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“Modeling Brand Market Share Change in Emerging Markets”

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Modeling Brand Market Share Change in Emerging Markets

Abstract

Purpose

The objective of the paper is to examine what happens to key brand performance metrics as brands change in market share, in the context of packaged goods. The metrics are: penetration - the number of buyers a brand has; and loyalty - measured as purchase frequency (PF) and share of category requirements (SCR).

Design/methodology/approach

The study utilizes 24 datasets in 17 packaged goods categories in three emerging markets: China, Malaysia and Indonesia. We examine changes in penetration, loyalty and share of category requirements in the context of volume and value market share change. In addition, we examine whether initial price point and price movements influence the results.

Findings

The primary finding is that market share change is accompanied by a greater change in penetration than in any other metric. This finding is very consistent across categories and countries. The relative importance of the two loyalty metrics varies by country. SCR was a stronger factor in Indonesia; while PF was stronger in Malaysia. Analysis indicated that pricing strategy (initial price and promotional depth) did not alter the main pattern of results, suggesting the results hold for brands with different price levels and tactics.

Practical implications

Irrespective of circumstance, to grow in value or volume market share, brands should aim to grow in penetration, while the importance of changes in specific loyalty measures depends on market conditions.

Originality/value

This research extends past research on brand growth to the very different economic, geographic and cultural conditions of three crucially important emerging markets. Its main value lies in recommendations on how much to invest in building the size of the customer base versus consumer retention.

1. Introduction

Economic slowdown in most major developed countries has accelerated interest in emerging markets (Sheth, 2011). Indeed, it is said that emerging markets are becoming marketing's new frontier (Burgess and Steenkamp, 2013). Emerging markets have two important characteristics: large and young populations and positive economic growth levels that outpace most of the developed world (NationMaster, 2016). These characteristics have created new sizable middle classes that fuel the demand for branded products and services and, in particular, consumer-packaged goods (Kumar et al., 2015). For example, McKinsey's report on mapping China's middle class predicts that 75% of China's urban consumers will earn middle class incomes by 2022 (Barton et al., 2013), while the Boston Consulting Group claims that Indonesia's middle class is set to double to more than 140 million people in the next seven years (Rastogi et al., 2013).

The success or failure of brands in emerging markets now influences the profits of large global packaged goods companies. Indeed, emerging markets are a major factor in multinational enterprise strategy (e.g. Enderwick, 2009). Recent corporate statements underlie the importance of revenue growth through market share gains in emerging markets (e.g. Nestle, 2016, Ramchandani, 2016, Unilever, 2016). For example, a BBC report states that emerging markets account for 57% of Unilever's sales, and growth of sales in those markets substantially contribute to a rise in its profits (BBC, 2014). This growing importance of emerging markets highlights the need for research on the mechanisms of market share growth in those economies, in order to guide brand strategy.

Whilst market share is a well-known success metric, the focus of this study is not market share per se. Rather, the focus is on understanding the extent to which components of market share have a stronger relationship with market share *change*: brand penetration or loyalty.

We now briefly explain market share and its components.

There are two kinds of market share. First is volume market share, which is brand sales counted as volume sold, divided by total category sales counted as total volume sold (e.g., a 300 gram pack contributes more to volume market share than a 150 gram pack). Second is value market share: brand revenue, which in turn is units multiplied by average selling price (Farris et al., 2016), divided by total category revenue (e.g., a pack that is \$3.50 contributes more to value market share than a pack that is \$1.50). These two market shares can differ as categories can include value brands, which have higher volume but at a lower price, while premium brands can have lower volume but at a higher price. The value or volume market share of any brand is underpinned by several key metrics: brand penetration and loyalty.

Brand penetration is defined as the proportion of all households who bought a brand at least once in a time period, such as 52 weeks (Dawes, 2006, Ehrenberg, 2000). Loyalty reflects the incidence of repeat-buying the brand. This metric can be defined in several ways, two of which are relevant to this research. The first is purchase frequency, which is the number of times that buyers buy the brand during a time period. The second is share of category requirements (SCR), which is the proportion of the category requirements (volume or value) satisfied by that brand versus other brands bought in the category (Bhattacharya et al., 1996). The third metric relevant to this research is the price paid, which is a component of value market share. These metrics reflect the tension between investing in customer acquisition strategies (Voss and Voss, 2008), to expand the size of the customer base, or investing in customer loyalty strategies (Duffy, 2005), to get more sales/revenue from existing customers.

Given that all three metrics influence a brand's market share, understanding how they change when a brand grows or declines in market share can inform the decision on how much to invest in acquisition or loyalty strategies.

The expanding literature on business models and strategy in emerging markets acknowledges the fact that “most studies are at the descriptive level and not yet been associated with existing theories developed in other disciplines” (Pels and Sheth, 2017 p. 10). Pels and Sheth (2017) offer a conceptual framework of four business models (adaptation, mission focus, radical innovation and inclusive ecosystems) to serve consumers and to position research into emerging markets. We position the present study within Pels and Sheth's (2017) adaptation model, which assumes that while conditions may differ, the same broad rules of brand strategy and, in this case, how a brand changes in market share, should apply. Our study also addresses a call from Sheth (2011) to bring a more consumer centric approach to the topic of brand strategy in emerging markets, given the majority of the studies on adaptation observe actions of the firm, rather than the actions of consumers.

The objective of this study is, therefore, to ascertain whether market share growth is consistently dominated by changes in penetration, which would reinforce the value of a company investing in a customer acquisition strategy, or purchase frequency and SCR, which would suggest it would be more valuable for a company to invest in a customer loyalty/retention strategy. Or it may be that the path to growth differs across categories, and a more tailored category-specific strategy is needed. The context for this investigation is the packaged goods sector, and the scope covers 17 categories in three different emerging markets, China, Indonesia and Malaysia. Specifically, we address the following overall research question: How do penetration and loyalty metrics change when a brand

grows/declines in market share from one year to the next? In our process of examining this question, we also investigate whether the results are generalizable across different market share measures, category characteristics and pricing strategies. By doing so, we make three contributions. First, we link the expansive body of work on brand performance metrics and brand growth (e.g. Farris et al., 2016, Romaniuk and Sharp, 2016, Wilbur and Farris, 2014) to the stream of international marketing literature on emerging markets (e.g. Bortoluzzi et al., 2014, Essoussi and Merunka, 2007, Tanusondjaja et al., 2015, Wang et al., 2017). This allows us to test if an established research tradition based around empirical generalisations and use of multiple sets of data (e.g. Barwise, 1995, Bass, 1995, Ehrenberg et al., 2004) can be used to address an academically sound and managerially useful research question in the international marketing arena. The novelty of this is apparent in that there are only a few previous examples of this approach, such as Uncles and Kwok (2008, 2009). Second, we show that there are consistent patterns in the way packaged-goods brands grow in emerging markets; and that these patterns are broadly congruent with growth patterns in western markets (e.g. Sharp, 2010). The findings here harness the paradigm elucidated in Pels and Sheth (2017) that business models for emerging markets can be adaptive, i.e. based from models established in western markets. Given the plethora of differences that exist across markets, marketing conditions and businesses, finding consistent, generalizable empirical knowledge about the pattern of market share change across three countries and 17 product categories is of value to academic researchers as well as managers. A third contribution is that the study demonstrates the value of utilizing consumer panel data in emerging markets for academic purposes. Very few studies have done so to date. One possible reason is that the large consumer panel companies (e.g. Nielsen, GfK, Kantar) have only in recent times assembled large-scale panels in these markets. There are considerable opportunities to use

these resources in the future to address research questions. This study may encourage future applications of such an approach.

We next discuss the pertinent literature, which forms the basis for the specific hypotheses. Note, examining *category* growth (or decline) is beyond the scope of this paper. Indeed, we saw little change in category penetration or buying frequency during the period of analysis for the packaged goods categories investigated. That said, we discuss the implications of our findings for brands in growing categories in the section on future research.

2. Background & Literature Review

We first discuss the key metrics that are central to this paper: market share, penetration, loyalty, as well as price. A brand's market share reflects strength relative to competitor options. While it is calculated based on the brand's total sales in the category, it is distinct from total brand sales, as a brand's market share can increase or decrease while total category sales remain stable, for example through stealing sales from competitors. Also, a brand can remain stable in market share but grow in sales, if category sales also increase due to seasonality or simply expand over time. An increase in a brand's market share means the brand is performing better than competitors, while a decrease reflects the opposite. Market share is a crucial performance metric that companies should monitor (Rust et al., 2004, Ambler, 2002).

Next, we explain the composition of a brand's market share in terms of buyer behaviour. Market share comprises several components. The first is brand penetration (Kahn et al., 1988). Penetration can range from zero, if no category buyers buy the brand, to 100%, every category buyer bought the category also bought that brand. Aiming for growth in penetration

is commonly referred to as an acquisition strategy, as it involves *acquiring* more buyers in one time period compared to a previous time period (e.g. Anschuetz, 2002).

The second market share component is loyalty, which is how much of the total category expenditure the brand's buyers allocate to a brand. This allocation can be measured in two ways, Purchase Frequency or Share of category requirements (SCR) - (Bhattacharya et al., 1996). Purchase frequency is how many brand purchases a brand's buyers make, and this can range from one purchase to the total number of the buyers' category buying. For example if someone bought the category five times, that customer's brand purchase frequency can range from one to five. A limitation of this purchase frequency measure is that it is upper-bounded by category purchase frequency, and therefore is not necessarily an equivalent indicator of brand loyalty, as someone who buys the brand twice and the category twice has a different kind of loyalty to someone who buys the brand twice and the category ten times, but yet both have the same purchase frequency. To overcome this limitation, Share of Category Requirements (SCR) (Bowman and Narayandas, 2001) is another loyalty measure that is commonly used. It involves measuring the share of the brand's purchases amongst a person's category purchases. SCR ranges from 1% (e.g. the brand is one out of 100 category purchases) to 100% (the brand is all of the buyers' category purchases). In the prior example, the two time brand buyer who bought the category twice would have 100% SCR, while the two time brand buyer who bought the category 10 times would have a 20% SCR. As we are interested in the link to market share, there is a deliberate focus of these *behavioral* measures of loyalty (Fader and Schmittlein, 1993), with attitudinal measures outside the scope of the study.

The third component of market share is price, namely the amount of money paid for a product. Price paid affects sales revenue and therefore is part of the calculation of value market share, which uses total market revenue as its base. However, price is not a component of volume market share. Price is of particular interest to packaged goods manufacturers in emerging markets because many global brands enter the category in a range of price points. Given the low average per-capita incomes of emerging markets (Dawar and Chattopadhyay, 2002a, Nakata and Antalis, 2015, Sheth, 2011), affordability of everyday products can dampen demand, and a higher price point may put the brand out of the financial reach for a large proportion of the potential market, stifling the capacity of a higher priced brand to grow by acquisition/penetration. Therefore, it may be that brands at different price points need different strategies, or different pricing strategies might affect a brand's value market share differently to its volume market share. We now discuss the empirical studies that have investigated the buyer behavior foundations of market share growth or decline.

Empirical studies of market growth and decline

The empirical evidence from western markets reveals penetration change (more or fewer customers buying in the subsequent time period) as the key driver of a brand's market share changes. For example, in an early study, Sylvester, McQueen and More (1994), analyzed 95 brands that grew in market share across 14 categories from IRI and Nielsen US household panel data, to determine which variable changed more: penetration or purchase frequency. This study concludes that in 67 of 95 cases, penetration change was higher than the change in purchase frequency. This evidence for penetration change being a greater contributor to growth than loyalty has been replicated in several subsequent studies, from different authors in a wide range of packaged goods categories (see Anschuetz, 2002, Baldinger et al., 2002, Romaniuk et al., 2014).

In one of the few studies that investigated the underpinnings of decline, Romaniuk, Dawes and Nenycz-Thiel (2014) find that market share decline is also more strongly correlated with penetration decline than reduced loyalty (see also Ailawadi et al., 2001). However, a decline in SCR was more influential on store brands or private labels market share decline than for manufacturer brands. Restricted distribution of store brands, which are present only in one retail chain, is a likely cause (Bound and Ehrenberg, 1997). SCR decline occurs when competitors are more successful in-store and steal the brand's sales. Given the fractured distribution system of many emerging markets, due to the sheer geographical size and complex retail structure, it might be harder for any brand to obtain full distribution, and many more brands may have distribution structures that resemble the restricted distribution patterns of private labels in the UK. Although there is considerable interest in the growth of brands in emerging markets, Bain and Company (2014a) reported that in 2013, foreign brands lost share in 26 packaged goods categories. This suggests that guidance about how brands in emerging markets are likely to decline in market share will help companies either currently facing or risking this situation. The authors also claim that penetration change is the biggest driver of market share change, but no quantitative assessment of the effect sizes for penetration versus loyalty are provided (Bain and Company, 2014a).

In relation to price, Bhattacharya (1997) in an extensive cross-sectional analysis of US data found high priced brands tended to have lower loyalty than predicted by the NBD-Dirichlet model (see Goodhardt et al., 1984). However, a literature search revealed no relevant research that has considered the role of price in growth or decline patterns. This may be due to the low price of most packaged goods being within the buying power of the vast majority

of category buyers in western markets, and so customer acquisition is a viable strategy for all brands in all packaged goods categories, irrespective of initial price level.

In summary, the empirical research to date regarding the contribution of penetration and loyalty change to market share change finds brands tend to grow in market share predominantly by acquiring more customers to buy the brand at least once in the subsequent time period. Brands also tend to decline in market share by having fewer customers buying the brand in the subsequent time period. However, when there are restrictions on distribution, SCR may play a greater role in a brand's market share change. Finally, while a wide range of categories and brands have been investigated, the vast majority of the studies to date have been conducted in western, developed markets such as the USA or UK.

The characteristics of emerging markets that could influence market share changes

In emerging markets the evidence about how to grow market share is sparse, with the literature providing disparate advice. Investment in building the size of the customer base (i.e. acquisition strategy) is advocated by authors such as Sheth (2011); but a different view, a loyalty led growth strategy aiming to gain more value from the current customer base, is advocated by others, for example Kruger & Stumpf (2013) and TNS-Gallup (2014). Given these divergent views on such an important topic, more evidence is crucial for businesses operating in, or about to enter, emerging economies. Indeed, many studies point to the particular difficulties for firms entering emerging markets. From the firm side, there can be institutional voids (e.g. a lack of supporting channels, vendors) as well as cultural, normative and linguistic distance between the firm and its emerging market consumers (Bortoluzzi et al., 2014). Knowledge as to the way in which market share growth will occur in emerging

markets could represent a narrowing of one aspect, at least, of the shortcomings and uncertainties firms face in these endeavours.

While there is little analysis into the dynamic changes in market share in emerging markets, research has examined static brand buying patterns and, in particular, the phenomenon of Double Jeopardy, which refers to the brand level interaction between penetration and loyalty levels (McPhee, 1963, Ehrenberg et al., 1990). There is evidence that the same Double Jeopardy pattern exists in China, in research into retail patronage and television set buying (Uncles and Kwok, 2008, Uncles and Kwok, 2009, Bennett, 2008). This evidence is consistent with the adaptation model of Pels and Sheth (2017), namely that many buying patterns in emerging markets will mimic those observed in developed markets, and therefore the patterns of brand market share growth may also replicate the penetration dominant results observed in western markets. This observed consistency leads to the first set of hypotheses:

H1a: In emerging markets, penetration will be a bigger driver of changes in packaged goods brands' volume market share compared to loyalty.

H1b: In emerging markets, penetration will be a bigger driver of changes in packaged goods brand's value market share compared to loyalty.

Note these two hypotheses are framed in terms of the relative effect size of penetration and loyalty under the conditions of market share change. The hypotheses are tested through examining the relative size of the coefficients for penetration and loyalty in a regression model with market share as the dependent variable.

Two conditions that are prevalent in emerging markets and proposed to affect brand strategy are the fragmentation of retail trade and consumers' low incomes (Ciravegna et al., 2014, Chakravarthy and Coughlan, 2011, Sheth, 2011). In the following section, we develop our hypotheses taking into consideration these two emerging market characteristics.

The impact of fragmented distribution

Retailing literature for emerging markets distinguishes between traditional small-store or wet-market retail formats (Reardon and Hopkins, 2006) and what is called 'modern trade' retailing, defined as multinational grocery chains with supermarket store formats (e.g. Tandon et al., 2011, Child et al., 2015). There are differences in the preponderance of either format in different emerging markets. For example, Indonesia's retail environment consists of many smaller 'extended pantries' rather than large supermarkets, each of which stock only one or two options in each category (Deloitte, 2010), and there are reportedly over 9 million small grocery stores in China (Dawar and Chattopadhyay, 2002b). This fragmentation means that it is difficult for even the largest brands to reach 100% distribution, as it is necessary to continually reach and influence a large number of small shopkeepers rather than a few buyers who represent a wide number of stores for a single retail chain (e.g. Craig and Douglas, 2011). This restricted distribution mirrors the condition experienced by private labels in developed markets, where loyalty is found to be more influential in brand market share changes (Romaniuk et al., 2014).

A second point pertaining the distribution channels in emerging markets is that brand choice in small-store formats is more contingent on the shopkeeper's preferences (Craig and Douglas,

2011, Cheng, 2015). This situation would constrain consumer choice, which become a subset of retailer preferences, leading to higher repeat-purchase loyalty among the smaller number of options available. Therefore, in countries with a lower proportion of modern grocery trade activity, a brand could be constrained in its capacity to attract new customers and grow via penetration, with growth gains coming more from localized increases in loyalty.

While the term ‘emerging markets’ has been used to describe a group of countries, individual emerging markets vary in many ways (OECD, 2011). To add to the robustness of our research, we analyze brands from categories in three heterogeneous emerging markets. To our knowledge, this is the first study of its kind that includes more than one country. The three countries in this research have differing characteristics, particularly in the grocery retail structure, capacity to do business in the country and average household income. Malaysia is a smaller, more urbanized country, with 73% of the population in urban areas (compared to around 50% in China and Indonesia as per the World Bank (2016a)) and where it is easier to do business, ranked 12th on Bloomberg’s ease of doing business (compared to 91 for China and 128 for Indonesia (Bloomberg, 2013)). China has 70% of urban retailing as modern (supermarket-type) trade, compared to Indonesia, where the incidence of modern grocery trade is low at 20% (Coe and Bok, 2014, World Bank, 2016a). There is also disparity in the median household incomes with Malaysia the highest at \$11,207; followed by China at \$6,180 and Indonesia the lowest at \$2,199 (Phelps and Crabtree, 2013). Therefore, we expect to see differences between Indonesia, with fractured retail structure and much lower median incomes, compared to Malaysia and China. These points lead to the second hypotheses:

H2a: In Indonesia, with a lower percentage of modern grocery retail trade and lower median income, loyalty will have a stronger relationship with volume market share change than in countries with a higher percentage of modern grocery trade.

H2b: In Indonesia, with a lower percentage of modern grocery retail trade and lower median income, loyalty will have a stronger relationship with value market share change than in countries with a higher percentage of modern grocery trade.

The Role of Price

Despite fast growth rates, emerging markets still have much lower levels of per-capita GDP compared to western markets (World Bank, 2016b). This lower GDP is a traditional barrier to the growth of many packaged goods categories. Many foreign brands are positioned at the premium end of the price spectrum in emerging markets, with local brands usually priced lower (Meyer and Tran, 2006). For higher priced brands, a lack of customers able to pay the higher price point could constrain brand growth by penetration, particularly in packaged goods categories where familiar, lower priced local brands and unbranded substitutes are easily available (Sheth, 2011). Therefore, higher priced brands will have a smaller segment of category buyers to draw from, with many category buyers ‘locked out’ of purchase. This suggests market share growth for premium brands will be accompanied by greater improvements in loyalty and be less influenced by changes in penetration, compared to lower price brands. However, prices are often not static with a large proportion of packaged goods brands sold on promotion (Hutchinson et al., 2017), which reduces the pricing barriers for more category buyers, thereby increasing the potential for growth via penetration change. Bain and Company (2014a) report that there has been a slowing of price increases in China, and more price drops in personal care, home care, beverage and packaged food sectors. This

general trend of the reduction of price at the premium end of packaged goods categories should expand the potential customer base for traditionally higher priced brands, making growth via penetration changes more likely.

These points are the basis for the third set of hypotheses.

H3a: In emerging markets, brands that sell at a high relative price in their category will have a stronger association between loyalty and market share change than brands that sell at a low relative price (i.e. price level moderates the loyalty-market share association)

H3b: In emerging markets brands that decline in average price will have penetration as a more influential factor for market share changes than brands that do not decline in average price (i.e. price change moderates the penetration-market share association).

3. Research Method

To address the hypotheses, we draw on panel data collected by Nielsen and Kantar Household panels. While the coverage of these panels is not as complete as in western markets, the data is more comprehensive and accurate than other options available, such as survey data. Our data spans China, Malaysia and Indonesia, covering 17 product categories.

The selection of the categories and countries was based on data availability. We requested panel data from these two large research providers, with no explicit criteria for inclusion or exclusion apart from meeting the data requirements of having brand shares and underlying metrics over at least two consecutive years. For China, we obtained six years of data for a personal care category (2007-2012), and two years of data for a food category (2011-2012). For Indonesia, the data covers nine categories for three years (2010-2012). Finally, data from Malaysia covers 10 categories over two years (2011-2012). The total datasets included in this

analysis, across all countries and categories is 24. Note that some of the categories are the same across countries so the total number of unique categories is 17. Only brands with data available over two consecutive years are included, with new launches and deleted brands omitted from analysis. Table 1 provides a summary of the key descriptive metrics from each dataset.

The data from each country differs in time periods and categories. Whilst there is no prima facie reason to think this might bias or impinge on the efficacy of the analysis, we conduct analysis for each specific country-category, as well as for country-time subsets. These checks provide evidence that the results are robust. This procedure is detailed later in the analysis section.

[Table 1]

The 17 different categories used in this study offer a useful level of diversity. This diversity potentially offers generalizable results, in line with calls for marketing science to devote more effort to generalizability (e.g. Bass and Wind, 1995, Meyer and Johnson, 1995). From the datasets available, we have examples of the same categories across multiple countries (e.g. the same personal care category in all three countries); different categories within the same country, and finally, the same category and country over multiple years. Note that we focus on relatively stable product categories, just as past work on market share growth in western markets has done. This similarity in category focus enables us to determine if brands in these emerging markets follow the same or different growth/decline pattern to western markets. The specific categories are masked for confidentiality purposes and categorized into four groups: Beverages, Food, Personal Care and Household items. The merging of the categories into four broader groups facilitates convenience of reporting and follows a classification used by others such as Bain and Company (2014b) and Nielsen (2015).

The variables for analysis

In each category and country, we have brand performance metrics (penetration, purchase frequency and SCR); year one price and year-on-year price change across at least two consecutive years. While we have a wider range of categories in Malaysia and Indonesia, we do have data over more consecutive years for China (6 years) than Malaysia and Indonesia (2 years each).

In this section, we outline the variables in the analysis. The independent variables are:

Penetration change – Percentage year-on-year change in the proportion of people buying the brand

Purchase Frequency (PF) change – Percentage year-on-year change in the frequency the brand is bought by its buyers

Share of Category Requirements (SCR) change – Percentage year-on-year change in the brand's share of the category spend of its buyers.

The covariates in the analysis are:

Year 1 brand share – the market share of the brand in the first year

Initial price - each brand's price per kilogram within each category (price per kilo controls for differences in average pack size across brands)

Price change - Percentage year-on-year change in price per kilo.

In each case, data for each independent variable were standardized prior to analysis. The standardization process involves converting each variable such that its values represent standard deviations from the mean level (Mendenhall and Sincich, 1996 ch. 6). Such an approach has been used in past studies, such as Romaniuk, Dawes and Nenycz-Thiel (2014),

to readily compare the confidence intervals around regression parameters. The standardized coefficients are indicated as β in the table of results. Using standardized coefficients makes it easier to identify the relative effect of each variable (Kim and Ferree, 1981), across the three different country-markets. This is particularly important for H2a and H2b, which pertains to differences in the level of modern supermarket infrastructure across countries.

Brands below the median price of their category were dummy coded as low price, and brands at or above the median price of their category were coded as high price. This variable will facilitate testing H3a. Similarly, brands that reduced price were dummy coded as price reduced, and brands that maintained or increased price were coded as price maintained/increased. This variable will facilitate testing H3b.

The dependent variables are:

Change in volume market share – percentage change in the brand’s share of total category volume between one year and the next

Change in value market share - percentage change in the brand’s share of total category dollar spend between one year and the next

Analysis approach

The analysis is conducted in two stages. The reason is that we wish to initially make the analysis comparable to previous research in western markets that have not utilized pricing variables, such as Baldinger & Rubinstein (2002). Therefore, we first address H1a, H1b as well as H2a and H2b using multiple linear regression with these independent variables: penetration, purchase frequency and SCR, and the covariate, first year market share; with the pricing variables excluded. The dependent variables are market share changes; volume share

change (H1a) and value share change (H1b). Note that to examine H1a and H1b, we conducted separate regressions for each category, country and dependent variable. The reason for doing this rather than initially pooling the data was to ascertain the consistency of the results across each category. Then, to address H3a and 3b pertaining to the effects of price, we pool the two categories for China, and the 11 categories for Malaysia – these are the two countries for which we have pricing information. We also show the pooled results for Indonesia, to make an overall comparison of the relative influence of penetration versus loyalty. We pooled the data for the analysis of H3a and H3b because their testing requires inclusion of interaction terms in the models, which therefore require larger sample sizes for analysis than can be achieved analyzing one category at a time. We also conducted additional subset modeling, and an out-of-sample model cross-validation to further evaluate the robustness of the results.

4. Results

Stage 1 results

The models to test H1a and H1b have good fit, with high Adjusted R^2 s averaging (unweighted) 0.95 for volume share and 0.77 for value share, as shown in Table 2. Tests for collinearity revealed generally low Variance Inflation Factors (VIFs) of under 4.0, below the level of 10 at which it is generally considered problematic (Hair et al., 1998). The exceptions were Food category #5 and Personal Care category #2 for Indonesia, where the VIFs for Purchase Frequency were over 10 in both volume and value share models. For these two categories, purchase frequency was removed from the model.

Hypothesis 1a and 1b – the contribution of penetration to market share change

To address the first two hypotheses, we compare the results for each of the different brand performance metrics, in Table 2. The consistent finding is that change in penetration has the strongest relationship with change in volume and value market share, statistically significant in 83% of cases (out of a total of 48 regressions). The prevalence of penetration change as a significant correlate of market share change is substantively higher than that for purchase frequency change, which was statistically significant in 21 cases, or 44%. This is also more common than the number of times SCR was statistically significant: 23 cases, or 48%.

Comparisons of confidence intervals around the standardized regression coefficients revealed that penetration also had a higher or equal highest parameter value in all but one of those significant cases. Table 2 also indicates that Year 1 market share was rarely significant. This provided an initial indication the results generalize across brands of different commencing market shares, i.e. small, medium or large brands. We also ran the analysis using subsets of brands that were either below, at, and above the median market share level in their category. The results followed the same pattern. This confirms that penetration has a considerably stronger relationship with market share change than either purchase frequency or SCR, for small and large brands.

Therefore, the results provide strong support for H1a and H1b: penetration is the most important correlate to volume and value market share change for packaged goods categories in all three emerging markets.

[Table 2]

We do note some differences in the findings for volume and value market share. First, it is apparent that the models in Table 2 are typically better for volume share than value share (Unweighted Avg. Adj. $R^2 = 0.95$ for volume share versus 0.77 for value share). Indeed, in

some of the datasets there are very large differences in fit between volume and value share models, such as in Food category #2 in Malaysia which has a 0.97 fit for volume share but only 0.05 (NS) for value share. Such differences in fit between value and volume market share were, however, confined to four of 24 datasets and do not exhibit any particular pattern. That said, a plausible explanation is that the differences relate to pricing, since the difference between a brand's volume and value share depends on its price relative to competitors. This possibility is investigated further in H3a and H3b. Note that the reverse pattern (good fit for value share but not for volume share) was not apparent in any of the datasets tested.

Continuing our closer look at possible differences between value share and volume share, we now examine the size of the regression parameters for each measure. We see that the importance of penetration is slightly lower for value share than volume share (average of statistically significant standardized coefficients, or β s, of 0.70 versus 0.77). The importance of purchase frequency is much lower (0.08 versus 0.40) for value share than volume, while the β s for SCR are higher for value share (0.65 versus 0.51). A possible explanation is that the growth in value share is likely to involve selling more units, and at a higher price. A brand is also likely to raise its prices in the face of buoyant demand, meaning there are two factors at work: the brand is becoming more popular, and raises its prices to capitalize on that popularity.

Hypothesis 2a and 2b – the impact of modern supermarket trade and lower income

To test H2a and 2b, we compared the results for Indonesia, with many traditional small store 'extended pantries' and lower median household incomes with those for Malaysia and China, where modern grocery trade retailing more commonly features larger supermarkets and hypermarkets and household income is higher. First, the overall pattern of results across

countries reveals similarities in the importance of penetration, with it being the largest contributor to market share change, irrespective of retail structure. However, there are between-country differences in the two loyalty metrics. In China, Table 2 shows purchase frequency and SCR have similar average coefficient values (β s for PF = 0.08 and 0.09; and SCR = 0.12 and 0.19, for volume and value share respectively). For Malaysia, purchase frequency dominates over SCR (β s for PF = 0.39 and 0.27; SCR = <0.01 and 0.14 for volume and value share respectively). By contrast, in Indonesia SCR dominates over purchase frequency (parameters for SCR = 0.52 and 0.56 versus PF 0.06 and -0.03 for value and volume share respectively). Therefore, the pattern of results indicate that brands in Indonesia, with its more fragmented retail distribution system, rely more on stealing the customers they can reach from competitors. By contrast, Malaysia has a more typical modern trade structure so this means brands can grow by increasing purchase frequency across the wider customer base.

To summarise, the results do partially support H2a and H2b. While the evidence shows penetration is the greatest influence on volume and value market share, the contribution of SCR loyalty is higher in Indonesia. This greater impact of SCR loyalty, however, does not extend to the other loyalty measure, namely purchase frequency.

Hypothesis 3a and 3b – The role of Price

In this stage, we test whether initial price point alters the relative importance of penetration compared to the loyalty variables, as per H3a. We use the data for China and Malaysia, for which pricing data was available. H3a posits that price will act as a moderator variable on the loyalty variables. Therefore, we followed the procedure outlined by Sharma et al (1981) for testing moderator effects. To run this analysis, we first pooled the data for each respective

country to aid statistical power. We then created interaction terms, for high price x penetration, and high price x purchase frequency. We created these interaction terms for both penetration *and* purchase frequency to ensure we could correctly compare the effects of price on both. We did not use a third interaction for high price and SCR as it resulted in multicollinearity. We then examined the sign and significance of the proposed moderator (for H3a, price point) compared to a base model, and also examined the interaction effects.

The models used to examine H3a are shown in Table 3. Volume share is the dependent variable. We shortly also discuss the results using value share. For Malaysia and China, Model 1 is the base model without price point, similar to the analysis used to evaluate H1a. This model shows the same outcome as we reported earlier in testing H1a – penetration has, by far, the stronger association with market share change compared to purchase frequency or SCR in both countries. The price point variable and the two interaction terms are entered into Model 2. We note that high price point is non-significant in both Malaysia and China. This indicates that high priced brands tended to change in market share (increase or decrease) to the same extent as low-priced brands in these particular categories. Next, the interaction term for purchase frequency is negative (-.10) and significant at $p=0.01$ in Malaysia, but positive in China (0.05 , $p=0.01$). The difference in results across the two countries indicates a lack of support for H3a, as we are unable to state a generalized finding that high price brands tended to have a stronger association between loyalty and market share change. We next examined the results using value share as the dependent variable. Results for this analysis are shown in Table 4. We note again that high price point (Model 2) is non-significant in Malaysia and China. Next, the interaction term for high price point x purchase frequency is negative and significant in Malaysia ($-.30$, $p\leq 0.001$), but positive in China (0.04 , $p\leq 0.05$). This result also provides a lack of evidence to support H3a. Therefore, we reject H3a, as there is

insufficient evidence that high-priced brands in emerging markets have a stronger association between loyalty and market share change than do low-priced brands.

Table 3 here

We now examine H3b, pertaining to price changes. We undertake the same process as for H3a – we created a dummy variable to indicate brands that decreased price or did not; and interaction terms for price decrease x penetration and price decrease x purchase frequency. The analysis and results for this hypothesis are shown as Model 3 in Tables 3 (for volume share) and 4 (for value share). In Table 3, we see that the price decrease variable is non-significant in both Malaysia and China. This indicates that brands that decrease in price tend to have the same extent of growth or decline in volume share as brands that maintain or increase price. Next, we also note in Table 3 the price decrease x penetration interaction is non-significant in both Malaysia and China. This provides a lack of support for H3b, using volume share as the dependent variable. The findings in relation to value share are that in Malaysia, the interaction term of price decrease x penetration is positive and significant (0.13, $p \leq 0.05$) but is not significant in China. Taking the findings from the two countries, we conclude there is a lack of support for H3b. Brands that lower their prices do not tend to have a stronger association between penetration and market share change compared to brands that maintain or increase price.

We conclude that the influence of price point and price changes are small and inconsistent, and do not change the relative importance of penetration versus the loyalty metrics.

Table 4 here

Robustness checks

As an additional check of the robustness of the results, we ran two more series of tests. We first re-ran the models using split-sample cross validation tests (Ender, 2017). This approach tests model validity by determining the fit of a model calibrated on one fraction of the data to a holdout sample. We then performed an additional check using the China data only for 2011-12, for which the time periods for all three countries are all exactly the same. These results appear in Tables 3 and 4. The cross-validation tests produce an R^2 calculated on part of the data, and another R^2 from using the same model on a holdout sample. A low level of ‘drop’ or shrinkage in the R^2 is an indicator of internal validity of the model (Cheng et al., 2010). Tables 3 and 4 show that the drop in R^2 from test samples to holdout sample is small, in the range of 0.01-0.02 for Indonesia, 0.01 to 0.10 for Malaysia (R^2 drop of 0.10 for Model 2 value share, otherwise between 0.0 and 0.06); and 0.0 to 0.01 for China. These figures indicate a very high degree of holdout sample validation. Also, we note the results for the China data subset, using exactly the same years as the other two countries, produces very similar findings as the full data series from that country in terms of model parameters, and almost identical results in terms of R^2 .

5. Discussion

This research examines the relative importance of changes in penetration, purchase frequency; share of category requirements (SCR) and pricing to year-on-year market share change across 17 packaged goods categories, in three emerging markets. The results show that changes in penetration, or the number of buyers a brand has, is the major contributor to changes in market share; with loyalty having a weaker relationship. This finding is extremely robust, as it was apparent for the majority of cases, across the different categories, countries, and for both volume and value market share.

That penetration changes are the major contributor to brand share changes implies that in emerging markets, a growth strategy is more likely to succeed when it is underpinned by marketing tactics that prioritize attracting new buyers. This new finding for emerging markets extends past empirical evidence for western markets to the very different economic, geographic and cultural conditions of China, Indonesia, and Malaysia. The empirical evidence is also in line with Sheth's (2011) recommendation of brand growth in emerging markets through the conversion of non-buyers to buyers. This highlights a major challenge for emerging market businesses, which is to find the most cost-efficient ways of attracting new customers. Conducting market research to identify the marketing tactic drivers penetration change should be a priority in emerging markets, to improve the return on marketing investments. These results also suggest investments concerned with boosting the loyalty of existing buyers, through mechanisms such as rewards schemes as per Nguyen et al. (2011) should be carefully scrutinized and possibly reduced.

We found that loyalty also plays a role in market share changes, but one that lacks consistency across both countries and types of market share. We find that purchase frequency is more influential than SCR for both volume and value market share change in Malaysia; while SCR is more influential in both volume and value market share change in Indonesia. This is evident in the average shown in Table 2, and the pooled analysis in Tables 3 and 4.

We propose that cross-country differences in distribution structure explain the Indonesia versus Malaysia results. The more fragmented, traditional modern grocery trade in Indonesia (e.g. Coe and Bok, 2014) results in brands that grow by stealing sales from competitors among a small catchment of shoppers for each small store, where it is able to gain consistent

distribution. Indonesia is spread over 17,508 islands, which presents a distribution challenge for manufacturers. Furthermore, Indonesian infrastructure is very poor with road density being two thirds of that in China and less than half of that in Malaysia (Elkhweet and Felenbok, 2013). This explanation suggests that an important area for future research is to examine the impact of the retailing environment on patterns in brand dynamics. For example, based on the results here, one could hypothesise that a growing brand in a fragmented retail structure would exhibit higher than expected SCR; whereas in a concentrated retail structure a comparable growing brand would not. However the lack of consistency means that if a brand manager wants to employ a loyalty-dominant strategy, it should first check that the brand is operating in the conditions conducive for loyalty to have a substantive impact on the brand's market share.

We next examined the role of price. Whilst emerging markets have growing middle classes (Wang et al., 2017), higher priced items likely still have a restricted potential customer base because many emerging markets' consumers cannot or will not pay for a premium brand. Our evidence on this explanation is inconclusive. We examined the impact of price strategy, both in terms of the *initial price point* to identify if there are differences between cheaper and more expensive brands; and *changes in price*. These pricing variables made only a minor, inconsistent contribution to explaining market share changes. This is not to say that a pricing strategy is not important at all, as brands need to be priced competitively within a category. Rather, the patterns of brand growth hold for all price points, including higher priced brands, and, hence, trying to stimulate annual growth via price changes or promotion is a risky strategy. This latter point is consistent with work in western markets that concludes price promotions produce only temporary benefits (Pauwels et al., 2002). The consistency of this

result provides clarity around the (lack of) contribution of one of the major determinants of a brand's revenue.

In summary, it appears that in emerging markets one clear consistent strategy emerges –a brand aiming to grow needs to implement strategies to primarily attract more customers. This finding provides some support for the ‘adaptation’ business model for emerging markets (Pels and Sheth, 2017), since the finding mirrors past work from western markets. That said, the applicability of the adaptation model is evidenced only in the relationship between penetration and market share growth, not broader aspects of strategy. For businesses with brands in both western markets and emerging markets, the results of this study answer an important question related to how brands grow: should we implement different strategies for each, for example focus on penetration in some and loyalty in the others? According to the results here, the answer is no. Growth strategies for a packaged-goods brand in either western or emerging market should have penetration as its primary focus.

Given this finding, an avenue for future research is to examine the efficacy of different marketing tactics to reach and attract non-customers in emerging markets, given the difficulties of the retailing structure and media penetration challenges, which make it hard to engage in mass advertising to build brands (Chakravarthy and Coughlan, 2011). Next, the study shows that a particular loyalty variable, SCR, has a stronger association with value market share change than volume market share. Therefore, depending on the specific focus of the business (volume or value share), tracking SCR is of lesser or greater importance.

The findings also present implications for consumer behavior theory in emerging markets.

The study indicates that market share change for a brand occurs principally via a change in

the size of the buyer base, with comparatively less change in loyalty. What this means is that as certain brands became more popular, consumers in these emerging markets add them to their ‘repertoire’ of other brands but do not cease purchasing competitor brands, otherwise the changes in loyalty would be more marked. In other words, consumers in these three emerging markets appear to exhibit what has been described as ‘polygamous’ or split-brand loyalty (O'Malley, 1998, Keng et al., 1998). This is an extremely interesting commonality across what are quite different emerging markets in terms of variables such as income (Phelps and Crabtree, 2013) and retail structure (Coe and Bok, 2014, World Bank, 2016a).

The final discussion point pertains to the conceptual framework for this study, namely the four business models (adaptation, mission focus, radical innovation and inclusive ecosystems) from Pels and Sheth (2017). We utilized the market adaptation model and our results support this model, in line with prior studies, such as Tanusondjaja et al (2015), who examine buyer behavior in emerging markets and also found results consistent with the adaptation model. These results point towards the desirability of finding *consistency* in the phenomena of brand metrics and buyer behavior in emerging markets and western markets; to complement the search for managerially useful *differences* across such markets. Moreover, the results from this study have a theoretical import in that they represent a linkage between empirical growth patterns in, and theoretical growth frameworks for, emerging and developed markets. In developed markets, brand growth has been found to predominantly link to the size of the buyer base, and less so to loyalty (Romaniuk et al., 2014). The framework for that growth emphasizes increasing physical and mental availability (Romaniuk and Sharp, 2016, Sharp, 2010). For emerging markets, we find in this study the same growth patterns as in western markets – and the growth framework for emerging markets has been cast as the 4A’s – Affordability, Acceptability, Accessibility and Awareness (Sinha and Sheth, 2017). The last

two A's tie neatly back to building mental and physical availability, i.e. making the brand easily be thought of in buying situations (Awareness); and easy to buy (Accessibility) (e.g. Sharp, 2010), that were developed for western markets. Therefore, this study represents an empirical and conceptual link between the growth frameworks developed for western and emerging markets.

6. Future Research

While our main finding is consistent across three country-markets, emerging markets are diverse. Therefore, we encourage future research to extend this fundamental analysis to more countries and more categories. Broader understanding of the basics of market dynamics in a wide variety of contexts, will lead to more impactful future research and more effective marketing practice. We recommend that future research should compare countries with different retail structures, to clarify the role of retail structure in brand growth (and decline). The fact that the underpinnings of change in value share are different to those for volume share change is intriguing, and an obvious avenue for further work. Future research should also consider the influence of category growth. Differing rates of category growth between categories in emerging markets/between categories in emerging markets and western markets may change the pathways for brand growth.

Our research findings on the role of pricing strategies are unclear. More research is needed to understand the influence of price entry point on brand success in emerging markets, especially given the typical multinational strategy of building brands at the higher end of the pricing spectrum. Indeed, another avenue for future research concerns the local versus foreign and global brand distinction (Akaka and Alden, 2010, Batra et al., 2000, Alden et al., 1999), and the potential differences in how each brand type might grow. Lastly, another influential

distinction between brands is that of manufacturer versus store brand. Store brands in our datasets had very low market share, which made them ill-suited for hypothesis testing.

However, store brands are growing in emerging markets (Diallo and Siqueira, 2017, Herstein and Jaffe, 2007, Herstein et al., 2017), and therefore clarifying if store brands have a different path to grow when compared to manufacturer brands is also a fruitful avenue for future work.

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Modeling Brand Market Share Change in Emerging Markets

Table 1: Comparison across countries on key dimensions

	China	Indonesia	Malaysia
GDP (\$US TRL) ^a	8.2	0.9	0.3
Population (BLN) ^a	1.4	0.2	0.03
Proportion of Population in Urban areas ^a	52	51	73
Urban Retailing modern trade (approx.) ^a	70	20	55
Bloomberg's rank of ease of doing business (lower score = easier) ^b	91	128	12

Sources for Table 1:

World Bank (2016a); Worldometers (2016); Department of Agriculture and Agri-Food Canada (2012); Bloomberg (2013).

Table 2: Key descriptive statistics for each data set

	China	Malaysia	Indonesia
Years	2007-2012	2011-12	2010-12
Categories	2	11	11
Personal Care	1	5	1
Food	1	3	5
Beverage	0	2	2
Household items	0	1	3
N individual brands	130	254	139
Value Market Share: Min - Max	0.1 - 16.8	0.4 - 37.6	0.4-69.2
Volume Market Share: Min - Max	0.1 - 18.8	0.6 - 39.9	0.5 - 68.6

Table 3: Multivariate linear regression results for Volume and Value share across 18 categories in 24 datasets

		Dependent variable: Volume market share					Dependent variable: Value market share				
		Adj. R ²	Standardized Coefficients				Adj. R ²	Standardized Coefficients			
Country	Category		Pen	PF	SCR	Y1 MS		Pen	PF	SCR	Y1 MS
China	Personal care #1	0.97	0.91*	0.08*	0.13*	-0.02*	0.95	0.91*	0.10*	0.11*	-0.02
	Food #1	0.95	0.94*	0.07	0.11*	-0.10*	0.82	0.89*	0.07	0.27*	0.04
Malaysia	Personal care #1	0.96	0.88*	0.94*	-0.11	0.05	0.82	0.64*	0.69*	0.22	0.13
	Food #1	0.98	0.81*	0.37*	0.01	0.01	0.95	0.71*	0.09	0.42*	-0.02
	Personal care #2	0.94	0.73*	0.65*	-0.18	0.03	0.64	0.75*	0.30	0.20	0.00
	Household #1	0.99	0.80*	0.15*	0.08	-0.03	0.93	0.86*	0.19	-0.06	-0.09
	Food #2	0.97	0.81*	0.72*	-0.15	0.05	0.50	0.26	0.54	-0.16	0.25
	Personal care #3	0.94	0.78*	-0.01	0.33*	-0.04	0.89	0.66*	0.03	0.40*	-0.05
	Personal care #4	0.96	0.57*	0.90*	-0.20	-0.02	0.89	0.62*	0.81*	-0.02	-0.05
	Food #3	0.72	0.81*	-0.02	0.23	-0.21	0.99	-0.13	0.05	0.33	-0.47*
	Beverage #1	0.99	0.97*	0.09*	-0.01	0.00	0.99	0.89*	0.06*	0.10	0.01
	Beverage #2	0.99	0.84*	0.29*	0.00	-0.03	0.99	0.43	-0.01	0.15	-0.01
Indonesia	Personal care #5	0.98	0.91*	0.19*	-0.01	-0.02	0.99	0.91*	0.20*	-0.03	-0.02
	Food #1	0.98	0.57*	-0.16	0.61*	-0.01	0.99	0.59*	-0.19	0.61*	-0.02
	Household #1	0.73	0.55	0.17	0.93*	0.44	0.29	0.94	0.75	0.86	0.30
	Beverage #1	0.99	0.42*	0.14*	0.63*	-0.02	0.93	0.39*	0.14	0.65*	-0.08
	Food #2	0.95	0.78*	0.02	0.55*	0.18*	0.89	0.78*	-0.23	0.73*	0.20
	Household #2	0.98	0.61*	0.18	0.59*	-0.23	0.98	0.57*	0.26*	0.58*	-0.21
	Food #3	0.98	0.71*	0.09	0.29*	0.00	0.95	0.58*	0.00	0.52*	0.04
	Food #4	0.98	0.63*	0.24	0.20	-0.03	0.98	0.57*	0.48*	0.00	-0.07
	Food #5	0.88	0.40*	-	0.56*	-0.16	NS	0.08	-	0.25	-0.44
	Beverage #2	0.92	0.68*	0.31*	0.35*	0.04	0.95	0.67*	0.47*	0.14	0.16*
	Household #3	0.97	0.44*	-	0.60*	0.04	0.91	0.34	-	0.67*	0.09
	Personal care #2	0.88	0.68*	0.32*	0.29*	0.05	0.73	0.54*	0.40*	0.28	0.00
China Avg. (unweighted)		0.96	0.92	0.08	0.12	-0.06	0.89	0.90	0.08	0.19	0.01
Malaysia Avg. (unweighted)		0.95	0.81	0.39	<0.001	-0.02	0.67	0.60	0.27	0.14	-0.03
Indonesia Avg. (unweighted)		0.94	0.58	0.06	0.52	-0.01	0.85	0.59	-0.03	0.56	-0.10
Total Avg. (unweighted)		0.95	0.71	0.21	0.26	-0.02	0.77	0.62	0.11	0.34	-0.06
Total Avg. of Stat. sig. only			0.77	0.40	0.51			0.70	0.08	0.65	

*p<0.05

Note: Pen = brand penetration, PF = brand purchase frequency, SCR = brand share of category requirements, Y1MS = commencing brand market share. UW = unweighted R².