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Examining the satisfaction-loyalty relationship

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Abstract

The authors address the nature of the relationship between evaluative satisfaction and loyalty. Recent research suggests that this relationship is not linear and uni-directional but curvilinear, mediated by several interacting situational and psychological variables (Oliver, 1999). If, however, both attitudinal loyalty and satisfaction are conceptualized as latent, internal constructs, then it may be that they are formed simultaneously, not sequentially. While there is some evidence for divergence between emotion-laden satisfaction and loyalty, there is little evidence in the literature on the divergence of evaluative satisfaction from loyalty.

The authors address and resolve questions raised by prior research by examining empirically, within a business-to-business context, that evaluative-satisfaction and loyalty are associated but different constructs. The results of structural equation modeling indicate that satisfaction and loyalty have divergent validity. Thus, the relationship between satisfaction and loyalty is not necessary, but dependent upon situational and psychological factors.

Keywords: Satisfaction, Loyalty, Divergent validity

Examining the Satisfaction-Loyalty Relationship

The nature of the relationship between satisfaction and loyalty is complex. Yet marketing literature suggests that is quite simple: Satisfaction leads to attitudinal loyalty (Lovelock, Patterson and Walker, 2001). Defined as the intention to make future purchases (Oliver, 1980; Patterson, Johnson and Spreng, 1997; Bolton, 1998; Page and Eddy, 1999; Jones and Suh, 2000), it is assumed that attitudinal loyalty is a necessary implication of satisfaction. Satisfaction is defined as an emotional post-consumption response that may occur as the result of comparing expected and actual performance or it can be an outcome that occurs without comparing expectations (Oliver 1996). Therefore satisfaction as a result of the disconfirmation of expectations can be labeled evaluative satisfaction whereas satisfaction as an outcome of non-rational processes can be labeled emotion-laden (Cronin, Brady and Hult 2000).

Oliver (1999), however, proposes that the relationship between satisfaction and loyalty is curvilinear, mediated by several situational and psychological factors. Moreover, if both attitudinal loyalty and satisfaction are conceptualized as latent, internal constructs, then it may be that they are formed *simultaneously*, not sequentially. To some extent, it seems that the nature of the relationship that empirical research describes is dependent upon the context in which it is being investigated. Although a positive correlation appears across samples and market types, the magnitude of the relationship varies with research methodology and design. Thus, a review of recent literature pertaining to the satisfaction-loyalty relationship reveals several factors mediating the extent of association between satisfaction and loyalty. The complex and curvilinear nature of the association suggests that satisfaction and loyalty are divergent constructs, whose

interrelationship is dependent upon situational and psychological factors external to the constructs themselves.

Although the divergent validity of the concepts is assumed in most research, there is very little empirical evidence to support this model. The present study, therefore, purports to provide empirical support for the divergent validity of satisfaction and loyalty.

This paper commences with a comprehensive review of the satisfaction-loyalty literature where three key themes emerged from a tabled summary of the literature. Firstly, there is little dispute that satisfaction and loyalty are related constructs. In addition, it is suggested that the nature of the relationship is non-linear and is moderated by psychological and situational variables. Finally, it seems that the methodology used to obtain and assess the data affects the statistical outcome. Three key gaps emerge from a review of significant research developments. Firstly, there is as a lack of empirical evidence for divergent validity for satisfaction and attitudinal loyalty. Secondly, few studies on satisfaction and loyalty have been conducted in a business-to-business setting. Finally, insufficient attention is paid to reporting measurement or construct validity when examining the relationship between satisfaction and loyalty. The following conceptual development provides a rationale for research design, data collection and sample demographics and is followed by a discussion of the results.

1. Conceptual Background

1.1. Satisfaction loyalty research

1.1.1. Overview

Studies establishing empirical links between satisfaction and loyalty are shown in Table 1. As noted by Lovelock, Patterson and Walker (2001), the relationship between satisfaction and loyalty is not as simple as it might first seem. There is statistical evidence for a positive non-

linear relationship, and this is evidenced through high correlations, betas and R^2 . This positive relationship appears across analysis techniques and market types, but the magnitude of the relationship varies according to the research design. The research emphasis remains on examining the satisfaction-loyalty relationship in a consumer setting. There is no demonstrated temporal antecedence between the constructs, and the identification of moderator variables has commenced for the satisfaction-loyalty relationship. A summary of the satisfaction-loyalty relationship findings to date is summarized in Table 1. The research is predominantly consumer orientated rather than taking place in real world business-to-business settings. The research covers both goods and services with a variety of sample sizes reported. Three key themes emerged from the literature: satisfaction and loyalty are related constructs; there are moderating factors for the relationship; and the methodology influences the outcome of the research.

INSERT TABLE 1 HERE

1.1.2. Satisfaction and Loyalty: Related Constructs

There is a common assumption in the literature that satisfaction is likely to increase loyalty (Oliver, 1980; Patterson, Johnson and Spreng, 1997; Bolton, 1998; Page and Eddy, 1999; Jones and Suh, 2000). The dominant result is a reporting of strong correlations, greater than 0.6 (Cronin, Brady and Hult, 2000); strong betas, greater than 0.6 (Oliver and Gerald, 1981; Patterson, Johnson and Spreng, 1997; Eriksson and Vaghult, 2000; Mattila, 2001); and high r^2 greater than 0.70 (Gronholdt, Martensen and Kristensen, 2000). This implies that satisfaction and loyalty are highly related. However, these strong correlations and strong positive relationships imply that satisfaction and loyalty may not be different concepts.

The studies reviewed examined the relationship between the constructs and rejoiced in their 'high' levels of association and strong positive statistical relationships. Studies utilizing correlation statistics that examine convergent validity would conclude that both satisfaction and loyalty items are capturing the same construct (Madden, Dillon and Twible, 1986). Clearly the objectives of the researcher drive the interpretation and reporting of the research findings. As a rule, researchers achieving 'high' levels of association and strong positive relationships should examine both convergent and divergent validity amongst all constructs in a study rather than assuming the constructs are distinct.

In some instances divergent validity has been examined (see Cronin, Brady and Hult, 2000). However, in this paper the authors did not establish divergent validity as prescribed by Fornell and Larcker (1981) for SAT₂, which is "evaluative-based" satisfaction. Patterson, Johnson and Spreng, (1997) also established divergent validity; however the type of satisfaction was emotion-laden rather than evaluative. Therefore there is some evidence for divergent validity between emotion-laden satisfaction and loyalty. However it appears that the relationship between evaluative satisfaction and loyalty remains untested.

Investigation of divergent validity implies low levels of correspondence should be found between a measure and other measures, which are supposed to represent other constructs (Faulkner, 1998).

1.1.3. Moderating Factors

The relationship between the degree of satisfaction and loyalty is non-linear, involving two thresholds (see Lovelock, Patterson and Walker, 2001). Improvements in satisfaction levels initially result in a large increase in loyalty before reaching the zone of indifference or the zone of tolerance where an increase in satisfaction does not lead to an increase in loyalty. Once this

threshold is exceeded we once again see increases in loyalty. In other words, when the satisfaction of customers at either end of the satisfaction scale rises, their loyalty will rise too. This does not occur for customers in the middle of the satisfaction scale.

Emerging research builds on the assumption that satisfaction and loyalty are related yet distinct constructs by identifying and testing moderator variables. The relationship between satisfaction and loyalty is moderated by involvement (Bloemer and Kasper, 1995) and personal characteristics such as demographic variables and the propensity to seek variety (Heskett, Sasser and Schlesinger 1997). For example, the satisfaction-loyalty link is stronger when involvement and experience are high (Bolton, 1998; Anderson, 1994). In the services context, the satisfaction-loyalty relationship is moderated by the type of failure recovery effort (Webster and Sundaram, 1998). For example, service recovery can negate or reduce the impact of dissatisfaction on loyalty.

1.1.4. The Role of Methodology

In the studies conducted to date, there is no demonstrated temporal antecedence between satisfaction and loyalty. The data is largely cross-sectional and thus is collected at the same point in time. The resulting claims in the research that satisfaction then leads to loyalty are therefore not based on temporal antecedence but rather on reflective responses. It is therefore spurious to make the claim that satisfaction leads to loyalty; rather, it should be stated that satisfaction and loyalty are associated. A longitudinal study where satisfaction precedes loyalty in a temporal sense is therefore required before causality can be inferred. A note of caution is that temporal antecedence is but one of the four required criteria for establishing causality (Hair, Anderson, Tatham and Black 1998).

A recent customer satisfaction meta-analysis conducted by Szymanski and Henard (2001) indicates that the *magnitude of the relationship between satisfaction and loyalty varies* according to the measurement and method factors that characterize the research. For instance, using a single item scale may reduce the significance between satisfaction and loyalty. The goods-service distinction is important when estimating the relationship between satisfaction and loyalty Szymanski and Henard (2001). The association is not as strong in a consumable goods context, and the emphasis has been on satisfaction and loyalty in a consumer setting.

Three key gaps emerged from the literature review. Firstly, there is as a lack of empirical evidence for divergent validity for satisfaction and attitudinal loyalty. Secondly, few studies on satisfaction and loyalty have been conducted in a business-to-business setting. Finally, insufficient attention is paid to reporting measure validity.

As indicated in Table 1, it should be clear that the constructs of satisfaction and loyalty are distinct. As noted by Mittal and Lassar (1998), satisfaction does not always imply loyalty. For example, a customer's satisfaction with a product may motivate them to seek out other retailers of that product. In addition to variety seeking (Homburg and Giering, 2001), other circumstances such as differentiation (Mittal and Lassar, 1998), changing needs and level of risk also mitigate the satisfaction-loyalty relationship. These are situations in which loyalty and satisfaction would represent separate and distinct constructs. On the other hand, there are situations in which loyalty is a direct consequent of satisfaction. For instance, satisfaction with the service provided by a hairdresser may be sufficient to cause the consumer to return.

According to the extant literature, satisfaction is post-consumption while attitudinal loyalty is pre-consumption in a first purchase situation. In reality, however, both attitudinal loyalty and satisfaction are both pre-consumption and post-consumption in a repeat purchase context. Oliver (1999) proposes that the relationship between satisfaction and loyalty is that satisfaction is

transformed into loyalty with the assistance of a myriad of other factors; yet in a repeat purchase setting, attitudinal loyalty and satisfaction may be formed simultaneously as both are latent internal constructs. Oliver (1999) dismisses the proposition that satisfaction and loyalty are the same construct; however, there is a lack of empirical evidence to suggest that they are in fact distinct and divergent concepts. Therefore, the purpose of this study is to demonstrate empirically, in a business-to-business context, that satisfaction and loyalty are, in fact, *different* constructs.

Based on the previous discussion, it is hypothesized that satisfaction and loyalty are, however, *related* concepts (Hypothesis 1). Satisfaction and loyalty are formed at different points in time and there are a variety of circumstances where satisfaction and loyalty will have an inverse relationship. Therefore, it is hypothesized that satisfaction and loyalty are divergent constructs (Hypothesis 2).

Hypothesis 1: Satisfaction and attitudinal loyalty are related constructs.

Hypothesis 2: Satisfaction and loyalty are divergent constructs.

2. Research Method

2.1. Overview

A fundamental element of this study involves the examination of the relationship between satisfaction and loyalty in a business-to-business setting. This study involved business owner reactions to telephone directory advertising, a commonly purchased business service. The data was collected using a survey instrument.

2.2. *Sample*

The decision to select a business sample addresses a gap in the literature identified as a dominance of consumer research in the satisfaction-loyalty relationship. Highly experienced purchasers in a category where there was one dominant player in a market that had been deregulated approximately six years prior to data collection were questioned in this study. This context is a repeat context, which therefore implies that satisfaction and attitudinal loyalty may not be distinct constructs. This should imply relevance to businesses about to face competition due to government deregulation or where there is a dominant market leader, for example Microsoft, a market driven monopoly.

Data was collected via a mail questionnaire in the services industry of directory advertising. Respondents had to have more than one year's experience in purchasing telephone directory advertising. It is important to note that the region selected has high levels of competition for telephone directory advertising with three players aggressively pursuing sales. A total of 267 responses were received, representing a 20% response rate. The technique of comparing early and late respondents was used to examine non-response bias. Comparing waves of early and late respondents on a range of demographic characteristics revealed no significant differences ($p > .05$), suggesting that non-response bias may not be a problem. For satisfaction, five "evaluative" items were chosen due to their reliability ($\alpha=0.96$), and these were sourced from Oliver (1989). Evaluative rather than emotion-laden items were selected due to the rational decision making process used by business buyers, which is a key assumption of business buyer behaviour. For loyalty, five items were chosen due to their reliability ($\alpha=0.91$), and these were sourced from Martin (1998), Martin and Goodell (1991), and Traylor (1981).

Divergent validity is required when evaluating measures (Churchill, 1979; Gerbing and Anderson, 1988), especially when the measures are interrelated as in the case of satisfaction and

attitudinal loyalty. Large correlations between latent constructs (greater than 0.8) suggest a lack of divergent validity.

Structural equation modeling was used to identify the satisfaction-loyalty relationship. Divergent validity was tested using both structural equation modeling and the Fornell and Larcker (1981) approach. To satisfy the requirements of divergent validity, the average variance extracted for the two constructs, namely satisfaction and loyalty, should exceed the square of the correlation between the constructs. Using estimates of model parameters is a main advantage of this method for assessing divergent validity compared to traditional approaches such as correlations, as it is a more powerful analytic tool.

3. Results

3.1. Overview

The divergent validity of satisfaction and attitudinal loyalty in the directory advertising market are assessed in this section using the two-stage approach to structural equation modeling (Anderson and Gerbing, 1988). Congeneric single factor measurement models were estimated for satisfaction and loyalty to refine the scales in the first stage. The second stage involved estimating a satisfaction-loyalty model where satisfaction and loyalty are related but different constructs.

3.2. Stage one: Estimation of Congeneric Satisfaction and Loyalty Models

The congeneric model of attitudinal brand loyalty commenced with nine indicators and was reduced to five by eliminating the indicators with standardized residuals greater than 2.54. The congeneric model of satisfaction commenced with six indicators and was reduced to five by

eliminating the indicator with standardized residuals greater than 2.54. The goodness-of-fit measures for the congeneric models of satisfaction and loyalty are summarized in Table 2.

INSERT TABLE 2 HERE

The latent construct of attitudinal loyalty explains at least 58% of the indicator's variance, which suggests that the indicators are very good measures of attitudinal loyalty and have convergent validity. The indicators also appear to have high reliability as evidenced by the composite reliability of 0.94 and variance extracted estimate of 0.75. The congeneric model of satisfaction commenced with six indicators. This was reduced to five by eliminating the indicator with standardized residuals greater than 2.54. The resulting goodness-of-fit statistics were a RMR of 0.57, GFI and AGFI greater than 0.90 and a chi-square with 5 df of 4.22. Even though the RMR is slightly higher than 0.05, it is still within an acceptable range. Therefore the statistics indicate that the model fits the sample data well. The latent construct explains at least 90% of the indicator's variance, which suggests that the indicators are very good measures of satisfaction and have convergent validity. The indicators also appear to have high reliability as evidenced by the composite reliability of 0.98 and variance extracted estimate of 0.93.

3.3. Stage two: Estimation of Satisfaction-Loyalty Model to Assess Divergent Validity

Once the scales had been refined, the full structural model was estimated to test the hypotheses. Constructing two competing models and comparing the goodness-of-fit statistics for each model were undertaken. The models are displayed below.

INSERT FIGURES 1 AND 2 HERE

INSERT TABLE 3 HERE

The first model shows attitudinal loyalty and satisfaction as related but divergent concepts. The chi-square was 216.64 with a GFI of 0.86 $p < 0.05$. The second model presents satisfaction and loyalty as the same construct with the resulting statistics of chi-square of 603.10 and GFI of 0.69 $p < 0.05$. The divergent model (Model 1) indicates that satisfaction and loyalty are correlated at 0.75, supporting Hypothesis 1.

Several approaches for assessing divergent validity exist. As indicated in Table 3, the chi-square difference is 386.46 with 1 degree of freedom. This exceeds the critical value, which for 1 degree of freedom is 3.84. This result indicates that the divergent model has significantly better fit to the sample data than the convergent model. Once the model parameters have been estimated using structural equation modeling, the variance-extracted estimate needs to be calculated using the following formula to determine divergent validity.

$$P_{vc(n)} = \frac{\text{Sum}(\lambda_{di})^2}{\text{Sum}(\lambda_{di})^2 + \text{Sum}(\text{error}_i)}$$

The variance extracted by the satisfaction measures was 0.84, and the variance extracted by the attitudinal loyalty measures was 0.66. The average variance extracted of $((0.66 + 0.84) / 2 = 0.748)$ exceeds the square of the correlation (0.75^2) , which suggests that satisfaction and attitudinal loyalty are distinct but highly related constructs. This provides support for Hypothesis 2.

4. Discussion

This study sought to demonstrate that satisfaction and loyalty are distinct constructs empirically in the under-researched business-to-business services context. The procedure to examine the divergence of satisfaction and loyalty was based on Fornell and Larcker (1981), and this was detailed in the results section of this paper. The results of this study support the frequent assumption evident from the comprehensive literature review that satisfaction and loyalty are distinct but highly related constructs. In summary, both hypotheses were supported.

4.1 Managerial Implications

If satisfaction and loyalty are the same construct then satisfaction is a proxy for loyalty. Which means that your satisfaction ratings or surveys can be used with confidence to make an assessment regarding loyalty. Satisfaction and loyalty are divergent and this suggests that marketing managers need to test both customer satisfaction and loyalty levels because high levels of satisfaction do not always translate into high levels of attitudinal loyalty.

The measures used in this study can be useful for managers of utilitarian or functional type products and services, e.g. motor vehicle repairs, vacuum cleaners and batteries, where the disconfirmation paradigm is an antecedent and where customers cognitively review the customer process.

There is no evidence of temporal antecedence between satisfaction and loyalty in the literature, which is interesting given the claim that satisfaction leads to loyalty. Yet this is largely untested with longitudinal data. Future research is required to test the ordering of the relationship. For instance, are satisfaction and attitudinal loyalty simply correlated, or does one

lead to the other? Longitudinal studies are required to test competing models. The first model would hypothesize that attitudinal loyalty and satisfaction are formed simultaneously. While the competing model would take the traditional view that satisfaction is antecedent to attitudinal loyalty. It is likely that satisfaction is not antecedent to attitudinal loyalty as they are both internal constructs/attitude components.

The link between satisfaction and loyalty would be better demonstrated through the elimination of respondents who fall into the 'zone of indifference'. A technique for achieving this is the tertial split where the middle third is eliminated from statistical analysis. This method has been used successfully (Gundry and Welsch, 2001).

References

- Anderson EW. Cross-category variation in customer satisfaction and retention. *Marketing Letters* 1994; 5: 19-30.
- Anderson JC, Gerbing DW. Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach. *Psychological Bulletin* 1988; 103(3): 411-423.
- Biong H. Satisfaction and Loyalty to Suppliers within the Grocery Trade. *European Journal of Marketing* 1993; 27(7): 21-38.
- Bloemer JMM, Kasper HDP. The complex relationship between consumer satisfaction and brand loyalty. *Journal of Economic Psychology* 1995; 16: 311-329.
- Bolton RN. A Dynamic Model of the Duration of the Customer's Relationship with a Continuous Service Provider: The Role of Satisfaction. *Marketing Science* 1998; 17(1): 45-65.
- Bowen JT, Chen S-L. The relationship between customer loyalty and customer satisfaction. *International Journal of Contemporary Hospitality Management* 2001; 13(5): 213-217.
- Churchill GA Jr. A Paradigm for Developing Better Measures of Marketing Constructs. *Journal of Marketing Research* 1979; 16(February): 64-73.
- Cronin JJ, Brady MK, and Hult TMG. Assessing the effects of quality, value, and customer satisfaction on consumer behavioural intentions in service encounters. *Journal of Retailing* 2000; 76(2): 193-218.
- Delgado-Ballester E, Munuera-Aleman JL. Brand trust in the context of consumer loyalty. *European Journal of Marketing* 2001; 35(11/12): 1238-1258.
- Eriksson K, Vaghult AL. Customer Retention, Purchasing Behavior and Relationship Substance in Professional Services. *Industrial Marketing Management* 2000; 29: 363-372.
- Faulkner, ME. *Business Orientation Scale Development and Psychometric Assessment*. Adelaide: University of South Australia School of Marketing, 1998.
- Fornell C, Larcker DF. Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research* 1981; 18(2): 39-50.
- Gerbing DW, Anderson JC. An Updated Paradigm for Scale Development Incorporating Unidimensionality and Its Assessment. *Journal of Marketing Research* 1988; 25(May): 186-192.

- Gronholdt LA, Martensen and Kristensen, K. The relationship between customer satisfaction and loyalty: cross-industry differences. *Total Quality Management* 2000; 11(4,5,6): 509-514.
- Gundry LK, Welsch HP. The ambitious entrepreneur: High growth strategies of women-owned enterprises. *Journal of Business Enterprise* 2001; 16: 453-470.
- Hair JF Jr, Anderson RE, Tatham RL and Black WC. *Multivariate Data Analysis*. New Jersey: Prentice-Hall International, 1998.
- Heskett JL, Sasser WE Jr, Schlesinger LA. *The Service Profit Chain*. New York: The Free Press, 1997.
- Homburg C, Giering A. Personal Characteristics as Moderators of the Relationship between Customer Satisfaction and Loyalty – An empirical analysis. *Psychology and Marketing* 2001; 18(1): 43-66.
- Jones MA, Suh J. Transaction-specific satisfaction and overall satisfaction: an empirical analysis. *Journal of Services Marketing* 2000; 14(2): 147-159.
- Lovelock CH, Patterson PG, Walker RH. *Services Marketing: Australia and New Zealand*. Frenchs Forest: Pearson Education Australia, 2001.
- Madden TJ, Dillon WR, and Twible JL. Construct Validity of Attitude Toward the Ad: An Assessment of Convergent/Discriminant Dimensions. In: Olson J and Sentis K, editors. *Advertising and Consumer Psychology*, vol. 3. New York: Praeger Publishers, 1986. pp. 74-92.
- Martin CL. Relationship marketing: A high-involvement product attribute approach. *Journal of Product and Brand Management* 1998; 7(1): 6-26.
- Martin CL, Goodell PW. Historical, Descriptive and Strategic Perspectives on the Construct of Product Commitment. *International Journal of Wine Marketing* 1991; 3(2): 15-22.
- Mattila A. The impact of product category risk on satisfaction evaluations. *International Journal of Hospitality Management* 2001; 20: 29-43.
- Mittal B, Lassar WM. Why do customers switch? The dynamics of satisfaction versus loyalty. *The Journal of Services Marketing* 1998; 12(3): 177-194.
- Mooradian TA, Oliver JM. "I can't get no satisfaction": The impact of personality and emotion on postpurchase processes. *Psychology and Marketing* 1997; 14(4): 379-393.

- Oliver RL. A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions. *Journal of Marketing Research* 1980; 17(November): 460-468.
- Oliver RL. Processing of the Satisfaction Response in Consumption: A Suggested Framework and Research Propositions. *Journal of Consumer Satisfaction, Dissatisfaction, and Complaining Behaviour* 1989; 2: 1-16.
- Oliver RL. *Satisfaction: A behavioral perspective on the consumer*. New York: The McGraw-Hill Companies, Inc 1996.
- Oliver RL. Whence customer loyalty? *Journal of Marketing* 1999; 63: 33-44.
- Oliver RL, Gerald L. Effect of satisfaction and its antecedents on consumer preference and intention. *Advances in Consumer Research* 1981; 8: 88-93.
- Page N Eddy C. *The Correlation between Service Quality, Satisfaction and Loyalty*. Australian & New Zealand Marketing Academy 1999. Sydney: University of New South Wales School of Marketing, 1999.
- Patterson PG, Johnson LW, and Spreng RA. Modelling the Determinants of Customer Satisfaction for Business-to-Business Professional Services. *Journal of the Academy of Marketing Science* 1997; 25(1): 4-17.
- Ringham LA, Johnson LW, and Morton CP. Customer Satisfaction and Loyalty for a Continuous Consumer Service. *Australasian Journal of Market Research* 1994; 2(2): 43-48.
- Szymanski DM, Henard DH. Customer satisfaction: A meta-analysis of the empirical evidence. *Journal of the Academy Marketing Science* 2001; 29(1): 16-35.
- Traylor M. Product Involvement and Brand Commitment. *Journal of Advertising Research* 1981; 21: 51-6.
- Webster C, Sundaram DS. Service consumption criticality in failure recovery. *Journal of Business Research* 1998; 41: 153-159.

Table 1: Literature review of empirical satisfaction – loyalty research

Authors	Summary of method	Summary of findings
Bolton (1998)	Telephone services customers, n=650, SEM, validity and reliability not reported	Statistical relationship between satisfaction and intentions is small but significant. Explained variance is 8%. Results found that high satisfaction leads to longer duration of relationship.
Cronin, Brady and Hult (2000)	Sports, entertainment, healthcare, telephone, fast food consumers, n=1994, confirmatory factor analysis, divergent validity reported	Intention to buy and emotion-laden satisfaction correlate at 0.62 and 0.72. Satisfaction leads to loyalty, B=0.41.
Ringham, Johnson and Morton (1994)	Service, n=1837, multiple regression, no validity check reported	Results: Disconfirmation of expectations had a greater direct effect on loyalty than on satisfaction. Satisfaction to loyalty regression coefficient was .12, disconfirmation to loyalty regression coefficient was 0.28.
Oliver and Linda (1981)	Men's sleeping apparel consumers, n=500, regression, no validity check reported	Intention to purchase was almost exclusively a function of satisfaction, male = 0.84 and female = 0.82.
Heskett et al. (1997)		There is a non-linear relationship between satisfaction and loyalty. Initial improvements in satisfaction result in a large increase in loyalty until it hits a threshold point termed the 'zone of indifference'. Once a second threshold is exceeded we once again see significant improvements in loyalty based on increases in satisfaction.
Biong (1993)	Grocery trade consumers, n=34, simultaneous multiple regression, no reliability or validity reported	There is a positive relationship between satisfaction and loyalty (r=0.63), but the two variables are constructs with different contents. The results indicate that satisfaction is one of several predictors of loyalty.
Patterson, Johnson and Spreng (1997)	Management consultant services, n=186, SEM, variance extracted reliability measure, factor loadings for convergent validity, divergent validity	Emotion-laden satisfaction was associated with repeat purchase intentions (B=0.79, variance of 78%).
Gronholdt, Martensen and Kristensen (2000)	Telecommunications, retail banks and supermarkets, n=9000, SEM, validity not reported	Loyalty is an outcome of satisfaction. Regression analysis showed that the relationship between loyalty and satisfaction was strongly significant (r ² =0.7).
Jones and Suh (2000)	Hairstylists/barbers, n=114, SEM, no validity check reported	Both transaction-specific and overall satisfaction, were significantly correlated. The results of this study suggest that overall satisfaction is a better predictor of loyalty measured through purchase intention than transaction-specific satisfaction.

Authors	Summary of method	Summary of findings
Oliver (1989)	Automobile, n=426, SEM	Satisfaction is related strongly to the consumer's intention cognitions.
Szymanski and Henard (2001)	Meta Analysis of 50 studies reporting correlations	Magnitude of the relationship between satisfaction and loyalty varies according to the measurement and method factors that characterize the research. The results support a positive relationship between satisfaction and loyalty.
Homburg and Giering (2001)	Automobiles, n=943, Multi-group SEM	Measured satisfaction with product, sales process and after-sale service, and loyalty. The relationship between satisfaction with the product and loyalty variables ranged from 0.4 to 0.6. Variety seeking, age and income moderate the relationship between customer satisfaction and attitudinal loyalty.
Eriksson and Vaghult (2000)	Professional service customers, n=111, SEM, divergent validity mentioned but not reported	Relationship satisfaction increases customer retention greatly (B=0.71), and not all retained customers are satisfied.
Mattila (2001)	Business travelers consumers, n=122, Multiple regression, no validity check reported	The causal link between overall satisfaction and repurchase behaviour has been well-documented in the literature with satisfaction influenced return intention, B=0.57.
Mittal and Lassar (1998)	Health care and car repair consumers, n=233, discriminant analysis, no validity check reported	A high degree of satisfaction does not translate into loyalty. Factors driving satisfaction and loyalty differed across the two service categories examined.
Bowen and Chen (2001)	Hotel consumers, n=546, cross tabulation, no validity check reported	Customer satisfaction does not equal customer loyalty. The results verified the non-linear and asymmetric relationship between customer satisfaction and loyalty.
Mooradian and Oliver (1997)	Automobile consumers, n=220, MANOVA, no validity check reported	Satisfaction leads to repeat purchase intention, B=0.77.
Delgado-Ballester and Munuera-Aleman (2001)	Disposable nappies consumers, n=173, regression, no validity check reported	Satisfaction leads to loyalty, B=0.529.

Table 2

Goodness-of-Fit Measures for Attitudinal Loyalty and Satisfaction Congeneric Models

Name	Acceptable Level	Congeneric Attitudinal Loyalty Model	Congeneric Satisfaction Model
Chi-Square (χ^2)		$\chi^2=6.68$	$\chi^2 = 4.22$
Degrees of freedom (df)		df=5	df = 5
Probability Level	p>0.05	p=0.245	p=0.52
Goodness-of-Fit Index (GFI)	GFI>0.95	0.99	0.99
Comparative Fit Index (CFI)	CFI>0.95	0.99	1.00

Figure 1 Divergent validity

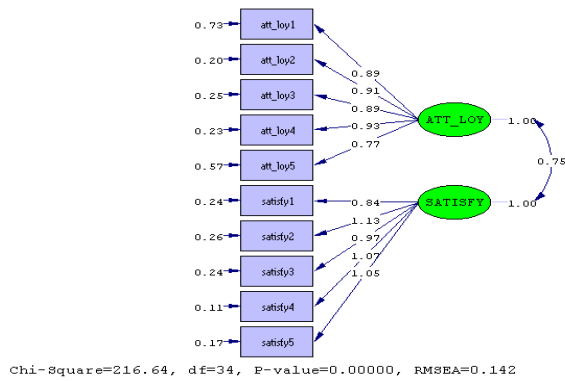


Figure 2 Convergent validity

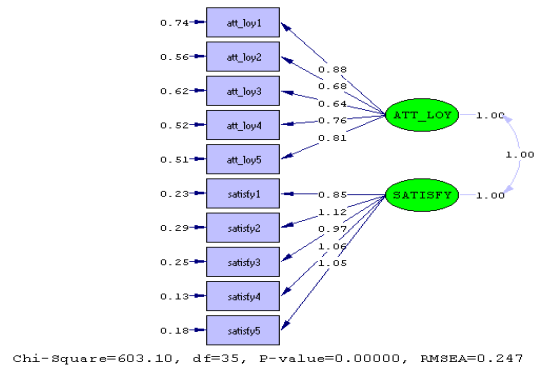


Table 3

Chi Square Difference

Name	Divergent model (Model 1)	Convergent model (Model 2)
Chi-Square (χ^2)	$\chi^2=216.64$	$\chi^2=603.10$
Degrees of freedom (df)	df=34	df=35
Chi-square difference	386.46	