. A “department store” is interpreted here as a store that sells apparel and accessories along with household goods and electronics (Ko and Kincaid, 1997).

4. Conceptual framework

Several studies explored the impact of brand personality not only on elements that reflect components or consequences of brand equity but also directly on brand equity. For instance, brand personality influences brand attachment (Sung and Tinkham, 2005), brand trust (Brakus *et al.*, 2009; Hess *et al.*, 2007), brand equity (Valette-Florence *et al.*, 2011). However, very few studies have explored the impact of retail brand personality on elements that reflect components of brand equity. One such eminent contribution is that of Zentes *et al.* (2008) who explored the impact of retail brand personality on store loyalty, a component of retailer equity (Pappu and Quester, 2006). Based on the premise that branding and brand management principles can be applied to retail brands (Ailawadi and Keller, 2004), the direct impact of brand personality on consumer-based brand equity (Valette-Florence *et al.*, 2011) forms the basis of our proposition that there exists a direct impact of retail brand personality on consumer-based retailer equity. Previous studies showed that the measure of both retail brand personality and consumer-based retailer equity are possible and found both of them are multidimensional constructs (Willems *et al.*, 2011; Pappu and Quester, 2006; Helgeson and Supphellen, 2004; Arnett *et al.*, 2003; d’Astous and Lévesque, 2003). Thus, the conceptual framework of this study is as follows (Figure 1).

5. Measures

5.1 Consumer-based retailer equity

Based on the above stated definition of consumer-based retailer equity, Pappu and Quester (2006) proposed a scale to measure consumer-based retailer equity which

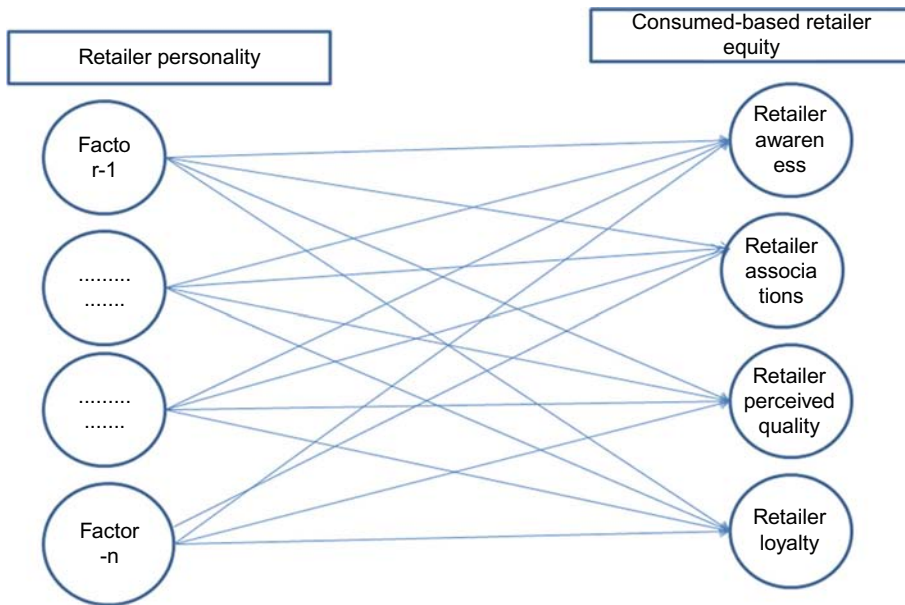


Figure 1. Conceptual framework

consisted of four dimensions including retailer awareness, retailer associations, retailer perceived quality and retailer loyalty. This scale is made based on two retail store categories including department and specialty, and proved its applicability across department stores (Pappu and Quester, 2008). Categorization theory and empirical evidence proved that retailer equity differs from format to format (Pappu and Quester, 2008). A recent study by Pappu and Quester (2008) used the scale developed by Pappu and Quester (2006) to measure equity of department retail and specialty stores and showed “department store brands yielded significantly higher ratings for all the retailer brand equity dimensions than specialty store brands”. Thus, we adopted the consumer-based retailer equity scale proposed by Pappu and Quester (2006).

5.2 Retail brand personality scale

We could have used existing scales of retail brand personality (Willems *et al.*, 2011; d’Astous and Lévesque, 2003). But, we did not as store personality scale is influenced by culture (Willems *et al.*, 2011) and product category (Willems *et al.*, 2011; Brengman and Willems, 2009). In Indian and department store contexts, no study has been found. Thus, because of the cultural and product category contexts of this current study, a department store personality scale was developed especially for this study. The scale development process consisted of two studies-qualitative and purification.

5.2.1 Qualitative study. Qualitative study comprised of store personality trait generation and reduction of it. The store personality traits were generated by two sources-deductive (e.g. adoption from existing studies) and inductive (e.g. individual interview with shoppers). In deductive method, we composed an extensive list of personality items from existing brand scales in marketing namely Aaker (1997) and d’Astous and Lévesque (2003) and personality scales in psychology namely Costa and McCrae’s (1992) revised NEO-PI scale, and Goldberg (1992). Moreover, as

inductive source, 60 Indian adults customers were interviewed individually (30 men and 30 women; age range; 21-53). In interviews we introduced the concept *retail store personality* and the department store personality item elicitation was based on repertory grid analysis, an established qualitative method, suitable for market research (Frost and Braine, 1967) and presently it is being used for scale development (Willems *et al.*, 2011). In particular, we applied the “triadic sorting” procedure in the interviews to elicit department store personality traits (Stewart and Stewart, 1981). The participants were presented with sequential sets of three stores (i.e. “triads”), about which the interviewer asked them the following question: “When considering shopping from these stores, in what important way (in terms of personality), are two of these alike and different to the third?” (Willems *et al.*, 2011; Pike, 2005; Stewart and Stewart, 1981). This process is repeated until the respondent fails to come up with any new adjectives with a maximum of seven triads per respondent. The simplicity of responses elicited from interviewees is an advantage of the technique (Burton and Nerlove, 1976). Data saturation was obtained after completing 60 interviews. The two sources (inductive and deductive) resulted in total 292 personality items. Subsequently, we administered the 292 personality traits to 100 adult shoppers (50 men and 50 women; age range: 19-53) with a seven-point bipolar scale (1 – not at all characteristic and 7 – completely characteristic). With the objective to get more relevant personality traits, the first stage reduction of generated personality traits was done based on the following criteria: the items need to fulfill the minimum cutoff point scale rating of 6, i.e very characteristic (Aaker, 1997), second the selected items should also be rated by at least 25 per cent of the respondents (Helgeson and Supphellen, 2004) and finally these items should be applicable to human beings (Willems *et al.*, 2011; d’Astous and Lévesque, 2003). This process led to dropping several items (e.g. affordable, western) and thereby left us with 54 personality traits, which were taken to the next stage, i.e. purification.

5.2.2 Purification study. A consumer survey was subsequently conducted to assess the factor structure underlying this list of department store personality adjectives and to further refine the item pool. Respondents were asked to select one store from a list consisting of top three department stores (in terms of familiarity). The popularity was measured through a pilot study ($n = 30$) with a seven-point differential scale (1 – not at all popular, 7 – very popular) and the first three mean ratings were ensured by three Indian department retail stores namely, *Pantaloons* (mean-5.92), *Shoppers Stop* (5.86), and *Westside* (5.53). To assess the factor structure underlying this list of department store personality adjectives, we have collected data using questionnaires from Indian adult customers who shop at any of the above mentioned three department retail stores. The questionnaire started with a brief description of the study. Following this description, the respondents were asked to select one department store from the given list and to rate the store on 54 personality traits with the use of seven-point Likert scale (1 – very uncharacteristic, 7 – very characteristic). The order of the presentation of the three retail stores was varied systematically across the participants and three versions of questionnaire presented personality traits and other items in different orders. The other items consisted of demographic profiles (mean age = 31 years, female = 52.0 percent, graduate = 42 percent, post-graduate = 23 percent, mean monthly household income = INR 33,000). The data collection was done using a cross-sectional mall-intercept survey which is very common and popular method in retailing research (Pappu and Quester, 2006, 2008; Helgeson and Supphellen, 2004). Systematic sampling

was used to collect a total of 335 usable responses from a convenience sample of consumers at busy shopping malls or centers located in different places of Kolkata including South City mall, City Centre, Gariahat, Elgin road, and Mani Square mall. Two trained research assistants and the researcher who were there to collect the data approached every 20th mall leaving customer. The data collection was done during different times of the day and on different days of the week and the weekend, to minimize periodicity and non-coverage problems (Pappu and Quester, 2008).

Next, in order to extract the underlying dimensions and further reduction of items into more manageable number, a series of factor analyses with principal components analysis and varimax rotation were iteratively carried out (Netemeyer *et al.*, 2003; Spector, 1992; Briggs and Cheek, 1986). Among the estimated factor structures (of 3 up to 7 factors), the five-factor structure emerged best based on:

- the eigenvalues of each factor being greater than one (24.08, 2.70, 2.23, 1.98 and 1.47, respectively, for five factors);
- total variance explained (61 percent); and
- meaningfulness and easy interpretability.

The subsequent reduction of store personality items proceeded in a sequential manner. After each round of elimination, we concentrated on examining the interpretability of five-factor solution. *First*, the items that loaded on more than one factor as well as those with low factor loadings (<0.60) were eliminated (Geuens *et al.*, 2009; Aaker, 1997; Nunnally, 1978). *Second*, synonyms (e.g. original and genuine, see Table I), were identified and the lowest-loading terms were eliminated (d'Astous and Lévesque, 2003). Thus, at the end of the purification process, 26 personality traits remained. Consequently, we retained 26 personality traits as laid out in Table I of R2 column. Following, the method followed by Geuens *et al.* (2009) we ran factor analysis with the same technique on 26 personality traits. This resulted in five-factor solution that together explained 71.33 percent of the variance and high factor loadings (Table I, R2). Based on the principal components analysis result given in Table I of column R2, an examination of the terms composing each factor led to naming them as follows: *sophistication, empathy, dependability, authenticity, and vibrancy* (Table I).

Subsequently, we carried out confirmatory factor analysis using AMOS (version 18) to reconfirm the result of factor analysis. The results of confirmatory factor analysis indicated that the data fit the five-factor model (allowing covariance among the constructs, e.g. Hair *et al.*, 2008; Aaker, 1997): $\chi^2 = 803.324$ with degrees of freedom = 289, probability level = 0.000, GFI = 0.838, AGFI = 0.804, CFI = 0.919, TLI = 0.909, IFI = 0.919, RFI = 0.864, NFI = 0.879, PNFI = 0.782, PCFI = 0.817, RMSEA = 0.07. All factor loadings were having higher value (0.50 and above, Hair *et al.*, 2008) and are significant at the 0.001 level indicating convergent validity (Kline, 1998; Anderson and Gerbing, 1988). Thus, the results of confirmatory factor analysis reconfirmed the dimensionality of our department store personality scale. The reliability of the department store personality scale dimensions was estimated with Cronbach's α coefficients. The Cronbach's α coefficients of the scale dimensions were 0.937, 0.813, 0.847, 0.896, and 0.926 for sophistications, empathy, dependability, authenticity, and vibrancy, respectively. The Cronbach's α coefficients met the minimum level of 0.70 (Hair *et al.*, 2008; Nunnally and Bernstein, 1994; Fornell and Larcker, 1981; Nunnally, 1978) confirming the reliability of the scale dimensions.

Items	Sophistication		Empathy		Dependability		Authenticity		Vibrancy	
	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2
Glamorous	0.77	0.793								
Trendy	0.724	0.779								
Elegant	0.716	0.794								
Trend setter	0.711	0.756								
Fashionable	0.733	0.732								
Classy	0.685	0.758								
Stylish	0.668	0.691								
Charming	0.643	0.638								
Attractive	0.645	0.613								
Caring			0.692	0.696						
Friendly			0.619	0.721						
Considerate			0.603	0.689						
Dutiful					0.692	0.715				
Punctual					0.683	0.645				
Motivated					0.634	0.761				
Hard working					0.619	0.606				
Realistic					0.625	0.735				
Trustworthy							0.74	0.788		
Reliable							0.73	0.764		
Honest							0.73	0.788		
Original							0.62			
Genuine							0.627	0.68		
Bright									0.744	0.814
Colourful									0.713	0.775
Cheerful									0.725	0.788
Lively									0.718	0.779
Energetic									0.645	0.703

Table I.
Factor loadings of the items retained from the original 54-item pool after the first, and second (R1, R2)

Notes: R1 – reduction from 54 to 27 items; R2 – reduction from 27 to 26 items

6. Research method

The population is composed of all Indian retail shoppers of age 18 years and above who shop from department retail stores. The sampling frame consisted of residents from the metropolitan city, Kolkata of West Bengal in India. The same survey method, sampling technique and data collection tool as discussed in scale development stage were used to collect the data. Total of 355 usable questionnaires were found for seven department retail stores including one international (available in more than one nation) – Marks & Spencer, three national (available in India only) – Shoppers Stop, Westside and Pantaloons, and three regional (available in eastern part of India) – iCore planet, Bazaar Kolkata and Citi mart. The data were collected from different places of Kolkata, India, including Gariahat, Bhowanipur, Barasat, Elgin road, Mani Square mall, Camac street, South City mall, City Centre, Kakurguchi, and Esplanade. The order of the presentation of the seven retail stores was varied systematically across the participants and three versions of questionnaire presented the 26 personality traits measuring the department store personality (as reported in scale purification study) and other items in different orders. The other items consisted of consumer-based retailer equity items and demographic profile (mean age = 33 years, female = 53.0 percent,

graduate = 38 percent, post-graduate = 26 percent, mean monthly household income = INR 31,000). The consumer-based retailer equity items were measured with seven-point Likert scale comprising 1 – strongly disagree and 7 – strongly agree.

6.1 Dimensions of department store personality

For factor structure stability, we ran factor analysis with principal components analysis and varimax rotation and it resulted in same five-factor model (as we got in purification study) with total 68.44 percent variance. The components under each dimension were exactly same as we got in the purification stage. All factor loadings were greater than 0.60 (Nunnally, 1978, see, Table II). The eigenvalues of all five factors were greater than one (*sophistication*-7.061, *vibrancy*-6.157, *dependability*-1.857, *authenticity*-1.617, and *empathy*-1.102). Thus, we confirm the factor structural stability of the scale. Thus, the department store personality scale developed and used in this study comprises of 26 items which resulted in five dimensions.

6.2 Dimensions of consumer-based retailer equity

In order to assess the number of factors and the pattern of loading for consumer-based retailer equity construct in the context of our study, we run factor analysis. The factor analysis with principal components analysis and varimax rotation resulted in four-factor solution with 65.494 percent of total variance. Out of 15 adopted scale items (Pappu and

Scale items	1	2	Dimensions 3	4	5
Fashionable	0.825				
Trendy	0.796				
Glamorous	0.789				
Elegant	0.789				
Stylish	0.781				
Attractive	0.771				
Classy	0.76				
Trend setter	0.752				
Charming	0.6				
Bright		0.887			
Lively		0.858			
Cheerful		0.843			
Colourful		0.805			
Energetic		0.745			
Motivated			0.762		
Hard working			0.757		
Dutiful			0.752		
Realistic			0.732		
Punctual			0.711		
Reliable				0.825	
Honest				0.814	
Trustworthy				0.813	
Genuine				0.768	
Considerate					0.766
Friendly					0.745
Caring					0.744

Table II.
Dimensionality of department store personality scale

Quester, 2006, see the Appendix), the present study considered 12 items based on higher factor loading (> 0.60 , Nunnally, 1978, see, Table III). The 12 items loaded in same four factors: retailer awareness (3 items), retailer association (3 items), retailer perceived quality (3 items), and retailer loyalty (3 items). The internal consistency of consumer-based retailer equity scale dimensions was assessed with Cronbach's α : 0.754 (for retailer awareness), 0.758 (for retailer association), 0.798 (for retailer perceived quality), and 0.750 (for retailer loyalty). All Cronbach's α exceeding 0.70 (Nunnally and Bernstein, 1994) confirmed the internal consistency of the four factors.

7. Data analysis and results

The impact of retail brand personality dimensions on consumer-based retailer equity dimensions was evaluated with structural equation modeling, using AMOS, version 18. Before proceeding with the analysis of structural equation modeling, we checked the violations of structural equation modeling assumptions including independent and random sample, linearity among variables, multivariate normality of the data and sample size (Hair *et al.*, 2008). An independent and random sample was confirmed by the design and execution of the study. Several diagnostic tests available through SPSS and AMOS were used to test remaining assumptions. Linearity was assessed through standardized residuals plots and Q-plots. The residuals fall within a generally random pattern and the residual line closely follows the diagonal indicated no obvious non-linear relationship between the relevant variables. The sample size falls within the recommended number of 150-400 (Hair *et al.*, 2008). The univariate normality of each indicator was assessed with Q-plots and histograms using SPSS. Both the Q-plots and histograms showed all indicators followed fairly normal distribution. Multivariate normality was assessed using AMOS. Multivariate normality was also assessed using Mardia's coefficient (Mardia, 1970), as a rule of thumb, should be within the range of even ± 2.0 (Schumacker and Lomax, 2004). However, Mardia's coefficient suggested that the data did not follow multivariate normality (Mardia's coefficient = 193.951; critical ratio = 33.139).

Presence of outliers may lead to deviation of normality in the data (Byrne, 2010). Mahalanobis distance (Mahalanobis d-squared in AMOS output), is the indicator of presence of outlier in the data (Byrne, 2010). Given the wide gap in Mahalanobis d-square values between Case no. 319 and the second case (no. 342), relative to all other cases,

Scale items	Dimensions of CBRE			
	1	2	3	4
PQ3	0.735			
PQ2	0.726			
PQ4	0.707			
AS3		0.763		
AS2		0.718		
AS4		0.669		
AW2			0.807	
AW3			0.74	
AW1			0.666	
L2				0.863
L3				0.713
L1				0.63

Table III.
Dimensionality
of consumer-based
retailer equity

we judged Case no. 319 to be an outlier and would consider deleting this case from further analyses (Byrne, 2010). Again we run, structural equation modeling with 354 cases and Mardia's coefficient showed that through it has reduced (Mardia's coefficient = 188.880; critical ratio = 32.227), but did not suggest multivariate normality. No further outlier was seen in the output. This violation could have led to an overestimation of the χ^2 -test and underestimation of the fit indices (Byrne, 2010). However, the deviation of normality did not appear to be severe based upon examination of histograms and Q-plots. In addition, the potential problems in structural equation modeling arising from failure to achieve multivariate normality were mitigated by the use of maximum likelihood estimation (Ladhari, 2007; Hayes, 1999) which is claimed to be robust to non-normality (Ladhari, 2007; Joreskog and Sorbom, 1993).

7.1 Structural equation modeling procedures

With the objective of investigating the impact of department store personality on consumer-based retailer equity, we have considered 26 department store personality scale items (developed in this study) and 12 consumer-based retailer equity scale items (Pappu and Quester, 2006). 38 scale items broke out into 9 factors (5 – department store personality and 4 – consumer-based retailer equity). Each factor had a minimum of three number items and maintained the minimum requirement for structural equation modeling (Hair *et al.*, 2008). The proposed structural equation modeling model was tested (with AMOS, version – 18) using covariance matrix of the relevant indicators as input with maximum likelihood estimation method.

7.2 Goodness-of-fit

The proposed model of the study describes the impact of each department store personality dimension on each consumer-based retailer equity dimension. The overall model fit of the proposed structural equation modeling model was assessed using a number of indices furnished in the AMOS output. The initial proposed model showed a significant χ^2 -test ($\chi^2 = 1,240.996$, $df = 635$, $N = 354$, $p = 0.000$) and acceptable goodness-of-fit indices (RMSEA = 0.05; GFI = 0.84; AGFI = 0.81; IFI = 0.92; TLI = 0.91; CFI = 0.92; PNF = 0.77; PCFI = 0.83). However, to find any discrepancy between proposed model and estimated model, we took the help of modification indices (MIs) which was conceptualized as a χ^2 statistic with one degree of freedom (Joreskog and Sorbom, 1993).

Specifically, for each fixed parameter specified, AMOS provides an MI, the value of which represents the expected drop in overall χ^2 -value if the parameter were to be freely estimated in a subsequent run; all freely estimated parameters automatically have MI values equal to zero (Byrne, 2010, p. 86).

Based on the higher value of MIs (Hair *et al.*, 2008), the item 1 and 2, 2 and 3, 8 and 9, and 18 and 19 were allowed to covariate and subsequently the structural equation modeling was analyzed. Taking into consideration the contextual perspective, it seemed reasonable to allow the errors (of the selected items showing higher value of MIs) to covariate as they measure conceptually similar indicators (Byrne, 2010; Hair *et al.*, 2008). The changes based on modification indices resulted in a better fitting model ($\chi^2 = 1,159.108$, $df = 631$, $N = 354$, $p = 0.000$, RMSEA = 0.05; GFI = 0.85; AGFI = 0.82; IFI = 0.93; TLI = 0.92; CFI = 0.93; PNFI = 0.77; PCFI = 0.83).

No further modifications were made and all fit indices indicated a good model fit. Thus, the results of this model are considered as final and reported in this project.

7.3 Construct validity

A number of measures were used to assess the measurement model. The reliability of the model indicators and constructs was first evaluated, followed by discriminant and convergent validity of the model constructs. Out of 38 indicator variables, 32 variables indicated factor loadings greater than 0.70, five variables show factor loadings greater than 0.60 and of one variable show factor loadings greater than 0.50 (Table IV). As a good rule of thumb, is the factor loadings should be 0.50 or higher, and ideally 0.70 or higher (Hair *et al.*, 2008). However, all loadings are significant ($p = 0.000$) and thus confirmed convergent validity of constructs. The composite reliability of the factors are: 0.92 (for sophistication), 0.81 (for empathy) 0.85 (for dependability), 0.92 (for vibrancy), 0.88 (for authenticity), 0.76 (for retailer awareness), 0.76 (for retailer association), 0.80 (for retailer perceived quality), 0.75 (for retailer loyalty). All composite reliability values meeting the minimum standard (with values 0.60 or 0.70 and above, Hair *et al.*, 2008; Bagozzi and Yi, 1988) confirm the internal consistency/unidimensionality of the model constructs. The AVE of all dimensions are: 0.57 (for sophistication), 0.59 (for empathy) 0.54 (for dependability), 0.69 (for vibrancy), 0.66 (for authenticity), 0.52 (for retailer awareness), 0.51 (for retailer association), 0.58 (for retailer perceived quality), 0.50 (for retailer loyalty). All dimensions maintained the minimum criteria of convergent (AVE = 0.50, Hair *et al.*, 2008; Fornell and Larcker, 1981). The value of AVE extracted from two standardized constructs is greater than the square of the correlation between the two constructs (ranges from 0.000 to 0.407) indicating the discriminant validity (Fornell and Larcker, 1981).

7.4 Structural model

Structural model includes the set of dependence relationships linking the constructs in the proposed theoretical model. The hypothesized model proposed the direct impact of each department store personality on each consumer-based department retailer equity dimension. The impacts were assessed through standardized coefficients of the structural equation modeling. The significance of the impact was assessed through t -test and p -values. The results revealed both positive and negative and significant and non significant impacts (Table V). The department store personality dimension, sophistication has positive impact on each dimension of consumer-based retailer equity (*sophistication* → *retailer awareness* = 0.39, $t = 8.41$, $p < 0.05$; *sophistication* → *retailer associations* = 0.50, $t = 11.51$, $p < 0.05$; *sophistication* → *retailer perceived quality* = 0.46, $t = 9.98$, $p < 0.05$; *sophistication* → *retailer loyalty* = 0.31, $t = 6.21$, $p < 0.05$). The next department store personality dimension, dependability has positive impact on each consumer-based retailer equity dimension (*dependability* → *retailer awareness* = 0.23, $t = 7.12$, $p < 0.05$; *dependability* → *retailer associations* = 0.27, $t = 8.91$, $p < 0.05$; *dependability* → *retailer perceived quality* = 0.22, $t = 7.44$, $p < 0.05$; *dependability* → *retailer loyalty* = 0.23, $t = 5.61$, $p < 0.05$). All coefficients are significant at 5 percent level. The department store personality dimension, empathy, shows positive impact to all consumer-based retailer equity- *empathy* → *retailer awareness* = 0.25, $t = 0.96$, $p < 0.05$; *empathy* → *retailer associations* = 0.33, $t = 1.15$,

Impact of retailer personality

Factors/items	Mean	SD	Standardized factor loading	t-value	p-value
<i>Sophistication</i>					
Glamorous	5.35	1.26	0.737	79.72	0
Trendy	5.45	1.22	0.732	84.084	0
Elegant	5.29	1.26	0.743	85.44	0
Fashionable	5.66	1.17	0.855	90.727	0
Classy	5.31	1.3	0.791	76.383	0
Stylish	5.57	1.26	0.821	83.012	0
Trend setter	5.23	1.28	0.749	76.593	0
Attractive	5.58	1.15	0.727	91.262	0
Charming	5.33	1.23	0.592	81.082	0
<i>Empathy</i>					
Caring	5.11	1.21	0.726	79.013	0
Considerate	5.01	1.2	0.767	78.416	0
Friendly	4.95	1.3	0.804	71.459	0
<i>Dependability</i>					
Hard working	5.06	1.27	0.759	74.681	0
Realistic	5.01	1.24	0.714	75.791	0
Motivated	5.08	1.2	0.766	79.232	0
Dutiful	5.25	1.16	0.744	85.031	0
Punctual	5.27	1.2	0.682	82.521	0
<i>Vibrancy</i>					
Bright	5.6	1.3	0.862	80.121	0
Colourful	5.61	1.27	0.742	82.82	0
Energetic	5.42	1.29	0.77	81.102	0
Lively	5.5	1.29	0.86	79.606	0
Cheerful	5.48	1.25	0.898	81.76	0
<i>Authenticity</i>					
Honest	5.2	1.22	0.825	79.795	0
Trustworthy	5.3	1.21	0.865	81.817	0
Reliable	5.24	1.18	0.809	82.958	0
Genuine	5.3	1.26	0.737	78.558	0
<i>Retailer awareness</i>					
AW1	5.33	1.1	0.631	90.625	0
AW2	5.59	1.08	0.752	96.775	0
AW3	5.69	1.09	0.77	97.37	0
<i>Retailer loyalty</i>					
L1	5.29	1.26	0.656	78.824	0
L2	4.95	1.5	0.68	61.729	0
L3	5.15	1.49	0.781	64.882	0
<i>Retailer perceived quality</i>					
PQ2	5.44	1.06	0.769	96.426	0
PQ3	5.36	1.06	0.79	94.581	0
PQ4	5.32	1.1	0.717	90.801	0
<i>Retailer association</i>					
AS2	5.41	1.04	0.679	97.609	0
AS3	5.45	1.05	0.718	97.67	0
AS4	5.56	1.07	0.738	97.622	0

Table IV.
Standardized factor loadings, AVE and CR of DSP and CBRE items/factors

Theoretical relation	Standardized coeff. of proposed model	t-value	p-value
Sophistication → ret. awareness	0.391	8.411	<0.05
Sophistication → ret. association	0.502	11.512	<0.05
Sophistication → ret. perceived quality	0.463	9.982	<0.05
Sophistication → ret. loyalty	0.305	6.218	<0.05
Empathy → ret. awareness	0.25	0.963	<0.05
Empathy → ret. association	0.332	1.15	<0.05
Empathy → ret. perceived quality	0.181	-0.424	<0.05
Empathy → ret. loyalty	0.123	-1.006	>0.05
Dependability → ret. awareness	0.228	7.116	<0.05
Dependability → ret. association	0.268	8.907	<0.05
Dependability → ret. perceived quality	0.221	7.438	<0.05
Dependability → ret. loyalty	0.226	5.61	<0.05
Authenticity → ret. awareness	-0.045	1.813	>0.05
Authenticity → ret. association	-0.123	1.296	>0.05
Authenticity → ret. perceived quality	-0.134	0.324	>0.05
Authenticity → ret. loyalty	-0.13	-0.023	>0.05
Vibrancy → ret. awareness	-0.106	0.142	>0.05
Vibrancy → ret. association	-0.139	-0.339	>0.05
Vibrancy → ret. perceived quality	-0.039	-0.19	>0.05
Vibrancy → ret. loyalty	-0.058	-0.653	>0.05

Table V.
Standardized coefficients
of structural equation
modeling

$p < 0.05$; *empathy* → *retailer perceived quality* = 0.18, $t = (-) 0.42$, $p < 0.05$, *empathy* → *retailer loyalty* = 0.12, $t = (-) 1.006$, $p > 0.05$). Except one regression weight (*empathy* → *retailer perceived quality* = 0.18) rest three weights are significant at 5 percent level. The rest two department store personality dimensions *authenticity* and *vibrancy* showed non-significant negative impacts on all consumer-based retailer dimensions (*authenticity* → *retailer awareness* = $(-) 0.05$, $t = 1.81$, $p > 0.05$; *authenticity* → *retailer associations* = $(-)0.12$, $t = 1.30$, $p > 0.05$; *authenticity* → *retailer perceived quality* = $(-) 0.13$, $t = 0.32$, $p > 0.05$; *authenticity* → *retailer loyalty* = $(-) 0.13$, $t = (-) 0.02$, $p > 0.05$; *vibrancy* → *retailer awareness* = $(-) 0.11$, $t = 0.14$, $p > 0.05$; *vibrancy* → *retailer associations* = $(-)0.14$, $t = (-)0.34$, $p > 0.05$; *vibrancy* → *retailer perceived quality* = 0.04, $t = (-)0.19$, $p > 0.05$; *vibrancy* → *retailer loyalty* = $(-)0.06$, $t = (-)0.65$, $p > 0.05$).

8. Discussion and implication

The objective of this research is to explore the impact of retail brand personality on consumer-based retailer equity in department retail store context. To explore this impact, we have developed a scale to measure department store personality which consists of five dimensions namely sophistication, empathy, dependability, authenticity and vibrancy. This scale is an important contribution to retail branding as there was no scale available in this regard while study argued that retail brand personality varies from format to format (Das *et al.*, 2012; Willems *et al.*, 2011; Brengman and Willems, 2009).

The impact of each department store personality dimension on each consumer-based retailer equity dimension was assessed through standardized regression coefficient of structural equation modeling output. The significance of the impact was assessed through *t*-test and *p*-values. The results indicated both positive and negative significant

and non significant impacts. The standardized regression weights of our proposed model imply that the three department store personality dimensions, *sophistication*, *empathy* and *dependability*, have positive impacts on each dimension of consumer-based retailer equity. Apart from one impact (*empathy* → *retailer loyalty*), all other impacts are significant at 5 percent level. The positive coefficients imply that as the importance of these three department store personality dimensions increases, the rating for the consumer-based retailer equity dimensions increases. The rest two department store personality dimensions, *authenticity and vibrancy*, have negative impact on all consumer-based retailer equity dimensions. However, all impacts are non-significant. The negative coefficients imply that as the importance of these two department store personality dimensions increases, the rating for the consumer-based retailer equity dimensions decreases (and vice versa).

The relationship between retail brand personality and the consumer-based retailer equity is another important contribution to existing knowledge of retail branding, since the issue had never been investigated. In details, as we indicated in the conceptual framework of this study, we explored the impact of each dimension of retail brand personality namely sophistication, empathy, dependability, authenticity and vibrancy on each dimension of consumer-based retailer equity, i.e. retailer awareness, retailer associations, retailer perceived quality and retailer loyalty, respectively.

Our study has several managerial implications. Retail brand personality is an important topic in retail branding research, and the department store personality scale developed in this study should be seen as a first empirical contribution in this area. The scale can prove useful for retailers wishing to understand how their customers perceive their stores and that of their competitors on psychological dimensions. In the booming Indian retail industry, positioning and differentiating are strategic concerns for retailers. The department store personality scale developed in this study can prove useful in this regard.

Regression analysis is an effective tool in identifying those dimensions that appear to be more important in explaining consumer store preferences (Urban and Hauser, 1993). The department store personality scale finds applicability in monitoring changes in store personality over time, particularly in situations where the management of the store plans to modify its personality as perceived by existing and/or targeted customers (d'Astous and Lévesque, 2003).

Building brand equity is an important strategic concern for retailers. This activity generates several benefits such as the ability to leverage one's name by launching store brands and increases revenue and profitability by insulating them from competitors (Ailawadi and Keller, 2004). Our study found that store personality takes an important role in building retail brand equity. In spite of the similarity of products and brands carried by various retailers, the ability of creating a strong store personality can play a vital role in building consumer-based retailer equity. Thus, we encourage retailers to give their brand a perfect and strong personality. Given the relationship between retail store personality and consumer-based retailer equity found in our study, marketing managers can manage and measure retail brand personality, and monitor how consumer-based retailer equity and its various dimensions are affected. Our study found that the different dimensions of store personality affect various dimensions of consumer-based retailer equity differently. It was found that the three store personality dimensions namely sophistication, empathy and dependability influence

various dimensions of consumer-based retailer equity. The other two hypothesized store personality dimensions, namely authenticity and vibrancy, do not influence the dimensions of consumer-based retailer equity. Therefore, we can conclude that the three department store personality dimensions namely, sophistication, empathy and dependability are important for department store managers to build their store equity. So, if a retailer can measure his store's personality using the department store personality scale, he can understand how the personality influences his store's brand equity. For example, if the personality of *Pantaloons*, an Indian department retail store, is found as sophistication, empathy and vibrancy, then the retailers may get a picture from our study on how these personality dimensions influence consumer-based retailer equity dimensions.

9. Limitation and future research

The present study is not free from limitations. The present study involved only one category of retail brand, i.e. department store and conducted in only one city, i.e. Kolkata, India. Therefore, further testing is required before any generalization of these results can be undertaken, as only seven department retail brands were considered. Given the nature of merchandise being sold in different retail formats, the sources of inferences of retail brand personality perception and consumer-based retailer equity can vary. Thus, further research in this area should be done by replicating the present study for different categories of retail formats (like, convenience stores, specialty and hypermarkets) and consumer populations.

Situational influences do explain variance in consumer behavior (Belk, 1975). So, future studies can investigate how different store personality dimensions influence different consumer-based retailer equity under different situational variables (e.g. date, time, mood, Belk, 1975). This study used a mall-intercept sample. Although a mall-intercept sample is more cross-sectional than student samples (Pappu and Quester, 2006), it limits our ability to fully generalize the findings to other samples. Future researchers should endeavour to use probability samples in any further study of retail brand personality. Finally, future study could assess the impact of department store personality on consumer-based retailer equity, across different customer segments (like, male versus female, more experienced in shopping versus of less experienced in shopping, deal-prone versus non deal-prone customers).

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Appendix. Measures of consumer-based retailer equity used in the present study

Retailer awareness

- I am aware of X stores – (AW1).
- Some characteristics of X stores come to my mind quickly – (AW2).
- I can recognize X among other stores – (AW3) (Pappu and Quester, 2006).

Retailer associations

- X offers very good store atmosphere – (AS1).
- X stores offer very convenient facilities – (AS2).
- X stores offer very good variety of products – (AS3).
- X stores offer very good after sales service – (AS4).
- X stores offer very good customer service – (AS5).

Retailer perceived quality

- X stores offer products of very good quality – (PQ1).
- X stores offer products of consistent quality – (PQ2).
- X stores offer very reliable products – (PQ3).
- X stores offer products with excellent features – (PQ4).

Retailer loyalty

- I consider myself loyal to X stores – (L1).
- I will not buy products from other retailers, if I can buy the same item at X stores – (L2).
- X stores would be my first choice – (L3).

Note that X has been replaced by the name of the department store.

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