

Ehrenberg-Bass Institute Working Paper

Published in the *Journal of Business Research*

“How to grow a brand: Retain or acquire customers?”

Authors:

Erica Riebe - Ehrenberg-Bass Institute

Malcolm Wright - Ehrenberg-Bass Institute

Philip Stern - Ehrenberg-Bass Institute

Byron Sharp - Ehrenberg-Bass Institute





How to grow a brand: Retain or acquire customers? ☆



Erica Riebe ^a, Malcolm Wright ^{a,b,*}, Philip Stern ^{a,c}, Byron Sharp ^a

^a Ehrenberg-Bass Institute, University of South Australia, Australia

^b Massey University, New Zealand

^c Exeter University, United Kingdom

ARTICLE INFO

Article history:

Received 24 November 2010

Received in revised form 19 September 2011

Accepted 10 December 2011

Available online 28 August 2013

Keywords:

Acquisition

Defection

Hendry model

Banking

Pharmaceuticals

ABSTRACT

While customer acquisition is clearly important for new brands, mature brands are often said to rely on defection management for maintenance and growth. Yet the theory to support this approach has been subject to very little empirical investigation. How do brands actually increase the size of their customer base? Through superior acquisition or by reducing customer defection? Or some mixture of both? Conversely, do brands decline through deficient acquisition or excessive defection? This work analyzes changes in 'first brand loyal' customers to answer these questions, using a combination of panel data on the prescribing behavior of doctors and a cross-sectional tracking survey for residential finance. This study is the first research to compare defection and acquisition against stochastic benchmarks for customer churn under stationary conditions. The results are surprising: for both growth and decline, unusual acquisition plays a much stronger role than unusual defection. This finding demonstrates that acquisition has been under-rated in the past, and implies that prospect management is at least as important as defection reduction. A simulation shows that unusual acquisition also accounts for far more improvement in profit than does unusual defection.

© 2013 Elsevier Inc. All rights reserved.

1. Introduction

This research empirically examines the effect of acquisition and defection on the size of the customer base. The size of a brand's customer base is closely linked to market share (Anschuetz, 2002; Baldinger, Blair, & Echambadi, 2002), while the make-up of the loyal customer base is, as shown by Gupta, Lehmann, and Stuart (2004), a key determinant of firm value. Logically, increasing the size of the customer base can only be achieved by reducing customer defection, increasing customer acquisition, or by doing both. Conversely, the customer base will only decline through excessive defection or inferior acquisition or both. The relative emphasis to place on defection reduction and acquisition is a key management decision. Intuitively both should be effective tools for brand maintenance and growth, yet this study demonstrates, empirically, that acquisition explains far more of any change in the customer base than does retention.

This finding presents a challenge to a long line of marketing thinking. The work of Reichheld (Reichheld & Sasser, 1990; Reichheld & Teal, 1996) encourages managers in a range of categories to shift their focus from prospective customers (acquisition) to maintenance of existing customers (defection reduction) through Customer Relationship

Management (CRM) systems. Philip Kotler, among others, champions this cause by admonishing marketers for spending too much time and effort on customer acquisition and far too little on customer retention and capturing customers' lifetime value (Kotler, 1992). The main exception to this prescription seems to be in relation to brands that are growing, where customer acquisition clearly plays a vital role (Gupta et al., 2004); however, even here, retention is still the recommended focus for management efforts. Recent work does value acquisition of customers with high prospective lifetime value, and seeks to identify the customers that managers should acquire or retain, and alternatively those whom managers should avoid, 'sack' or deselect (Gupta et al., 2004; Reinartz & Kumar, 2002; Rust, Lemon, & Zeithaml, 2004). But again, the role of acquisition is but a minor adjunct to a CRM model, where the real focus for brand success remains on reducing defection of the *right* kind of customers; that is, the profitable ones (Cao & Gruca, 2005; Reinartz, Krafft, & Hoyer, 2004).

This existing literature does not suggest that acquisition and retention are unrelated; however, the implications are that managers are unlikely to focus evenly and simultaneously on both, and that retention programs are more profitable than acquisition programs (Reinartz, Thomas, & Kumar, 2005). Retained customers are thought to become cheaper to service with tenure (Thomas, Blattberg, & Fox, 2004) and therefore, to be a greater source of profits for the business than newly acquired customers (Gupta et al., 2004). They are also thought to be more likely to cross-buy (Reichheld & Teal, 1996) and less likely to be price sensitive (Dawes, 2009). While Reinartz and Kumar (2002) find little empirical support for these claims (at least in non-contractual

☆ The authors are indebted to both ISIS research (now part of Synovate) and The Nielsen Company for the provision of the data used in this study.

* Corresponding author at: Massey University, Private Bag 11–222, Palmerston North 4442, New Zealand. Tel.: +64 6356 9099x2360.

E-mail address: Malcolm.Wright@MarketingScience.info (M. Wright).

settings), such claimed benefits are nonetheless the impetus for encouraging managers to focus on improving retention, in preference to a brand equity or acquisition strategy.

Yet, existing research suggests that variations in retention are more constrained than variations in acquisition. Studies in consumer and business banking show that a considerable portion of switching is for reasons that cannot be controlled or avoided (Bogomolova & Romaniuk, 2009). Similarly, Colombo and Morrison's (1989) two-segment model of loyalists and switchers implies that defection is constrained while acquisition is unconstrained. Consequently, and contrary to the conclusions in much of the literature, unusual defection may be harder to achieve than unusual acquisition (Sharp, 2010).

Little research examines the role acquisition efforts play, particularly compared to retention gains, in a successful brand's market share performance (see Verhoef, 2003). The only study that compares the relative impact of acquisition and retention on market share, rather than profitability, is Blattberg, Getz, and Thomas (2001) who acknowledge that all brands lose some customers; however, acquisition is seen as a requirement to compensate for a lack of retention, rather than a strategy to deliver brand growth in its own right.

No prior studies use actual market data to evaluate the relative contributions of customer retention and acquisition to dynamic change in market performance. Therefore, rather than add to the theoretical literature on defection, this work makes substantive empirical contribution. The research shows whether changes in defection or acquisition are more frequently associated with changes in brand share (i.e. the relative size of the customer base). The focus is on variations from stationary market benchmarks for acquisition and defection, and how these relate to increases or decreases in brand share.

This approach breaks new ground in several respects. Previous work comparing acquisition and defection is restricted to estimating elasticities for an assumed model. In contrast, this work makes minimal assumptions and simply observes empirical regularities in the association of acquisition (and defection) with brand share growth (and decline). The study extends the understanding of retention and acquisition to an environment in which multiple brands are regularly bought (or prescribed), using the established construct of *first brand loyalty* as a measure of the customer base over time (East, Harris, Lomax, & Wilson, 1997; Hammond, East, & Ehrenberg, 1996). The research presents an early application of recently developed stochastic benchmarks for the normal defection and acquisition rates for a brand of a specific size, in a specific market. The findings complement the work of Reinartz et al. (2005), who consider the *profitability* of retention or acquisition efforts, by examining the relative *frequency* of unusual defection and acquisition during brand growth and decline.

The research makes three primary contributions:

1. Quantifying the relative frequency of unusual acquisition and defection.
2. Quantifying the relative contribution of unusual acquisition and defection to changes in brand shares.
3. Following Reinartz et al. (2005), extending the analysis to profitability through simulation.

The context of the investigation is pharmaceutical prescribing and retail financial services. While very different industries, pharmaceuticals and financial services both have a long history of using CRM and selling efforts to both reduce defection and improve acquisition rates. Globally, drug companies place a strong emphasis on developing and maintaining relationships with doctors, often at great cost. The market for prescription medications is often described as 'CRM focused' in its approach to marketing (Blumenthal, 2004). Despite having such a history, little research exists on doctors' prescribing loyalties and how these contribute to brand performance.

Similarly, in financial services and banking, the tracking of outputs from CRM activities and customer lifetime value modeling is

commonplace. Indeed, much of the knowledge about the relative effects of acquisition and retention efforts has come from studies undertaken in financial services markets; see for example, Verhoef (2003).

2. Method

This work does face certain methodological challenges, namely: selection of an appropriate customer base or loyalty metric; the decomposition of dynamic market from stationary market effects, and; developing an appropriate simulation to extend the analysis from brand share to profitability. Sub-section 2.1 describes and explains the choice of loyalty metric. Sub-section 2.2 explains the role of stochastic benchmarks in the analysis of acquisition and defection. Sub-section 2.3 describes the data used. Sub-section 2.4 explains how stochastic benchmarks are applied to this data. Finally sub-section 2.5 describes the simulation that evaluates the relative profitability of observed changes in defection and acquisition.

2.1. Membership of the customer base

Changes in the customer base are not simple to define in frequent repeat-buying markets. Take the case of prescription medications. Prescription drugs can be considered a business-to-business market, as the doctors who make the purchase decisions are not the consumers of the product. Many transactions are made and a non-contractual arrangement exists between the specifier (doctor) and seller (manufacturer). The prescription drug market is a repertoire market (Sharp, Wright, & Goodhardt, 2002) where doctors prescribe from a limited personal armamentarium of brands. This divided loyalty means that real brand switching is not easily distinguished from everyday shuffling within a doctor's armamentarium. This issue is common to frequently purchased categories: to accurately measure repertoire composition, and subsequent changes therein, is virtually impossible due to the great heterogeneity in consumers' buying behaviors. Some buy often and from many brands, others buy less often and from far fewer brands. Distinguishing between a change in the underlying choice propensities and the display of polygamous loyalty is not possible. For instance if a buyer of the category buys Brand A, then B, then A, does such buying reflect a change in their likelihood of buying these two brands over time, or a consistent and underlying 33% chance of Brand B being bought and a 67% chance of Brand A being purchased? For a detailed discussion of the problems associated with conceptualizing and measuring repertoire composition see Stern and Hammond (2004).

One seemingly obvious measure for operationalizing loyalty in repertoire markets is share of category requirements (SCR). Yet SCR is a volume-based measure that does not distinguish between customers that have different repertoire sizes. SCR can be identical for two very different customers, one who has a large repertoire and is mostly loyal to the focal brand, and a second who has a small repertoire in which the focal brand is the second or third preference. Managers of CRM initiatives often want to differentiate between these two types of customers, focusing retention programs on the former, and aiming development/re-acquisition at the latter. Further, researchers will commonly consider defection away from a brand rather than a more moderate change in SCR (Trubik & Smith, 2000).

The use of *first brand loyalty* as the measure of preference overcomes these problems (Stern & Hammond, 2004). This measure is the proportion of customers who buy the focal brand more often than any other over the time period being analyzed. This measure recognizes that loyalty is not exclusive and that customers buy from a repertoire of brands, while not mistaking mere shuffling within repertoires for loss or acquisition of a customer. Rather, gains or losses occur only where the brand bought most often over 12-month period changes. East and Hammond (1996) and East et al. (1997) use first brand loyalty, as an indicator of repertoire change in studies of customer

erosion. Therefore, first brand loyalty is an appropriate metric for this study, being established in the literature, and reflecting a substantive change in defection or acquisition as opposed to mere repertoire shuffling.

For the pharmaceutical data in this research, the average number of different drugs prescribed during the 10-year period of study is 15 out of a possible 24, with a standard deviation of 4 drugs. The average proportion of prescriptions devoted to the main brand is 38%. First brand loyalty appropriately captures this heterogeneity.

For retail banking, customers usually have accounts with just a few providers despite having many transactions with their banks. Switching costs can be high and so complete changes of provider are rare. Customers occasionally buy a product from a different provider (e.g. a credit card or a personal loan) without a substantive change in loyalty being made. Many newly attracted members of a customer base also still hold accounts with a competitor, or hold only a single account with the new bank. Therefore, examining only the most recent purchase will give a spurious measure of switching. Consequently, first brand loyalty is an appropriate metric, and in fact is the standard loyalty metric used by the industry, usually expressed as *main bank*.

First brand loyalty is operationalized in this study as the main brand used over a year for each individual respondent. From one year to the next, those who change their main brand are classified as defectors, while those who start to use the focal brand as their main brand are classified as acquisitions. Market share for each brand is the number of customers who use that brand as their primary brand, divided by the total number of customers in the market. This definition does not distinguish between the relative value of heavy and light buyers; however, empirically (and consistent with the assumptions of the NBD-Dirichlet): few are very heavy buyers; in aggregate they account for a very small percentage of total sales; they are highly correlated with the number of light buyers; and no relationship exists between frequency of purchase and the extent of first brand loyalty (Stern & Hammond, 2004).

2.2. Measuring the impact of acquisition and defection on share shift

Why not simply examine raw levels of defection and acquisition, and consider their direct impact on changes in market share? Such an approach does not take into account acquisition or defection that would have occurred *regardless* of management actions. All brands lose and gain some customers, due to aspects of their buyers' lives that are beyond the control of management. For example, some customers relocate and might consequently defect from one brand, and become acquired by another. A substantial proportion of defection is of this 'unavoidable' type (Bogomolova & Romaniuk, 2009).

The natural turnover of the customer base will also vary according to market churn rates and brand shares. Larger brands have a greater absolute number of customers that they can, and do, lose (Sharp, Riebe, Dawes, & Danenberg, 2002); so as a brand grows, its customer defection should also grow (in terms of the absolute number of defectors). Without taking account of this relationship between size and defection, one could easily conclude that increases in absolute defection are associated with growth! (And, in fact, a theoretically naïve approach, included for comparative purposes, shows such an effect in Section 3). Yet, while the *absolute* number of defectors will be greater, the *proportion* of the customer base defecting will be smaller for larger brands. Sharp, Riebe, et al. (2002) and Sharp, Wright, et al. (2002) show the proportion of defectors is logically related to brand size in a stationary market, while Wright and Riebe (2010) demonstrate this effect empirically.

These natural patterns of customer turnover in a stationary market imply that both defection and acquisition will vary according to category churn rates and brand share. Ignoring these effects when modeling acquisition and defection will lead to specification error and biased results. Models of acquisition or defection must therefore incorporate turnover in the customer base under stationary market conditions. Dynamic changes in the customer base are then correctly attributable

to the differences between observed acquisition (or defection) and the benchmark level of acquisition (or defection).

Established stochastic models of brand choice can and do generate such stationary market benchmarks. Stochastic models are often used to describe and predict purchase loyalty; the model with the longest heritage being the Negative Binomial Distribution (NBD). The NBD assumes that making a purchase is a Poisson process with the mean purchase rate being Gamma distributed across the population of buyers (Ehrenberg, 1959). The NBD is often combined with a multinomial probability, or Dirichlet distribution to model brand choice given that a category purchase is made (Goodhardt, Ehrenberg, & Chatfield, 1984). A similar model is present in Bass' (1974) theory of stochastic choice, while the Hendry Corporation uses an aggregate version of the model as part of their analysis of Fast Moving Consumer Goods markets (Kalwani & Morrison, 1977).

Following Wright and Riebe (2010), the present work uses the Hendry specification of the Dirichlet model to provide stochastic stationary market benchmarks of brand defection and acquisition. The Hendry specification of the Dirichlet model is used because it most easily applies to changes in first brand loyalty over successive years. Subtracting the benchmark from observed rates of defection and acquisition will determine the dynamic component – the degree of observed acquisition and defection that is unusual. This approach assumes a zero order purchase process; while some studies propose non-zero order models, such as Markov chains, zero order assumptions remain common and are inherent in the application of the popular Poisson purchase models and proportional draw Logit models. Stern and Hammond (2004) established the zero order assumptions that provide the benchmarks in the context of pharmaceutical prescribing data.

2.3. Data

The pharmaceutical prescribing data set used in this study comprises 100 doctors' prescribing of anti-depressants in the United Kingdom from January 1st 1989 to December 31st 1998. The unit of analysis is the General Practitioner, not the consumers of the drugs. The data come from a commercial panel then run by ISIS research, subsequently part of Synovate. The panel is confirmed as representative of the United Kingdom market (Stern & Hammond, 2004).

The panel members recorded all new and changes of prescription they made, for any condition, on a weekly basis. This restriction of the analysis to new and switch prescriptions is important; for diseases that are chronic, patients will receive repeat prescriptions over many months or years. These on-going medications do not require a decision on the part of the doctor. The category of anti-depressants is also highly suitable for this research having undergone considerable dynamic change during the period under study due to the introduction of Selective Serotonin Reuptake Inhibitors (SSRIs), the most famous being Prozac.

For pharmaceuticals, first brand loyalty is the aggregate number of doctors who prescribe the focal brand more than any other, over a one-year period, divided by the total number of doctors. In cases of a tie, the respondent has no first brand loyalty. If an individual doctor's first brand loyalty changes from one year to another, a defection from one brand and acquisition by another has occurred. A 12-month time frame is used in this research (for both data sets) for several reasons. First, to determine first brand loyalty, 12 months is long enough to allow sufficient observations of brand choice. Second, a 12-month period is short enough to divide the available data into multiple periods for analysis. Third, a 12-month planning period is typical for practitioners. Finally, a 12-month time period provides a natural control for any seasonal effects.

For pharmaceutical prescribing two new brands launched and one brand withdrew from the market in the period under analysis. Benchmarks for introduction or termination periods are manually set to zero, as the benchmarks have empirical bounds at zero share, zero defection and zero acquisition that are incalculable in the stochastic model.

Some readers may feel that new and switch prescriptions are rational, deterministic, decisions, unsuitable for stochastic modeling. However, while the doctors' decisions will undoubtedly have causes, the observations of these decisions are as-if random (see Stern, 1994) and therefore satisfy the stochastic assumptions of the Hendry model. Such as-if random observation of deterministic behavior is analogous to many other forms of consumer choice.

The second application uses four and a half years of data from a consumer finance monitor. The monitor is a large quarterly face-to-face survey about respondents' finance company choices, with results provided on a syndicated basis to all the major banks in the market. The analyses involve aggregation of samples to annual level, although for the last calendar year 2, rather than 4, quarters of data are available. The annual sample size is approximately 10,000.

Respondents identify their main bank, length of tenure and previous main bank. If tenure is less than 12 months, the respondent is a defector from their previous main bank and an acquired customer for their new main bank. Main bank is a self-reported measure of first brand loyalty rather than a behavioral measure. Using a self-reported measure is slightly different from the approach used in the anti-depressant data, but does allow for the calculation of market share and defection and acquisition rates in a comparable way to that used for the prescription drug dataset. Again, some minor data issues arise: two brands are subject to takeovers early in the data set, and a new brand is introduced late in the data set. Aggregating the acquired brands into the parent brand and the new brand into the *other* category solves these issues.

This study provides the first examination of first brand loyalty for doctors' prescribing of pharmaceuticals, however, the comparison with data from financial services, where the metric is more familiar, provides a natural control. These diverse data also provide for convergent validity, and enhance the generalizability of the results.

2.4. Application of benchmarks

Returning now to the calculation of benchmarks, this section sets out the specification of the Hendry model and its application to the above data, following Wright and Riebe (2010).

Underlying the Hendry model is the switching coefficient K – a measure of the level of loyalty found in this category. The coefficient, with some amended notation from that used in Kalwani and Morrison (1977) is:

$$K = \frac{p}{\sum_i s_i(1-s_i)} \quad (1)$$

where

K the switching constant
 p the overall market switching divided by the defection rate
 s_i the market share of Brand i .

The benchmark defection rate is then calculated for each brand in a market as follows;

$$p_i = K(1-s_i) \quad (2)$$

where

p_i the defection rate for Brand i .

This research takes the share of first brand loyal buyers at one point in time and uses the above formula to determine the level of defection/acquisition to expect in the following 52 weeks. That is, the inputs to the model are market shares for period $t - 1$ and acquisition or defection

by period t . Thus, the analysis method embeds lags. Any subsequent level of defection/acquisition for the period t that is not in line with the benchmark is characterized as unusual, or a deviation from the benchmark. Treating these deviations as dynamic explains the actual market share change for the brands.

Market acquisition and defection do not necessarily match; for example, a doctor who moves from single loyalty to split first brand loyalty is counted as defecting, but not as being acquired. Similarly, as the total market expanded in banking, acquisitions outweigh defections. Therefore, the analysis treats and calculates benchmarks for market defection separately from market acquisition.

With continuous reporters available for the panel of doctors, calculating market share change uses the data for the previous period. For banking, using the previous year's cross-sectional estimate of market share introduces considerable sampling error, and is in fact unnecessary. Instead, the analysis infers previous period market share from current share, adjusting for defections and acquisitions for both the focal brand and the overall market. This procedure eliminates sampling error from the estimates by using the same respondents for each pair of periods in the analysis.

Scatterplots and OLS regression are the methods used to report results. These regressions are simply a summary of observations rather than a time-series analysis; however, the benchmarks already include a time-series element as they involve one-year lags. This simplified method for reporting is analogous to a lagged stochastic regression.

2.5. Simulating the NPV of acquisition and defection reduction

The analysis of the effects of unusual defection and acquisition is then extended to profitability through simulation. This simulation involves construction of a long-term profit function, inputting observed and theoretical acquisition and defection rates into this profit function, and varying assumptions about (i) the discount rate, and (ii) whether unusual defection and acquisition are transient or persistent. The results include simulated profit indices, decomposition of dynamic effects from these indices, and tests of robustness to variations in assumptions.

The area for analysis is a complex one due to the interaction of annual sales, relationship duration, share of wallet (or SCR) and the relative productivity of expenditure on retention and acquisition. A further complication is that the definition of expenditure on retention varies, and is sometimes extended to include all sales efforts to existing customers. Further, much of the prior work in this area is theoretical with few suitable data sets available for empirical work.

A notable exception is Reinartz et al. (2005), who analyze a single data set for a business-to-business high-tech manufacturer. They model marketing elasticities for different forms of customer contact and simulate the optimal balances between retention and acquisition efforts. They note the need to generalize their results via replication, and acknowledge the difficulty of doing so in business-to-consumer settings. However, Reinartz et al. (2005) use monadic internal metrics for single firms (i.e. company-based data, with no market comparators), whereas the present work uses comparative market-based measures in a multi-firm environment.

Despite the complexities of profitability analysis in the present context, a simulation approach, similar to that adopted by Reinartz et al. (2005), can still apply. While the absolute value of the profit impact cannot be calculated, if market share is treated as an index of absolute profit, relative effects can be quantified. Quantifying relative effects does assume that revenue per retained customer and cost structure are similar between firms within an industry. Given the paucity of work in this area, the analysis proceeds with these assumptions with the intent they may be relaxed in future research. The assumption of identical cost structures is perhaps most controversial. The simulation results discuss this point further.

The first step in quantifying profits is to determine the Net Present Value (NPV) of the baseline profit index. The index for the scenario in

which acquisition and defection, and thus market share and profit, remain at stable benchmark levels over time is easily calculated as $\frac{PI}{d}$, where PI is the profit index and d is the discount rate.

The second step is to model the effects of unusual defection or acquisition on this baseline profit index. Decomposing the profit index into the elements due to retention and acquisition is necessary. The retention profit index for each period $PIR(t)$ is determined by multiplying the retention percentage for initial customers at time (t), by the starting profit index, and then multiplying that by a deflator. Summing these values yields retention NPV. The individual value for each period (t) is:

$$PIR(t) = \frac{PIR_{(t-1)}rPI}{(1+d)^t} \quad (3)$$

where

r retention rate (1-defection rate)
 $PIR_{(t=0)}$ PI
 $(1+d)^t$ a standard deflator term

Modeling acquisition is marginally more complex, as changes to the retention rate recursively affect the acquisition profit index through the rate at which newly acquired customers are retained. The interaction is a one-way interaction, as higher acquisition rates have no countervailing effect on retention values. Consequently, determining the acquisition profit index is by calculating previous period acquisition, multiplying by the proportion of those retained, plus new acquisitions, multiplying by the starting profit index, and then applying a deflator as follows:

$$PIA(t) = \frac{(PIA_{(t-1)}r + a)PI}{(1+d)^t} \quad (4)$$

where

a acquisition rate
 $PIA_{(t=0)}$ 0

Again, the sum of these values yields the NPV. Taking the one-way interaction into account, the NPV of the decompositional models exactly sums to the NPV of the aggregate model $\frac{PI}{d}$, confirming that the decompositional approach is indeed accurate.

The final step is to model the effects of observed values. To avoid interactions confounding the measurement of acquisition effects, the analysis takes out unusual defection and unusual acquisition one at a time. The analysis then alters the focal dynamic (e.g. defection) while holding the other dynamic (e.g. acquisition) constant at the benchmark level in order to compute a test condition NPV. Eqs. (1) and (2) provide benchmark values of r . Eqs. (3) and (4) provide profit indices for a given value of r – whether theoretical or observed. Therefore, (1) and (2) should be seen as providing inputs to (3) and (4). Observed values are also used as inputs. Calculating the effect of unusual acquisition and defection on profits is then by comparing the profit index for an observed value of r with the profit index for the benchmark value of r . That is, dividing the NPV of the future profits under the test condition by the NPV of the baseline profit index $\frac{PI}{d}$ yields a percentage change in profitability due to the test condition – the effect of unusual defection or acquisition. This percentage change is relative to the baseline profit index of the focal brand, so direct comparison of percentage changes between brands is not meaningful. The percentages first need to be converted to absolute values, which is an easy process of re-weighting the percentage changes by the baseline profit index of the relevant brand.

3. Results

Results for this study fall into two areas. First, growth in brands' customer bases depend more on exemplary performance in customer acquisition than retention (in both pharmaceutical prescribing and banking). Second, simulation shows that: (i) while changes in defection rates are marginally more profitable than equivalent magnitude changes in acquisition rates, (ii) due to the greater variation in acquisition rates, defection nonetheless plays a secondary role in explaining changes in profitability. These results are now described in more detail.

3.1. The role of acquisition and retention in market share change

Fig. 1 provides scatterplots for each data set. These scatterplots show deviations from benchmark defection and acquisition against changes in the brands' market shares. The data consists of all year-to-year changes in share, whether up or down, in a given year. For the purposes of displaying the scatterplots, the analysis omits the *Other* brands; they are more subject to aggregation bias, and their smaller absolute count of customers creates more natural variation.

The fitted lines show similar patterns between categories: acquisition higher than the benchmark and defection lower than the benchmark highlight growth in share; while acquisition lower than the benchmark and defection higher than the benchmark highlight a loss of share. Qualitatively, these patterns are logical; however, the strength of the relationships and lack of scatter are a surprise, and the relative slope of the lines is a previously unknown result.

The correlations between share changes and unusual acquisition alone are .93 for doctors' prescribing of pharmaceuticals and .88 for banks. The correlations between share changes and unusual defection alone are -.55 for doctors and -.85 for banks. As the fitted lines are symmetrical around a market share change of zero, the effects apply equally to growing and declining brands.

The following tables present detailed results of the regression analysis for both prescription drugs (Table 1) and the retail banking (Table 2). The broad specification is: change in share = $\alpha + \beta_1 * \text{unusual defection} + \beta_2 * \text{unusual acquisition} + \epsilon$. In both cases, the analysis involves estimating models with and without the data from *Others*, which are the smallest brands in the categories and are subject to aggregation bias and small sample variation. *Others* also introduce a spurious correlation in the banking data, due to the presence of a small new brand with high acquisition and high growth; which shows the importance of acquisition to growth, but does so spuriously as the brand involved is a new, rather than mature, brand.

Either way, the results are clear. 98% of the variation in share for the drugs data, and 75–82% of the variation in share for the banking data, are explained by deviations from the benchmark levels of acquisition and defection. (Note that Fig. 1 shows bivariate correlations only; as the regression specification includes both acquisition and defection, the results are not bounded by the initial bivariate correlations.)

Analysis of the Beta values reveals the relative contribution of unusual defection and unusual acquisition to changes in market share. Deviations from defection benchmarks do play a role in explaining share changes, but deviations from acquisition benchmarks are about twice as important, according to the ratios of the Beta values.

Readers may wonder: why are Adjusted R^2 values so high? This is due to an underlying logical relationship between acquisition, defection and share change. However, while the logic of the relationship is clear, this relationship is not so easy to observe in a messier real-world environment. The ability of the analysis to reveal the expected logical relationships indicates that the analytical decisions are appropriate; namely (i) using first brand loyalty as a construct, (ii) applying stochastic benchmarks, and (iii) eliminating sampling error by inferring the previous year market share for banks, from length of tenure and prior main bank, rather than using the previous year survey results. The remaining error is likely due to minor issues such as split first brand

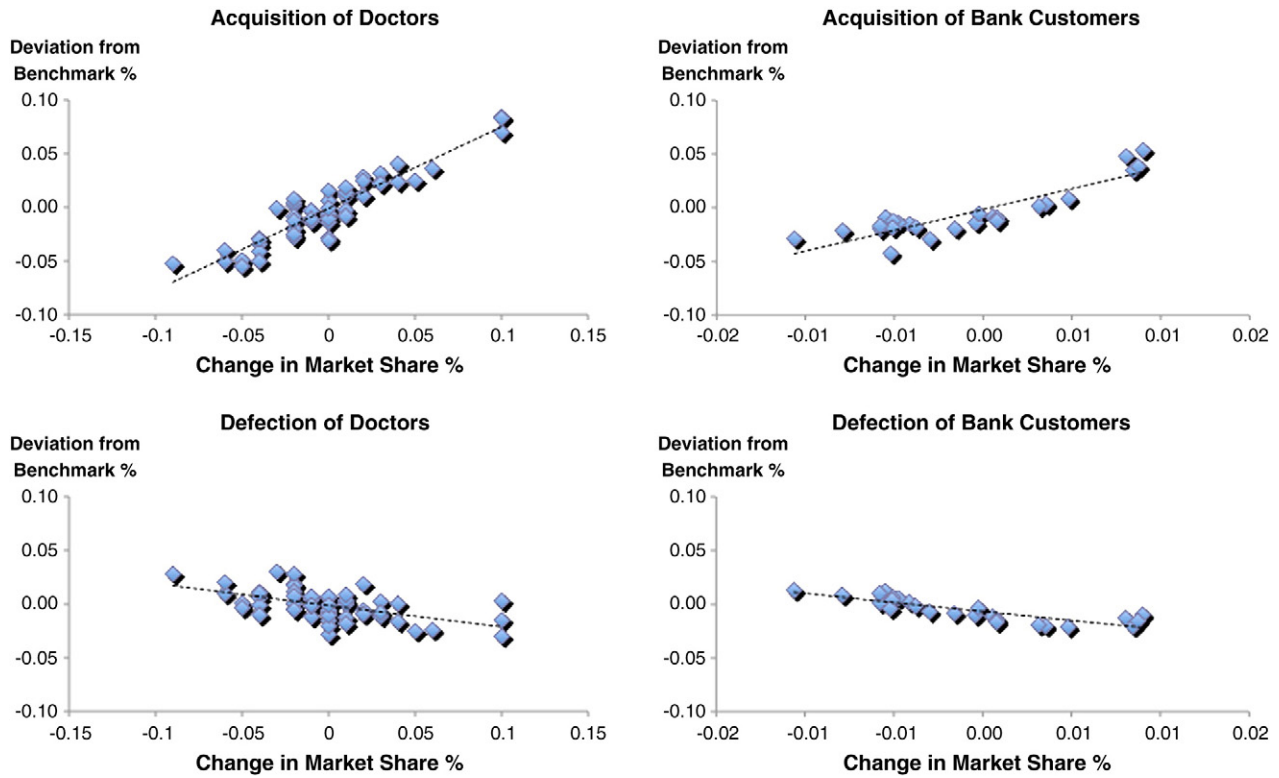


Fig. 1. Change in share vs deviation from acquisition and defection benchmarks.

loyalty, temporal aggregation bias within each year, and the additional error to which the *Other* brands are prone.

Different analytical decisions do deliver different results. If previous year survey results are used for banks, thereby introducing sampling error, the Adjusted R² declines considerably, although the pattern of results remains the same. Similarly, if the naïve approach described earlier is applied, with acquisition and defection regressed directly against share change, the result is completely erroneous; for doctors, the regression is marginally significant (p = .03), with a non-significant acquisition coefficient, and a positive defection coefficient! Unsurprisingly, the Adjusted R² for this result, which ludicrously explains share growth as a result of excess defection, is a lowly .07, providing an example of the danger of naïve approaches, and the importance of stochastic benchmarking.

While the high Adjusted R² values demonstrate that the definitions and analysis are right, the values do not constrain the empirical result about the relative importance of acquisition and defection. The result turns out to show that unusual acquisition is roughly twice as important as unusual defection when explaining changes in the customer base. This conclusion need not have been so and indeed could have been the other way around. The result is simply an empirical regularity, which demonstrates that the growth of mature brands depends more on increases in acquisition than reductions in defection. However, more surprising is the observation of the same principle for declining brands,

with deficient acquisition explaining more of the decline than excess defection.

3.2. Likely return on investment outcomes from unusual acquisition and retention

Having shown that most of the variation in growth and decline is due to acquisition, rather than defection, is the same true for profitability? The short answer is yes.

The analysis does show that a change to the defection rate has a greater impact on the profit index than a change of equal magnitude to the acquisition rate, which is consistent with prior literature. However, defection reduction is not inherently a more profitable strategy. The effect arises because reduced defection rates not only increase the value of the existing customer base, but also the value of any newly acquired customers, whereas increased acquisition has no corresponding effect on the value of existing customers. The size of this effect is small, and takes no account of whether similar changes in defection and acquisition are equally likely; as the data demonstrate, they are not.

To illustrate this, consider pharmaceutical prescribing. The decompositional models yield a distribution of effect sizes for profitability based on panel data observations. Both the absolute value and the variance of these effect sizes can be examined. One test is to sum the absolute values of the changes in the weighted profit indices for each of defection and acquisition, and to compare them. This is analogous to integrating the areas under the curve, (but applies just to

Table 1
Regression results for pharmaceutical drugs.

	n	Adj R ²	F-statistic	Defection Beta	Acquisition Beta	Absolute ratio of A/D Betas
Excluding <i>Others</i>	56	.98	1457 ^a	-.38 ^a	.84 ^a	2.2
Including <i>Others</i>	63	.98	1838 ^a	-.38 ^a	.84 ^a	2.2

Note: The normal probability plots showed low kurtosis, which theoretically undermines the calculation of confidence intervals, but in practice the confidence intervals are so narrow there is no effect on the interpretation of results.

^a Significant at p < .001.

Table 2
Regression results for banks.

	n	Adj R ²	F-statistic	Defection Beta	Acquisition Beta	Absolute ratio of A/D Betas
Excluding <i>Others</i>	25	.75	38***	-.39**	.61***	1.5
Including <i>Others</i>	30	.82	65***	-.51***	.94***	1.8

** significant at p < .01. *** significant at p < .001.

the empirical results in this study rather than to an entire profit function) and the results show that acquisition accounts for 1.9 times more of the changes in the profit index than does defection.

Another test is to consider the variances, rather than the sums, of the weighted profit indices for each of defection and acquisition. The variance for acquisition is 16.1, and for defection is 4.4, which gives a total variance of 20.5 partitioned between the two variables. The ratio of the variance of one variable to total variance is analogous to an R^2 . The ratio does not include unexplained variance, but the results of Tables 1 and 2 suggest that unexplained variance is small. In any event, considering just the explained variance in the profit index, 16.1 of 20.5 or 78% is due to unusual acquisition and 4.4 of 20.5 or 22% is due to unusual defection. So, for this data, acquisition is associated with much greater profit variance than defection.

These analyses assume a discount rate of 5%, that the unusual defection (or acquisition) is persistent, and are only applied to pharmaceutical prescribing. However, extending the tests to banking, varying the discount rates from 5% to 10%, and testing a model with transient (one year) unusual defection or acquisition do not result in substantive change. Results under these conditions show only very minor fluctuations to either the 1.9 ratio or the 78% explained variance. The size of these fluctuations shows that the key finding of the relative importance of acquisition is robust to these variations in the assumptions.

Some may argue that the cost of achieving unusual acquisition is likely to be higher, and thus tips the balance in favor of retention strategies. However, given the relative impact of acquisition on the profit index, the associated costs would have to be exceptionally high to overturn the general conclusion. Also, while previous research suggests defection is more profitable, the simulation accounts for such effects without requiring any difference in cost structures; so this result is already consistent with prior findings. Nonetheless, given the strict assumptions in the simulation, stating that the ratios or percentages it derives are highly accurate would be unwise. Rather, a more reasonable approach is to interpret these results as simply showing that the relative importance of acquisition does extend from growth and decline to profit measures as well.

4. Implications

A key implication of these results is the need for acquisition metrics to accompany defection metrics whenever these are reported. As acquisition explains roughly twice the changes in market share that defection does, presenting defection metrics alone is to present less than half the story. Both acquisition and retention should be closely monitored, keeping in mind the possibility that investment in acquisition strategies may need to be increased. A corollary is that Customer Relationship Management should not over-emphasize defection management. While the need for balance between acquisition and retention may seem obvious, the skew towards publication of customer retention studies highlights the need to reiterate this conclusion.

The dangers of a mindset that over-emphasizes defection are illustrated by recent criticisms of the US automobile industry, levied in the context of the extensive government bailouts. Here, practitioners and researchers widely believe and claim that the loss of existing customers is the root cause of US car brands' declining market shares. Indeed the *New York Times* reports a study suggesting that car brands in the US have all suffered a dramatic drop in customer retention (Vlasic, 2009). The results of the present study imply that the cause is unlikely to be due to a drop in retention rates, at least not without a near total collapse in sales. The more likely explanation is that commentators are unaware of normal defection levels in the industry. The evidence bears out this conclusion. J.D. Power's annual Customer Retention Study consistently reports no decline in repeat-rates over the past 5 years (even for declining brands like Ford), and no measurable gain in retention rates for brands that have made steady gains in market share (Sharp, 2009). Rather than excess defections, Detroit's problem appears to be a failure

to acquire its fair share of brand switchers and new buyers, which demonstrates how a misunderstanding of the importance of acquisition can lead to an inaccurate diagnosis.

5. Summary

Reducing customer defection is often suggested as the key to growing a successful brand. Yet, as a brand normally only loses a small fraction of its customers each year, the growth that can be achieved from reducing defection is limited. Besides, some customer defection always occurs regardless of management performance. The results of this study further demonstrate that the role of customer acquisition and defection in brand growth is more complex than previously proposed.

The application of stochastic benchmarks confirms that any brand should expect an on-going level of both defection and acquisition, and that even growing brands will lose customers. These benchmarks are useful tools for managers assessing brand performance, and help to identify the worst performing brands through deviations from the norms. Rather than seek simply to reduce defection, managers can first assess whether defection and acquisition are already unusually high or unusually low. Such an assessment will help to understand where brand performance is weak or strong and to allocate expenditure accordingly, rather than to profligately invest in activities that are unlikely to foster further growth or slow decline.

When such benchmarks are applied to the two markets in this study, customer acquisition is confirmed to be much more important than defection in explaining changes in market share. Reichheld's recommendation that managers should aim to eliminate defections is therefore, at best, not necessary for brand growth and, at worst, not even possible.

Rather, managers need acquisition as well as defection initiatives. Such initiatives are well within the capabilities of existing Customer Relationship Management systems. But first, marketing strategists must increase the emphasis on customer acquisition and prospect management, and avoid the temptation to over-emphasize customer retention.

References

- Anschuetz, N. (2002). Why a brand's most valuable customer is the next one it adds. *Journal of Advertising Research*, 42(1), 15–21.
- Baldinger, A. L., Blair, E., & Echambadi, R. (2002). Why brands grow. *Journal of Advertising Research* (January/February), 7–14.
- Bass, F. M. (1974). The theory of stochastic preference and brand switching. *Journal of Marketing Research*, 11(February), 1–20.
- Blattberg, R. C., Getz, G., & Thomas, J. S. (2001). *Customer equity: Building and managing relationships as valuable assets*. Harvard Business School Press.
- Blumenthal, D. (2004). Doctors and drug companies. *The New England Journal of Medicine*, 351(18), 1885–1890.
- Bogomolova, S., & Romaniuk, J. (2009). Brand defection in a business-to-business financial service. *Journal of Business Research*, 62(3), 291–296.
- Cao, Y., & Gruca, T. S. (2005). Reducing adverse selection through customer relationship management. *Journal of Marketing*, 69(4), 219–229.
- Colombo, R., & Morrison, D.G. (1989). A brand switching model with implications for marketing strategies. *Marketing Science*, 8(1), 89–99.
- Dawes, J. (2009). You need more customers: the key is how many you have, not how much they buy. *Marketing Research*, 30–31.
- East, R., & Hammond, K. (1996). The erosion of repeat-purchase loyalty. *Marketing Letters*, 7(2), 163–171.
- East, R., Harris, P., Lomax, W., & Wilson, G. (1997). *First-store loyalty and retention among supermarket customers*. Working paper. London: Kingston Business School.
- Ehrenberg, A. S.C. (1959). The pattern of consumer purchases. *Applied Statistics*, 8(1), 26–41.
- Goodhardt, G. J., Ehrenberg, A. S.C., & Chatfield, C. (1984). The Dirichlet: A comprehensive model of buying behaviour. *Journal of the Royal Statistical Society*, 147(5), 621–655.
- Gupta, S., Lehmann, D. R., & Stuart, J. A. (2004). Valuing customers. *Journal of Marketing Research*, 61(1), 7–18.
- Hammond, K., East, R., & Ehrenberg, A. (1996). *Buying more and buying longer: Concepts and measures of consumer loyalty*. Working Paper. London: London Business School.
- Kalwani, M. U., & Morrison, D.G. (1977). A parsimonious description of the Hendry system. *Management Science*, 23(5), 467–477.
- Kotler, P. (1992). Marketing's new paradigm: What's really happening out there. *Planning Review Special Issue*, 20(September/October), 50–52.
- Reichheld, F. F., & Sasser, W. E. J. (1990). Zero defections: Quality comes to services. *Harvard Business Review*, 68(5), 105–111.
- Reichheld, F. F., & Teal, T. (1996). *The loyalty effect: The hidden force behind growth, profits, and lasting value*. Boston, Massachusetts: Harvard Business School Press.

- Reinartz, W., Krafft, M., & Hoyer, W. D. (2004). The customer relationship management process: Its measurement and impact on performance. *Journal of Marketing Research*, 41(3), 293–305.
- Reinartz, W., & Kumar, V. (2002). The mis-management of customer loyalty. *Harvard Business Review*, 86–94.
- Reinartz, W., Thomas, J. S., & Kumar, V. (2005). Balancing acquisition and retention resources to maximize customer profitability. *Journal of Marketing*, 69(1), 63–79.
- Rust, R. T., Lemon, K. N., & Zeithaml, V. A. (2004). Return on marketing: Using customer equity to focus marketing strategy. *Journal of Marketing*, 68(January), 109–127.
- Sharp, B. (2009). Detroit's real problem: It's customer acquisition, not loyalty. *Marketing Research*, 26–27.
- Sharp, B. (2010). *How brands grow: What marketers don't know*. Oxford University Press.
- Sharp, B., Riebe, E., Dawes, J. G., & Danenberg, N. (2002). A marketing economy of scale – Big brands lose less of their customer base than small brands. [Research Note 2]. *Marketing Bulletin*, 13(May), 1–8.
- Sharp, B., Wright, M., & Goodhardt, G. (2002). Purchase loyalty is polarised into either repertoire or subscription patterns. *Australasian Marketing Journal*, 10(3), 7–20.
- Stern, P. (1994). *Doctoral thesis: Patterns of pharmaceutical prescribing*. London: London Business School.
- Stern, P., & Hammond, K. (2004). The relationship between customer loyalty and purchase incidence. *Marketing Letters*, 15(1), 5–19.
- Thomas, J. S., Blattberg, R. C., & Fox, E. J. (2004). Recapturing lost customers. *Journal of Marketing Research*, 41(1), 31–45.
- Trubik, E., & Smith, M. (2000). Developing a model of customer defection in the Australian banking industry. *Managerial Auditing Journal*, 15(5), 199–208.
- Verhoef, P. C. (2003). Understanding the effect of customer relationship management efforts on customer retention and customer share development. *Journal of Marketing*, 67(October), 30–45.
- Vlasic, B. (October 21). For car buyers, the brand romance is gone. *The New York Times*, B1.
- Wright, M., & Riebe, E. (2010). Double jeopardy in brand defection. *European Journal of Marketing*, 44(6), 860–873.