

Brand Trust: An Australian Replication of a Two-Factor Structure

P. J. Rosenberger III, University of Newcastle, Philip.RosenbergerIII@newcastle.edu.au

Abstract

A replication was conducted of Delgado-Ballester, Munuera-Alemán and Yagüe-Guillén's (2003) brand-trust study to determine if their two-factor brand-trust scale as conceptualised generalises to the Australian context. A self-administered questionnaire that focused on consumer brand-trust shampoo perceptions was completed by 154 respondents. Exploratory and confirmatory factor analysis provided initial support for the two-factor structure of the brand-trust scale (BTS) as conceptualised. The relationship of the BTS dimensions with satisfaction and loyalty was also supported.

Key Words: Brand trust, Branding, Australia, Shampoo, Replication, Empirical generalisation

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Introduction

Trust is recognised as being a critical element in supporting ongoing, valued relationships and leading to brand loyalty or commitment (Moorman, Zaltman and Deshpande, 1992; Morgan and Hunt, 1994). In recent years, trust has received increased empirical scrutiny in the context of brands and their relationships with consumers. Brand trust has been identified as forming a component of online brand equity, influencing attitude toward the brand, brand attachment, brand commitment, attitudinal and purchase loyalty, repurchase intentions and/or mediating the influence of risk aversion, as well as having satisfaction as an antecedent factor (Chaudhuri and Holbrook, 2001 and 2002; Christodoulides, *et al.*, 2006; Delgado-Ballester, 2004; Delgado-Ballester and Munuera-Alemán, 2005; Delgado-Ballester, Munuera-Alemán and Yagüe-Guillén, 2003; Esch, *et al.*, 2006; Ha and Perks, 2005; Luk and Yip, 2008; Matzler, Grabner-Kräuter and Bidmon, 2008; Okazaki, Katsukura and Nishiyama, 2008; Zboja and Voorhees, 2006).

In this paper, brand trust is conceptualised as “the confident expectations of a brand’s reliability and intentions in situations entailing risk to the consumer” (Delgado-Ballester, Munuera-Alemán and Yagüe-Guillén, 2003, p. 37). However, there have been a variety of conceptualisations used to operationalise brand trust, which raises the issue regarding replication of brand-trust results, external validity, the generalisability of results and the advancement of marketing science (Easley, Madden and Dunn, 2000; Hunter, 2001; Uncles, *et al.*, 1994).

Therefore, the purpose of this paper is to replicate Delgado-Ballester, Munuera-Alemán and Yagüe-Guillén’s (2003) study and determine if their brand-trust scale generalises to the Australian context. The rest of the paper is structured as follows: first, the brand-trust construct as tested in this study is presented and the value of replication discussed. Next, the methodology is described, followed by the presentation of the results and the conclusion.

Brand Trust Conceptualisation and Replication’s Role

Delgado-Ballester, Munuera-Alemán and Yagüe-Guillén (2003), Delgado-Ballester (2004) and Delgado-Ballester and Munuera-Alemán (2005, ‘DMY’ hereafter) developed and validated a scale to measure brand trust (BTS). DMY’s conceptualisation of brand trust features two dimensions: brand reliability and brand intentions. Brand reliability has a competence or technical nature and is based on the consumer’s belief that the brand accomplishes its value promise; i.e. the perception that the brand fulfils or satisfies the consumer’s needs. This reflects a sense of predictability that the brand satisfies the individual’s needs in consistently positive ways. Brand intentions are based on the consumer’s belief that the brand would hold the consumer’s interest when unexpected problems with the consumption of the product arise. Therefore, it describes the consumer’s belief that the brand’s behaviour is guided or motivated by favourable and positive intentions towards the consumer’s welfare and interests (e.g. altruism, benevolence, honesty, dependability and fairness), and that the brand is not going to take advantage of the consumer’s vulnerability (DMY).

The convergence of technology, income and media promotes homogenous consumption behaviour, though recent research has concluded that cultural differences will lead to more heterogeneous behaviours (de Mooij and Hofstede, 2002). Thus, cross-national replication of the applicability of consumer theories is needed in the ongoing expansion and integration of the global marketplace (Durvasula, *et al.*, 1993; Easley, Madden and Dunn, 2000).

Replication means the reproducibility or stability of research results (Monroe 1992). Though replication has an acknowledged role in marketing and the social sciences and its advancement (Bass, 1993; Easley, Madden and Dunn, 2000; Hunter, 2001; Madden, Easley and Dunn, 1995; Monroe, 1992), there has been reluctance on the publishing of replication studies (Easley and Madden, 2000; Hubbard and Lindsay, 2002). Few strict replication studies having been published (Easley, Madden and Dunn, 2000; Madden, Easley and Dunn, 1995), yet replication plays a vital role by contributing to the establishment of external validity by enabling the generalisation of findings to other populations (Easley, Madden and Dunn, 2000; Hunter, 2001; Uncles, *et al.*, 1994). Replications help to establish boundary conditions for theories where the generalisation will fail to hold (Lynch, 1999), which leads to 'higher level' understanding (Bass, 1995) and the advancement of science.

Replications can vary according to their timing, the researchers conducting the work and the level of planned similarity. Replications involving modifications are preferable, such as those by different researchers at different times and locations (Easley, Madden and Dunn, 2000; Monroe, 1992). DMY's research took place in the southeastern part of Spain and utilised a telephone-based survey approach to develop and initially validate the BTS based on three product categories: deodorant, shampoo and beer. In contrast, this study was conducted by a different researcher in a different country (Australia), and utilised a self-administered, paper-and-pencil questionnaire that focused on BTS shampoo perceptions. Thus, the purpose of this study is to replicate the DMY study and determine if their brand-trust scale generalises to the Australian context.

Methodology

To facilitate the replication purpose of the research, the DMY's items were used to measure brand trust (eight items, $\alpha = .88$, DMY), brand loyalty (four items, $\alpha = .84$, based on Bloemer and Kasper, 1995; Dick and Basu, 1994) and satisfaction (three items, $\alpha = .77$, based on Oliver, 1997; Spreng *et al.*, 1996). A five-point response scale was used (1 = *completely disagree*, 5 = *completely agree*). As university students typically choose the brand and actually purchase their own shampoo, 154 second- and third-year undergraduate marketing students attending lectures at a large, Australian east-coast university voluntarily completed a short, self-administered questionnaire on the BTS perceptions of the shampoo brand they used the most. Respondents were offered an incentive of a small sweet (e.g. a boiled sweet or a lollipop) for their participation.

The average respondent was 21 years old (range = 18-42, mode = 20), female (66%) and purchased their own shampoo (73%) or in conjunction with their partner/flatmates (7%). Most shampoo purchases were made at the supermarket (72%) followed by the hair salon/hair dressers (17%), with 83% of respondents purchasing shampoo once every 2-3 months or more frequently (mode = once-a-month purchase at 35%). Finally, a large majority of respondents (92%) visited the supermarket at least once a fortnight or more frequently (mode = weekly visit at 43%). Therefore, the sample was deemed suitable for evaluating the brand-trust construct in this research.

Results

The eight BTS items were first analysed using exploratory factor analysis (EFA) in SPSS followed by ML-based confirmatory factor analysis (CFA) with AMOS 16.0.1 following recommended scale-assessment approaches (Byrne, 2001; Churchill, 1979; Hair, *et al.*, 2006; Tabachnick and Fidell, 2007). Using principal components analysis with Direct Oblimin rotation as per DMY, two DMY-consistent dimensions emerged with eigenvalues > 1 , accounting for 74% of the total variation. Each set of four items loaded cleanly on the appropriate (rotated) dimension, with all factor loadings $\geq .74$ and cross loadings $\leq .21$. The four reliability items loaded on the first factor (eigenvalue = 4.4, $\alpha = .89$, average interitem correlation = .68, item-to-total correlation $> .68$). The four intentions items loaded on the second factor (eigenvalue = 1.5, $\alpha = .85$, average interitem correlation = .59, item-to-total correlation $> .65$).

The item-based CFA results also provided support for the DMY two-factor BTS structure (see Table 1). All standardised CFA loadings were $> .70$ and highly significant ($p < .001$), with all squared multiple correlations $\geq .50$. The Intentions and Reliability factors were also related (construct correlation = .56, covariance = .27). There were only three standardised residuals $> \pm 1$ (-1, 1.2 and 2), with the standardised residual means being zero for all items. There were several modification indices > 4 (largest = 7.3), though these were all pertaining to error terms except one suggested link between INTENT2 and Reliability.

Table 1: Brand Trust CFA Measurement

	Standardised loading (λ)	Squared Multiple Correlations	Mean	Standard Deviation
Reliability items ($\alpha = .89$)				
RELY1: MY SHAMPOO BRAND is a brand that meets my expectations.	.80	.65	4.2	.815
RELY2: I feel confidence in MY SHAMPOO BRAND.	.85	.72	4.1	.808
RELY3: MY SHAMPOO BRAND is a brand that never disappoints me.	.93	.86	3.9	.888
RELY4: MY SHAMPOO BRAND guarantees satisfaction.	.75	.56	3.9	.912
Intentions items ($\alpha = .85$)				
INTENT1: MY SHAMPOO BRAND would be honest and sincere in addressing my concerns.	.71	.50	3.4	.809
INTENT2: I could rely on MY SHAMPOO BRAND to solve	.82	.68	3.2	.921

the problem.

INTENT3: MY SHAMPOO BRAND would make any effort to satisfy me.	.83	.69	3.4	.988
INTENT4: MY SHAMPOO BRAND would compensate me in some way for the problem with the shampoo.	.71	.51	3.4	1.007

In terms of overall model fit, the CFA fit indices were generally positive. Whilst the chi-square (= 51.7, *df* = 19) was significant (*p* < .001), the other indices suggest a reasonably good fit of the shampoo data to DMY’s two-factor, BTS structure: CMIN/*df* = 2.7, CFI = .95, NFI = .93, TLI = .93, RFI = .90, RMSEA = .106.

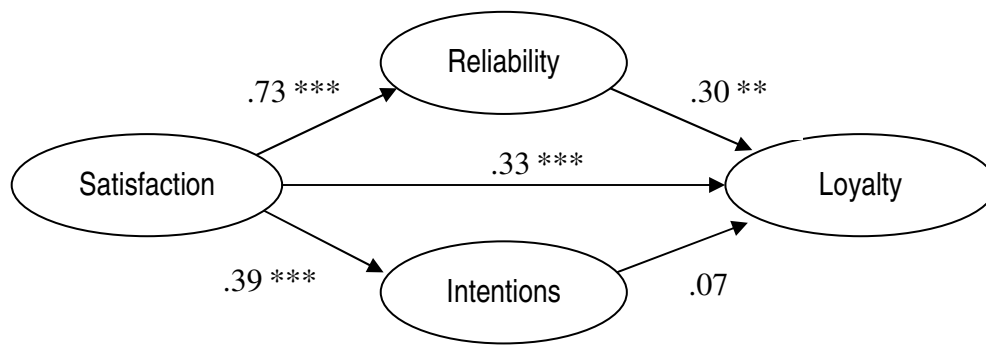
Alternative BTS factor structures were then assessed using a series of sequential chi-square difference tests (Anderson and Gerbing, 1988). The models evaluated included a null model, a one-factor model (all items loading one one factor), a two factor uncorrelated model and the two-factor correlated model. As reported in Table 2, the two-factor correlated model provided the best fit to the data, which is consistent with DMY’s findings.

Table 2: Brand Trust Measurement Model Fit

Model	Chi-square	Degrees of freedom	Chi-square difference
Null	740.24	28	-
One-factor	216.26	20	523.98 ***
Two-factor uncorrelated	93.58	20	122.68 ***
Two-factor correlated	51.71	19	41.87 ***

Notes: The chi-square differences represent comparisons of the one-factor model versus the null model, the two-factor model versus the one-factor model and so forth; *** *p* < .001

Next, the BTS was assessed for how it relates to other theoretical constructs as predicted by theory (Churchill, 1979; Hair, *et al.*, 2006). As specified by DMY, how the BTS dimensions of Reliability and Intentions related to Satisfaction and Brand Loyalty (Figure 1) was tested in AMOS using a path model. The fit indices suggested a reasonable fit of the shampoo data to the model (Chi-square = 11.6, *df* = 1, *p* = .001; CMIN/*df* = 11.6; CFI = .95; NFI = .94; TLI = .67; RMSEA = .28). The pattern and positive nature of the relationships of the BTS dimensions with the other constructs in the model was consistent with DMY’s study and extant theory, which offers support for the construct validity of the BTS.

Figure 1: A Model of Brand Trust, Satisfaction and Loyalty

Notes: standardised coefficients reported. ** = $p < .01$, *** = $p < .001$

Discussion, Limitations and Conclusions

In evaluating the BTS, the EFA and CFA results at the detailed, item-based level and overall, fit-indices level were generally supportive of DMY's construct from a scale-assessment perspective (Byrne, 2001; Churchill, 1979; Hair, *et al.*, 2006; Tabachnick and Fidell, 2007). The pattern and strength of the EFA and CFA factor loadings provide support for DMY's two-factor BTS structure. At the overall model level, the CFA fit indices are also supportive of the two-factor BTS structure. The general pattern of relationships of the BTS factors with other constructs also followed that as reported in DMY's initial study, though the magnitude differed for the path coefficients linked to loyalty. Overall, the results suggest that a certain degree of 'sameness' exists across the two studies (Ehrenberg, 1995; Hubbard and Lindsay, 2002), acting as an first step in establishing DMY's conceptualisation of brand trust as an empirical generalisation.

Whilst this study provides general support for the DMY BTS construct, there are limitations and considerations that should be kept in mind when seeking to compare and generalise these findings. An Australian student sample was used in this study, and though the students were regular consumers and purchasers of shampoo, this might account for some of the differences identified. A paper-and-pencil survey was used instead of a telephone-based questionnaire, which might potentially introduce some method-based differences.

In conclusion, this study of Australian shampoo brand-trust perceptions provides initial support for the two-factor BTS as conceptualised by DMY. That a different, unrelated researcher in another country, using a different data-collection technique, conducted the research enhances the replication value of this study. However, one replication study is just the starting point in establishing the validity of the DMY BTS. Many more replications are needed by other researchers for the same and other categories to help validate the BTS (Hunter, 2001). Future research could also evaluate the other two product categories used by DMY as well as other product and service categories, the relationship of the BTS with other theoretically relevant constructs, as well as the way in which the BTS is modelled (e.g. as a higher order construct) and if it is also applicable in a B2B context.

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