Strategies used to defend pharmaceutical brands from generics

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Strategies used to defend pharmaceutical brands from generics

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Abstract

Purpose – This research aims to provide an empirical comparison of the results of three brands’ marketing defence strategies used in advance of generic brands entering the market. By reviewing the effectiveness of these strategies, this research looks to extend the research on marketing defence strategies into the importance of anticipating competitor launches.

Design/methodology/approach – A data set containing 243 weeks of scanned sales for 21 generic brands was used in a regression model aimed at measuring the effectiveness of each brand’s defence strategies in deterring entry and limiting the market share of these generic brands.

Findings – The analysis shows that several marketing mix components were effective in limiting the impact of generic brands. What was critical to each component’s success was ensuring that they were implemented before the launch of the generic brands.

Research limitations/implications – This research has the limitation of being confined to a category of pharmaceutical allergy brands, which limits generalisation of the findings.

Practical implications – The managerial relevance of this research has two parts. First, it will encourage managers to move from implementing strategies in reaction to a competitor launch to implementing strategies in advance of their entry. Second, it provides insights into the effectiveness of several strategic options for brands facing the entry of generic brands.

Originality/value – This study brings together literature regarding entry deterrence and market share loss prevention to help highlight the importance of proactive marketing defence strategies in reducing both the number of entrants and the amount of market share lost. It uses a data set to provide an empirical review of a range of marketing mix components used by pharmaceutical brands against low-price generic brands.

Keywords Brand management, Marketing strategy, Pharmaceutical products, Pricing, Generics, Competitive strategy, Premier brands

Paper type Research paper

Introduction

The proliferation and market share growth of generic brands continues to be a threat to any pharmaceutical brand which has lost or about to lose the benefits of patent protection. These pharmaceutical brands are the originators of a patented product formulation and have invested resources into developing and marketing the product’s
point of difference to the competitors, with the objective of building brand preference within the market (Reiffen and Ward, 2007; Scott Morton, 2000). However, the expiry of a patent represents the opportunity for other manufacturers and distributors to sell bioequivalent versions, or generic copies, of the original branded product (Scott Morton, 2000). The majority of these generic copies are sold either under new brand names or store brand labels and are positioned as equal in efficacy, therefore they can leverage some of the associations consumers have of the branded product, but with the additional benefit of a significantly lower price (Caves et al., 1991; Berndt et al., 2003; Wiggins and Maness, 2004).

The entry of generic brands in any industry causes a shift in consumer attitudes and behaviour that ultimately change the market dynamics. By comparing the attitudes of consumers towards pharmaceutical generic brands and grocery generic brands, several similarities become evident. In both industries it has been established that the consumers make a trade off between quality and price when evaluating a generic brand (Steiner, 2004; Sullivan et al., 1994). What makes this advantageous for the generic brands is that majority of consumers in both industries believe that generic brands are equal in quality to the branded products (Steiner, 2004; Sansgyr et al., 2005; Sullivan et al., 1994). In comparing price, both pharmaceutical and grocery generic brands have been shown to offer similar price savings compared to the branded product of between 20-30 per cent (Regan, 2008; Steiner, 2004). While there are similarities across industries in consumer acceptance of generic brands, a major point of difference within the pharmaceutical industry is the effect of the patent expiration date. In many other industries, generic brands can enter at any time. Generic brands in the pharmaceutical industry are restricted from entering until the patent expires, which gives each generic brand an equal opportunity within the market. This opportunity can create intense competition which is highlighted by the fact that for every pharmaceutical brand that comes off patent, there is an average of five generic brands launched (Regan, 2008). The high number of generic brands with perceived equal quality to the branded product has led to generic brands being able to regularly achieve a total market share in excess of 50 per cent (Regan, 2008; Aronsson et al., 2001). Due to the size of this threat, branded pharmaceutical products need to better understand what marketing defence strategies are the most effective at limiting the impact of generic brands.

The main purpose of a marketing defence strategy is to effectively align and allocate resources across a range of marketing mix components in order to defend a brand’s market sales or share from a new competitor entrant (Walker et al., 2003). Most of the research into marketing defence strategies has either examined the strategies used to only deter entry or the strategies used to limit market share losses in reaction to a competitor launch (Kuester et al., 1999). These two research streams ignore the opportunity some brands have to be proactive and implement marketing defence strategies in advance of a competitor launch. This opportunity occurs regularly within the pharmaceutical industry where brands can anticipate competitors entering when a patent expires. Brands can also review the registration lists of governing bodies for new competitor registrations as new entries are listed at least several months before the physical launch (Hollis, 2003; Reiffen and Ward, 2005).

The goal of this research is to merge the two research streams by examining the effectiveness of marketing defence strategies implemented in anticipation of a
competitor launch. It reviews the effectiveness of these proactive strategies in deterring the entry of competitors and limiting the market share of any new entrant. By doing this, the research seeks to highlight and extend the focus of marketing defence strategies to the benefits of implementing a marketing defence strategy in advance of competitor launches.

The success of a marketing defence strategy relies on an understanding of the effectiveness of each of the marketing mix components (Gatignon et al., 1997). This paper will investigate a range of components used in defending pharmaceutical brands against the launch of generic brands. The marketing mix components include advertising, extending a brand's product range through new products and line extensions, modifying the price, and launching an own-brand generic product. Several researchers have provided theoretical and case study reviews of using these marketing mix components, however they have lacked an empirical analysis (Chandon, 2004; Barak and Wilson, 2003; Mehta and Mehta, 1997). Research with an empirical analysis has mainly focused on strategies for deterring entry (Kong and Seldon, 2004; Scott Morton, 2000; Ellison and Ellson, 2007) or the effect of only one of these marketing mix components on the market share of generic brands (Huskamp et al., 2008; Reiffen and Ward, 2007; Grabowski and Vernon, 1992). Our research is the first study to provide an empirical review of each of these marketing mix components within the pharmaceutical industry. It examines the marketing defence strategies of three over-the-counter (OTC) brands of allergy products and describes how each brand's marketing defence strategy impacts the entry and market share of the generic brands.

The data set used also provides further points of difference to previous research into pharmaceutical generic brands. First, previous research has used data that contains either prescription only brands or a composite of prescription and OTC brands. Analysing any data set that contains prescription products needs to consider the influence which a doctor plays in the brand choice. Using a data set containing only OTC brands removes the influence of the doctor and increases the role of marketing mix variables such as advertising, price and distribution as consumers are able to self select brands. Lastly, this research is the first to highlight that its data set of generic brands contains store brands. Including store brands is important as they represent 20 per cent of all retail purchases (Allawadi et al., 2008), are growing at twice the rate of branded products (Sethuraman, 2009), and have several benefits compared to other generic brands (Sudhir and Talukdar, 2004). By using a data set where nearly half of the generic brands are store brands, it means that the results will be more robust and have wider implications in developing a marketing defence strategy.

The results of this research provide significant insights into the effectiveness of a range of marketing mix components used to defend a branded product. It also highlights the benefits of implementing these components before a competitor enters. More importantly, the results and benefits of implementing strategies before competitors enter should not be viewed as being restricted to the pharmaceutical industry where it may be easier to anticipate a competitor entry. In many industries outside the pharmaceutical industry brands become aware of new competitors, branded or generic, before they launch which gives a brand the opportunity to implement marketing defence strategies in advance. It is hoped that this study will encourage further research into this area of proactive defence strategies across a range of brands and industries.
This paper is organised as follows. The next section reviews the relevant literature on each of the marketing mix components used in the marketing defence strategies. The third section provides a description of the data and the models used to test the hypotheses. The results are discussed next, and finally the conclusion, limitations and proposals for future research.

Marketing mix components

Consumer advertising

Consumer advertising has several advantages in defending a brand from a new competitor entrant. It places the brand top of mind with consumers (Sutherland and Sylvester, 2000), it assists in consumer learning and forming of preferences (Carpenter and Nakamoto, 1989), it reinforces brand loyalties which helps reduce a consumer’s price sensitivity (Frank and Salkovec, 1992), it can be used to encourage purchases (stocking up) before the launch of a competitor, and finally it can create a barrier to entry (Karakaya and Stahl, 1989; Thomas, 1999).

However, the effectiveness of this approach has been questioned due to the conflicting results in the literature. Advertising can be a barrier to entry if it raises the cost of entry for a competitor (Thomas, 1999). However because the cost of entry for a generic brand is relatively low, the use of advertising as a barrier to entry has been shown not to deter entry (Scott Morton, 2000). Advertising may actually encourage a generic brand to enter if the advertising helps increase the category growth and/or size. This is because the profit expectations of generic brands will increase with a larger category size (Scott Morton, 2000). These conflicting results indicate that a brand’s advertising can increase or decrease the number of generic brand entrants:

1. A brand’s advertising has an impact on the number of generic brand entrants.

The impact of using advertising has also been influenced by the behaviour of brands before the launch of a generic competitor. Research has shown that many brands reduce their advertising spends prior to, and after the launch of generic brands (Huskamp et al., 2008; Bhatia, 2004; Berndt et al., 2003; Ellison and Ellison, 2007). Caves et al. (1991) found that brands reduce their advertising spend up to two years prior to the launch of the generic brands. The spend fell an additional 20 per cent with the entry of the first generic brand, 40 per cent when the number of entrants is five and an additional 20 per cent when the number of generic brand hits ten. If a brand reduces its advertising spend before and after the launch of generic brands, then its effectiveness as a component of a marketing defence strategy diminishes (Thomas, 1999).

The drop in advertising spend reflects a profit maximising strategy and may not have anything to do with the effectiveness of advertising as a component of a marketing defence strategy. Galigent et al. (1997) provides evidence that marketing executives believe advertising is positively associated with a successful marketing defence strategy. With varying evidence as to the success of using advertising, it is important to establish how advertising impacts the share of generic brands:

2. A brand’s advertising impacts the market share of generic brands.

Extending the product range through innovations and line extensions

Extending the brand’s product range through launching innovative new products and line extensions is a strategy aimed at shifting consumer preferences towards the new
products in the range before the introduction of a competitor entrant (Reiffen and Ward, 2007). Consumer preferences are shifted towards the new product as it offers a point of difference to the brand's current products that better suits their needs. This in turn reduces the amount of profitable positions for a competitor entrant to target (Thomas, 1999).

Shifting consumer preferences through the introduction of innovative products has been shown to be a more effective strategy in protecting market share from competitors in comparison to a low price strategy (Kuester et al., 1999; Gatignon et al., 1997; Shankar et al., 1998). There are other ways in which innovation can help a brand defend its share from new competitors. Introducing new technology may help discourage competitors from entering as it signals that the brand is investing resources into growing and the innovation makes existing technology outdated (Hauser et al., 2006). Innovation has also been shown to increase the sales of existing products by helping reposition the brand in the mind of consumers through the tangible and intangible attributes of the innovation (Kapferer, 2008). Due to the ability of an innovative new product to shift consumer preferences, discourage competitors and increase the sales of existing products, it is anticipated that the introduction of an innovative product will reduce the market share of the generic brands:

**H3.** The introduction of an innovative product will reduce the market share of generic brands.

As part of a marketing defence strategy, the introduction of a new innovative product means that brands need to consider whether to use the existing brand name or a new brand name (Kerin et al., 1996). Within the pharmaceutical industry this decision can be influenced by Government regulations aimed at removing the safety risk of consumer confusion between different active ingredient combinations. As a result of this regulation, many brands are forced to either use a hybrid name containing only part of the parent brand name or to use a new brand name.

The benefit of using an existing or hybrid brand name is that it costs less to introduce and leverages the parent brand's image which helps increase brand trial (Kerin et al., 1996). Kerin et al. (1996) also showed that brand extensions with the same brand name are more responsive to changes in marketing mix variables than new brand names:

**H4.** The introduction of a hybrid brand name innovation will have more effect on the generic brands market share than a new brand name innovation.

Introducing line extensions is a common strategy used to defend a brand's market share from competitors (Bayus and Putis, 1999). A line extension is defined as when a brand introduces a new product, or stock keeping unit, that differs from the current range of products in a minor way such as format, flavour or pack size (Kapferer, 2006). There are several ways in which line extensions can be an effective component of a marketing defence strategy. Introducing new line extensions increases the costs for a competitor to replicate the range, and if the range is not replicated, the new entrant will limit its ability to switch consumers (Ellison and Ellison, 2007). Increasing the number of stock keeping units within a brand's range before the launch of a new competitor will also help protect shelf space which has been shown to reduce the market share of the new entrant (Kalyanaram and Wittink, 1994).
EJM 46.9

H5. The more stock keeping units a brand has in its range, compared to the number of stock keeping units within the generic brand's range, the greater the reduction in the market share of the generic brands.

Modifying the price
The entry of generic brands can see the average price within a category fall by over 60 per cent as each generic brand competes to establish a low price position (Caves et al., 1991; Berndt et al., 2003; Wiggins and Maness, 2004). This significant difference in price has focused much of the research into the relationship between branded products and generic brands on price. When a low price generic brand enters the market it represents a competitive threat that brands must address, however there is much debate as to whether price is the most effective marketing mix component to use. Scott Morton (2000) suggested that if a brand lowers its price before the entry of generic brands it can act as a barrier and deter entry. The reduction in price acts as a signal to possible entrants that the lower price means that they should expect lower profits. However brands are driven by profit maximising objectives and reducing the price to the levels needed to deter entry are yet to be observed (Grabowski and Vernon, 1992; Frank and Salkever, 1992). Caves et al. (1991) showed that the average price for a branded product fell by only 2 per cent with the launch of the first generic brand.

Since brands demonstrate a profit maximising behaviour, Frank and Salkever (1992) and Regan (2008) suggest that the introduction of a generic brand segments the market into a price sensitive segment and a brand loyal segment. As part of the profit maximising behaviour, a brand should then sacrifice the price sensitive segment in favour of the brand loyal segment which will allow the brand to maintain higher prices and maximise profits. Brands may even consider increasing the price as the brand loyal segment is more price insensitive (Frank and Salkever, 1992; Regan, 2008). A further implication is that after the market has been segmented, generic brands compete amongst themselves and against the branded product (Reiffen and Ward, 2000; Regan, 2008). Therefore a change in the pricing strategy of the branded product should not have an impact on the market share of generic brands.

H6. Increases (decreases) in a brand’s price will not increase (decrease) the market share of generic brands.

Launching an own-brand generic
There is a growing popularity for brands to launch their own low price generic version of the branded product under a new brand name. In Australia, Hollis (2003) estimated that 25 per cent of generic brands in this market are own-brand generics. These own-brand generics may benefit from the resources of the branded product (i.e. lower costs of manufacture, larger sales team) but the success of launching an own-brand generic depends more on being the first generic to market (Grabowski and Vernon, 1992). This can be easily achieved as an own-brand generic is not restricted by patent protection laws and has regulatory advantages over other generic brands (Reiffen and Ward, 2007).

There are several strategic reasons why a brand should launch an own-brand generic and gain the first to market advantage. This includes the impact it has on reducing the market share of the other generic brands, helping control the prices of the
other generic brands and reducing the number of generic brand entrants (Hollis, 2002; Scott Morton, 2000; Reiffen and Ward, 2007).

Early research into the advantage of being first to market established that a brand can create a sustainable market share advantage through influencing consumer preferences and taking ownership of a desirable position (Carpenter and Nakamoto, 1985). Like first to market brands, the first generic brand to launch helps establish consumer preference and own the low price position. Hollis (2002) highlighted that the first to market generic brand receives higher preferences with pharmacists as well. This is because it is easier to switch a consumer to the first generic brand because it offers a significant cost saving whereas following generic brands offer less of a cost saving. Later generic entrants also face barriers in gaining distribution as pharmacists seek to minimise inventory costs and have limited shelf space (Hollis, 2002).

H7. The first generic brand to market gains a market share advantage over the other generic brands.

The first to market advantage is enhanced by the amount of time between the launch and that of the next competitor entrant (Valo et al., 2003). The more time between entry and the next competitor allows a brand to build distribution and preferences with consumers and pharmacists. Grabowski and Vernon (1992) showed, within their study of 18 brands that came off patent, that in 50 per cent of cases the first to market generic brand was the market leading generic brand. However if the first to market generic had at least three months between itself and the next entrant, in all cases it was the market leading generic. This finding that the time between generic launches impacts market share has received further support from Hollis (2002) and Kamien and Zang (1999). Since a brand can control the launch timings of the own-brand generic, capitalising on this advantage is essential to limiting the market share of the other generic brands.

H8. The more time between the launch of a generic brand and the next generic competitor, the greater the reduction in market share of the next generic brand entrant.

Being the first to market with an own-brand generic has further benefits in defending a brand’s market share. The launch of an own-brand generic before patent expiry signals to other potential entrants that their market share and potential profits will be reduced (Reiffen and Ward, 2007). The lower market share potential reduces the number of generic entrants due to the lower potential profits (Scott Morton, 2000; Reiffen and Ward, 2007). Reiffen and Ward (2007) showed that the launch of an own-brand generic reduces the number of entrants by approximately two:

H9. The launch of an own-brand generic will reduce the number of generic brand entrants.

H10. The launch of an own-brand generic will reduce the market share of generic brands.

Data and empirical model
The data consist of aggregated national sales from the Australian market and were supplied by Aztec Synovate data. They contain 343 weeks of scanned consumer sales within the allergy category of OTC treatments. The category averages annual sales of
892 million Australian dollars with the three brands within the study competing intensely for share as each brand is registered for treating seasonal and perennial allergic rhinitis. Each of the three brands lost patent protection within two years of each other which has led to a proliferation of generic brands. In total there are 21 brands of generics with the number targeting each brand varying from four to 12. The data are ideally suited for a comprehensive review of the marketing defensive strategies used against generic brands as each brand implemented varying strategies. Table I provides a summary of marketing mix components and the differing strategies implemented by each brand.

In reviewing each of the marketing mix components used in this case study, each brand predominately used television as its choice for advertising. After the launch of the generic brands, brands 1 and 2 increased their advertising spend to help support the innovative new products. Brand 3 demonstrated a profit maximising behaviour and reduced the average amount it spent on advertising.

Brands 1 and 2 have introduced new innovative products with an improved formulation aimed at providing a significant point of difference to the generic brands and gaining a new patent protected molecule within the category. These two brands have also established a larger pack size before the launch of the generic brands. This provides an ideal example of a line extension as the larger pack sizes target a specific segment of frequent sufferers of allergies. It offers the target user increased value per tablet compared to the other products within the brand's range and also reduces the price per tablet difference to the generic brands. Increasing the pack size also serves the purpose of reducing the number of purchasing occasions that could lead to the consumer switching to a generic brand.

Brands 2 and 3 have introduced an own-brand generic as part of their marketing defence strategy. Both brands introduced the own-brand generics nine months before the patent expired to ensure these generic brands gain a first to market advantage. Brand 3 also launched a second own-brand generic 34 months after its patent expired.

Table 1 also highlights that brand 3 was the only brand to use price as a component of the marketing defence strategy. It reduced its price by more than 11 per cent before the introduction of the first generic brand. By reducing the price before the launch of the generic brands it ensured the new price was established, could act as a signal to the generic brands, and had the maximum opportunity to succeed. Since the initial reduction, Brand 3 has steadily increased its price but it still remains below the price level before the implementation of the defence strategy. The other two brands have increased their price annually with price rises of between 3-5 per cent.

Marketing variables and definitions
There are ten explanatory variables to be used in the model developed for this study. Aztec Synovate data provided each of these measures. Price is the scanned price at the retail level which allows the model to determine the impact of a low price generic brand on consumer choice. Distribution is the percentage of stores selling the generic brand weighted by the pharmacy volume to the total market volume. Advertising is the amount of expenditure for the branded product and any advertising expenditure on new innovative products, for that week. Advertising within the allergy category is primarily directed towards consumers as OTC medicines allow for consumer self selection. The number of stock keeping units in the product range is the number of
### Summary of branded products

<table>
<thead>
<tr>
<th></th>
<th>Brand 1</th>
<th>Brand 2</th>
<th>Brand 3</th>
<th>Allergy category average</th>
<th>Industry average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average price before generic brands ($)</td>
<td>18.36</td>
<td>17.96</td>
<td>18.96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average market share before generic brands (%)</td>
<td>18.5</td>
<td>38.4</td>
<td>43.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Changes to price strategy</td>
<td>Increase</td>
<td>Increase</td>
<td>Reduced</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Own-brand generic</td>
<td>No</td>
<td>Yes</td>
<td>Yes (2 brands)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introduced an innovative product</td>
<td>New brand name</td>
<td>Hybrid brand name</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introduced a line extension</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average yearly advertising in $000s (before generic brands)</td>
<td>1,370</td>
<td>650</td>
<td>1,750</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average yearly advertising in $000s (after generic brands)</td>
<td>1,782</td>
<td>4,722</td>
<td>1,360</td>
<td></td>
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</table>

### Summary of generic brands

<table>
<thead>
<tr>
<th></th>
<th>Brand 1</th>
<th>Brand 2</th>
<th>Brand 3</th>
<th>Allergy category average</th>
<th>Industry average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average share of active ingredient (%)</td>
<td>18.2</td>
<td>24.2</td>
<td>44.7</td>
<td>37.6</td>
<td>58.5</td>
</tr>
<tr>
<td>Average distribution (%)</td>
<td>13.1</td>
<td>21.5</td>
<td>24.3</td>
<td>19.6</td>
<td>NA</td>
</tr>
<tr>
<td>Average generic price ($)</td>
<td>13.96</td>
<td>10.17</td>
<td>15.31</td>
<td>15.16</td>
<td>NA</td>
</tr>
<tr>
<td>Number of entrants</td>
<td>12</td>
<td>5</td>
<td>4</td>
<td>7</td>
<td>4.7</td>
</tr>
<tr>
<td>Discount to brand (%)</td>
<td>27.1</td>
<td>16.2</td>
<td>13.2</td>
<td>18.8</td>
<td>22.3</td>
</tr>
<tr>
<td>Number of store brands</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of independent brands</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date of patent expiry</td>
<td>July 2007</td>
<td>June 2006</td>
<td>May 2005</td>
<td></td>
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</tr>
</tbody>
</table>
individual product units for that brand. The order-of-entry and time between entries is
determined through the first sampled date within the data set. The remaining variables
are used to measure the impact of each of the branded products strategies. These
variables include the launch of an own-brand generic, the introduction of a hybrid
brand innovation and a new brand innovation.

**Statistical model**

The analysis uses a log model to explain variations in the market share of generic
brands as a result of the marketing defence strategies of the branded products. A log
model was selected as it allows for a comparison across the branded products as each
parameter represents variations in market share as a percentage. Using percentages
helps eliminate cross brand differences in marketing variables such as market share
and price (Kalyanaram, 2008). An example of a cross brand difference can be seen in
Table I where brand 1 has less than half of the market share of the other two brands.

The dependent variable within the model is the ratio of the generic brand’s market
share to the share of the branded product of the same active ingredient. A ratio was
selected as it eliminates the influence of other brands on the relationship between the
generic brand and the branded product (i.e. if generic brand X reduces its price, it may
gain several share points. However this share may come from switching users from
other generic brands where the objective is to measure if the changes in generic brand
X’s price resulted in a change in the market share of the branded product). The market
share of the branded product also contains the market share of the own-brand generic
and the market share of any new innovative products. This assumption was made
because these products were used by the branded product to help reduce the impact of
the generic brands and as a result cannibalised some of the sales of the branded
product. If the model did not include the sales of these products, the market share of the
branded product would have a greater decrease at the same time as the generic brands
share increases which may create misleading results.

A ratio of the generic brand to the branded product was also used for the price and
stock keeping unit variables. This is because there is a two way relationship between
the two, as either brand can implement strategies using these variables which may
affect the other brand’s share (i.e. if either brand was to reduce its price it could reduce
the share of the other brand). The model takes the log of the generic brand’s
distribution as there is no evident relationship that changes to either the generic brands
or the branded products distribution impacts the others’ share. In addition each of the
branded products has maintained close to full distribution whereas the generic brands
have an average distribution of less than 20 per cent. For these reasons, a log model
will determine how much market share a generic brand gains from an increase in
distribution. With advertising, only the branded products were advertised, therefore
the model can only measure how changes to the branded product’s advertising
expenditure impact the share of the generic brands. The model uses actual advertising
spend instead of a logarithm as logarithms of large numbers tend to create an artificial
effect of diminishing returns which underestimates the effects of advertising.

To measure if the first generic brand to market gains a market share advantage over
the other generic brands, two variables are included in the model. The first measures the
impact of the order-of-entry and the second measures the impact of time. A generic
brand’s order-of-entry is determined by its entry within the total category as opposed to
within the active ingredient group. This is based on the fact that these generic brands can be interchangeable despite the different actives. A log model is used to measure the effect of the order-of-entry as it assumes that the impact the first generic brand has on the branded product will be more than the subsequent entrants (Kalyanaram and Wittink, 1994). This assumption is consistent with the order-of-entry generalisation that consumer learning and preferences as well as market shares follow the sequential order of entry (Carpenter and Nakamoto, 1989). Time is measured in terms of the number of months between the last entrant and the next to enter. The last parts of the equation are the dummy variables used to measure the effects of the own-brand generic, an innovative hybrid or new-brand name product. The formal equation is:

\[
\ln(S_{ij}) = \alpha + \beta \ln(P_{ij}) + \delta \ln(D_{ij}) + \lambda \ln(A_{ij}) + \gamma \ln(R_{ij}) + \tau \ln(E_{ij}) \\
+ \psi \ln(T_{ij}) + \phi(OG_{ij}) + \phi(OL_{ij}) + \mu(N_{ij}) + \phi(Comp) + e_{ij}
\]  \hspace{1cm} (1)

where:

I_{ij} \hspace{1cm} \text{is the number of brands with the same active ingredient } j.
T_{ij} \hspace{1cm} \text{is the number of time periods for active ingredient } j.
J \hspace{1cm} \text{is the number of active ingredients.}
S_{ij} \hspace{1cm} \text{is the market share ratio of the } i\text{th generic brand's sales to the branded allergy product for active ingredient } j \text{ in period } t.
P_{ij} \hspace{1cm} \text{is the ratio of the } i\text{th generic brand's price to the branded product for active ingredient } j \text{ in period } t.
D_{ij} \hspace{1cm} \text{is the } i\text{th generic's total distribution in period } t.
A_{ij} \hspace{1cm} \text{is the branded product's advertising for active ingredient } j \text{ in period } t.
R_{ij} \hspace{1cm} \text{is the ratio of the } i\text{th generic brand's range of stock keeping units to the patent brand's range of stock keeping units for active ingredient } j \text{ in period } t.
E_{ij} \hspace{1cm} \text{is the order of entry for generic brand } i \text{ within the allergy category.}
T_{ij} \hspace{1cm} \text{is the time (in months) between the entry of generic brand } i \text{ and generic brand } i-1 \text{ within the category for active ingredient } j.
OG_{ij} \hspace{1cm} \text{is a dummy variable used to represent the presence of an own-brand generic for active ingredient } j.
OL_{ij} \hspace{1cm} \text{is a dummy variable used to represent the presence of an own-brand innovation for active ingredient } j.
NI_{ij} \hspace{1cm} \text{is a dummy variable used to represent the presence of a new brand innovation for active ingredient } j.
Comp \hspace{1cm} \text{is a dummy variable used to account for company specific variables.}
\alpha \hspace{1cm} \text{is the constant term for the model.}
e_{ij} \hspace{1cm} \text{is the error term for the model.}
Empirical results

Table II gives the parameter values for model 1 with each variable being significant at the 5 per cent level with the exception of price ($p = 0.318$). The parameter values for the own-brand generic and the new brand name innovation both have a positive value which is different to the hypothesised but in both cases it is significant. A random effects model was used and tested with the Hausman test ($p = 0.80$) and was found to be consistent and efficient (Hausman and Taylor, 1981). In addition the model used a robust estimator of the variance estimates to control for heteroskedasticity (Baum, 2006). The $R^2$ value of 0.87 indicates that the model provides a strong statistical fit.

The following discussion of the results demonstrates the impact of each marketing mix component in restricting the market share potential of the generic brands. To explain the calculations, each parameter value estimates the impact of the component on the average market share of the generic brands. To find the amount, the value of the parameter is converted from a logarithm into a normal value, and transferred into a percentage.

The first hypothesis (H1) predicts that a brand's advertising will impact the number of generic brand entrants. Table I reports the level of advertising expenditure for each brand and the number of generic brand entrants. The results provide no evidence that the level of advertising expenditure, before or after the launch of generic brands, impacts the number of entrants. Before the launch of the generic brands, brand 2 and brand 3 had the highest and lowest levels of advertising expenditure respectively. After the launch of the generic brands the roles were reversed with brand 3 having the highest and brand 2 having the lowest levels of advertising expenditure and yet both brands had a similar number of generic entrants (four and five entrants respectively). This number of generic brands was significantly lower than the 11 generic brand entrants that targeted brand 1, which had maintained a high level of advertising expenditure.

H2 predicted that the branded product's advertising will impact the market share of generic brands. The results in Table II show that a brand's advertising does impact the market share of generic brands ($p < 0.01$). Using the average advertising expenditure figures from Table I, each of the branded product has reduced the impact of generic brands by an average of 22 per cent (brand 1 = 18.3 per cent, brand 2 = 37.6 per cent).

<table>
<thead>
<tr>
<th>Explanatory variable</th>
<th>Parameter value</th>
<th>$t$-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log price ratio</td>
<td>-0.06</td>
<td>-1.03</td>
</tr>
<tr>
<td>Log distribution</td>
<td>0.94</td>
<td>27.34</td>
</tr>
<tr>
<td>Log stock keeping unit ratio</td>
<td>0.34</td>
<td>6.31</td>
</tr>
<tr>
<td>Advertising</td>
<td>-0.000145</td>
<td>-2.54</td>
</tr>
<tr>
<td>Order of entry</td>
<td>-0.29</td>
<td>-5.36</td>
</tr>
<tr>
<td>Time between entry</td>
<td>-0.07</td>
<td>-2.79</td>
</tr>
<tr>
<td>Own-brand generic</td>
<td>0.10</td>
<td>5.00</td>
</tr>
<tr>
<td>Hybrid brand innovation</td>
<td>-0.58</td>
<td>-9.31</td>
</tr>
<tr>
<td>New brand name innovation</td>
<td>0.13</td>
<td>5.24</td>
</tr>
</tbody>
</table>

Table II. Empirical Results for market share model

Notes: Company specific variables not included as there are 14 companies; $R^2$ value = 0.8687; no. of observations 2038; no. of groups 21
brand 3 = 11.8 per cent). While advertising may not reduce the number of generic brand entrants, the results provide evidence that it does help in defending a brand from generic brands.

There were two hypotheses examining the impact of introducing an innovative new product as a component of a marketing defence strategy. The first (H3) predicted that the introduction of an innovative product would reduce the market share of generic brands. The model estimated the impact of innovative products on the market share of generic brands by splitting innovation into the two types, hybrid brand name innovation and a new brand name innovation. The parameter values for both types of innovative products are statistically significant (p < 0.01) however one of the types of innovative products has a positive sign. Therefore H3 is partially supported by the results as only one of the two types of innovative products has a positive impact on the market share of generic brands.

H4 compared the effectiveness of a hybrid brand name innovation to a new brand name innovation in reducing the market share of generic brands. The results indicate that introducing a hybrid brand name innovation limits the average market share of the generic brands by 44.0 per cent. In addition to this result, an order-of-entry advantage was shown to exist within the category. This meant that introducing a hybrid innovation before the generic brands entered reduced the average market share of the generic brands by a further 5.5 per cent.

The use of new brand name innovation increases the market share of generics brands. This effect may be explained by several factors, including the small sample size of a single brand, the potential for consumer confusion in misattributing the new brand name to a new generic brand with a similar name. Another major factor could be that new brand name product was launched 14 months after the branded allergy patent expired. In that time all the 11 generic brands for that active ingredient had launched and may have established a level of consumer preference. This delay in launching prevented the new brand name innovation from shifting consumer preferences before the generic brands entered or signalled the innovation to potential deter entrants.

H5 predicts that the more stock keeping units the branded-product has within its range compared to the amount of stock keeping units within the generic brands range, the greater the reduction in market share of the generic brands. The results from Table II support this hypothesis. The parameter value of 0.34 is significant (p < 0.01) and has the hypothesised sign. The impact of having an additional stock keeping unit can be illustrated with the following example. One of the branded-products increased its range from two stock keeping units to three stock keeping units by launching a larger pack size. The increase from two to three stock keeping units restricted the average market share of the generic brands by 12.8 per cent.

H6 states that an increase or decrease in the branded product’s price will not impact the market share of generic brands. The results in Table II show that the parameter value for changes in the pricing strategy of the branded products is insignificant (p = 0.30). This result supports H6 and the current evidence that pricing changes of the branded product do not impact the market share of generic brands (Frank and Sulkever, 1992; Regan, 2008).

H7 through to H10 examine the impact of launching an own-brand generic as part of a brand’s marketing defence strategy. The first hypothesis (H7) predicted that the first generic brand to launch gains a market share advantage over the other generic
brands due to an order-of-entry effect within the category. The results in Table II support this hypothesis as the order-of-entry parameter value has the hypothesised sign and is significant ($p < 0.01$). In addition to this advantage, the time between the launch of a generic brand and the next entrant was predicted to reduce the market share of the next entrant ($H_9$). The results in Table II also show that the time between entries has a significant impact on the market share of the next entrant ($p < 0.01$). The following example illustrates the size of the first to market advantage and the impact of the amount of time between entries. Brand 2 introduced its own-brand generic nine months before the next competitor. Using the two values from Table II and the brand's order of entry number (7 and 8 respectively), the next competitor's market share was restricted by 19.5 per cent.

$H_9$ predicted that an own-brand generic reduced the number of generic entrants. Table I provides support that the introduction of an own-brand generic may reduce the number of generic brand entrants. The one brand that did not have an own-brand generic had 11 generic brand entrants compared to the other two brands which both had five generic entrants. This finding is in line with the previous research of Reiffen and Ward (2007) which showed that an own-brand generic strategy reduced the average number of generic brand entrants by approximately two.

A major objective in launching an own-brand generic is to reduce the market share of generic brands ($H_{10}$). The results in Table II show that the introduction of an own-brand generic does not reduce the market share of generic brands ($p < 0.01$). The results show that when an own-brand generic was launched, the generic brands achieved greater market share compared to the brand 1 where no own-brand generic was launched. The reason for this result may be caused by the number of and types of generic brand entrants. In Table I the summary statistics show that brands 2 and 3 have fewer entrants than brand 1, and of those entrants targeting brands 2 and 3, a higher percentage is store brands. Store brands may be stronger competitors compared to independent generics as store brand managers have the ability to implement more marketing strategies that help in switching consumers from the branded products to the store brand (i.e., these managers are responsible for determining the retail price, product ranging, and distribution for all brands within the category). In addition the higher number of independent generic entrants targeting brand 1 may be the result of a strategic decision to avoid competing against an own-brand generic. The independent generic brands may be smaller with fewer resources and as a result more likely to underperform compared to the average. Whereas the stronger store brands that are competing against brands 2 and 3 are more likely to perform above average. Therefore this association of higher generic brand share, as a result of a branded product launching an own-brand generic, may be the result of a correlation with the type of generic brand competitor more so than the effectiveness of an own-brand generic.

Launching an own-brand generic has been shown to reduce the number of entrants and to gain an advantage through being the first generic brand in the market (i.e., it was shown in $H_7$ and $H_8$ to reduce the share of the next entrant by 19.5 per cent), however $H_{10}$ showed that an own-brand generic increased the market share of generic brand entrants. To help illustrate the net effect of launching an own-brand generic ($H_7$, $H_8$ and $H_{10}$) on the market share of the next generic brand to enter, brand 2's own-brand generic restricted the market share of the next entrant by 10.2 per cent.
Conclusion

The objective of this research was to extend the literature into marketing defence strategies by providing an empirical analysis of a range of marketing strategies developed in advance of a competitor entering. The learnings add to several research streams by highlighting the effectiveness of individual marketing mix components in a marketing defence strategy aimed at deterring potential entrants and limiting the market share of any new competitors. It also highlights the importance of implementing these marketing mix components in advance of a competitor entering the market.

The research used a data set from a category of OTC products where three brands of allergy treatments had lost patent protection and experienced a proliferation of generic brands. Each of the three brands used a combination of several marketing mix components such as advertising, introducing innovative new products and line extensions, modifying the price, and launching an own-brand generic to form a marketing defence strategy. For a manager who wants to understand the effectiveness of these marketing mix components, launching an innovative new product under a hybrid brand name was the most effective strategy. If an innovative new product is unavailable then a manager should look to launch new products in different pack sizes and formats. Under both scenarios the benefit of being proactive and launching new products before the launch of the generic brands helped in shifting and reinforcing consumer preferences and protecting the brand from losing market share to the generic brands.

As part of a marketing defence strategy, managers should also consider advertising as it was also shown to be effective in limiting the market share of the generic brands. There may also be additional benefits associated with advertising that this research did not measure, but that should be considered. First, the effectiveness of advertising needs to be measured against both generic brands and other branded competitors. A brand's advertising may be more effective in switching users from other branded products than from generic brands due to the segmentation of the consumers into price sensitive and brand loyal segments. An additional benefit may come from advertising an innovative product. Advertising will help increase awareness of the new product and its attributes. As Kupferer (2008) highlighted, when a consumer learns about the attributes of an innovative product, it helps to reposition the entire brand which has a halo effect on the sales of existing products.

The use of price as a component of a marketing defence strategy was shown to not have an impact on the market share of the generic brands. This result is in line with the previous research (Frank and Salskever, 1992; Regan, 2008), however this paper differs in its conclusions. Frank and Salskever (1992) and Regan (2008) suggest that a branded product should increase its price as a result of the segmentation of the market into price sensitive and brand loyal segments in order to maximise profits. As with advertising, our conclusion is that a manager needs to first understand how a change in its price affects the market share of other branded products. A price reduction may switch more users from other branded competitors than it will from generic brands with price sensitive users.

The other two components of launching an own-brand generic or a new brand name innovation were also shown to not be effective in reducing the share of the generic brands, however the influence of time and signalling to other competitors needs to be
considered in evaluating this result. Time and the order in which a brand enters this category were shown to impact the market share of generic brands. By launching an own-brand generic before the generic brands entered, it signalled to potential entrants that their market share and profits will be reduced, which may have helped to deter competitors from entering, and secured an order-of-entry advantage. Because of these two factors, the overall result was that the launching an own-brand generic did in fact reduce the market share of the generic brands. A similar result would have been expected if the new brand name innovation launched before the generic brands, instead it launched 14 months later and lost the opportunity to gain an order-of-entry advantage and to signal the innovation to deter competitors from entering. These two examples further highlight the critical success factor of time in developing a marketing defence strategy.

The existence of an order-of-entry advantage provides an important category insight. It demonstrates that the generic brands that enter when the first patent expires, achieve more share than generic brands that enter when later patents expire. This implies that the first branded product to lose patent protection will lose more market share. This however may be the result of price sensitive consumers being willing to switch from not just the branded product which the generic brands have replicated, but from other branded products with a different active. Therefore if the first generic brands to enter are able to switch consumers from all brands, then all branded products should consider implementing their marketing defence strategies before the first generic brand for the category enters. For example a branded product may want to introduce an own-brand generic not only before its own patent expires, but before the first patent in the category expires, in order to ensure it achieves a larger share of the price sensitive segment of consumers.

There are further implications that become evident as an indirect result of this research. First, the results highlighted that distribution was a significant variable in generic brands gaining share. The branded products in this study tried to reduce the generic brands' distribution by launching new products that created barriers to gaining distribution and shelf space. Therefore managers should consider additional strategies which can limit the distribution of the generic brands. Conversely, managers of generic brands should actively pursue strategies that grow distribution and ultimately market share. Store brands have the benefit of being able to gain full distribution within their retail outlets and be positioned next to the branded product on shelf. The use of a data set with nearly half the generic brands being low price store brands, showed that the use of these marketing mix components were successfully in defending a brand from this increased threat.

Limitations and further research
The limitation of this research is that it was confined to a single category of OTC allergy which limits the depth of investigation and the generalisation of findings. It was highlighted that some of the results may have been influenced by the number of examples within the data (e.g. there is only one example of each type of innovative new products). In order to overcome this limitation it is hoped that this study will lead to further research into this area with a more robust number of industries and brands.

Within this research several areas of further investigation become apparent, such as the need for a greater understanding of the relationship between a brand's advertising...
or pricing with the market share of the other branded products (i.e., does a brand's advertising help switch more users from other branded products than from generic brands?). Understanding this relationship would provide a more comprehensive view of the impact of a brand's defence strategy on its market share. Another area of proposed research is the effect of brands "signalling" to other competitors their strategic direction through implementing strategies in advance of a competitor launching. Within the study it was highlighted that the brand that did not signal any new product launches had more competitors and was at a market share disadvantage compared to the other two brands. More evidence is needed into whether "signalling" does reduce the number of competitors and change the type of competitor. There are also some strategic considerations that need to be understood about launching an own-brand generic. For example does an own-brand generic increase the cannibalisation of the brand by having shared resources? Does an own-brand generic increase the ability of pharmacists to switch consumers away from the branded product? Does it increase the quality perceptions consumers and pharmacists have the own-brand generic?

This research examined the marketing defence strategies of three brands regarding entry deterrence and limitation of the market share of generic brands. However the impact of each strategy on maximising profit needs to be included in the development of an overall defence strategy. The cost of advertising and developing new products may erode the profits gained by protecting a brand's market share. Alternatively launching an own-brand generic may provide a profit stream that the branded product would otherwise not receive (Reiffen and Ward, 2007). Understanding the overall profit implications of the brand defence strategies would provide further evidence of the success of these strategies.

References


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Strategies used to defend brands


Further reading


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