

# **A Discriminant Analysis of the Strategic Marketing Planning Practices Affecting the Performance of Retail Pharmacy Business Organizations in the Australian Health Industry**

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## **Abstract**

*The retail pharmacy/chemist in the health industry is one of the most highly regulated industries in Australia. It is also a very important part of the health care system, providing prescriptions and OTC (over the counter) medications. However, most research concerning strategic marketing planning practices has been concentrated on large manufacturing companies with very little or no research to investigate the strategic marketing planning practices of Pharmaceutical Chemist stores. This paper will present the results of an exploratory study that was designed to identify the aspects of the strategic marketing planning practices that differentiate retail pharmacies with low level of performance from those with a high-level of performance.*

## **Introduction**

Although, strategic marketing planning has been recognised for decades in major marketing textbooks as a valuable tool to assist organisations to compete effectively in the increasingly dynamic environment (Armstrong and Kotler 2011; Bergeron and Rivard 2003; Cravens 2008; Cravens and Piercy 2006; David 2009; Greenley 1986; Johnson et al 2008; Kotler and Keller 2009; McCarthy 2009; Morgan, McGuinness and Thorpe 2000; Paley 2006; Parnell 2000; Perreault et al 2008; Pride and Ferrell, 2010, 2012; Rajaratnam and Chonko 1995; Stanton, 2008) very little research has been done to identify the aspects of the strategic marketing planning practices that differentiate retail pharmacies with low level of performance from those with a high-level of performance

## **What is a Strategic Marketing Plan?**

According to Perreault et al (2008), strategic marketing planning means finding attractive opportunities and developing profitable strategies that specifies a target market and related marketing mix. Kotler and Keller (2009) and Armstrong and Kotler (2011), stressed that a strategic marketing plan involves laying out the target markets and the value proposition that will be offered, based on the analysis of the best market opportunities. The marketing plan is the central instrument for directing and coordinating the marketing effort of an organization and the content of a marketing plan includes laying out current situation, setting objectives, strategies, action program, budgets, implementation and control. The purpose of a strategic plan, according to Johnson et al (2008), is to specify what business an organization is in and the direction it is going. Cravens (2008), emphasized that the environment and all functional areas of a business, such as finance, marketing, personnel are to be taken into consideration during the strategic marketing planning process. Cravens (2008) views the strategic marketing planning process as consisting of the following key steps: analysing the environment, designing a marketing strategy, formulating a marketing program, and implementing and controlling the marketing program. David (2009) and Cravens (2008) identify environmental analysis, objective setting, strategy design, and implementation and control in the strategic planning process.

A review of the major prescriptive literature about the strategic marketing planning process (Armstrong and Kotler 2011; Cravens 2008; Cravens and Piercy 2006; Cravens, David 2009; Johnson et al 2009; Kotler and Keller 2009; McCarthy 2009; Paley 2006; Parnell 2000; Perreault et al 2008; Pride and Ferrell 2010, 2012;

Rogers 2001; Stanton 2008) shows that the process contains either implicitly or explicitly, the following components: Environmental Analysis; Setting Goals and Objectives; Formulating Marketing Strategy; Action Programs; Implementation and Control. This paper will present a study that examined specific aspects of the strategic marketing planning practices that affect the performance of retail pharmacies in Australia.

### **Why Study Pharmaceutical Chemist Stores in Australia?**

The retail pharmacy/chemist industry is unique in its own right. It is one of the most highly regulated industries in Australia. It is also a very important part of the health care system, providing prescriptions and OTC (over the counter) medications. It is one of the few types of retail business where most of the individuals in charge of the business are specialists (i.e. he/ she has obtained a specialised degree to open the business) rather than a “generalist” as in many other small businesses. According to the Pharmacy Guild of Australia (2010), there are about 5,000 community pharmacies across Australia and dispense around 250 million prescriptions annually.

### **Methodology**

Prior to the design of the final questionnaire for this study a literature review of textbooks, journals, industry publications including the Guild Digest published by the Pharmacy Guild of Australia and other published materials was carried out. In collecting primary data, informal interviews with some people at the Pharmaceutical Council of Western Australia, and owners/ store managers of three pharmacies (chosen on a convenience basis) were conducted. Several informal telephone interviews were also conducted with managers of several Pharmaceutical retail stores. Interviews with people from the industry were carried out in order to gain some insight into the industry from a “macro” level. They assisted in uncovering background information about the industry from its history to the way the current health system works and the role that pharmacies play in relation to the Australian economy. The respondents for these informal interviews also pointed out some sources of information, which they thought could be useful for this study.

Informal interviews with owners/ store managers of pharmacies were carried out with the objective of gaining further information with regards to their strategic marketing planning practices. Unlike interviews with people from the industry associations, pharmacy owners/ store managers provided a “micro” view of the business. Not only did they provide insights into the day to day running of the business, they also provided insights into issues such as the level of sophistication of decision making, the level of direct involvement by owners in the business, work culture, etc. The information from these interviews was particularly helpful in the development of the structured questionnaire used in this study.

Pharmacies operating in Western Australia were selected from a standard pharmacy list acquired from the Pharmaceutical Society of Western Australia. The pharmacy list contains the names and addresses of all the pharmacies in Western Australia. At the time of this study, in total, there were about 465 pharmacies in Western Australia. Out of these 465, three were used for the initial interviews and five were used for pre-testing purposes. Sixteen were either hospitals, nursing homes or specialist medical centre pharmacies and one opened for only ten days in a year. These 25 pharmacies were excluded because they are not the “average” community pharmacies. Thus, only 440 pharmacies were invited to participate in this study.

Various methods such as pre-notification, incentives and follow-up interviews were employed to improve response rate. Reminder letters were sent out approximately three weeks after the questionnaires were first sent out to firms that had not replied.

Of the 440 questionnaires sent out, 7 were undeliverable due to either a change of address, or closure of the business. Of the remaining 433 questionnaires sent out, 146 questionnaires were completed. However 15 of these questionnaires were deemed “unusable” (12 of them were discarded due to substantial missing item responses, and 3 were answered by unqualified respondents – e.g. sales attendants). Thus, a total of 131 questionnaires were used for this study resulting in a 30.25% response rate. This response rate was substantially above those attained by some other strategic planning studies such as Greenley and Bayus’ (1994) that had an 11% response rate and Hooley et al.’s (1984) that had a 14% response rate.

A follow-up telephone interview of 20 non-respondents was conducted. None of those respondents, who were interviewed, reported difficulty in understanding or completing the questionnaire as a reason for non-response.

To determine whether the characteristics of respondents differ from those of non-respondents, the information from a follow-up telephone interview of 20 non-respondents showed that, at 5 per cent significance level, the characteristics of non-respondents concerning firm size, total sales turnover, age of the firm, and the products/serviced offered did not differ significantly from those of respondents.

Most (76%) of the respondents for this study are located in metropolitan area while the rest were situated in non-metropolitan area. Out of the 131 respondents, 56 (42.7%) indicated that their pharmacy is part of a larger chain, while the others stated that they are not part of a larger chain of pharmacies. The median number of full-time employees in the sample was four. In terms of pharmacy size, the median for the sample was in the category of 100 to 149 square metres.

### ***Classification for Comparative Analysis***

In recognising that performance is a multidimensional variable, more than one performance measure was used in this study. According to the recommendation provided by the Pharmacy Guild of Australia, sales, the rate of inventory turnover (i.e. Stock turn), total sales growth, and average gross margin as a percentage of sales of the pharmacy are appropriate indicators of performance for this industry. Thus, this study employed the above measures by asking respondents to indicate the appropriate response categories on each of the mentioned performance measures. Overall, for classification purposes profitability status and total sales growth over the past 2 years were used to classify the pharmacies into high performers and low performers. At the time of this study, the average 'total sales growth over the last 2 years' among the respondents survey was 14%. Pharmacies that are currently making a profit and achieved a total sales growth of over 14% in the last 2 years were classified as high performers; while the others were classified as low performers. The sample yielded 83 (63%) low performing pharmacies and 48 high performing pharmacies (37%).

### ***Data Analysis and Findings***

In analysing the data, a stepwise discriminant analysis was used to identify the strategic marketing components that are the most important in distinguishing between retail pharmacies that had a high level of business performance as compared to those with a low level of business performance because, according to Zikmund, (2005) the aim of a discriminant analysis as a multivariate statistical technique is to predict the probability of objects belonging in two or more mutually exclusive categories based on several independent variables. As a multivariate statistical technique, its main aim is to determine whether a given set of predictor variables differentiate between two or more groups of objects and, if so, determine which of these variables contribute the most to this discrimination (Ogunmokun and Ng 2004, Ogunmokun & Chong, 2009). A discriminant analysis thus demonstrates which variables are the most important in distinguishing between the classes or groups (Green, Tull & Albaum, 1988; Tull & Hawkins, 1993). According to Klecka, (1980) and Zikmund, (2005), discriminant analysis is useful in interpreting the ways in which groups differ by discriminating groups on the basis of some set of characteristics. Alreck & Settle, (1995) stressed that when the independent variable is continuous and the dependent variable is categorical, discriminant analysis is the appropriate statistical tool to test the significance of the relationship between variables. In short, according to Peterson & Mahajan, (1976 p. 649), and Ogunmokun & Chong, (2009) discriminant analysis is a multivariate statistical technique whose general objectives include:

1. Determining whether a given set of predictor variables differentiates between two or more groups of objects and, if so, determines which of these variables contributes the most to this discrimination;
2. Delineating specific combinations of the predictor variables which efficiently maximize differences among the groups;
3. Developing procedures for correctly assigning new objects whose predictor variable values are known but whose group membership is unknown, to appropriate groups.

For this study, the components of the strategic marketing process examined through discriminant analysis are: environmental analysis; goals and objectives setting; strategy formulation; marketing strategy employed; action programs used; implementation and control mechanism employed. The use of the SPSS computer programme for the discriminant analysis resulted in identifying the following seven variables meeting the criterion for discriminating between high and low performers.

- The extent to which economic trends are analysed when planning marketing strategy
- The extent to which "experience in business" is used to gain information when planning marketing strategy

- The extent to which customer opinion/suggestion is used to gain information when planning marketing strategy
- The extent to which “focus” competitive strategy is part of the pharmacy’s current strategy
- The extent to which “feature articles” is used as a publicity tool
- The frequency of review of the pharmacy’s pricing strategy
- The frequency of usage of “budgetary control” for controlling the implementation of the marketing plan

As shown in table 1, the canonical correlation of the function was 0.611 ( $p < 0.001$ ). The function was capable of successfully classifying 75.9% of the low performers and 89.6% of the high performers, for an overall classification accuracy of 80.92%. The Wilks Lambda (0.626) was significant at the 0.001 level, indicating that the two groups were significantly different in terms of the discriminant function. The discriminant function had a canonical correlation of 0.611.

According to Green et al. (1988, p. 524-525), “standardised coefficients only allow an ordinal interpretation of the variable importance. The coefficients are not appropriate in assessing the relative discriminatory power of the variables included in the analysis.” Thus, Green et al. (1988), recommends the following as a more appropriate measure of relative discriminatory power:

$$I_j = [k_j (X_{j1} - \bar{X}_{j2})]$$

where

$I_j$  = The importance value of the  $j$ th variable

$k_j$  = Unstandardised discriminant coefficient for the  $j$ th variable

$\bar{X}_{jk}$  = Mean of the  $j$ th variable of the  $k$ th group

According to Green et al. (1988, p. 525), “The relative importance weights may be interpreted as the portion of the discriminant score separation between the groups that is attributable to the  $j$ th variable”. This means that the relative importance of each variable ( $R_j$ ) is simply calculated by the importance value of a particular variable relative to the sum of importance values of all the variables. Thus, the relative importance of a variable is:

$$R_j = \frac{I_j}{\sum_{j=1}^n I_j}$$

**Table 1: Relative importance values of the variables dealing with the marketing planning**

Variable Number	Standardized Discriminant Coefficients	Variable Description <sup>a</sup>	Unstandardized discriminant coefficient (K <sub>i</sub> )	Differences in group means (X <sub>1j</sub> - X <sub>2j</sub> )	Importance Values (I <sub>i</sub> )	Relative importance values (R <sub>i</sub> )
49	0.349	Extent to which "economic trends" are considered when planning	0.326	0.186	0.061	3.81%
89	0.712	Extent to which "experience" in the business is used to gain information	0.903	0.36	0.325	20.44%
96	0.759	Extent to which "customer suggestions/ opinions" is used to gain information	0.669	0.532	0.356	22.37%
160	-0.820	Extent to which the "focus" competitive strategy is part of the pharmacy's current strategies	-0.663	-0.516	0.342	21.51%
260	0.379	Extent to which "feature Articles" is used as a publicity tool	0.341	0.507	0.173	10.87%
262	0.479	The frequency of review of the pharmacy's pricing strategy	0.390	0.491	0.191	12.04%
281	0.420	The frequency of usage of "budgetary control" for controlling the implementation of the marketing plan	0.302	0.472	0.143	8.96%
<i>Total</i>					<b>1.591</b>	<b>100%</b>

<sup>a</sup> = All variables used for the discriminant analysis were measured on five point interval scales

\* Correctly classified 80.92%

Wilks' Lambda = 0.626, p < 0.001

Canonical Correlation = 0.611

Table 1 contains the above calculations to estimate the relative importance of the variables that discriminate between the high and low performing pharmacies. It shows the relative importance of each of the variables that discriminates between the two groups. As can be seen, some variables are more important discriminators than others. These variables are discussed as follows:

**(1) Sources of Information used when formulating marketing strategy:** The extent to which "customer suggestions/ opinions" and "experience" were used to gain information for strategic marketing planning accounted for 44.81% of the total discrimination. More specifically, the extent to which "customer suggestions/ opinions" were used to gain information has a relative importance of 22.37%; and the extent to which "experience" was used to gain information has a relative importance of 20.44%.

The majority of the high level performing pharmacies used past experience and customer suggestions/opinions to a great extent as compared to only few of the low level performing pharmacies that used past experience and customer suggestions/opinions to a great extent to gain information for their strategic marketing planning practices.

**(2) Strategies Utilized:** As table 1 reveals, variables relating to the strategies utilised by pharmacies accounted for about a third (32.8%) of the total discrimination.

More specifically, the extent to which the "focus" competitive strategy (i.e. a strategy of concentrating on a small specialty market - particularly consumer groups, geographic market or a segment of the product line) is a part of the strategies used by the pharmacies has a relative importance value of 21.51% while the use of "feature articles" for publicity strategy accounted for 10.7% of the total discrimination. In this study the majority of the high level performing pharmacies used focus strategy as well as the strategy of featuring specific articles for publicity to a great extent as compared to only few of the low level performing pharmacies that used these two strategies.

**(3) Frequency of the evaluation of strategies used and the utilization of control techniques:** The frequency in reviewing pricing strategy used and the frequency of the usage of the budgetary control for controlling the implementation of the marketing plan accounted for about a fifth (21%) of the total discrimination between high level and low level performing pharmacies. The majority of the high level performing pharmacies frequently review their pricing strategies and frequently use the budgetary control for controlling the implementation of the marketing plan as compared to the low level performing pharmacies.

### ***Conclusion***

In this study, the results of the discriminant analysis utilized to identify specific components of strategic marketing practices affecting the level of performance of retail pharmacy business organizations in Australia, show that factors concerning the sources of information used for strategic marketing planning and the strategies used are the two major components that accounts for the majority (77.19%) of the total discrimination. The frequency in reviewing pricing strategy used and the frequency of the usage of the budgetary control for controlling the implementation of the marketing plan accounted for about a fifth (21%) of the total discrimination between high level and low level performing pharmacies.

In general the study found that pharmacies that have a high level of business performance are more likely to perform the following marketing strategy activities to a great extent more than those with a low level of performance: Use customer opinion/suggestion and past experience to gain information when formulating marketing strategy; Utilise focus competitive strategy and “feature articles” as a publicity tool in their marketing strategy; Frequently review pricing strategy as well as frequently use “budgetary control” for controlling the implementation of the marketing plan; and also consider economic trends when formulating the marketing strategy.

Finally, because this study used a small sample (N=131), more intensive studies are required to investigate further the validity of the findings of this exploratory study.

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