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**SWP 12/95 EMPIRICAL DEVELOPMENTS IN THE
MEASUREMENT OF INVOLVEMENT,
BRAND LOYALTY AND THEIR STRUCTURAL
RELATIONSHIPS IN GROCERY MARKETS**

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**Empirical Developments in the Measurement of
Involvement, Brand Loyalty and their
Structural Relationships in Grocery Markets**

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KEYWORDS

Brand involvement; brand commitment; consumer purchasing patterns; causal relationship modelling; grocery markets.

ABSTRACT

The paper reports on a research design that attempts to integrate prior theory on consumer involvement and brand loyalty through a unifying model which we test in a longitudinal study of grocery product purchasing.

Using a previously identified and validated measure of involvement, together with a new test instrument to capture the dimensionality of brand loyalty, the model was estimated using LISREL. We report on our main finding which is to confirm the existence of a significant relationship between the two constructs in grocery markets. The implications of this for marketing theory and practice are discussed and future research directions signposted.

BIOGRAPHIES

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INTRODUCTION

In their classic work "The Theory of Buyer Behaviour", Howard and Sheth (1969) hypothesise that consumer involvement with brands affects the extent of their information search, the size of the evoked set and the nature of brand loyalty. Ray (1973) introduces the idea that involvement can affect the entire nature of decision processing undertaken in product selection. Indeed, these effects and other behavioural responses considered to be governed by consumer involvement have now been adopted in a number of contemporary consumer marketing textbooks (Assael 1987, Engel et al 1986, Peter and Olson 1993).

However, early attempts at empirical validation of the concept as a mediator of brand purchasing decisions have been of limited value. Problems in definition and measurement techniques have resulted in much of the research being compromised and only tentatively concluded. For instance, Kapferer and Laurent (1986) refer to the problem of "circular misuse" and cite the example of Engel and Blackwell (1982) who suggest measuring consumer involvement by its proposed consequences. Beatty and Kahle (1988) use the surrogate of brand commitment to explore the involvement-decision processing relationship rather than measure the construct directly. In their paper and in other contemporary pieces, such as Park, Assael and Chary (1987) and Mittal (1989), they also use measures of repeat purchase behaviour that are based on self-report surveys. Each of the authors acknowledge the questionable reliability of such data collection procedures in recalling actual behaviour.

Despite the shortcomings which limit the advancement of both grounded theory and incremental validation of the involvement-behaviour relationship, commercial and academic interest in consumer involvement with brands remains strong since differentiation is considered fundamental in invoking a degree of behavioural discrimination.

The purpose of this paper is to report on a research design that attempts to integrate prior theory in a unifying involvement-loyalty model which is subsequently tested in a longitudinal consumer study of grocery purchases. The aspect of this research reported here is the structural relationships between involvement and brand loyalty across three product categories.

The paper opens with a brief literature review of progress that has been made in identifying these constructs, initially at a general level and then more specifically in the domain of grocery brands. We argue that the validity and reliability measures of involvement are now much more advanced than for brand loyalty. As a consequence, we needed to build a composite measure of the loyalty construct in order to capture its true dimensionality before any measures could be made. This new test instrument and the involvement measures that we adopted are reported here.

In the second part of the paper, we discuss the protocol of the research procedures used to measure both attitudinal and behavioural constructs and to specify the unifying model through structural equations. Using LISREL to estimate the true structural relationships, we report our main finding which confirms the existence of a significant relationship between involvement and brand loyalty in grocery markets.

Finally, we discuss how the model can be used by marketing management and academics to advance our understanding of grocery product purchasing and conclude the paper by signposting future research directions.

BACKGROUND

Before justifying our choice of measurement instruments for the model, we need to declare our philosophical assumptions underlying the research paradigm. Clearly, the fabric of the research protocol viz. the belief in a causal relationship between involvement, brand commitment and purchase choice, is rooted in a deterministic perspective. This implies that the repeat purchase process is, to some degree, influenced by mental interventions. Brand loyalty in grocery markets is thus an end-result of a biased, psychological choice process (Jacoby and Olson 1970) rather than a random event that could be predicted from known probability distributions (Ehrenberg 1988, Barwise 1984). In defense of this stochastic approach, Bass (1974) prefers the view that even if behaviour is caused, the bulk of the explanation lies in a multitude of variables which occur with unpredictable frequency.

It is our contention that, whilst accepting that there will always be an unpredictable element to the way in which brands are purchased and by whom, *we believe that by tracking and aggregating the involvement and purchase response of individuals, a predictive model can be estimated with significant causal relationships.* The measurement instruments that were used to specify the components of this model are discussed below.

MEASURING INVOLVEMENT

In their seminal paper on involvement measurement, Laurent and Kapferer (1985) argue that the concept should be regarded as multidimensional if researchers are to provide a more complete description of the relationship between consumer and the product. This observation was to prove pivotal in the shift away from single scale involvement measurements (e.g. Vaughn 1980, Zaichkowsky 1985) towards profile measures which distinguish between sources and forms of involvement. Recently, Mittal and Lee (1989) have presented such a model which was derived from a number of earlier works on involvement profiling. In their paper, they propose an involvement dichotomy, product involvement and brand involvement which are both considered to be caused by three antecedents. They argue that these individual antecedents may be sufficient conditions for each form of involvement to exist but they are not necessary conditions. The authors use the following definitions to distinguish between involvement forms:

Product Involvement: the interest a consumer finds in the product category.

Brand Involvement: the interest taken in making the brand selection.

The authors then present an exploratory, empirical test of their causal theory among consumers of durable goods using LISREL VI to estimate their model. Through their analysis, they establish the measurement principles of their framework with data from two product fields. Some attempt is also made to estimate behavioural effects using the model although their protocol has been compromised, to some extent, due to the fact that the same sample was used for both. However, both the theoretical and empirical test instrument holds up well against the criteria suggested by Zaltman et al (1973) for consumer theory evaluation.

Mittal and Lee's measuring device has recently been adapted to study involvement across grocery brands (Authors 1994a). Due to consumer fatigue, their original 24-item questionnaire was reduced to fourteen items with minimal loss in reliability. Across the six product categories studied, the researchers detected significant differences both in the sources and forms of involvement between "medium" involvement grocery products (e.g. newspapers, toothpaste) and "low" involvement purchases (kitchen towels, tinned tomatoes). It is clear from this pilot study that the reduced-item measure is sufficiently sensitive to produce separations in consumer responses, provided the grocery product categories are not all located towards the "low" end of the involvement continuum (see Appendix 1.2 for the actual questionnaire used). This pilot work has since been validated for newspapers, breakfast cereals and kitchen towels in a full survey consisting of 200 respondents (Author* 1994b). On this evidence, we feel confident that a robust measure of involvement has now been established which can be used as a direct component in our model building process. However, the instrument for measuring brand loyalty in grocery markets proved much more elusive and the rationale for our preferred approach is argued next.

BRAND LOYALTY MEASURE

Repeat purchase behaviour is an axiomatic term which simply refers to the extent to which consumers re-purchase the same brand in any given period of time (see Ehrenberg 1988). In contrast, the term brand loyalty is a complex construct that is regarded as manifesting both psychological elements (e.g. brand commitment) as well as behavioural patterns (purchasing sequence) by researchers located in the deterministic school. Jacoby and Chestnut (1978) provide a classification of empirical loyalty measures and review their comparative reliability, validity and sensitivity. Unfortunately, this review proves inconclusive. However, in their concluding discussion, they identify a *conceptual definition of brand loyalty* (first proposed by Jacoby and Olson, 1976) for which they cite extensive empirical substantiation:

(1) the biased (i.e. non-random), (2) behavioural response (i.e. brand support), (3) expressed over time, (4) by some decision-making unit, (5) with respect to one or more alternative brands out of a set of such brands, and (6) is a function of psychological processes (i.e. brand commitment).

Despite an extensive contemporary literature search on the subject, we still found this to be the only fully identified definition available. Consequently, we used it directly to operationalize the loyalty construct. However, this task was not without its problems since one cannot specifically identify what constitutes a "loyal" (nor for that matter a "disloyal") consumer from this definition. Secondly, the use of a composite index to measure commitment as well as purchase behaviour would diminish the richness of the definition since high commitment/low repeat purchase behaviour and low commitment/high repeat purchasers may achieve similar scores despite manifesting entirely different buying approaches.

In order to address these problems, we viewed *commitment as an antecedent of brand support* in the loyalty measurement instrument. This approach is consistent with the protocol adopted by Traylor (1981) and provides a satisfactory solution within the confines of a linear model.

We also drew upon his single scale of brand commitment as one of two part measures for this component of the model (see Appendix 1.2) The second item is a modification of the scale used by Cunningham (1967).

To fully satisfy Jacoby and Chestnut's behavioural conditions, the behavioural measure of brand support would need to reflect the degree to which purchasing *within a product category* is devoted to a *limited set of brands* from a greater number that are available. This measure would be an index of the individual's brand purchasing repertoire and can be expressed mathematically as:

$$\text{Brand Support Index (BSI)} = \sum_{\text{Brand } n}^{\text{Brand } 1} \left[\frac{(\text{Purchases of brand } n)^2}{(\text{Total purchases product})^2} \right] \times \log^{**} (\text{no. of purchases})$$

Given that grocery products are generally high purchase frequency items which are selected from a wide choice of brands within categories, we did not believe that a self-report system would accurately reflect grocery purchasing patterns over the designated research period of four months. To capture this repeat purchase data and to compute the B.S.I. over this length of time, we needed a bespoke panel of consumers. In order to complete the brand loyalty measure we also needed their cooperation to gather brand commitment information. Detailed data collection procedures for both the brand loyalty and involvement measures are described in the next section.

METHODOLOGY AND RESEARCH PROTOCOL

To be confident of eliciting the appropriate quality of response to our attitudinal and motivational measures, not to mention the quantity of data for the brand support index, a panel of 200 respondents were recruited in the New City of Milton Keynes on a clustered, random-sample basis. These respondents were selected from an original pool of 300 participants because they were more responsive in completing their administrative duties according to our instructions. Their task was no mean undertaking since, individually, it would entail them recording over 1,000 items during the research protocol!

A further quota requirement was that each panel member should buy regularly from at least two of the three product categories that had been pre-selected through pilot research (Authors 1994a). These were all high-penetration, high purchase frequency grocery items: kitchen towels, breakfast cereals and newspapers.

The final quota sample closely reflected the Milton Keynes population profile which, in comparison to the UK as a whole, is over-represented in the younger age groups and middle social classes. Since each respondent was required to record their purchases of every brand (and own-label) in each category over a sixteen week period, we had, in effect, a sample size of between 400 and 600.

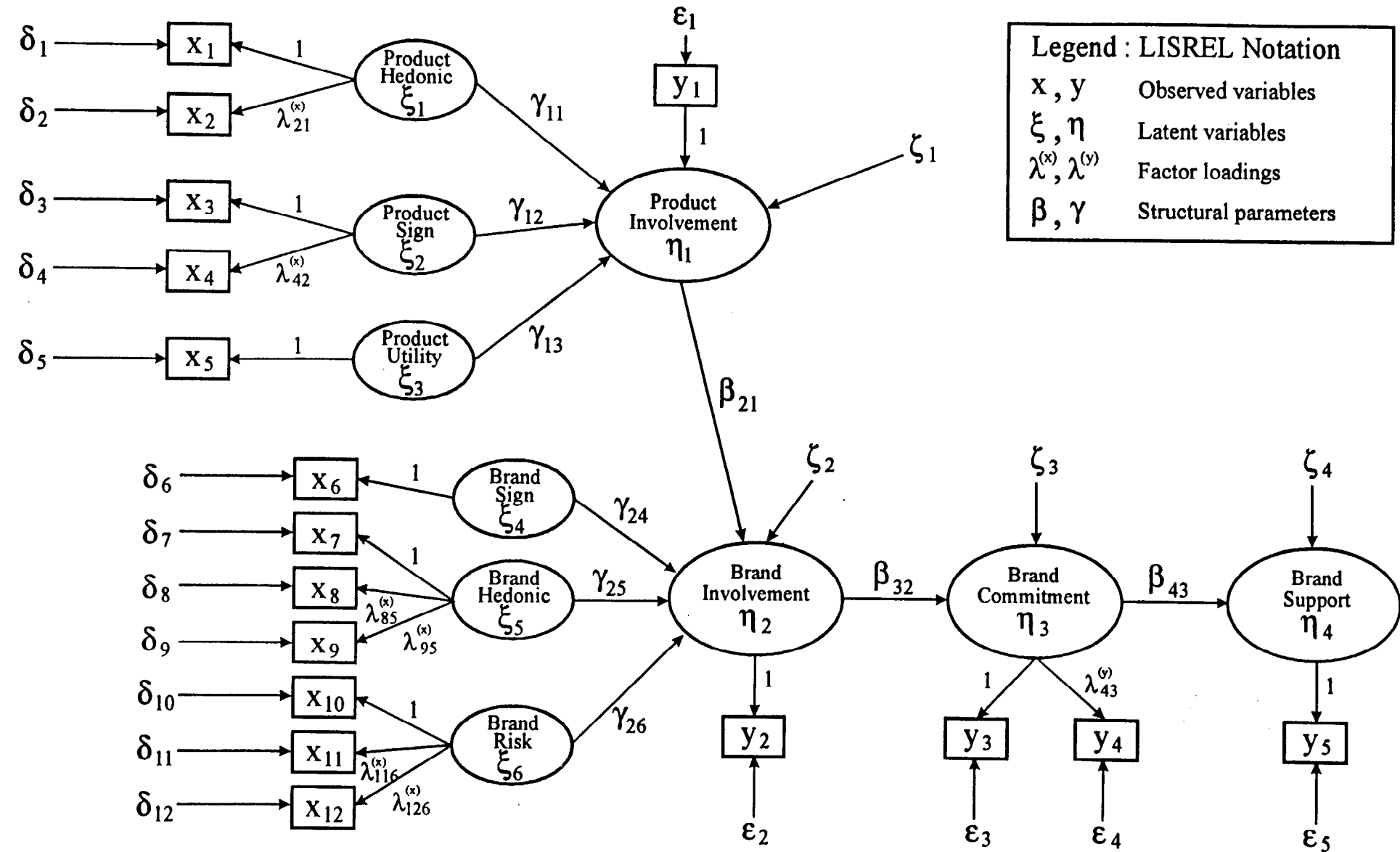
The research protocol consisted of four phases:

1. Initially, a questionnaire was sent out to each respondent for self completion. This contained the 14-item involvement measure (Appendix 1.1), and the 2-item brand

commitment probe (Appendix 1.2) for each product category as well as basic socio-demographic information.

2. The second phase was the collection and replenishment of the respondent's diary sheet on a two-weekly basis since the number of brands available to respondents in each of the product categories was large (100+ for breakfast cereals) and their range of purchases was often wide. Respondents were requested to record this information in their diary on the day of purchase. In order to keep the diary as simple as possible, a free response format was used (Appendix 2 gives an example of the diary sheet for paper towels and breakfast cereals). In general, a new diary sheet was delivered and the old one collected on the first day of each two-week period. If respondents were in, a personal call was made to maximise contact and encourage continued participation throughout the sixteen weeks. Additional calls were made on respondents who did not return their sheets within the week to sort out any problems. One hundred and ninety-one respondents^{***} were retained throughout the 4-month period and over 250,000 data items were eventually coded and recorded on an IBM compatible personal computer. With multiple records across two and sometimes three product categories, the final sample was 466 usable results. SPSS for Windows, PRELIS VI.0 and LISREL VII software were used for analysis.
3. The specification of the unified involvement-brand loyalty model was derived from the formal model by Mittal and Lee (1989) with one minor modification made to the specification in the causal paths leading to behaviour effects (Figure 1). In their work, Mittal and Lee show a path between both forms of involvement and brand commitment. This surprised us since it seems to violate the logical progression of their theoretical definition which suggests that brand involvement is the sole antecedent of commitment, whilst product involvement is one of four antecedents to brand involvement. The specificity of the definitions of each of these constructs in relation to the object increases in the order: product involvement, brand

Figure 1.
The Unified Involvement - Brand Loyalty Model



Legend : LISREL Notation
 X, y Observed variables
 ξ, η Latent variables
 $\lambda^{(x)}, \lambda^{(y)}$ Factor loadings
 β, γ Structural parameters

(Adapted from Mittal and Lee, 1989)

involvement, brand commitment. In our model, the route between product involvement and brand commitment was dropped.

4. Since this is the first time that researchers have attempted to model the causal relationship between involvement and brand loyalty for grocery products, we developed a series of hypotheses to test the structural relationships:

H₁ Antecedent involvement sources are significant causes of the two forms of involvement at the 99% level when applied to grocery products.

H₂ Brand-involvement is a significant cause of brand commitment at the 99% level.

H₃ Brand commitment is a significant cause of brand support at the 99% level.

H₄ The involvement-brand loyalty model provides a robust description of grocery product purchasing.

METHODOLOGICAL LIMITATIONS

There are a number of criticisms that can be levelled both at the method of data collection and model estimation using LISREL:

Firstly, there is the possibility that participation in the panel may bias the results. Both Ehrenberg (1988) and Ehrenberg and Twyman (1966) have, in fact, shown that long term panel membership does not significantly affect shopping behaviour. To reduce this risk, the panel was given a two-week dummy period to settle into data-recording routines prior to the sixteen week test. This data was not used in the main analysis.

Secondly, the design is susceptible to criticisms about the number of external variables that need to be controlled (e.g. levels of advertising, brand usage, price etc.). However, given that we intended to use three product categories and the aggregated scores of about two hundred respondents for brand commitment and support within each category, any effects of extraneous variables should be nullified.

Thirdly, behaviourists would argue that the lack of control of measured variables could lead to spurious results. Joreskog and Sorbom (1989) counter this by claiming that recent improvements in causal modeling due to better statistical estimation of relationships

between measured variables, means that structural relationships can be established from data gathered by survey. Their proviso is that the model must be specified from sound theory a priori and that multiple indicators are used to measure the underlying concepts. We would argue that our research protocol meets both these criteria **** and that LISREL provides the best method of estimating these structural relationships (see Bagozzi 1980). These data analysis procedures and model estimations are detailed in the next section.

MODEL ESTIMATIONS AND RESULTS

In the first instance, the model identified in Figure 1 was estimated with LISREL VII using weighted least squares. ***** As a prior step, the covariance matrix and the asymptotic covariance matrix had been estimated using DOSPRELIS VI.0. The model fit was assessed by the Chi square test (χ^2) (Joreskog and Sorbom 1988), the goodness-of-fit indexes and examination of the contribution of the individual constructs. Table 1 contains the fit statistics for the unified model across the three product categories.

Table 1

Whilst the χ^2 statistic appears satisfactory (< 5 , Wheaton et al. 1977), and a substantial portion of the variance appears to be explained by the model, closer examination of t-values for the γ -coefficients (exogenous to endogenous variables) shows that *three of the antecedents of involvement have small and non-significant structural coefficients* (Table 2). Since correlations between parameters within the phi matrix are all < 0.9 (the cut off value suggested by Hayduk 1987, 176), this result was not thought to be due to empirical under-identification.

Table 2

Thus, neither product utility, brand sign nor brand hedonic are making a significant contribution towards the fit of the model and can be removed. The removal of only one

Table 1: Fit indicators for the unified model using
Weighted Least Squares
(n = 466)

CHI SQUARE (χ^2) = 350.73 (100 degrees of freedom)

Goodness-of-fit Index = 0.920

Adjusted Goodness-of-fit Index = 0.877

R Square overall for structural
equations = 0.900

Squared multiple correlations for structural equations :

Product involvement (η_1) = 0.571

$$\eta_1 = \gamma_{11} \xi_1 + \gamma_{12} \xi_2 + \gamma_{13} \xi_3 + \zeta_1$$

Brand involvement (η_2) = 0.887

$$\eta_2 = \beta_{21} \eta_1 + \gamma_{24} \xi_4 + \gamma_{25} \xi_5 + \gamma_{26} \xi_6 + \zeta_2$$

Brand commitment (η_3) = 0.882

$$\eta_3 = \beta_{32} \eta_2 + \zeta_3$$

Brand support (η_4) = 0.165

$$\eta_4 = \beta_{43} \eta_3 + \zeta_4$$

Table 2: γ - coefficients (and t - values) between antecedents and involvement forms

	Product sign	Product hedonic	Product utility	Brand sign	Brand hedonic	Brand risk
Product Involvement	.218 (2.73)	.647 (8.91)	.034 <u>(.843)</u>			
Brand Involvement				-.010 <u>(-.276)</u>	.087 <u>(1.37)</u>	.754 (9.49)

(values of t are significant at $p = .01$, where $t > 2.6$)

source of product involvement (against two for brand involvement) makes the estimation of the two remaining product sources unreliable. For this reason, the least significant of the two, product sign, was removed prior to the next estimation. All other structural parts of the model show strongly determined relationships, *i.e. product involvement is a significant antecedent of brand involvement which is a significant antecedent of brand commitment, in turn, a significant antecedent of brand support.*

With four of the antecedents removed from the model specification (Figure 2), a revised involvement-loyalty model was again estimated using the same techniques and fit statistics. Table 3 contains the fit statistics for this simple fixed model across the three product categories:

Table 3

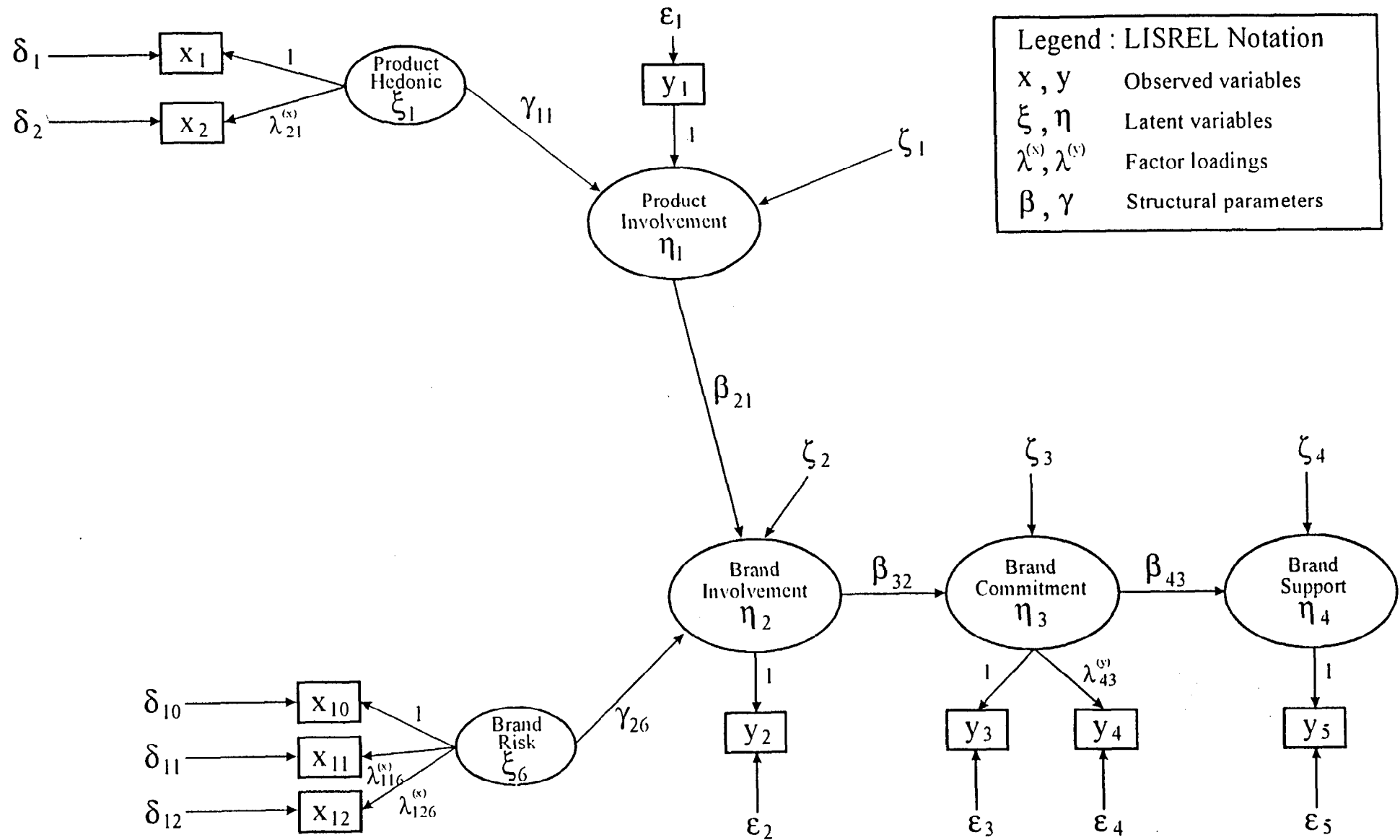
Whilst the Chi square statistic now suggests a poorer overall fit, it is certainly still within acceptable limits. *The point is, however, that each of the coefficients are making a significant contribution to the fit of the model;* an essential characteristic in estimating dimensionality. These structural coefficients and t-values are given in Table 4.

Table 4

A further improvement of this model is derived from the more robust parameter estimates; the highest correlation between any two is now less than 0.8. Hence, the statistical estimation of the structural relationships (between involvement forms and sources and loyalty behaviour) in the simplified model were used to test the formal hypotheses:

H_1 is rejected since the relationships between the sources and forms of involvement (as proposed by Mittal and Lee in their formal model) do not apply for these categories of grocery products. In fact, only product hedonic was found to be an antecedent to product involvement (arguably product sign should be merged with hedonic in future surveys)

Figure 2.
The Simplified Involvement - Brand Loyalty Model



(Adapted from Mittal and Lee, 1989)

Table 3: Fit indicators for the simplified model using
Weighted Least Squares
(n = 466)

CHI SQUARE (χ^2) = 173.1 (41 degrees of freedom)

Goodness-of-fit Index = 0.931

Adjusted Goodness-of-fit Index = 0.890

R Square overall for structural
equations = 0.913

Squared multiple correlations for structural equations :

Product involvement (η_1) = 0.574

$$\eta_1 = \gamma_{11} \xi_1 + \zeta_1$$

Brand involvement (η_2) = 0.885

$$\eta_2 = \beta_{21} \eta_1 + \gamma_{26} \xi_6 + \zeta_2$$

Brand commitment (η_3) = 0.832

$$\eta_3 = \beta_{32} \eta_2 + \zeta_3$$

Brand support (η_4) = 0.155

$$\eta_4 = \beta_{43} \eta_3 + \zeta_4$$

Table 4: γ - coefficients and β - coefficients
(with t - values) for the simplified model

	Product Involvement	Brand Involvement	Brand Commitment
Product Hedonic	.817 (18.9)		
Product Involvement		.210 (4.99)	
Brand Risk		.956 (11.3)	
Brand Commitment		.806 (18.51)	
Brand Support			-.227 (-7.74)

(values of t are significant at $p = .01$, where $t > 2.6$)

which itself was one of only two antecedents to brand involvement. A significant relationship, even at the 90% level, could not be found for product utility, brand hedonic or brand sign. However, the evidence is not sufficient to suspend belief in the existence of these constructs for more involving product categories, a point which is developed in the next section.

H₂ *is accepted*; there is a very strong relationship between brand involvement and commitment for grocery products. Whilst one could argue that the two constructs are not causally linked at all but simply have shared content, we deliberately selected the indicators to measure *commitment in a behavioural context*, as a component of brand loyalty. Thus, there are important distinctions between the constructs in the measures made here.

H₃ *is tentatively accepted*; although the relationship between brand commitment and support has been shown to be significant in both models at the 99% level, the R² values in both instances (0.165 and 0.155.) indicate a high level of unexplained variance. An explanation of this may be simply that any relationship between involvement and behaviour is weaker at the lower levels of involvement which characterise grocery products in general.

An alternative explanation and the one preferred by the authors, is that the hypothesis and, indeed, the model specification of a linear relationship between commitment and support is too simplistic. A more useful approach might be to consider that both constructs are necessary and sufficient conditions for brand loyalty to exist. This idea is expanded in the discussion of future research directions in the concluding section.

H₄ *can be accepted* since the simplified model demonstrated that each of the specified structural relationships are significant at the 99% level. *So far as we are aware, this is the first time it has been possible to empirically identify a causal relationship between involvement and purchase behaviour in grocery markets.* The significance of this result and its implications for marketing theory and practice are discussed in the next section.

IMPLICATIONS FOR MARKETING THEORY AND PRACTICE

By combining our results with those of Mittal and Lee (1989), the proposed model of involvement has now been tested across three very different consumer product markets. Each show different sources of involvement to be important. For example, product and brand sign were reported for Jeans, product utility for VCRs, and product hedonic together with brand risk for the grocery products reported here. Each are intuitively plausible and seem to characterize where consumer interest (and disinterest by exclusion) in the product category lies. At the sub-category or brand level, it is very interesting that brand risk is perceived to be the sole antecedent to brand involvement for grocery products. The fact that risk remains a significant causal factor in selecting and purchasing brands directly challenges the stated views of Barwise and Ehrenberg who suggest that any perceived difference is likely to generate some trial on a "why not" basis, precisely because the choice is seen as so risk-free (Barwise 1994). Clearly, this is not always the case when the behavioural consequences are associated with a higher level of consumer involvement in a particular grocery category or with a brand.

A greater emphasis on perceived risk may still be an appropriate development step in brands marketing. This strategy can be worked in one of two ways: either by *reducing* the perceived risk to non-users or by *increasing* the risk of switching for existing users. In the former case, more extensive use of product trials at point of purchase would be one approach whilst, in the latter, loyalty programmes such as Tesco's Clubcard (Summers 1995) may provide sufficient incentive to reduce the level of switching between store chains.

Brand loyalty in grocery markets, unlike durables or the financial services, is never likely to be absolute. It will always be a relative behaviour since consumers tend to purchase from a portfolio of brands (Authors 1994c). The future challenge to marketing management within mature grocery markets will be to manage this consumer loyalty on a more proactive basis across all the product categories where they are represented. Whilst manufacturers have clearly understood the importance of consistency and quality to help remove the threat of adverse functional consequences among users, problems can still

occur, even among the most seasoned of competitors. For example, the launch of Persil Power by Levers in Europe has been acknowledged by its management as a very expensive mistake, both in terms of write-off costs and brand equity among loyal users (Gilchrist 1995). Conversely, the search for superior functional product performance must remain the most successful risk reduction strategy and long-term loyalty builder that brand management can pursue, provided it is also recognised by consumers.

The observation of quite discrete involvement profiles between the product categories now tested should not be surprising in the light of Kapferer and Laurents' earlier findings (1984). This means that Mittal and Lee's model and its adaptation for grocery markets, cannot be regarded as fully specified since this implies the presence of permanent causal routes (Joreskog and Sorbom 1988, 1989; Bagozzi 1980). Both sets of results underline the point that the sources of involvement are not necessary conditions for involvement to exist but they may, individually, be sufficient conditions. Thus, the full model should really only be regarded as conceptual since it requires adaptations in specific market conditions. *This does not in any way diminish the true specificity of the simplified model identified here. However, the question of its general applicability in grocery markets remains unanswered.*

The challenging of empirically validating a generic model for this and other markets remains a goal of considerable commercial and research interest. For instance, its use in new product development to predict market shares from involvement measures made during market tests would help reduce the risk of subsequent failure. It could also be used diagnostically to gauge brand loyalty levels within product categories both comparatively and longitudinally to monitor if loyalty is being eroded. Given that involvement is a reflection of the consumer-brand relationship, the involvement measure could equally be used as a basis of consumer segmentation or disaggregation according to the involvement profiles of each consumer group.

The diagnostic opportunities of a model of this type are very profound since many of the traditional measures of brand strength, such as market share and sales volumes, are poor indicators of the underlying dynamics of consumer purchasing patterns in

contemporary markets. As mass-customisation becomes reality in mass-production markets, identifying the individual's share of category expenditure that is devoted to a particular brand, i.e. the brand's "share of customer", has become the new unit of analysis (Peppers and Rogers 1994). *In the fullness of time, an involvement-brand loyalty model could be very directive in identifying both these brand expenditure patterns for primary*****, secondary and tertiary consumers as well as their composite behaviours on a continuum that ranges from unibrand loyals to multibrand switchers.*

Unfortunately, this "finger printing" of purchasing behaviour, derived from involvement measures, remains a very distant landmark. However, it is our belief that the work reported here builds upon Mittal and Lee's interpretations of Kapferer and Laurent's original study and makes an incremental contribution to the development of this measure.

In the concluding section, we acknowledge the limitations of our research efforts and signpost the priorities for future research in the area.

CONCLUDING COMMENTS AND FUTURE RESEARCH DIRECTIONS

Our research has been successful in supporting a number of basic tenets about grocery product purchasing. Firstly, our simplified model identifies a causal path between involvement and brand loyalty across the product categories researched. Secondly, we show that risk and the inherent involvement of the product category itself are the most important causes of consumer involvement at the brand level. Thirdly, brand involvement is identified as a highly significant cause of brand commitment, the motivational component of the loyalty measure used here.

In a wider sense, the fact that our original unified involvement- brand loyalty model showed several antecedents to be non-significant confirms that the sources of involvement in the Mittal and Lee model are mis-specified for grocery products. However, at the conceptual level, we argue that it can and should remain the central framework for studying involvement and its behavioural effects.

Whilst our research has contributed towards the process of empirically validating the involvement-brand loyalty relationship, the frailties of our design and protocol are all too evident:

Despite the fact that our sample size is relatively large and based upon a random sample of consumers, it is really too small to undertake an effective analysis at the brand level, particularly those with low penetration and low purchase frequency. So, it has not been possible to effectively measure the extent to which involvement with a single brand varies nor how this contributes towards behavioural effects at point of sale.

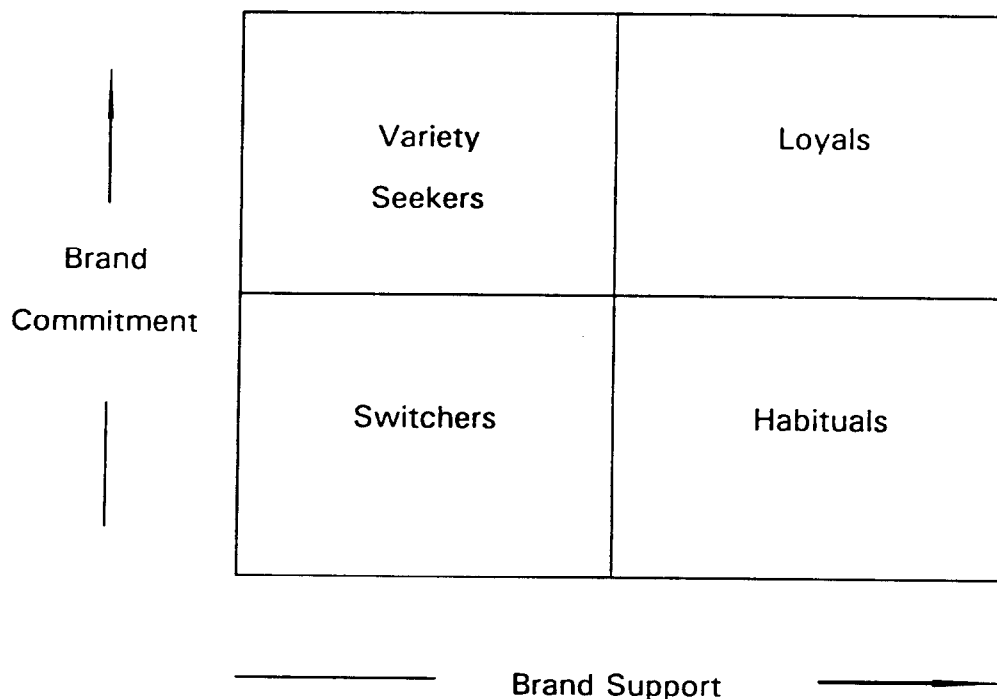
With regard to the analytical procedures, LISREL has proved much superior to traditional correlation and regression analysis since it uses an algorithm that can simultaneously estimate true structural relationships, even when they are measured by imperfect indicators. However, the use of the programme's output in diagnostic interpretation is limited due to the lack of normative values(s) for the primary fit statistic, the Chi-square test, in characterizing "good" and "bad" models. Consequently, the technique is at its most effective when attempting to show how closely a proposed model can represent reality rather than testing hypotheses that prove the model is either right or wrong. Because of these diagnostic limitations, we have had to be very cautious in our own hypothesis testing of both the component parts of the model and the model in its entirety.

A further weakness in our research design was the way that brand loyalty has been operationalized within the confines of a linear model. Although we were able to show a causal link to behavioural effects, the explained variance between brand commitment and support was limited to around 16%. Unquestionably, the model is under-specified in the way that brand loyalty is measured. Paradoxically, in thinking about this problem and questioning the authenticity of the assumed linearity and antecedence of the commitment-support measure, the priorities for future research become apparent:

The first priority must be to establish a more robust measure of brand loyalty as this has proved to be the weakest measurement instrument. Besides the option of respecifying to include factors such as advertising, price changes and promotional offers, an alternative

approach is emerging that seems to be holding out much promise. We have termed this measuring device the "loyalty matrix" (Figure 3) which specifies brand commitment and support on separate axes so that non-linear patterns of behaviour can be identified:

Figure 3. Brand Loyalty Matrix



Using a simple k means-clustering procedure, four discrete groupings of the panel respondents emerged. We have named these groups according to how they behave: Loyals (high brand commitment, high brand support), Variety Seekers (high, low), Habituals (low, high) and Switchers (low, low). A more detailed account of the characteristics and purchasing styles of these consumer groups are reported elsewhere. However, quite how this new measure of brand loyalty can be operationalized in a linear model without losing much of the distinctive behaviours of Habituals and Variety Seekers has yet to be determined!

Once this has been achieved, the second priority must be to test the respecified model across a much wider range of grocery product categories so that a generic model can be more fully specified and identified down to brand level. Indeed, this applies equally to



non-grocery markets since the Mittal and Lee model appears to have been partially misspecified and also lacks systematic identification in a behavioural context.

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- * This confirmatory research was a component of the research protocol outlined in our methodology section but is not reported here.
- ** The log item is included to increase the weight of individuals who purchase a limited number of brands with high purchase frequency and reduces the weighting of low frequency purchasing within the choice set to introduce a sense of "length of run" over the measured time period.
- *** The sample size requirement was set principally by the requirements of the proposed analysis technique (LISREL) which demands greater samples than for measures of association or even conventional regression.

**** Because we had to reduce the total number of items in the questionnaire (Authors 1994a) we were not able to measure all the constructs with multiple items. However, we were able to make estimates of their error parameters based on earlier reliability testing, consistent with Hayduk (1987).

***** This method is preferred when the sample size is sufficiently large, as it is here, with all three product categories aggregated, because it is more robust against deviations from multivariate normality.

***** A primary consumer spends more on a particular organization's brand or brands than any of its competitors in a period, i.e. the organization enjoys the largest "market share" of the primary purchaser's spend.

Appendix 1

1.1 Measures in the forms and sources of involvement for grocery products

<u>Question</u>	<u>LISREL symbol</u>
Enduring involvement: I have a strong interest in ...	Y1
Situational involvement: I would choose my ... very carefully.	Y2
Product hedonic: I would give myself great pleasure by purchasing ... To buy ... would be like giving myself a present or treat.	X1 X2
Product sign: Using ... helps me express my personality. Knowing whether or not someone uses ... tells a lot about that person.	X3 X4
Product utility: Using ... would be beneficial.	X5
Brand sign: You can tell a lot about a person from the brand of ... s/he buys.	X6
Brand hedonic: I believe differing brands of ... would give different amounts of pleasure. All brands of ... would not be equally enjoyable. No matter what brand of ... you buy, you get the same pleasure.	X7 X8 X9
Brand risk: When you buy ..., it is not a big deal if you buy the wrong brand by mistake. It is very annoying to buy a ... which isn't right. A bad buy of ... could bring you trouble.	X10 X11 X12

All items used seven-point strongly agree/disagree scales

1.2 Brand Commitment Measures

If you couldn't get your favourite brand(s) of ... at the store you have gone to, would you ... (4 choices)	Y3
When buying the products, how committed are you to buying your favourite brand(s), rather than an alternative brand? (5-point commitment scale).	Y4

Appendix 2

Diary sheet to record which brands were purchased and their source of purchase etc.

PAPER KITCHEN TOWEL

BREAKFAST CEREAL

COMPLETE DURING PERIOD:

COMPLETE DURING PERIOD:

Brand bought	Date	Qty	Price	Size	Where Bought

Brand bought	Date	Qty	Price	Size	Where Bought

COMPLETE AT END OF PERIOD:

COMPLETE AT END OF PERIOD:

If you changed from your regular brand of Kitchen Towel during this period, what do you think influenced your decision:

If you changed from your regular brand of Breakfast Cereal during this period, what do you think influenced your decision:

Do you recall any advertising for Paper Kitchen Towel over the last two weeks? What do you remember?

Do you recall any advertising for Breakfast Cereal over the last two weeks? What do you remember?

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