BRAND LOYALTY MEASUREMENT MADE EASY:
A PREFERENCE-BEHAVIOR MODEL

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ABSTRACT

A new method for assessing and interpreting brand loyalty is proposed that should be well suited for small business managers because it is easy and inexpensive to implement, the results are easy to interpret, and it offers insights into competition that are superior to alternative approaches. The method is based on a modification of a brand switching model. Rather than two brand purchases, the measures of the new model are one brand purchase and brand preference. The resulting mixed model combines the conceptual advantages of behavioral and attitudinal approaches to brand loyalty. A matrix of the two measures can be analyzed in terms of each brand's gravity, or power to convert brand preference into sales, and focus, which relates to its ability to attract sales from preferences for other brands. Implications are drawn for small business strategy.

INTRODUCTION

To a large extent, the success of most small businesses depends on their ability to create and maintain customer loyalty. In the first place, selling to brand loyal[1] customers is far less costly than converting new customers (Reichheld, 1996; Rosenberg & Czepiel 1983). In addition, brand loyalty provides firms with tremendous competitive weapons. Brand loyal consumers are less price sensitive (Krishnamurthi & Raj, 1991). A strong consumer franchise gives manufacturers leverage with retailers (Aaker 1991). And, loyalty reduces the sensitivity of consumers to marketplace offerings, which gives the firm time to respond to competitive moves (Aaker, 1991). In general, brand loyalty is a reflection of brand equity, which for many businesses is the largest single asset. Brand equity reflects the value added (or subtracted) to a product that results from brand knowledge—for example, the value added to a cola drink, when the drinker knows it is Coca Cola. Brand loyal consumers who purchase Coke time after time illustrate the brand's high equity. Arguably, for small businesses, with relatively fewer resources, a loyal customer franchise is the most important source of competitive advantage. For retailers, who, of course, sell many brands, the concept of brand loyalty may apply specifically to the store's brand if there is one; but, it can also generalizes to store loyalty. Thus, retailers with high store loyalty enjoy similar competitive advantages, including less price sensitivity and leverage relative to suppliers.

Despite the importance of brand loyalty, many small business managers may give it insufficient consideration because the typical measures are expensive, cumbersome, and difficult to communicate or understand. This paper presents a simple operationalization of brand loyalty, based on measures of brand preference and previous purchase. The two measures can be taken in a single data collection. The results can be interpreted directly from the resulting matrix, with additional statistical analysis available. The data collection tasks are relatively simple, the concept is fairly clear, it has the advantages of both attitudinal and behavior measures, and it offers insights into competition that can benefit marketing strategy.

LOYALTY CONCEPTS AND MEASURES[2]

Perhaps the most cited conceptual definition of brand loyalty comes from Jacoby and Chestnut (1978, p. 80): "The biased, behavioral response, expressed over time, by some decision-making unit, with respect to one or more alternative brands out of a set of such brands, and is a function of psychological (decision-making, evaluative) processes." Consistent with this definition are two broad categories of operational definitions. The first stresses the "behavioral response, expressed over time"—typically a series of purchases. (For example: The purchase pattern, "Coke, Coke, Coke, Pepsi, Coke" suggests higher loyalty than "Coke, Pepsi, Store brand, Pepsi, Coke.") The advantages of the behavioral measure include the focus on the most relevant criterion for managers—purchase, the avoidance of situational effects by measuring over time across several incidents, and the relatively straightforward nature of the data.

As Day (1969) observed, however, the major limitation of behavioral measures is the failure to identify motive and the resulting confusion between brand loyalty and other forms of repeat buying. For example, repeat purchases may result from either low involvement or distribution limits. Two consumers may regularly purchase morning doughnuts from Jan's bakery. One does so because he loves Jan's doughnuts; he would drive across town to get them. The other buys them because he catches the bus outside the bakery. Although he likes doughnuts, he actually prefers other brands to Jan's, just not enough to go out of his way to buy them. Clearly, the baker should value the ability to distinguish between these types of consumers. Purchase behavior alone is insufficient. The major alternative operational definition is based on consumer attitudes, preferences, and purchase intentions. These measures stress the cognitive "bias," and the "psychological (decision-making evaluative) processes" underlying loyalty. Also, because attitudinal measures are typically collected from surveys, they can more accurately be directed to the "decision-making unit" than can behavioral measures, which may come from anonymous sales data. Other advantages of attitudinal measures may include identification of the reasons underlying loyalty and greater protection against the effects of temporary conditions, such as stock-outs or short-run competitive promotions. The limitations of attitudinal measures of loyalty are similar to those of any measure of attitude— concerns for the specificity of the attitude object (particularly attitude toward the brand versus attitude toward buying the brand), the possibility of demand effects resulting in the construction of a false attitude (usually from a poorly worded questionnaire), and the possibility of attitude change (especially since attitude measures are typically one-shot measures).

In a recent review of the concept, Oliver (1999) proposed four categories of brand loyalty. The four are based on the classic hierarchy of effects notion that consumers first process information to form beliefs, use those beliefs as the basis for attitudes, then make behavioral decisions based on relative attitude strengths. Oliver argues that the value to the firm of loyalty increases as the basis moves from attribute beliefs, to attitudes, to behavioral intentions, and, in the fourth category he adds, to a behavior pattern that is strong enough to resist most obstacles. The additional insight provided by Oliver's framework is valuable, but

it does not contradict the basic distinction between the attitudinal and behavioral conceptualizations. He elaborates by proposing two levels of each—relatively weak and strong attitudes and relatively weak and strong behavioral tendencies. In fact, even the latter pair, the two strongest forms of loyalty are distinguished essentially by strength of attitude. What Oliver calls "ultimate loyalty" is driven by behavioral intentions based on very strong attitudinal preference.

Given the attitude and behavior dimensions of brand loyalty, the business manager has several options for assessing or monitoring it. Since attitudes are typically fairly stable, inferences may be drawn from a one-time measure of attitudes, which could be measured in a survey. Because the behavior dimension requires multiple measures, assessments based on behavior generally require multiple contacts. (The biases and error inherent in asking subjects to recall their previous purchases outweigh the benefit of trying to measure several purchases in one contact.) Three techniques are commonly used to collect data on multiple purchases: Scanner data can track purchases, but the technology is expensive, and few small businesses are in a position to use it. A second method is to use a panel whose members record their purchases over time. The third approach is to conduct a wave of surveys.

The major disadvantage to behavior-based measures of loyalty is the inability to identify the strength or qualitative nature of the consumer's relationship to the brand. Multiple purchases may reflect a weak preference based on limited knowledge. *Or, no preference but mere habit. Or, no preference but limited availability of better-liked alternatives.* This conceptual limitation, when coupled with the additional expense of data collection, should impel managers to include some attitudinal measure in order to qualify brand loyalty. The preference-behavior model combines simple measures of purchase and preference for an estimate of brand loyalty that is rich enough to avoid the limitations of using either concept alone without incurring the additional costs or complexities of many other approaches.

THE PREFERENCE-BEHAVIOR MODEL AND MEASURES

The preference-behavior model is based on a simple change in a brand switching model developed by Colombo and Morrison (1989). The Colombo and Morrison model was derived from a classification of consumers as either hard core loyal (HCL) or potential switchers (PS). Thus, after any given purchase, a consumer will either be sufficiently satisfied that he will consider no other brands and automatically repurchase the last brand purchased (HCL), or he will consider alternatives and have some probability of buying each (PS). The simplifying assumption of the model is that hard core loyals do not switch; potential switchers may or may not switch. These categories generalize loosely to those consumers who are very brand loyal and unlikely to switch at a given point and those who are not brand loyal and, therefore, likely to switch from brand to brand. (See Appendix for details of the Colombo and Morrison model.)

The proposed preference-behavior model is mathematically equivalent to the simplified mover-stayer model of Colombo and Morrison (1989). The key change is the substitution of preference for the first behavior measure. The resulting 2 x 2 matrix consists of "most preferred brand" and "last brand purchased." The model redefines hard core loyals as those who always buy their most preferred brand. (Analogs of the consumer who would drive across town to get his favorite doughnut.) The other consumers are potential switchers. Thus, the likelihood of purchasing a given brand is the sum of the proportion of that brand's hard core loyals and some fraction of the remainder. That fraction is a measure of the brand's ability to attract potential switchers. Thus, the two important parameters of the model reflect a brand's reliance on highly loyal customers and its success in attracting brand switchers. The

first group is those who have a positive attitude toward the brand (prefer it) and who buy it. The second group is those who buy it on a given purchase but who may prefer another brand.

An assumption of the model is that every consumer has a preferred brand. If these consumers have a preference, why are they "switching?" Although all consumers have a preferred brand, some preferences are stronger than others. Weak preferences characterize potential switchers. Potential switchers may be variety seekers; or, they may be responding to sales promotions or other situational factors. By considering the relative preferences and purchases, the model computes an ability of each brand to attract consumers from each other brand.

The measures and concepts of the preference-behavior model are illustrated in Table 1. The diagonal entries represent the number of consumers who last bought the brand they preferred, which would consist of the hard core loyals and those potential switchers who decided to stay with the brand one more time. The off-diagonal entries represent those consumers who last bought something other than their preferred brand.

Table 1 - Preferred Brand by Last Brand Purchased Matrix

Preferred Brand	Last Brand Purchased			
	Brand 1	Brand 2	Brand 3	Brand 4
Brand 1	X			
Brand 2		X		
Brand 3	Y		X	
Brand 4		Z		X

X: Hard core loyals who bought the brand they preferred.
Y: Switcher who prefers Brand 3 but last bought Brand 1.
Z: Switcher who prefers Brand 4 but last bought Brand 2.

The preference-behavior model presents some important advantages over the two-behavior model of Colombo and Morrison (1989) while retaining its principle advantages: (1) It is based on the same fundamental assumption that the market can be characterized with two categories—hard core loyals and potential switchers. (2) The output can be easily illustrated in two dimensions. (3) Data collection, while reduced by Colombo and Morrison (relative to more extreme time series approaches), is reduced still further. Both preference and last purchase data can be collected in a single survey. (4) The preference measure, "What is your favorite brand of ___ " is simple and clear (unlike some multi-item attitude scales). (5) Data can be collected by mail or telephone.

Further important advantages result from the substitution of preference for a second behavioral measure. Because it is based on purchase only, a two-purchase model does not differentiate between loyalty and repeat purchase. In the Colombo and Morrison model, the only requirement for hard core loyal status is two consecutive purchases. In the proposed model, HCLs state that the brand is their favorite brand *and* they last purchased it. Also, because a two-purchase model can be used with panel data, it introduces error that may result from reports of multiple purchasers. Such error is avoided by the preference-behavior model because both questions are asked of the household's principle product purchaser.

ILLUSTRATIVE CASE AND DISCUSSION

In order to discuss the analytic and normative usefulness of the model, an illustrative case is presented. These data came from a survey of packaged ice cream consumers and represent

responses to the preference and last purchase questions covering the leading eight brands of packaged ice cream in a major metropolitan area (with other brands collapsed). The packaged ice cream market is an interesting application. The market has had a long history of relative stability, with strong regional brands and several important but not dominant national brands. In the late 1990s, two major national brands, Breyers and Dreyers, were purchased in part by companies that planned on aggressive marketing strategies aimed at developing positions of national prominence if not dominance. Independent regional brands with premium positions and limited marketing budgets have had to pay close attention to maintaining their loyalty and to specific competitive comparisons to determine if their past strategies could withstand an influx of marketing muscle. The brands that were included in this study, with some relevant description are presented in Table 2. (Some brand names have been disguised.)

Table 2 - Packaged Ice Cream Brands

BRAND	POSITION	DISTRIBUTION	PRICE
Haagen Dazs	super premium	national	high
Ben & Jerry's	super premium	national	high
Stovers	premium	regional	medium
Dreyers	premium	national	medium
Richards	premium	regional	high
Neers	premium	regional	medium
Breyers	premium	national	medium
Smiths	regular	regional	low
Other	mostly regular	regional	low/medium

Respondents were 180 people randomly selected by a professional marketing research company, pre-screened for packaged ice cream consumption and identification of the principal ice cream purchaser in the household. The 10-minute phone survey was an image analysis sponsored by one of the firms; it covered attitudes, knowledge, and use of ice cream. The data were responses to two specific questions, "What is your favorite brand of packaged ice cream?" and "What is the brand of packaged ice cream you purchased last?" which appeared in separate parts of the survey. Results are presented in Table 3.

Table 3 - Preferred Brand by Last Purchased Brand

LAST PURCHASED BRAND

Preferred Brand	HD	BJ	St	Dr	Ri	Ne	Br	Sm	Other	Total
Haagen Dazs	5	1	0	0	1	2	2	2	12	25
Ben & Jerry's	1	16	1	0	2	0	0	4	7	31
Stovers	0	0	9	1	0	0	1	1	9	21
Dreyers	0	0	1	5	0	0	2	0	2	10
Richards	1	1	3	3	23	3	0	10	12	56
Neers	0	0	2	0	0	4	0	0	4	10
Breyers	0	1	0	0	1	0	7	1	2	12
Smiths	0	0	0	0	1	0	0	12	2	15
Total	7	19	16	9	28	9	12	30	50	**180**

The right hand column of Table 3 indicates the number of respondents who identified each of the eight brands as the preferred brand—25 for Haagen Dazs, 31 for Ben & Jerry's, etc.. The eight brands had been identified by management as the set of close competitors. The columns of Table 3 indicate the last purchased brand for each preferred brand. For example, of the 25

who identified Haagen Dazs as their favorite brand, only 5 had last purchased Haagen Dazs, 1 had purchased Ben & Jerry's, and so on, with 12 having most recently purchased a brand from the "other" category. The diagonal entries in the table indicate consumers who last purchased their preferred brands.

The data in Table 3 can provide considerable insight into the competition of the market. The preference measures indicate perceptions of brand quality or brand equity. Alone, they may not be good indicators of competitive strength, because they fail to capture some aspects of value—particularly price and availability. Just as a positive attitude toward Rolls Royce may not predict purchase of a Rolls, a preference for Haagen Dazs, by itself, may not identify a Haagen Dazs consumer. Nonetheless, a brand with strong consumer preference has a competitive advantage. In this case, Richards had about 31% of the expressed preferences for the set of eight brands (56/180, from the far right column) and was, in fact, the region's leading selling brand. On the other hand, the second leading selling brand of the eight was Smiths, which had only an 8% share of preference (15/180). This simple result indicates that Smiths must have something else going for it, and, indeed, Smiths was by far the most aggressive price-promoting brand in the region.[3]

Another insight into the loyalty of consumers comes from an examination of the diagonals. The diagonal entries are the number of consumers who last bought their preferred brands. If we compare those to the total number of consumers who preferred the brand, we get the proportion of the preferences that were converted into sales. For Haagen Dazs, this proportion is .20—5 preferred and bought (on the diagonal) versus 25 total preferred (from the right-most column). This proportion is termed *gravity*—the power of the brand to maintain consumers who prefer it. A brand with high gravity has consumers who are very loyal to their favorite brand. For these eight brands, the gravity proportions all fall within a range of .40 to .58 except for one very low score, Haagen Dazs (.20) and one high, Smiths (.80).[4] Thus, Haagen Dazs was able to convert only 20% of its preferred customers into sales; whereas, Smiths converted a full 80%.

Brand preference is built up over time, based on fairly stable attitudes, but preference alone does not reflect reactions to price or to temporary promotions or stock-outs. A high gravity ratio, however, indicates that consumers regard the brand as desirable, available, and a good value, a brand that is relatively resistant to competitive prices or promotions. These data suggest that Haagen Dazs had established preference but may have been priced too high or distributed too selectively to convert those preferences to sales. Smiths had much lower preference but did more with what it had.

A different perspective on the market is revealed by comparing the diagonals with the total of last purchased. This ratio represents the proportion of sales that come from consumers who identify the brand as most preferred and is termed *focus*. For example, Haagen Dazs has a focus of .71—5 preferred and bought (on the diagonal) versus 7 total purchased (from the bottom row). A brand with high focus gets sales mostly from consumers who prefer it. Brands with low focus "steal" customers from other brands. Of the eight brands, the two with highest focus ratios were Ben & Jerry's (.84) and Richards (.82). The other brands range around .60, except Smiths, with sales to its own first preference consumers of only .40.

Firms can succeed with either high or low focus. These data suggest that Ben & Jerry's and Richards were succeeding by leveraging strong loyalty (high focus); whereas, Smiths relied on the ability to attract consumers who preferred other brands, capturing deal-prone consumers and brand switchers. This interpretation is consistent with the observation that Smiths was the most active price promoter and that Ben & Jerry's and Richards were among

the highest priced and least frequently promoted. (Gravity and Focus ratios for the eight brands are presented in Table 4.)

Table 4 - Gravity and Focus Ratios

Brand	Gravity	Focus
Haagen Dazs	.20	.71
Ben & Jerry's	.52	.84
Stovers	.43	.56
Dreyers	.50	.56
Richards	.41	.82
Neers	.40	.44
Breyers	.58	.58
Smiths	.80	.40

Inter-brand competition and threats to loyalty can be analyzed by examining the individual off-diagonal entries. Each off-diagonal represents the number of consumers who preferred one brand but purchased another. (In this case, sample size makes inferences somewhat risky, but the data still serve as an illustration of the usefulness of the method.) These results suggest, for example, that both Ben & Jerry's and Richards are threatened by Smiths. Smiths has stolen 4 of Ben & Jerry's 31 and 10 of Richards 56 preference customers. These ratios (5/31 and 10/56) are indicators of the weakness of these two brands to Smiths. Smiths, in turn, can consider those sales relative to their own total as instances of competitor-specific focus. Smiths gets 13% (4/30) of its sales from people who prefer Ben & Jerry's and 33% (10/30) from people who prefer Richards. (Note that Smiths own brand focus is only .40.) For another example, consider the off-diagonal for Neers and "other." Neers is losing as many of its loyal customers to the set of "other" brands (4) as it is keeping for itself, which suggests both that it is perceived as a low-end entry and that it competes only peripherally with the other seven brands in this group.

A limitation of the analysis of the preference-behavior matrix in most cases will be the uneven sales levels across brands. To overcome that problem and to examine loyalty from a slightly different perspective, maximum likelihood estimations of the parameters of the Colombo and Morrison (1989) equations can be calculated. (The results for the illustrative case are in the Appendix.

The modest attractive powers of Breyers and Dreyers deserve comment. These data were collected just before those brands were purchased. In the following year, the marketing budgets and strategies of those brands changed dramatically. A subsequent round of data collection would likely reveal increased ability of those brands to attract brand switchers. The key for regional brand managers is whether they will be able to continue success through their strategies based on low focus (Smiths), gravity (Stovers), or both (Richards), given the increased pressure from the national brands.

DISCUSSION, IMPLICATIONS, AND LIMITATIONS

The purpose of this paper was to propose a new and improved method for examining brand loyalty. A major benefit of the proposed model is its simplicity. It requires two direct questions of consumers, regarding preferred brand and last purchase. These questions could be added to virtually any planned research study or could be the focus of an independent study

that most firms could undertake at far less cost than the more elaborate data collection methods required for alternative methods (panel studies, multiple surveys, or single source time series).

Further, the method assures distinction between loyalty and mere repeat purchase by inclusion of the preference measure. And, it reduces error by addressing the decision maker rather than relying on household sales reports.

Using the preference-behavior model is both easy and inexpensive. The bulk of the interpretation can be done by analyzing the preference-behavior matrix, which does not require any statistical analysis and can be done with any basic spreadsheet software. The key indicators are the gravity and focus ratios, calculated from proportions of the diagonals to row and column totals. Specific inter-brand competitions can be analyzed by examining the appropriate off-diagonals—a firm could identify its most direct competitors as those with the highest firm-specific focus scores. Ideally, these analyses would be conducted over time, so that firms could track their performances on the relevant dimensions in light of changes in marketing strategy. But, in any respect, the interpretation of the data from this method is neither complex nor cumbersome. The additional analyses required for the parameter estimations, of course, do require quantitative skill. But, these estimations are not necessary for interpretation of the data. Thus, small business owners or marketing managers who do not have the support of marketing research staff may still make use of the tool. The parameter estimations are, nonetheless, useful and important because they make possible both statistical tests and simple standardized values for comparison purposes.

For most small businesses, the cost of doing marketing research is a significant impediment. A major advantage of this method is that the costs are minimal. In fact, the marginal costs may be virtually zero. The data presented here were collected as part of a brand repositioning study that focused on a change in packaging. The preference and purchase measures were two of the thirty or so items in a telephone questionnaire. Any firm could include these measures in any study aimed at satisfaction monitoring or brand attitudes, which small business would be wise to conduct periodically. A true guerrilla marketer might even bargain to have the relevant questions included on some other questionnaire conducted by a local research firm.

The preference-behavior model has important implications for small business strategy. Gravity can be thought of as a measure of general marketing efficiency—the ability of a firm to convert preference to sales. If a firm is doing enough (usually through its offering) to establish preference, its marketing (usually the other 3 Ps—pricing, distribution, and promotion) must be able to capitalize on that basic advantage. Although a high gravity ratio is not a requirement for success (since widespread preference will lower it), firms should constantly attempt to increase it. For example, consider a local restaurant that conducted a simple study as part of an effort to increase profitability. The owner was looking for ways to increase the store's appeal. What he discovered was that most potential customers already preferred him. But, his gravity ratio was very low. The problem, he learned, was his pricing, which was perceived as too high. By lowering his prices, he converted many of those preferences to sales and increased his overall profitability.

The focus ratio tends to reflect targeting. A high focus score indicates a firm that is relying on sales to customers who prefer it. It results from a successful targeting strategy that produces a group of loyal consumers who buy what they most want. Conversely, a low focus score indicates that the firm is relying on sales to customers who prefer some other brand, which corresponds to an unfocused strategy. (One might suggest that the focus could be on brand switchers, but that group is both ill-defined and, for a given brand, by definition, constantly

changing.) The clearest strategy for attracting consumers away from other brands is through regular sales promotions. Price cuts offer enough economic incentive to offset the additional value of competitive brands. Few small businesses, however, enjoy the cost advantages necessary to support such a strategy. Typically, only large firms enjoy the economies of scale that make cost-based strategies feasible. It should be noted, however, that frequent price promotion may also be a desperation strategy for failing or marginal brands. Thus, for most small businesses, a low focus score is not likely an objective. They should aim for a high focus score; such a strategy would conserve resources and simplify management.

For example, consider a tutoring firm, TestSuccess. After three years, with three locations, TestSuccess was merely limping along. Analysis of their strategy suggested that their focus ratio was too low. Their advertising in newspaper and on radio, which was a major expense, was creating awareness and preference among students all over the region. But, students in only about 20% of the area had reasonable access to one of the locations. TestSuccess changed to a more targeted promotion campaign, emphasizing referrals and focusing on schools near their locations. They expect a lower level of preference but a higher focus, lower expenses, and more profit.

Gravity and focus scores broadly reflect whether firms compete by focusing on their target segments (high gravity) or by appealing loosely to several segments or to frequent switchers (low focus). Generally, firms will invest relatively more in brand strengthening actions (e.g., quality improvements or image advertising) and more targeted marketing to increase or maintain high gravity. Conversely, firms will invest relatively more in sales promotions and broader marketing to reduce or maintain a low focus.

An interesting application of the model might be to assess the proportion of hard-core loyals versus potential switchers before a firm enters the market. Markets with more potential switchers may be more attractive and involve less head-to-head competition with established firms.

A final implication of the model comes from a consideration of the off-diagonal entries. These entries indicate specific firm-to-firm competition. Managers should identify weaknesses—firms to whom they lose their own preference customers—and strengths—sales they steal (customers with preference for other brands). Relatively high scores indicate specific firms that are potential threats or targets, and management should determine the basis for the competition and act upon it. Often, this means matching competitive promotions or using comparative advertising—"More people who prefer Brand X buy our brand, because we taste just as good AND we cost less!"

Although there are significant advantages to the preference-behavior approach to assessing brand loyalty, the method is not without its limitations. Because it is likely to rely on survey methods for data collection, it shares the usual limits and concerns about sample size, sample representativeness, and questionnaire design, but other limitations and questions relate more directly to the specific conceptualization of brand loyalty. These include the stability of the statistics, the nature and meaning of the preference measure, and the meaning of the loyalty operationalization.

Estimation stability is a question with any model. The issues are the stability of the two factors—preference and purchase and the reliability of the their measures. Since preference is an attitudinal construct, we should expect it to be more stable than any specific behavior, which may be responsive to situational pressures. In this respect, we should expect the preference-behavior model to exhibit better stability than models based solely on purchases. As has been argued throughout, purchases will vary more than preferences.

The measures themselves should be highly reliable. They are unambiguous and have the advantage of being directed at the specific individual in the household who most typically purchases the product. Thus, just as with models based solely on purchases, the estimates will change over time if consumers switch brands, but their inherent instability should be less.

Anchoring loyalty in preference should also increase the validity of the estimates. Consider, for example, a consumer who prefers brand A with the following four-time purchase pattern: A, A, B, A. A repeat purchase approach to loyalty will characterize this consumer as loyal to brand A only one time in three (A-A versus A-B and B-A). By contrast, the preference-behavior approach would not only identify the preference component correctly all four times, but would show an A-A correspondence three times out of four. Further, the preference-behavior approach distinguishes loyalty based on brand equity from loyalty based on habit or situational inducements. If a consumer buys brand B only because brand A is not available, the model will categorize him appropriately and not mistake him for a brand B HCL.

One remaining question is the potential bias of last purchase on stated preference. If respondents feel some social desirability pressure toward consistency, they might indicate that their preferred brand was the brand last purchased. Such a bias would inflate the estimates of HCL and gravity. The competitive insights drawn from the results should not be affected, however, since any bias is unlikely to affect brands differentially[5]. Nonetheless, two cautions might be taken. First, as was done in the current illustrative case, the preference question should be asked first, and the two questions should be separated in the questionnaire. (Although respondents could "lie" about their last purchases in order to appear consistent, to do so is much less likely than "fudging" on their preferences.) Second, the preference question can be designed to reduce bias. For example, the question might be "Although people may not always buy their favorite brands, most people do have a favorite brand. Which brand is your favorite?" A related possible source of bias is that respondents who do not have a strong preference may report their last purchase as their favorite. Although it is not altogether clear that such an instance constitutes a true bias, its effect could be mitigated by screening subjects with a question such as "Do you have a favorite brand?" and excluding those who do not.

In general, the advantages of the preference-behavior approach outweigh the limitations. Most of its limitations are inherent in any survey methodology. On the other hand, its advantages of low cost, ease and speed of data collection, ease of interpretation, and insight into the nature of brand loyalty and competition should make it a useful tool for small business managers. By collecting the appropriate data and examining the outputs of the preference-behavior model, small business managers can assess their progress toward the relevant aspects of their chosen strategies—extend of preference, success in converting preference, reliance on preference customers, and success in attracting customers who prefer competitors. A final note: Managers should be encouraged not only to use this tool, but to use it repeatedly. The best use of the preference-behavior model is probably monitoring changes in the marketplace over time, both to evaluate the firm's marketing and as a way to keep current on the marketplace.

ENDNOTES

[1]The discussion in this paper draws principally from brand loyalty research, but the concepts and implications generalize to store loyalty and firm loyalty. Thus, the term "customer loyalty" refers generally to loyalty to any of those levels.

[2]I am indebted in this discussion to an excellent review of brand loyalty measures, Mellens, Dekimpe, and Steenkamp (1996).

[3]Note that the purchase proportions from these data do not necessarily reflect actual market shares, since the data were limited to respondents who indicated one of the eight brands of interest as the preferred brand. They should, and do, reflect relative sales levels. In the sample, Smiths had a .17 share (30/180) and Richards a .16 share (28/180). In actual market shares, Smiths trailed Richards slightly.

[4]Estimates of brand loyalty for the brands were not available beyond one brand manager's estimate of "at least 50%". Alsop (1989) reported measures of brand loyalty for a number of products, excluding, unfortunately, ice cream. Because of the strong images of brands and because the category is not characterized by constant and heavy sales promotion, we should expect to see brand loyalty higher than for canned tuna (44%), soft drinks (44%), or beer (48%); probably closer to the 58% level observed for coffee.

[5]The data in the illustrative case cannot offer a formal test of this potential bias, but they do not appear to exhibit it. There is not a close association between preference and last purchase.

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APPENDIX: DETAILS OF THE COLOMBO AND MORRISON MODEL.

Given a 2 x 2 matrix of purchases, Colombo and Morrison estimated a model based on two equations:

$$1) \ \rho_{ii} = \alpha_i + (1-\alpha_i) \, \pi_i$$
$$2) \ \rho_{ij} = (1-\alpha_i) \, \pi_j$$

where ρ_{ii} was the probability of repurchase, ρ_{ij} was the probability of switching from brand i to brand j, α_i was the proportion of hard core loyals for brand i, and π_i is the proportion of potential switchers who next buy brand i. Thus, the probability of buying brand i was decomposed into the proportion of hard core loyals who were loyal to brand i and brand i's share of the potential switchers. Switchers from brand i to a given brand, j, resulted from the proportion who were not loyal to brand i in proportion to brand j's ability to convert potential switchers. (Details are available in Colombo and Morrison 1989). Colombo and Morrison provided an analysis of a switching matrix for new cars and illustrated the effectiveness of their model for identifying the success or failure of marketing strategies not only in maintaining loyal customers but also in converting potential switchers and, further, which switchers are vulnerable to which brands.

The Colombo and Morrison parameters were estimated for the ice cream case and are presented in Table 5. The parameter estimates, α_i and π_i, are direct estimates of the extent of hard core loyalty and ability to attract potential switchers. (Recall that α_i is the likelihood of a brand's retaining customers who prefer that brand and π_i is the likelihood of attracting customers who prefer other brands.) These estimates are similar to but not the same as the gravity and focus ratios defined above. Gravity is the proportion of preferred sales that are converted to sales. Preferred sales can be decomposed into those who will always buy that brand (HCLs) and those who prefer the brand but might have switched (PSs). Thus, a brand could have high gravity because of inherently high hard core loyalty or because it does a good job of keeping those potential switchers who like it best. The distinction may be subtle, but it is important; HCLs are more valuable to a firm than retained PSs. A comparison of the gravity ratios from Table 4 and the α_i scores from Table 5 shows that the two are in fairly close agreement in this case, but the levels of HCLs show less range. Although Haagen Dazs converts only 20% of its preferences to sales, relative to Smiths 80%, the differences in HCL are less extreme (.357 versus .885).

Table 5 - Parameter Estimates for Ice Cream Brands

Brand	α_i	π_i
Haagen Dazs	.357	.042
Ben & Jerry's	.644	.064
Stovers	.711	.134
Dreyers	.594	.076
Richards	.430	.163
Neers	.632	.093
Breyers	.668	095
Smiths	.885	.417

α_i is the estimate of the proportion of buyers of brand i who are hard core loyals.
π_i is the estimate of the proportion of potential switchers that will switch to brand i.
*The π_i figures sum to over 1.0 due to errors in the estimates.

For focus and π_i, the PS indicator, the differences are more significant. Focus is the proportion of a brand's sales that come from its own preferences. Thus, 1-focus is the proportion of a brand's sales that came from preferences for other brands. The PS indicator, π_i, is a measure of the power of a brand to attract other-brand preferences. Thus, 1-focus is an indicator of effect; whereas, π_i is an indicator of cause. The difference is clearly sensitive to sales volume. Note that Richards has a relatively low 1-focus score (.18, which is the second lowest), but its ability to attract potential switchers is relatively high, as indicated by its π_i of .163, which is the second highest. Because Richards is the leading selling brand, its strong attractive force still results in only a small proportion of its total sales.

The results in Table 5 afford several other specific insights into competition. First, the parameter estimates indicate both a high proportion of HCLs (.885) and strong attraction to other-brand preferences (.417) for Smiths. Bear in mind that Smiths begins with a small number of first preference consumers, so the high α_i does not result in so many sales. Its sales volume comes from its ability to attract customers away from other brands. Smiths succeeds with a strategy of aggressive price promotions supported by newspaper advertising and retail displays. Stovers, on the other hand, has moderately good attractive power (π_i =.134) but excellent HCL (α_i =.711), which suggests that it succeeds in keeping its own loyal customers. In fact, Stovers had modest sales in the region but a strong niche based on freshness. That distinction may be important to the customers who prefer it; important enough to maintain loyalty. Next, Richards, the leading selling brand of this group, has moderate HCL but strong attractive power (.163). The significance of Richards's attractive power is evident by comparison. Generally, the higher π_is are held by brands with lower prices or more frequent promotions. The high-end brands, Haagen Dazs and Ben & Jerry's, have the two lowest π_is. Richards has the second highest despite its high-end price. A final noteworthy observation is the tenuous position of Haagen Dazs, which has by far the lowest parameter estimates in Table 5. Despite its position as a national brand and its presumed high quality perception, Haagen Dazs is neither maintaining the customers who prefer it, nor successful in stealing customers from other brands.

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