Building Customer-Equity in Supermarket Retailing

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Abstract

The objective of the current study is to *empirically assess and compare* the impact of the three components of customer-equity on consumers' loyalty-intentions for the top three firms in the Australian supermarket industry. A study of an online sample of 888 supermarket consumers is conducted to test a number of hypotheses. The results show that all three equities contribute to loyalty-intentions, with value-equity dominant. Woolworths does best in leveraging value-equity, Coles does best in leveraging brand-equity while IGA does best in leveraging relationship-equity. Additionally, value-equity especially, and relationship-equity to a lesser extent, contributes to brand-equity. This study pioneers the cross-analysis of customer-equity by retailer.

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Introduction

There is increasing interest in converting broad industry measures in specific company measures for performance and metric purposes. Few studies exist in Australian retailing, though Pappu and Quester (2006) measure brand-equity across six Australian retailers in the department store and fashion categories. No comparable studies measure cross-retailing customer-equity, a gap addressed by the current study of Australian supermarket retailers. Customer-equity is defined as the total of the discounted lifetime values of a firm's current and potential customers (Rust, Lemon and Zeithaml, 2004). Implicit within this conceptualization is the central issue of maximizing existing consumers' loyalty-intentions.

Customer-equity in Retailing

The customer-equity theory posits that a firm's customer-equity or lifetime value can be enhanced by improving its three components, namely, brand-equity, value-equity and relationship-equity, which span almost all major marketing expenditures (Rust, Lemon and Zeithaml, 2004). However, a critical precursor to maximizing customer-equity is achieving greater consumer loyalty; critical to the extent that even a slight improvement in a firm's loyalty metrics can have a multi-fold impact on lifetime value (Gupta, Lehmann and Stuart, 2004). Empirical work on the impact of the three equities is sparse. However, the seminal work by Vogel, Evanschitsky and Ramaseshan (2008) is conducted within a retailing scenario, whereby they observe a direct positive impact of each of the three equities on consumers' loyalty-intentions and observe that brand and value equities are equally important. However their study is based on data from one European hardware retailer. Thus, there is a need to extend their seminal work to other countries and industries to achieve generalizability.

The current study extends the empirical literature on customer equity in three ways; *firstly*, as compared to the seminal study (Vogel, Evanschitsky and Ramaseshan, 2008) that estimates the impact of the three equities on loyalty intentions for one retailer, this study estimates similar explanatory effects for three Australian supermarkets. *Secondly*, unlike the seminal study, this study specifies and tests inter-relationships among the three equities; thus being a first study to explicitly model these effects. *Thirdly*, the current study allows for comparisons across three firms. Such an investigation is novel in the customer equity literature.

Conceptual Model Development

Brand-equity refers to the "incremental value of a product due to its brand name" (Yoo and Donthu 2001, p.3). Thus, brand-equity is the summation of added-values imbued in a product, which includes associations, emotions, impressions and attitudinal predispositions of consumers. These added-values foster consumer loyalty-intentions (e.g. Taylor, Celuch and Goodwin, 2004; Vogel, Evanschitsky and Ramaseshan, 2008). Thus, it is hypothesised:
H1: The brand-equity positively influences loyalty-intentions.

Value-equity is the consumers' objective assessment of utility derived from a brand/firm based on perceptions of what is given up for what is received (Vogel, Evanschitsky and

Ramaseshan, 2008). If a firm recognises the consumer's value-chain and develops an offering that directly conforms to that value chain, it delivers superior perceived benefits (vis-à-vis perceived costs) in terms of acquisition-value, in-use value and transaction-value as compared to competitive offerings (e.g. Parasuraman and Grewal 2000). This in turn enhances consumer loyalty (e.g. Agustin and Singh 2005; Sirdeshmukh, Singh and Sabol, 2002). Thus:

H2: The value-equity positively influences loyalty-intentions.

Relationship-equity is the customers' tendency to stick with a brand beyond their objective and subjective assessments of that brand (Vogel, Evanschitsky and Ramaseshan, 2008). Relationships develop via consumers' interaction with any aspect of a firm (Holmlund, 2001), and provide crucial benefits of lesser risk, personal recognition, special treatment and time-saving (Gwinner, Gremler and Bitner, 1998); thus preventing consumers' switch to alternatives (Rauyruen and Miller 2004; Sharma et al. 1999). Relationship-equity's direct impact on loyalty-intention has received empirical support (e.g. Hennig-Thurau and Klee 1997; Verhoef, 2003). Thus:

H3: The relationship-equity positively influences loyalty-intentions.

Vogel, Evanschitsky and Ramaseshan's (2008) seminal study specifies direct mutually-exclusive impacts of the three equities on loyalty-intentions, thus implying that resources focused at enhancing consumer value in a supermarket (e.g. fitting self-checkout counters) would not affect brand-equity. Similarly, any relationship-building activity would improve loyalty-intentions but not brand-equity. This mutually-exclusive impact of the three equities discounts cue-utilization theory (Richardson, Dick and Jain, 1994) and associative-network memory theory (Keller, 2003). Cue-utilization theory states that consumers use extrinsic and intrinsic cues to make judgments (Erdem and Swait 1998). Therefore, visible value-creating investments by supermarkets may signal quality to consumers, and foster positive attitudes, thereby directly affecting brand-equity (e.g. Eggert and Ulaga 2002; Lam et al. 2004). Thus:

H4: Value-equity positively influences brand-equity.

Similarly, relationship-building activities are likely to foster positive consumer evaluations that spill over (by way of creating new favourable brand-associations) to other facets of the supermarket. This 'rub-off' from one equity to another is likely to enhance brand-equity. Keller and Lehmann's (2003) brand-value-chain model supports this theorization, whereby any marketing investment by a firm directly affects consumer mindset comprising brand images, beliefs and brand attitudes. Thus:

H5: Relationship-equity positively influences brand-equity.

Research Design

An online survey of 20,000 Australian consumers (enrolled on a large database of an e-mail broker) was conducted. The respondents were asked to choose one Australian supermarket (out of three options) where they regularly shopped, and to answer the survey in relation to their chosen supermarket. Woolworths, Coles and IGA were offered as choices as they represent the top three firms in the Australian supermarket industry.

All the model's constructs were measured on a multi-item seven-point Likert scales (anchored at 1 = 'Strongly Disagree to 7 = 'Strongly Disagree'). Brand-equity and value-equity was measured using four-item scales adapted from the customer-equity literature (Rust, Lemon and Zeithaml, 2004; Vogel, Evanschitsky and Ramaseshan, 2008). Relationship-equity was operationalized by adapting items from Rust, Lemon and Zeithaml (2004), Fournier (1998)

and Vogel, Evanschitsky and Ramaseshan (2008). The scale included four items. Lastly, loyalty-intentions were operationalized using four items; two items were adapted from Vogel, Evanschitsky and Ramaseshan (2008) and two items were self-constructed based on the extant loyalty literature.

Data Analysis and Results

Out of 20,000 emails sent, 966 consumers completed the survey, with 888 usable responses after cleaning. Missing values are less than 3% of the data, and were substituted using EM method (Enders and Bandalos, 2001). *Non-response bias* was assessed by comparing early respondents (first quartile) with late respondents (last quartile) (Dubinksy, Ingram and Fay, 1984). An ANOVA revealed that there were no significant differences in responses between the first and last quartiles; thus ruling out the non-response bias threat. The Kaiser-Meyer-Olkin (KMO) statistic was 0.83; larger than the generally accepted cut-off of 0.60 and the Bartlett's sphericity test was also highly significant, implying factorability of the correlation matrix.

Sample demographics: Female consumers comprised 70% of the sample; largely consistent with gender representation of supermarket shoppers (Nordhoff, Pauwels and Odekerken-Schröder, 2004). Around 63% of respondents belonged to the 26-55 year-old age range and there was minimal representation (i.e. 4%) from the youngest age-group (i.e. '< 25 year-old'). Around 58% of respondents had attained some form of university education. Around 33% of the sample comprised households earning 'A$ 40,000-80,000', with other income brackets fairly represented as well. The demographics reasonably represented a broad cross-section of supermarket shoppers.

Supermarket choice: Around 49% of consumers (n=435) nominated *Woolworths* as their preference, followed by Coles (39% preference; n=347) and *IGA* (12% preference; n=106). These preferences are consistent with respective supermarkets' market-shares; *Woolworths* having 42% share, *Coles* with 35% share and *IGA* with 14% share (AdNews, 2007). Thus, there was nearly proportional representation of consumers of the three supermarkets.

Descriptives: The means (M) and standard deviations for each supermarket are reported in Table 1. An ANOVA revealed that there were significant differences among construct means across the three supermarkets, *except* for Woolworths and Coles, which were not significantly different regarding perceptions of value-equity, relationship-equity and loyalty-intentions. However, consumer perceptions of brand-equity are significantly different for Woolworths and Coles. Brand-equity is rated most favourably by consumers of IGA (M=5.55), followed by Woolworths (M=4.73) and Coles (M=4.53). Similarly, value-equity and relationship-equity ratings were higher for IGA consumers as compared to that of Woolworths and Coles. Loyalty-intentions were also higher for IGA consumers than those of Woolworths and Coles.

Construct reliability and validity: All Cronbach Alphas are 0.84 or greater. Convergent validity is demonstrated across the three sub-samples, as factor-loadings were highly significant and loaded strongly on their respective constructs; above 0.50 (Fornell and Larcker, 1981). Discriminant validity is established by satisfying the Fornell and Larcker (1981) condition, whereby the square-root of the average-variance-extracted for any given construct is greater than the standardised correlation coefficient of that construct with all other constructs.

Multiple regression analysis: The relevant estimates from the regression analyses are reported in Table 2. Prior to examining the regression results, the extent of multicollinearity in the data was examined. In the three sub-samples, the variance-inflation-factors in specified regression models were all less than 3.0; much less than 10 (Mason and Perrault, 1991). Thus, multicollinearity did not pose a major threat in the study. It is important to note that the correlations among the four variables are in the 0.58 to 0.74 range; consistent to the correlations observed by the seminal Vogel et al (2009) study (0.45 to 0.61 range). Thus, the results of the current study are *consistent* with the literature.

Table 1: Descriptive statistics by supermarkets

Supermarket:	Brand-equity		Value-equity		Relationship-equity		Loyalty Intentions	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Woolworths	4.73	1.13	5.16	1.11	4.25	1.31	5.17	1.19
Coles	4.53	1.13	5.16	1.15	4.24	1.39	5.03	1.36
IGA	5.55	0.99	5.45	1.19	5.15	1.37	5.80	0.94

Hypotheses testing: Brand-equity has a direct impact on loyalty-intentions with beta coefficients ranging from 0.20 for Woolworths to 0.28 for Coles, significant at the 0.01 level in case of Woolworths and Coles and at the 0.05 level in case of IGA. H1 is supported. Value-equity has a direct and highly significant impact on loyalty-intentions across the three supermarkets, supporting *H2*. Betas ranged from 0.41 for Coles to 0.47 for Woolworths. The analysis supports *H3* as relationship-equity has a direct and significant impact on loyalty-intentions across the three supermarket samples, with betas ranging from 0.18 for Woolworths to 0.26 for IGA. Consumers' loyalty-intentions are strongly explained by the three equities. The adjusted R-squared estimates were strong across the three supermarkets: 0.55 to 0.60. Value-equity has a direct and highly significant impact on brand-equity across the three supermarkets, supporting H4. Relationship-equity has a direct and significant impact on brand-equity for each of the three supermarkets, supporting H5. The impact of relationship-equity on brand-equity is moderate ($\beta_{Woolworths} = 029$; $\beta_{Coles} = 0.23$) in case of Woolworths and Coles and strong in case of IGA ($\beta_{IGA} = 0.43$).

Table 2: Explaining loyalty-intentions and brand-equity for each supermarket

Hypothesized Path:	WOOLWORTHS[1]		COLES[2]		IGA[3]	
	Beta	C.R.	Beta	C.R.	Beta	C.R.
BE → LOY	0.20**	4.08	0.28**	5.15	0.21*	2.10
VE → LOY	0.47**	9.92	0.41**	7.52	0.42**	4.83
RE → LOY	0.18**	4.40	0.17**	3.72	0.26**	3.00
	Adj. R^2 = 0.57		Adj. R^2 = 0.60		Adj. R^2 = 0.55	
VE → BE	0.56**	15.04	0.62**	14.22	0.45**	6.07
RE → BE	0.29**	7.72	0.23**	5.20	0.43**	5.82
	Adj. R^2 = 0.60		Adj. R^2 = 0.60		Adj. R^2 = 0.55	

Note: [1]n= 435; [2]n= 347; [3]n= 106. * *Sig. at 0.05 level*; ** *Sig. at 0.01 level.* BE refers to brand-equity; VE refers to value-equity; RE refers to relationship-equity; LOY refers to loyalty-intentions.

Large players versus small: Differences between the large players and the smaller IGA can be observed from Table 2. The smaller chain is characterised by smaller market share and smaller average store size. Moreover, the smaller IGA chain has 'semi' independent ownership, meaning that although stores per se are independently owned, they operate under the banner of the IGA brand. The rank-order of the impact of the three equities on loyalty-intentions is similar for the larger players: the direct impacts on loyalty-intentions are, in order, from value-equity, brand-equity to relationship-equity. However, for IGA relationship-equity is in second place.

Discussion and Implications

Overall, the dominant role of value-equity as a key component of customer-equity in Australian supermarkets is consistent with the American hardware retailing study of Vogel, Evanschitzky and Ramaseshan (2008). Rust, Lemon and Zeithaml (2004) suggest that value-equity would be more important in tangible settings such as B2B, not exactly supermarkets and hardware, but both do focus on commodity type products. A product-based study also shows value-equity as dominant (Holehonnur et al. 2009). The message is clear for Australian supermarkets: prioritise value-equity as a means of building customer-equity. Table 2 also supports our hypotheses that both value-equity and relationship-equity contribute to brand-equity. No previous research has directly supported the combination of H4 and H5 in the one study, adding another contribution of the paper.

In terms of comparing Australian retailers in equity terms there is very little prior research, confined to brand-equity differences only (Pappu and Quester, 2006). No previous research has compared retailers by customer-equity, so the results in Table 2 are pioneering. The dominance of value-equity and brand-equity apply to the two major supermarket retailers, Woolworths and Coles. Brand-equity is seen as an important complement to value-equity in building customer-equity. A slightly different pattern applies to the smaller chain, IGA. Here relationship-equity is elevated to second place as a determinant of loyalty, ahead of brand-equity. This is an indicator of scope for where smaller retailers could compete.

The biggest difference is between the two major chains and the smaller chain. Clearly, although IGA has brand-equity in its own right, it is unable to greatly leverage loyalty out of this brand-equity. Instead, IGA is able to successfully leverage its *relationships* with customers, probably based on the more intimate family-based nature of its smaller stores and local focus in advertising. There is only a slight difference between Woolworths and Coles, though it does fit the common understanding of the differences between these two retailers. Coles is better known for its quality, in general and in specific areas like health products. It is understandable that *brand-equity* has greater leverage for Coles. Woolworths is better known for its range and low prices, so it is understandable that *value-equity* provides greater leverage than Coles.

In conclusion, the paper successfully measures and compares customer-equity across three Australian supermarket chains. Coles makes the greatest use of leveraging brand-equity. The smallest chain (IGA) makes greatest use of relationship-equity, as a competitive strategy.

The results of the current study are most pertinent to the Australian supermarket industry and any generalisation of the results to other retailers should be made with caution. Future research can apply our approach to other retailing categories to ascertain which of the three equities is strongest in a given retail category.

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