

**A consumer-based method for retailer equity measurement:
Results of an empirical study**

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Abstract

This research extends the consumer-based brand equity measurement approach to the measurement of the *equity* associated with retailers. This paper also addresses some of the limitations associated with current retailer equity measurement such as a lack of clarity regarding its nature and dimensionality. We conceptualise retailer equity as a four-dimensional construct comprising retailer awareness, retailer associations, perceived retailer quality, and retailer loyalty. The paper reports the result of an empirical study of a convenience sample of 601 shopping mall consumers at an Australian state capital city. Following a confirmatory factor analysis using structural equation modelling to examine the dimensionality of the retailer equity construct, the proposed model is tested for two retailer categories: department stores and speciality stores. Results confirm the hypothesised four-dimensional structure.

Key words: Retailer awareness; Retailer associations; Retailer perceived quality; Retailer loyalty; Retailer equity

1. Introduction

Consumers are known to possess images of brands (Biel, 1992) and countries (Han, 1990). Consumers attach additional *value* to products because of the brand name carried by the product. This added value endowed by a brand name to a product is called brand equity (Farquhar, 1989), a widely researched topic in the marketing literature. Likewise, researchers have also demonstrated that consumers have images of retail stores (e.g., Keaveney and Hunt,

1992; Louviere and Johnson 1990; Mazursky and Jacoby, 1986). As a result, the concept of *retailer equity* has recently emerged in the marketing literature, with practitioners (e.g., Kramer, 1999) and marketing researchers (e.g., Keller, 1998) suggesting that, similar to brands, retailers possess *equity*.

A large stream of literature in the area of retailing has examined the measurement of store image (e.g., Amirani and Gates, 1993; Chowdhury et al., 1998; Golden et al., 1987). Yet, attempts at measuring retailer equity have been fewer and recent, although researchers have suggested that branding and brand management principles could be applied to retail branding (Ailawadi and Keller, 2004). For example, Yoo and Donthu (2001) had recommended extending brand equity measurement methods to measure the equity associated with retailers. Arnett et al. (2003) also recently suggested a method for developing retailer equity indexes. However, there is scope for improvement in the retailer equity measurement methods suggested in the current literature.

The principal objective of the present research is to extend consumer-based brand equity measurement to the measurement of the equity associated with a retailer. The present study also aims to address some of the limitations of current retailer equity measurement methods. Notwithstanding the difficulties associated with the measurement of brand equity, researchers have argued that measuring retailer equity poses additional unique challenges (Ailawadi and Keller, 2004, p. 339). At the same time, accurate retailer equity measurement has become increasingly important in a challenging retailing environment characterised by mergers and acquisitions (William, 1997). For example, the acquiring firms could use retailer equity as an indicator of target retailers' performance in the marketplace.

There are several brand equity measurement approaches based on the consumer perspective (See Pappu et al., 2005 for a recent review). However, we do not aim to evaluate the applicability of all these methods to the measurement of retailer equity. Rather, we focus

on two approaches which were specifically recommended by researchers for retailer equity measurement. More specifically, we apply the consumer-based brand equity measurement approach suggested by Yoo and Donthu (2001) and recently improved by Pappu et al. (2005), to the measurement of retailer equity.

The results of an empirical study, involving the measurement of the equity enjoyed by six retailers across two store categories, are presented in this paper. This paper is organised as follows. First, the current retailer equity measurement methods suggested in the literature are reviewed briefly and the limitations of these approaches are highlighted. The measurement approach proposed in the present study, in relation to current retailer equity measurement approaches, is then justified and the detailed methodology described. The results are discussed next, followed by the managerial implications. The limitations of this research are outlined and future research directions are provided in conclusion.

2. Existing consumer-based retailer equity measurement approaches

A review of the literature on retailer equity measurement reveals two approaches based on a consumer perspective. One approach involves the extension of consumer-based brand equity measurement to the measurement of the equity associated with retailers. Yoo and Donthu (2001) were the first to come up with a consumer-based brand equity scale, advocating its extension to the measurement of retailer equity. According to these pioneering researchers, consumer-based brand equity comprises three dimensions, namely brand awareness/associations, brand loyalty and perceived quality.

The second approach involves the development of retailer equity indexes. According to Arnett et al. (2003), retailer equity is a multidimensional construct comprising of the dimensions: name awareness, retailer associations, service quality and store loyalty. Further, Arnett et al. considered 'product quality' and 'perceived value' as two sub-dimensions of the

retailer associations dimension and suggested developing retailer equity indexes based on all these above dimensions.

Both measurement approaches are similar in that they propose four common dimensions: awareness, associations, quality and loyalty for measuring the equity associated with a retailer. However, they also differ on how they define and measure each of these dimensions.

Awareness: Whereas Yoo and Donthu (2001) treated *awareness* and *associations* as a combined dimension, Arnett et al. (2003), similar to Pappu et al. (2005), considered ‘awareness’ as a distinct dimension of retailer equity. Arnett et al. have used more discriminant indicators for the ‘awareness’ dimension compared to Yoo and Donthu (2001). Arnett et al. have adapted measures for their ‘awareness’ dimension from Yoo et al. (2000).

Associations: While Yoo and Donthu (2001) considered ‘associations’ and ‘awareness’ as a combined dimension, Arnett et al. (2003) treated ‘product quality’ and ‘perceived value’ as two sub-dimensions of their ‘associations’ dimension. However, neither Yoo and Donthu (2001) nor Arnett et al. (2003) have used discriminant indicators for measuring the ‘associations’ dimension, as discussed in the next section.

Quality: Unlike Arnett et al. (2003) who argued that ‘service quality’ was a dimension of retailer equity, Yoo and Donthu (2001), in line with several other brand equity researchers (e.g., Aaker, 1991), consider ‘perceived quality’ as a dimension of the multi-dimensional brand equity construct.

Loyalty: Loyalty has been defined similarly in both measurement approaches. For example, Yoo and Donthu (2001, p. 3) defined ‘brand loyalty’ as “the tendency to be loyal to a focal brand, which is demonstrated by the intention to buy the brand as a primary choice”. Arnett et al. (2003, p. 163) defined ‘store loyalty’, consistent with Oliver (1997, p. 392), as “a deeply held commitment to rebuy or repatronize a preferred product or service consistently in the future”. This definition was similar to the definition of ‘brand loyalty’ adopted in the

marketing literature. That is, the concept of ‘brand loyalty’ has simply been extended to ‘store loyalty’ (Cunningham, 1961; Koo, 2003).

3. Limitations of the current consumer-based retailer equity measurement approaches

3.1. Lack of empirical evidence for the structural similarity between brand and retailer equity

There is an underlying assumption in the current research that the retailer equity dimensional structure parallels that of brand equity. For example, Keller (1998), who was the first to provide a comprehensive discussion on ways retailers can enhance their equity, also refers to retailer equity as ‘retailer brand equity’. As previously mentioned, Yoo and Donthu (2001) suggest that brand equity measurement methods could also be used for measuring retailer equity. More recently, Arnett et al. (2003) have argued that the structure of retailer equity is similar to that of brand equity. However, the literature does not provide any empirical evidence in support of the structural similarity of retailer equity and brand equity. Hence it is important for marketers to empirically examine if the retailer equity structure mirrors that of the brand equity.

3.2. Lack of clarity regarding the number and nature of dimensions

Previous research in this area does not clarify whether ‘awareness’ and ‘associations’ are distinct dimension of retailer equity. In their scale development, Yoo and Donthu (2001) observed only three dimensions for the consumer-based brand equity construct, where ‘brand awareness’ and ‘brand associations’ were combined. This is despite the fact that brand awareness and brand associations are conceptually different (See Aaker, 1991). In light of this, Yoo and Donthu (2001) themselves recommended further examination of the consumer-based brand equity structure. Other researchers (e.g., Washburn and Plank, 2002) who evaluated Yoo and Donthu’s (2001) consumer-based brand equity scale also made similar

recommendations. For their part, Arnett et al. (2003) considered ‘awareness’ and ‘associations’ as distinct dimensions of retailer equity. Recent findings also suggest that brand awareness’ and ‘brand associations’ are distinct brand equity dimensions (e.g. Pappu et al., 2005). Hence, when consumer-based brand equity measurement is extended to retailer equity measurement, it is important for marketers to examine whether ‘awareness’ and ‘associations’ are distinct dimensions of retailer equity.

The extant research also fails to clarify whether ‘perceived quality’ is a distinct dimension of retailer equity. Arnett et al.’s (2003) method does not include perceived quality as a distinct dimension of retailer equity. In fact, Arnett et al. consider ‘product quality’ as a sub-dimension of retailer associations, and their measures for ‘product quality’ are similar to those of Yoo and Donthu’s (2001) ‘perceived quality’. On the other hand, a large stream of marketing researchers, similar to Yoo and Donthu (2001), has considered ‘perceived quality’ as a dimension of brand equity. For example, Aaker (1996a, p. 17) argued that perceived quality is a brand association which should be elevated to the status of a separate dimension of brand equity. Hence, it is important for marketers to understand whether perceived quality is a distinct dimension of retailer equity.

3.3. Lack of discriminant indicators for measuring retailer associations

Current measurement methods do not include discriminating indicators for the ‘retailer associations’ construct. Brand associations are supposed to be derived from its attributes, benefits and attitudes, and a brand image comprises a set of brand associations organised in a meaningful way (Keller, 1993). Consequently, the measures for the brand associations construct should include some of the measures used for measuring brand image. This approach has been adopted by some researchers for the measurement of brand equity (e.g., Cobb-Walgren et al., 1995; Pappu et al., 2005). Extending this logic to retailers, the measures

for ‘retailer associations’ should include some of the measures used for measuring ‘retailer image’.

Measures such as ‘some of the characteristics of the brand come to my mind quickly,’ used for measuring brand associations (e.g., Yoo and Donthu, 2001), do not, however, exactly capture consumers’ associations towards a brand. Hence, by failing to capture discriminant indicators for measuring brand associations, Yoo and Donthu’s method is inherently limited in its capacity to capture retailer equity. Arnett et al.’s (2003) retailer equity measurement also did not include any of the retailer image measures when measuring retailer associations. In fact, the measures for ‘retailer associations’ used by Arnett et al. were adapted from Dodds et al. (1991), and were similar to the measures suggested by Aaker (1991) for perceived quality. Thus, there is scope for improving existing retailer equity measurements by clarifying the measures for ‘retailer associations’.

4. Measurement approach and conceptual domain of retailer equity

4.1. Consumer-based retailer equity

The present study extends the consumer-based brand equity measurement to the measurement of retailer equity, as suggested by Yoo and Donthu (2001). There is no consensus in the marketing literature on what brand equity exactly means. However, most researchers agree that brand equity is the value endowed by the brand name onto the product, in line with the definition provided by Farquhar (1989). While some researchers have defined brand equity based on the price premium a consumer was willing to pay (e.g., Bello and Holbrook, 1995), a large stream of research (e.g., Cobb-Walgren et al., 1995; Washburn and Plank, 2002) has conceptualised brand equity from a consumer perspective. Hence, we also conceptualise retailer equity based on a consumer or marketing perspective.

Recent research has improved the measurement of consumer-based brand equity and provided empirical evidence that consumer-based brand equity is a four-dimensional construct (e.g., Pappu et al., 2005). Accordingly, we define retailer equity 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”. This definition is similar to Aaker’s (1991) definition of brand equity. These four dimensions are similar to the four consumer-based brand equity dimensions reported in the marketing literature.

That is, we agree with Keller (1998) and Yoo and Donthu (2001) that retailer equity is conceptually similar to brand equity. Similar to Yoo and Donthu (2001) and Arnett et al. (2003), we conceptualise retailer equity as a multidimensional construct, from a consumer perspective. However, we also argue that current limitations of brand equity measurement should be addressed before it is translated into a measurement of retailer equity. Furthermore, we believe that it is important to empirically demonstrate the structural similarity of the brand and retailer equity constructs.

Retailer awareness: Our ‘retailer awareness’ dimension adds to Yoo and Donthu’s (2001) ‘brand awareness’ dimension and is similar to the ‘name awareness’ dimension proposed by Arnett et al. (2003). For example, compared to Yoo and Donthu (2001), we include more discriminant indicators for measuring retailer awareness and consider it as a distinct dimension of retailer equity, similar to Arnett et al. (2003). For retailer equity to occur consumers would need to have some form of retailer awareness. Without retailer awareness, consumers would not have perceptions of quality, retailer associations or loyalty towards the retailer. Retailer awareness is defined as “consumer’s ability to recognise or recall that the retailer is a member of certain retailer category”. This definition is similar to Aaker’s (1991) definition of brand awareness.

Retailer associations: Our conceptualisation of the ‘retailer associations’ dimension adds to, and differs from that of Yoo and Donthu’s (2001) ‘brand associations’ dimension and Arnett et al.’s (2003) ‘retailer associations’ dimension. Unlike both Yoo and Donthu (2001) and Arnett et al. (2003), we suggest that the retailer associations dimension is better captured by the inclusion of retailer image measures. Keller (1993), for example, considers an image as a set of associations organised in a meaningful way. The implication is that retailer image measures available in the literature could be used for measuring retailer associations dimension. However, Yoo and Donthu’s (2001) conceptualisation does not include discriminant indicators (e.g., brand image measures) for measuring brand associations dimension. Arnett et al. (2003) do not include discriminant indicators for measuring retailer associations dimension either, as they considered ‘product quality’ and ‘perceived value’ two sub-dimensions of retailer equity. While Arnett et al.’s ‘perceived value’ sub-dimension refers to ‘value’ related associations, their ‘product quality’ sub-dimension mirrors the ‘perceived quality’ dimension proposed in the brand equity literature. Overall, we believe that including more discriminant indicators for this dimension improves the conceptualisation of retailer associations. We also believe that consumers would have associations towards a retailer which would be specific to the store category in question. Further, we define retailer associations as “anything linked to the memory of the retailer”. This definition is similar to Aaker’s (1991) definition of brand associations.

Retailer perceived quality: Our conceptualisation of ‘retailer perceived quality’ is similar to that of Yoo and Donthu’s (2001) ‘perceived quality’ but differs from Arnett et al.’s (2003) ‘service quality’. Unlike Arnett et al. (2003) who proposed ‘service quality’ as a dimension of retailer equity, we treated ‘retailer perceived quality’ as a separate dimension of retailer equity. We did not consider ‘service quality’ as a dimension of retailer equity. The ‘retailer perceived quality’ is not the objective quality of the retailer. Rather it is the

perception of quality (e.g., Zeithaml, 1988) of the retailer according to the consumer. A large stream of the brand equity literature (e.g., Aaker 1991, 1996a; Yoo et al., 2000) considered perceived quality as a separate dimension of brand equity. Indeed, Aaker (1991, p. 17) argued that “Perceived quality is a brand association that is elevated to the status of a brand asset [dimension].” A product could be a good or a service on the goods-services continuum (Kotler et al., 2004). Hence, we focused on the perception of the quality of the retailer as well as the (perception of) quality of products (goods or services) offered by them.

Retailer loyalty: We conceptualised ‘retailer loyalty’ similar to Yoo and Donthu’s (2001) ‘brand loyalty’ and Arnett et al.’s (2003) ‘store loyalty’. Loyalty has been defined both attitudinally and behaviourally. Retailer loyalty is the consumer’s intention to be loyal to a particular retailer. We define retailer loyalty as “the tendency to be loyal to a focal retailer as demonstrated by the intention to buy from the retailer as a primary choice” in accordance with Yoo and Donthu (2001, p. 3), based on consumer attitudes not on their behaviour.

5. Research method

The study was conducted in 2004 at an Australian Capital city. Data were collected through mall-intercept surveys where consumers were asked to complete a self-administered questionnaire. Items identified from the literature review helped in the construction of the survey instrument. Exploratory factor analysis, followed by confirmatory factor analysis, was used for establishing the dimensionality of retailer equity. Structural equation modelling (AMOS) was used for the confirmatory factor analysis.

5.1. Sample

In the light of the objectives of the study, the survey population was identified as people aged between 18 and 65, who have purchased products from any retail store. A convenience

sample of 601 consumers was drawn using systematic sampling. Confirmatory factor analysis including 23 variables requires a minimum sample size of 230. Given the inclusion of two categories of retailers, we needed a minimum sample size of 460.

Trained research assistants were used for the data collection. The data were collected during different days of the week as well as at weekends in order to improve the representativeness of the sample. Respondents were approached at a central CBD shopping precinct. All selected retailers have stores in this location chosen as the venue for data collection. The purpose of the study was explained and respondents were then asked to fill in the questionnaires in the shopping mall.

5.2. Store categories

The study was conducted for two store categories: department stores and specialty stores. We selected these two store categories in such a way that most respondents were able to evaluate them. Indeed, most respondents had purchased products from these stores, as our results indicated. The store categories selected were also different in terms of consumer involvement, price, and associated risk. Three retailers were included in each store category. Myer, Target and David Jones, were the three department stores included. Country Road, Fletcher Jones and Jeans West were the speciality stores (clothing) included. All these retailers are widely available to Australian consumers in each of the two store categories.

Myer is Australia's largest department store retailer with 61 stores nationwide. Myer retails a broad range of merchandise including women's and menswear, homewares, electrical goods, books and music (Myer Ltd., 2004). Myer is owned by the Coles Myer group, Australia's largest retailer with revenues of AUD \$32.26 billion in 2004 (Coles Myer Ltd., 2004, p. 28). David Jones is the second largest department store chain in Australia. David Jones has 35 stores across Australia (David Jones Ltd., 2004). David Jones is considered an

upmarket department store compared to Myer. Target is also a retail brand owned by the Coles Myer group, with 250 stores across Australia (Coles Myer Ltd., 2004). Target is considered a discount department store.

Country Road is considered an upmarket clothing retailer, which has 39 stores across Australia (Country Road, 2005). Fletcher Jones is a retailer of men's and women's clothing with 50 stores across Australia (Fletcher Jones, 2005). Jeans West, owned by the Hong Kong based Glorious Sun group, is a specialty apparel retailer and has 185 stores in Australia (Jeans West, 2005). Coles Myer, David Jones, and Country Road are public listed companies in Australia whereas Fletcher Jones and Jeans West are privately owned entities.

5.3. Survey instrument

The questionnaire contained two sections. In section one, the 23 items identified from the literature review were used for measuring retailer equity. Section two of the questionnaire included questions on demographics. Two different versions of the questionnaire were used, one for each store category. Respondents were randomly assigned to one store category and were asked to rate a series of retailer equity measures for all the three retailers in the given store category. A Likert-type scale of 1 to 7 was adopted for all retailer equity measures, using the anchors 'strongly disagree' (1) and 'strongly agree' (7).

5.4. Measures

This section provides a discussion on the measures employed in the present study as well as the justification for their choice. Measures for retailer equity were adapted from the branding and retailing literatures. The list of 23 original items included in the study is provided in Appendix A. These items were checked for their relevance to the two store

categories included in the present study, with a judgment sample of actual consumers, leading to certain items being deleted or reworded.

We adapted four measures for retailer awareness, three of which were selected from the brand equity and retailer equity studies (e.g., Aaker, 1991; Yoo et al., 2000; Yoo and Donthu, 2001). These measures have also been adapted by Arnett et al. (2003). We also included an additional item (e.g., I have shopped at XYZ store before). Retailer awareness does not refer to consumers' mere knowledge of the retailer but it also refers to consumer's ability to recall the retailer. For example, one of the measures employed refers to consumers' ability to recall some characteristics of the retailer. Overall, we included more discriminant indicators for the retailer awareness dimension, similar to Arnett et al. (2003), compared to those proposed by Yoo and Donthu (2001).

We suggest the inclusion of the retailer image dimensions as measures for 'retailer associations'. For example, some researchers have used brand image measures for the measurement of brand associations (e.g., Cobb-Walgren et al., 1995; Pappu et al., 2005). Though there is no consensus in the retailing literature on the number and nature of dimensions for retailer image (Koo, 2003), retailer image is known to be multidimensional (Porter and Claycomb, 1997). Hence, we adapted measures for the retailer associations dimension not only from the brand equity literature (e.g., Aaker, 1991; Sinha and Pappu, 1998), but also from the retailer image literature (e.g., Koo, 2003) [1]. For example, we treated 'customer service' and 'value for money' as retailer associations as per advice from Koo (2003). The brand equity literature (e.g., Aaker, 1991) suggests that 'organisational associations' are part of consumers' brand associations. Hence, extending this to retailers, we used 'liking', 'trust' and 'pride' as retailer associations. While Yoo and Donthu (2001) included measures such as 'some characteristics of the brand come to my mind', for measuring retailer associations, we agree with Arnett et al. (2003) in considering such

measures as more relevant for measuring the retailer awareness dimension, and hence left them out. Though retailer associations should ideally be store category specific, some researchers (e.g., Arnett et al., 2003) have chosen to use retailers associations deemed “general enough to be used by most retailers” (p. 161). In the present study, therefore, we also included ten retailer association measures thought to be ‘general enough’ to represent both categories of retailers included in the present study.

For retailer perceived quality, we adapted five measures used by most brand equity researchers (e.g., Aaker 1991, 1996a; Yoo et al., 2000; Yoo and Donthu 2001). For example, we used ‘excellent features’ as a measure of retailer perceived quality as per advice from Aaker (1991), one of the pioneers in brand equity research, who considered ‘excellent features’ as a measure of perceived quality. Since retailer perceived quality refers to the consumers’ perception of the quality of the retailer, we have focused on drawing respondents’ attention to the quality of the retailer as well as on the quality of goods or services offered by the retailer. Hence, our attempt to get the respondents to rate the quality of ‘products’ offered by the retailer. A ‘product’ could be ‘an almost pure service’ or ‘an almost pure physical goods’ on the goods-service continuum (Kotler et al., 2004, p. 388).

We also included four measures for retailer loyalty adapted from the brand equity literature (e.g., Yoo et al., 2000; Yoo and Donthu, 2001). These measured have also been adapted by Arnett et al. (2003) and used for the measurement of retailer equity.

5.5. Analysis procedures

Confirmatory factor analysis using structural equations modelling, was used for testing the multidimensionality of the retailer equity construct. The 15 items obtained from the exploratory factor analysis of the original pool of 23 retailer equity measures served as indicator variables in the confirmatory factor analysis [2]. Based on the results of exploratory

factor analysis, one item was dropped from each of the dimensions *retailer awareness*, *retailer loyalty*, and *retailer perceived quality*, and five were deleted from the original ten measuring *retailer associations*. The item ‘I have shopped at XYZ stores before’ was dropped because of its low communality values across the six retailers. The item ‘XYZ stores would be my preferred choice’ was dropped from the ‘retailer loyalty’ dimension and the item ‘XYZ stores offer very durable products’ was deleted from the ‘retailer perceived quality’ dimension because they did not load onto their respective factors across all the six retailers. As previously mentioned, we wanted to arrive at a pool of items that would be ‘general enough’ to represent the *retailer associations* dimension for both product categories included in the study. Hence we started with a slightly larger initial pool of items for this dimension. Five items, including four related to ‘organisational associations’ and one related to ‘retailer image’ were dropped, as they did not load on to the factor ‘retailer associations’ across the six retailers.

As shown in the path diagram (See Figure 1), five indicator variables were available for the construct *retailer associations* (X_4 , X_5 , X_6 , X_7 and X_8). Three indicator variables were available for each of the constructs *retailer awareness* (X_1 , X_2 and X_3) and *retailer loyalty* (X_{13} , X_{14} and X_{15}). The construct *retailer perceived quality* has four indicator variables (X_9 , X_{10} , X_{11} and X_{12}).

Insert Figure 1 about here

Each retailer equity dimension was operationalised as the average of the consumer’s rating of the Likert-type items loading on it. The measurement model was estimated based on a covariance matrix. The model was estimated using the maximum likelihood estimation method, which is known to perform reasonably well under a variety of less-than-optimal

conditions such as small sample sizes or excessive kurtosis (Hoyle and Panter, 1995). The final parameter standard errors were estimated through bootstrapping based on 2000 re-samples.

6. Results and discussion

The sample size employed was within the acceptable limits for confirmatory factor analysis, for both department stores and specialty stores (See Table 1). The ratio of respondents to observed variables (15) for both department stores (Myer 20.9; Target 20.7; David Jones 19.7) and for specialty stores (Country Road 15.3; Fletcher Jones 10.5; Jean West 17.3) was greater than 10. The ratio of respondents to estimated parameters (11) for both department stores (Myer 28.5; Target 28.2; David Jones 26.9) and specialty stores (Country Road 20.9; Fletcher Jones 14.3; Jean West 23.5) was also greater than 10. A ratio of minimum 10 respondents per parameter is considered appropriate (Hair et al., 1998, p. 604) for structural equation modelling.

Insert Table 1 about here

The results of the confirmatory factor analyses conducted to examine the dimensionality of retailer equity are summarised in this section. Three measurement models were established to examine the dimensionality of the construct retailer equity. Model A was a single factor model. Model B was a three-factor model in which the dimensions 'retailer awareness' and 'retailer associations' were combined, as suggested by some researchers (e.g., Yoo and Donthu, 2001). Model C was the hypothesised four-factor model in which 'retailer awareness', 'retailer associations', 'retailer perceived quality', and 'retailer loyalty' were the

hypothesised dimensions of retailer equity. A large body of research supports this four-factor model (e.g., Aaker, 1991; Cob-Walgreen et al., 1995; Pappu et al., 2005).

Model A resulted in a poor fit for all the six retailer brands: It yielded unacceptable levels of GFI ($0.76 <$), RMSEA (>0.1) and Normed Chi-square values (>5) for all the six retailers. Model B also exhibited poor fit as reflected by unacceptable levels of RMSEA values (ranging 0.080 to 0.131) for all six retailers. The results of model C are discussed next. The hypothesised loading structure for model C is shown in Figure 1.

A total of six separate confirmatory factor analyses were carried out: three were conducted within each store category, one for each retailer. The results were first examined for offending estimates. No offending estimates (e.g., negative variances, non-significant error variances, correlations larger than one in magnitude and covariance or correlation matrices which were not positive definite) were present. The goodness-of-fit of the confirmatory factor models was then assessed. The hypothesised model was supported by values of various measures of fit as discussed below.

6.1. Goodness-of-Fit criteria

The absolute fit measures indicated an acceptable level fit for the proposed model, in each of the six analyses. The Chi-square values for both department stores and specialty stores were statistically significant at $p < 0.001$ level (See Table 1). However, the Chi-square test is known to be less reliable, with a great tendency to indicate significant differences, when sample sizes are outside of the range from 100 to 200 (Hair et al., 1998). Hence, other measures were also examined. The GFI values indicated an acceptable level of fit for each model. The GFI values for both department stores and specialty stores were higher than or very near to the cut-off value of 0.9 (See Table 1). The RMSEA values also indicated an acceptable level of fit for each model. RMSEA values ranging from 0.05 to 0.08 are

considered acceptable, with values equal to or above 0.1 indicating unacceptable levels of fit (Browne and Cudeck, 1993). The RMSEA values were just within the acceptable range of 0.080 or less, for both department stores and specialty stores as shown in Table 1.

All the incremental fit measures exceeded the heuristic critical value of 0.9, further supporting the proposed model. The TLI values, IFI values and CFI values for both department stores and specialty stores all indicated excellent fit and were well above the cut-off value of 0.9 (See Table 1).

The parsimonious fit measure selected indicated an acceptable level of model parsimony. The Normed Chi-square values for both department stores and specialty stores were around 3.0 and were well below the upper cut-off value of 5.0 (See Table 1). An examination of the normalised residuals revealed that none of the normalised residuals exceeded the value of + 2.58.

6.2. Parameter estimates of the measurement model

After establishing that the hypothesised model fitted the data reasonably well, for all retailers, we assessed the parameter estimates of the measurement model. Correlated factors were hypothesised in the model. The parameter estimates, along with their associated bootstrap standard errors are summarised in Table 2, which show that all indicator variables loaded their hypothesised factors in a statistically significant ($p < 0.05$) manner. The respective matrices of construct correlations appear in Table 3. In all cases, parameter estimates fell well outside the range of + 2 bootstrap standard errors, indicating a significant non-zero estimate.

Insert Tables 2 & 3 about here

6.3. Reliability and discriminant validity

For both department stores and specialty stores, each of the four exogenous constructs (retailer awareness, retailer associations, retailer perceived quality and retailer loyalty) exceeded 0.70 (See Table 3), the level suggested in the literature for reliability (Hair et al., 1998, p. 612). All four exogenous constructs exceeded the suggested level of 0.50 for variance extracted in the selected product categories of department stores and specialty stores. Thus, all the specified indicators were sufficient in their specification of the constructs, as indicated by the reliability and variance extracted estimates [3]. The average variance extracted for each dimension was greater than the squared correlation between the dimension and any other dimension, indicating the discriminability of the dimensions (Fornell and Larcker, 1981).

6.4. Factor comparison

The factors that emerged from each of the six retailers were then compared based on their *number*, *complexity* and *configuration* (Rummel, 1970). The factor comparison clearly indicated that the same set of factors existed across the six retailers. *Complexity* refers to the degree to which different variables loaded on to factors. Table 2 showed that similar variables loaded onto similar factors to a similar degree for all the six retailers. *Configuration* refers to the pattern and magnitude of the loadings of the variables. Table 2 shows that, similar variables also loaded onto similar factors for all the six retailers. The Root Mean Square Coefficients (RMSC) values for all the six retailers were nearer to zero, indicating that the factors revealed by all the retailers were similar in both magnitude and direction. If the magnitude of RMSC is zero, the two factors being compared are similar in magnitude and direction. As RMSC departs from zero, the two factors being compared are less alike (Rummel, 1970, p. 461). The Coefficient of Congruence (CC) values for all six retailers were

nearer to +1.0, indicating that the factors revealed for all six retailers had nearly perfect similarity. A value of zero indicates dissimilarity of the two factors being compared (Rummel, 1970, p. 461). Thus, pattern similarity as well as magnitude similarity of the factors from the six retailers was established.

6.5. Predictive validity

Concurrent validity (Churchill, 1999, p. 453), a type of predictive validity, was established for each of the six retailers included in our study. The product-market based measure of price premium may be the ‘best single measure of brand equity available’ (Aaker, 1996a, p. 321), yet the use of price premium is considered problematic for the validation of retailer equity (Ailawadi and Keller, 2004) [4]. Hence, we did not use price premium for examining the predictive validity of retailer equity in the present study. Rather, we examined the relationship between retailer equity and consumers’ satisfaction with a retailer.

Customer satisfaction is known to be related to variables such as perceived quality (Bitner and Hubert, 1994) and loyalty (Cronin and Taylor, 1992). One would expect consumers highly satisfied with a retailer to exhibit higher levels of retailer equity than their less-satisfied counterparts. A MANOVA was conducted, for each of the six retailers, with the retailer equity variables as the dependent variable set and customer satisfaction level as an independent variable. As expected, the results of MANOVA indicated that retailer equity varied significantly according to consumer satisfaction levels with the store for each retailer in both store categories establishing predictive validity [5]. Higher satisfaction levels led to higher value being associated with the name of a retailer, demonstrating predictive validity.

6.6. *Construct validity*

We compared the equity associated with a retailer with their financial performance (e.g., sales revenue for the year ending 2004), for the six retailers included in the present study. Extant research has demonstrated that a firm's brand equity is positively associated with its financial performance measure of sales revenue (Kim et al., 2003). A second order factor analysis was conducted with the four interval-scale retailer equity variables used in the form of unit-weighted scores. A principal component analysis with Promax rotation produced a single factor solution for each of the six retailer brands. This suggests that the four retailer equity dimensions, together, form a higher order construct 'retailer equity'. A mean score of the four retail brand equity dimensions was obtained for each of the six retail brands and subsequently used as the retail equity score to establish construct validity. We used equal weighting for each dimension to determine the overall retailer equity score. Other researchers (e.g. Cobb-Walgren et al., 1995) had used a similar approach to come up with an overall equity score when measuring brand equity. The correlation between retailer equity and sales revenue was strong and significant (Kendall's Tau = 0.733; $p = 0.039$; $n = 6$), demonstrating construct validity. Myer and David Jones enjoyed similar levels of overall retailer equity whereas Target had comparatively lower overall retailer equity levels. Jeans West enjoyed a higher level of overall retailer equity compared to Country Road, followed by Fletcher Jones. The overall retailer equity levels for both department stores and speciality stores were consistent with consumer general perceptions of these stores.

6.7. *Content validity*

We believe our retailer equity measure also possesses content validity. A large stream of research (e.g., Cobb-Walgren et al., 1995; Washburn and Plank, 2002) has demonstrated the notion of consumer-based brand equity. Researchers have argued that branding and brand

management principles are applicable to retail branding (e.g., Ailawadi and Keller, 2004) and that consumer-based brand equity measurement could be extended to the measurement of retailer equity (e.g., Yoo and Donthu, 2001). In the present study, we extended the consumer-based brand equity measurement to the measurement of retailer equity. Recent research provides empirical evidence that consumer-based brand equity is a four-dimensional construct (e.g., Pappu et al., 2005). The four retailer equity dimensions included in the present study mirror the four consumer-based brand equity dimensions. As mentioned previously, the measures for the retailer equity dimensions (See Appendix A) were compiled from an exhaustive search of the branding and retailing literatures.

7. Conclusions

7.1. Theoretical and managerial implications

The principal objective of the present research was to apply consumer-based brand equity measurement to the measurement of equity associated with retailers. We also aimed to examine the dimensionality of the retailer equity construct and to improve its measurement. The present study extends Aaker's (1991) framework of brand equity and Yoo and Donthu's (2001) framework of consumer-based brand equity to the domain of retailer equity. In this study, we empirically demonstrate that retailer equity structure parallels that of brand equity. Hence, the results of the present study confirm the assumptions of several previous researchers (e.g., Yoo and Donthu, 2001) that the structure of retailer equity mirrors that of brand equity. At the time of writing, there were no other studies, which attempted retailer equity measurement, based on a consumer perspective. Hence, the present study contributes to knowledge by being one of the first studies providing a consumer-based measure for retailer equity and empirical evidence.

Some researchers have suggested the use of a relative measure for the measurement of brand equity. One of the methods proposed under this approach involved the use of consumer preference ratings for branded product versus an unbranded product (e.g., Aaker, 1996b). Extending this approach to retailers, this type of measurement is feasible only when an unbranded retailer is available for comparison. Further, such methods are of limited use to marketing managers since brand equity is not broken into components that can be related to factors such as favourable customer perceptions (Sinha and Pappu, 1998; Sinha et al., 2000). By contrast, the method proposed in the present study used an absolute measure for the measurement of retailer equity, and avoids the limitation associated with relative measures. Thus, the method used in the present study is an improvement as it involved subdividing brand equity of a retailer into four dimensions, namely retailer awareness, retailer associations, retailer perceived quality and retailer loyalty.

The present research, one of the few studies examining the issue of measurement of retailer equity, addressed the limitations of previously suggested retailer equity measurement approaches and confirmed the nature and dimensionality of the retailer equity construct. Our results demonstrate that retailer equity is a four-dimensional construct and that perceived quality is a distinct dimension of retailer equity, as suggested in the brand equity stream of research. They also suggest that awareness and associations are two distinct dimensions. Further, unlike previous methods in the area of retailer equity, the present study used discriminant indicators for measuring retailer associations.

Our results have several implications for marketing managers. Retailing is facing an immensely competitive environment (Popkowski-Leszczyc et al., 2000). In such a context, marketing managers could use the retailer equity as a performance indicator. Better measurement and tracking of retailer equity could contribute to informed decision-making.

For example, clear identification of various retailer equity dimensions should help marketing managers to design better positioning strategies.

“The environment in which the consumer must plan and execute his/her behaviour has become increasingly complex” (Hansen and Solgaard 2004, p. 112). In such a complex environment it would be useful for marketers to build retailer equity. The retailer equity dimensions identified in the present study could help marketing managers alleviate the complexities in consumer decision making. For example, any measures aimed at improving retailer awareness, retailer perceived quality, retailer associations and retailer loyalty could reinforce consumer perceptions, making decision less complex for them.

7.2. Limitations and future research directions

Despite the contribution of this study, our results must also be considered in the light of some limitations. First, we used only aided recall as a measure for retailer awareness. Researchers (e.g., Aaker, 1991) have argued that both aided and unaided recall measures should be used for measuring awareness. This might have biased the results and future researchers should also include unaided recall measures for measuring retailer awareness.

Researchers (e.g., Yoo and Donthu, 2001) have recommended including brand personality measures in the measurement of brand equity. Recently, the concept of store personality has been proposed (See d'Astous and Levesque, 2003) and future researchers may decide to incorporate store personality measures in the measurement of retailer equity.

Recent research suggests that store image dimensions such as *access*, *store atmosphere*, *price perception* and *within and between category assortment* help consumers develop certain utilitarian and hedonic retail brand associations (Ailawadi and Keller, 2004, p. 340). The present study included measures for the *access* and *store atmosphere* and *within and between category assortment* dimensions. Future researchers should incorporate measures for store

image dimensions such as *price perception* when measuring the *retailer associations* dimension [6].

In addition, consumers are known to possess price-related associations towards a retailer because of the retailers' use of pricing strategies such as Hi Lo (HILO) pricing or Every Day Low Pricing (Ailawadi and Keller, 2004). Hence, consumers' price-based associations could be part of 'retailer image' and, consequently, of the 'retailer associations' dimension of retailer equity. Hence, future researchers should include price-based associations when measuring retailer equity [7].

The present study used a set of retailer associations which were considered 'general enough' to represent both product categories included in the study. Retailer associations may well be store category specific (Arnett et al., 2003) and future researchers should use category specific retailer associations for measuring retailer equity.

Furthermore, we adapted measures from the literature for retailer associations. Keller (1993) suggested three types of associations: attributes-based, benefits-based, and attitudes-based. Since the dimension 'retailer association' could be store category specific, future researchers should use qualitative research such as focus groups to elicit category-specific retailer associations for incorporating them in the measurement.

Retailer equity measurement would also benefit the measurement of the equity associated with retailer extensions [8]. Though not very often, there are instances of retailer extensions such as McDonalds' McCafe. Researchers could examine whether consumers associate different levels of equity with retailer extensions such as McCafe compared to the parent brand of retailer, McDonald's.

New forms of retailers are emerging with the advent of Internet technologies (Burt and Sparks, 2003). Future researchers may want to examine if the retailer equity dimensions identified in the present study, for the 'brick-and-mortar' retailers, would remain valid for

online retailers. Future research may also examine other store categories, as our study only examined the dimensionality of retailer equity in two store categories: department stores and clothing stores.

Some authors (e.g., Collins-Dodd and Lindley, 2003) observed a positive relationship between consumers' perceptions of a store's own brands and the concerned retailer's image. Future research could examine for possible relationships between a retailer's own brands and the retailer's equity.

As previously mentioned, in general, price premium could be an appropriate measure for brand equity. However, the use of price premium is problematic for the validation of retailer equity (Ailawadi and Keller, 2004). This is because of a major difference between brand equity and retailer equity: while consumers might pay a price premium for certain high equity brands, there is no extra premium consumers are willing to pay to shop at a particular high equity retailer. Hence, a better measure for retailer equity may be based on location, or the extra distance consumers are willing to travel to shop at a particular retailer. Future researchers should use location based measures for the validation of retailer equity [9].

Finally, our study used a mall-intercept sample. Although a mall-intercept sample is more cross sectional than student samples, it limits our ability to fully generalise the findings to other samples. Future researchers should endeavour to use probability samples in any further study of retailer equity. Further, future research could examine whether retailer equity varies according to consumers' shopping frequency. Frequent shoppers could be less loyal to a retailer than their less-frequent-shopping counterparts. Indeed, frequent shoppers have been shown to change stores more often (Popkowski-Leszczyc and Timmermans, 1997).

Appendix A - Measures included in the main empirical study**Table A.1** Measures used in the main empirical study^a

Dimension Measure	Source
<i>Retailer awareness</i>	
1. I have shopped at XYZ stores ^b . *	Aaker (1991)
2. Some characteristics of XYZ stores come to my mind quickly.	Arnett et al. (2003) Pappu et al. (2005)
3. I am aware of XYZ stores.	Yoo and Donthu (2001)
4. I can recognise XYZ among other stores.	
<i>Retailer associations</i>	
5. I like XYZ stores. *	Aaker (1991)
6. I would feel proud to shop at XYZ stores. *	Koo (2003)
7. I trust XYZ as a supplier of products. *	Pappu et al. (2005)
8. XYZ stores are conveniently located. *	
9. XYZ store merchandise offers value for money. *	
10. XYZ offers very good store atmosphere.	
11. XYZ stores offer very convenient facilities.	
12. XYZ stores offer very good customer service.	
13. XYZ stores offer very good variety of products.	
14. XYZ stores offer very good after sales service.	
<i>Retailer perceived quality</i>	
15. XYZ stores offer products of very good quality.	Aaker (1991)
16. XYZ stores offer products of consistent quality.	Aaker (1996)
17. XYZ stores offer very durable products. *	Pappu et al. (2005)
18. XYZ stores offer very reliable products.	Yoo et al. (2000)
19. XYZ stores offer products with excellent features.	
<i>Retailer loyalty</i>	
20. XYZ stores would be my preferred choice. *	Aaker (1991)
21. I consider myself loyal to XYZ stores.	Arnett et al. (2003)
22. I will not buy products from other retailers, if I can buy the same item at XYZ stores.	Yoo and Donthu (2001)
23. XYZ stores would be my first choice.	

Note:

^a The items were presented in a different order in the questionnaire so as to avoid any order bias.

^b XYZ was replaced by the name of the retailer in the questionnaire.

* Items that were eliminated based on the results of exploratory factor analysis.

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Notes

1. Koo (2003) was the most recent research that reviewed the concept of store image at the time of conceptualisation of the present study.
2. The details of exploratory factor analysis were not included in this paper because of space constraints, but can be provided upon request from the first author.

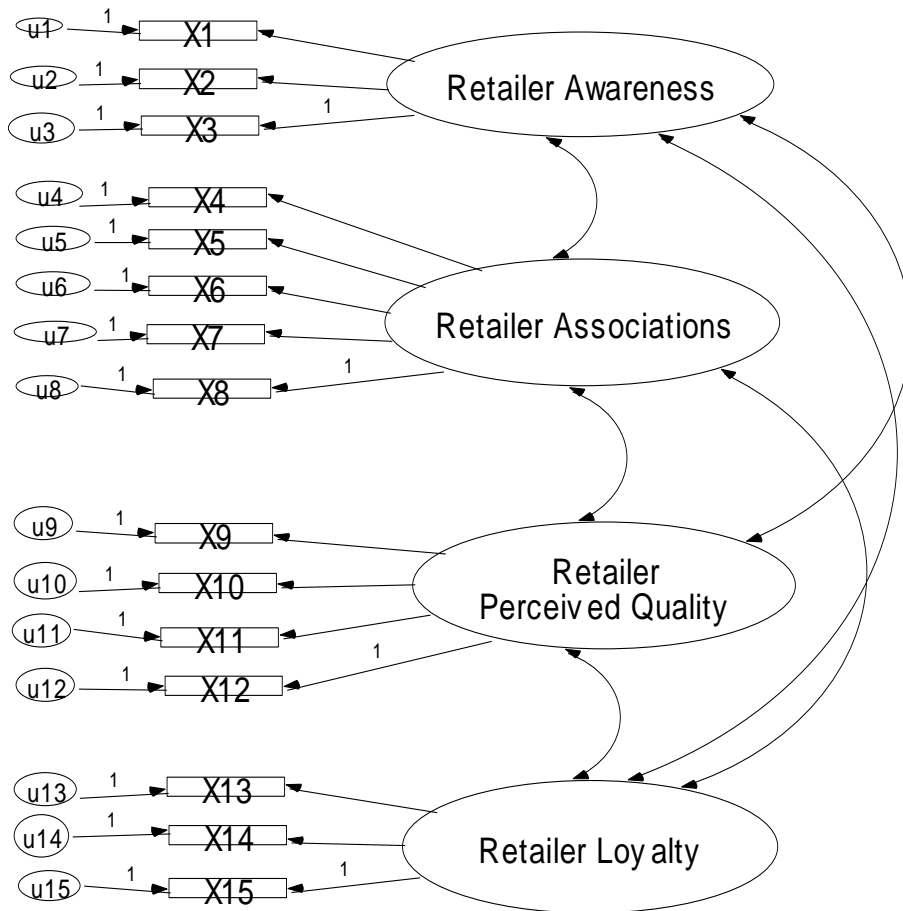
3. The reliability and the variance extracted were calculated as per the following formulae (Hair et al., 1998, p. 624).

$$\text{Construct Reliability} = \frac{(\text{Sum of standardised loadings})^2}{(\text{Sum of standardised loadings})^2 + \text{Sum of indicator measurement error}}$$

$$\text{Variance Extracted} = \frac{\text{Sum of squared standardised loadings}}{\text{Sum of squared standardised loadings} + \text{Sum of indicator measurement error}}$$

4. Aaker (1996b, p. 322) provides several examples of when price premium could be a problematic measure of brand equity. For example, price premium could be defined only with respect to a competitor or competitors whereas price differences may not be relevant in certain markets because of government regulation such as the government control of beer price in Japan. The use of price premium is believed to be problematic also because it relies on what consumers would buy in a hypothetical situation rather than actual data (Ailawadi et al., 2003, p. 2). Low price position retailers such as Wal-Mart provide an example where price premium may not be a valid measure of the retailer's brand equity (Ailawadi and Keller, 2004).
5. The details of the MANOVA could not be included in the present article because of space limitations but can be provided upon request.
6. We thank one of the anonymous reviewers for highlighting this to us.
7. We thank one of the anonymous reviewers for this suggestion.
8. We thank one of the anonymous reviewers for this suggestion.
9. We thank one of the anonymous reviewers for this suggestion.

Figure 1. The Confirmatory Factor Model



Note: u1 to u15 are unique or error variables.

List of Tables

Table 1
Results of confirmatory factor analysis – Goodness-of-Fit measures
(Department and specialty stores)

	Department stores			Specialty stores		
	Myer (n = 314)	Target (n = 311)	David Jones (n = 296)	Country Road (n = 230)	Fletcher Jones (n = 157)	Jeans West (n = 259)
<i>Measures of absolute fit</i>						
Chi-square	258.19	240.78	189.84	248.42	257.20	255.74
Degrees of Freedom	84	84	84	84	84	84
Significance level	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Goodness-of-fit Index	0.90	0.90	0.92	0.87	0.82	0.88
Root Mean Square Error of Approximation	0.080	0.078	0.065	0.079	0.081	0.080
<i>Incremental fit measures</i>						
Tucker Lewis Index	0.91	0.92	0.96	0.90	0.89	0.93
Incremental Fit Index	0.93	0.94	0.97	0.92	0.91	0.94
Comparative Fit Index	0.93	0.94	0.97	0.92	0.91	0.94
<i>Parsimonious fit measures</i>						
Normed Chi-square	3.07	2.87	2.26	2.96	3.06	3.04

Table 2

Results of confirmatory factor analysis – Standardised parameter estimates (Department and specialty stores).

Dimension Measure	Department stores						Specialty stores					
	Myer		Target		David Jones		Country Road		Fletcher Jones		Jeans West	
	SRW ^b	S.E ^c	SRW	S.E	SRW	S.E	SRW	S.E	SRW	S.E	SRW	S.E
<i>Retailer awareness</i>												
X ₁ Aware	0.65*	0.08	0.65*	0.05	0.79*	0.04	0.60*	0.06	0.82*	0.06	0.58*	0.07
X ₂ Characteristics come to mind quickly	0.82*	0.10	0.78*	0.07	0.73*	0.06	0.65*	0.05	0.71*	0.06	0.69*	0.05
X ₃ Can recognise ^a	0.65*	0.09	0.75*	0.06	0.83*	0.04	0.86*	0.04	0.78*	0.06	0.93*	0.03
<i>Retailer associations</i>												
X ₄ Store atmosphere	0.74*	0.04	0.83*	0.02	0.80*	0.02	0.78*	0.04	0.76*	0.05	0.87*	0.02
X ₅ Convenient facilities	0.77*	0.04	0.74*	0.04	0.82*	0.02	0.79*	0.04	0.81*	0.04	0.85*	0.03
X ₆ Variety of products	0.77*	0.03	0.78*	0.03	0.78*	0.03	0.84*	0.03	0.91*	0.02	0.86*	0.03
X ₇ After sales service	0.73*	0.04	0.74*	0.04	0.80*	0.04	0.82*	0.03	0.84*	0.04	0.85*	0.03
X ₈ Customer service ^a	0.69*	0.04	0.66*	0.05	0.78*	0.04	0.73*	0.05	0.90*	0.02	0.77*	0.04
<i>Retailer perceived quality</i>												
X ₉ Good quality	0.74*	0.05	0.83*	0.02	0.85*	0.03	0.82*	0.04	0.85*	0.03	0.87*	0.02
X ₁₀ Consistent quality	0.86*	0.02	0.83*	0.03	0.85*	0.03	0.83*	0.03	0.90*	0.02	0.85*	0.03
X ₁₁ Very reliable	0.78*	0.05	0.83*	0.03	0.86*	0.03	0.84*	0.03	0.86*	0.04	0.82*	0.04
X ₁₂ Excellent features ^a	0.72*	0.03	0.81*	0.03	0.86*	0.02	0.71*	0.06	0.81*	0.04	0.86*	0.02
<i>Retailer loyalty</i>												
X ₁₃ Feel loyal	0.75*	0.05	0.70*	0.10	0.83*	0.03	0.79*	0.04	0.84*	0.04	0.82*	0.03
X ₁₄ Will not buy from other retailers	0.75*	0.04	0.79*	0.03	0.84*	0.03	0.76*	0.04	0.82*	0.04	0.80*	0.03
X ₁₅ First choice ^a	0.89*	0.03	0.89*	0.03	0.93*	0.02	0.91*	0.03	0.87*	0.04	0.89*	0.02

Note: ^aThese loadings were fixed to the value of 1.0 during the estimation process. ^bSRW: Standardised regression weights; ^cSE: Bootstrap standard errors. *Deemed significant at $p < 0.05$ due to estimate falling outside the interval $0 + 2$ Bootstrap standard errors.

Table 3
 Results of confirmatory factor analysis – Correlation matrix of latent constructs
 (Department and specialty stores)^a

Department stores												
Myer				Target				David Jones				
	RA	RAS	RPQ	RL	RA	RAS	RPQ	RL	RA	RAS	RPQ	RL
RA	(0.75)				(0.77)				(0.83)			
RAS	0.63	(0.86)			0.68	(0.87)			0.78	(0.90)		
RPQ	0.68	0.67	(0.86)		0.64	0.76	(0.89)		0.81	0.79	(0.92)	
RL	0.50	0.58	0.56	(0.84)	0.31	0.59	0.67	(0.84)	0.41	0.66	0.54	(0.90)

Specialty stores												
Country Road				Fletcher Jones				Jeans West				
	RA	RAS	RPQ	RL	RA	RAS	RPQ	RL	RA	RAS	RPQ	RL
RA	(0.75)				(0.82)				(0.78)			
RAS	0.72	(0.89)			0.78	(0.93)			0.71	(0.92)		
RPQ	0.67	0.74	(0.88)		0.74	0.84	(0.92)		0.65	0.76	(0.92)	
RL	0.39	0.59	0.46	(0.86)	0.66	0.62	0.60	(0.88)	0.35	0.57	0.76	(0.88)

Note:

^a Figures in the brackets show the reliability values.

RA: Retailer Awareness, RAS: Retailer Associations, RPQ: Retailer Perceived Quality and RL: Retailer loyalty.