The Impact of Promotional Strategies of Pharmaceutical Companies on Doctor's Recommendations of Branded Drugs: An Empirical Study in Sri Lanka

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Abstract

In the pharmaceutical industry, the customer and the final decision maker is different. Hence, pharmaceutical companies really focus on doctors to promote their products by using scientific information and specific techniques to convince the doctors to recommend the drugs to their patients. Researchers viewed this issue and investigated how pharmaceutical companies develop their strategies to get the mind share of the doctors. The study was focused on selected promotional strategies, such as, medical detailing, sampling, providing scientific materials, continuous medical education programs (CME), and continuous meetings conducted by the pharmaceutical companies in order to get the recommendations towards their products. The sample of 150 doctors from Colombo, Kandy and Galle, were interviewed with structured questionnaire and open discussions were also made on critical factors with those respondents. Correlation analysis was used to test the relationship among the independent and dependent variables and to test the hypothesis. The statistical analysis revealed that there is a significant influence of promotion strategies used by pharmaceutical companies for the doctors to recommend the branded drugs in Sri Lankan context. Further, it was found that each promotional strategy has different degree of impact on recommendation of branded drugs. Detailing and sampling have significant impact but it is relatively low compared to other factors like continuous meetings, scientific materials and CME.

Introduction

Pharmaceutical companies are developing processes to influence the people who influence the physicians. There are several channels by which a physician may be influenced, including self-influence through research, peer influence, direct interaction with pharmaceutical companies, patients, and public or private insurance companies. These activities are performed by the pharmaceutical companies in two ways like creating the Pull Strategy and Push Strategy. Pull strategy mainly concentrate on the mass media promotions and have a limited influence to the doctors. Push is the main promotional method followed by many countries where it is prominent in the doctor's level. A country like Sri Lanka is more towards this strategy where Government has not given the provision to do pull strategy.

Hence it is very much important to identify the doctor's psychology in order to get the mind share to prescribe the brand. This study touched the key variable which will help pharmaceutical companies to streamline the marketing strategy and enable them to utilize their budget in proper way to get the consistence business throughout the financial year. To

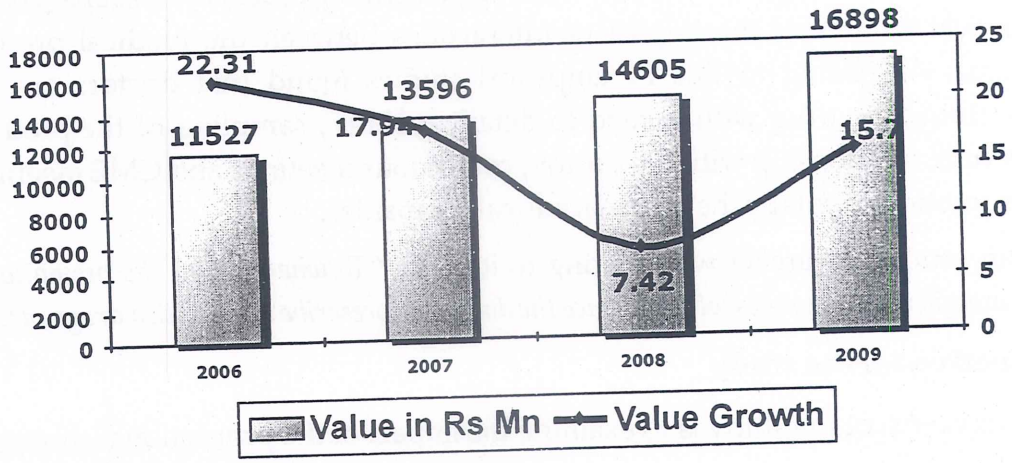
provide the basic information to the industry, this gives a basic platform to understand the doctor's perception towards the branded drugs in Sri Lankan Pharmaceutical industry.

Pharmaceutical Industry in Sri Lanka

As per the IMS data,2009 (International Medical Survey) Sri Lanka Pharmaceutical market is mainly segmented to Retail market (58%), Tenders - Government Direct Purchases (29%), Private hospital (12%) and Stocking doctors and others 1%. With 2393 pharmacy outlets and 313 manufactures (including both local and foreign) are dominating this segment with high competitive manner. (IMS data Q4, 2009)

Dynamics of Sri Lankan Pharmaceutical Market

According to the fourth quarter review of IMS 2009, the volume of the Sri Lankan Pharmaceutical industry was US$ 260 million (30 billion SLR). Pharmaceutical market was growing at a rate of 15.72% by value in terms of SLR and by US$ it was 13.18%. Mainly this value growth was coming from three growth drivers, which are volume change (9.09%), price change (3.6%) and new products (3%). Top 100 products contributed 36% of the retail market by value. There were 218 therapeutic classes, 816 molecules and 3227 brands nourishing the industries competitiveness. There were 311 new products introduced in year 2009 and the contribution alone out of 311 was 3 % of the of retail market. Sri Lanka is one of the brand conscious markets where 93% of the value contribution coming from the retail business. On the other hand only 7% is from pure generics (with out brand name). The growth of the market for 2010 will be 21% according to the forecast of IMS. Latest released of the IMS Q1, 2010 data showing that Pharmaceutical market of Sri Lanka is growing at a rate of 18.25%. Following figure 2.1 shows the performance of Sri Lankan retail pharma market from 2006 to 2009.



Research Problem and Objectives

Jon Buckley (2006) mentioned two ways, which are creating pull and creating push. Pull strategy is much more common in the countries like USA and New Zealand where those pharmaceutical companies are given provision to advertise their products in mass media. This is commonly known as Direct to consumer advertisements (DTCA). This was somewhat controversial among the medical professionals and health related agencies. Flynn (1999) argues that DTCA makes consumers better informed and more sophisticated. In his view consumers are enabled, through DTCA, to better understand the market for drugs and the therapeutic options available to them. In contrast to pull strategy, push is the opposite strategy, which many countries follow. This was found as a more viable and reliable method to a pharma company where many governments do not allow advertising direct to consumers (Joan Buckley, 2006).

Doctor-targeted promotion takes a variety of forms:

- Gifts, such as free samples, small stationery (Riccardi 2002), travel to conferences and educational events (Medical Marketing & Media 2003, Prawirosujanto 2001, Strout, 2001)
- Sponsorship of conferences and educational events, regular meeting of medical rep's and relationship with medical rep's(Moynihan 2003, Hayes et al 1990, Komesarroff and Kerridge 2002)
- The use of key opinion leaders – i.e. senior clinicians and medical educators as speakers at learned conferences (CME) Lerer (2002) Burton and Rowell (2003)

Separate studies by McInney, Scheidermeyer, Lurie et al (1990), Banks and Mainour (1992) and Chren, Landefeld and Murray (1989) all found that there was a strong correlation between doctors' tendencies to recommend drugs and their receipt of gifts/sponsorship/ non-related payment etc. Studies by Wazana (2000), Chren et al (1989) and Thomson, Craig and Barnham (1994) all show that gifts impact on doctors' prescribing practices. Wazana (2000) examined 29 empirical studies of the impact of interactions between the medical profession and Big Pharma. According to this 29 empirical studies found that doctors are more keen on prescribing the drug with related to detailing skills , sampling of the products , scientific materials, relationship with the doctor , continuous meetings and CME meetings conducted as promotional tools by the pharmaceutical companies.

In this study, researcher was looking to identify *"To what extend the promotional strategies of pharmaceutical companies will influence the doctors to prescribe the branded drugs in Sri Lanka"*.

Objectives of the study

Key objective of the study is to examine the impact of the promotional strategies on doctor's

recommendation of branded drugs. To explain more about the promotional strategy and doctor's recommendation, researcher has used following specific objectives given below:

1. To identify the detailing of the representative to influence the doctor to prescribe the brand
2. To identify the sampling of the product to influence the doctor to prescribe the brand
3. To identify the scientific materials to influence the doctor to prescribe the brand
4. To identify continuous meetings to influence the doctor to prescribe the brand
5. To identify the CME (Continuous Medical Education) to influence the doctor to prescribe the brand

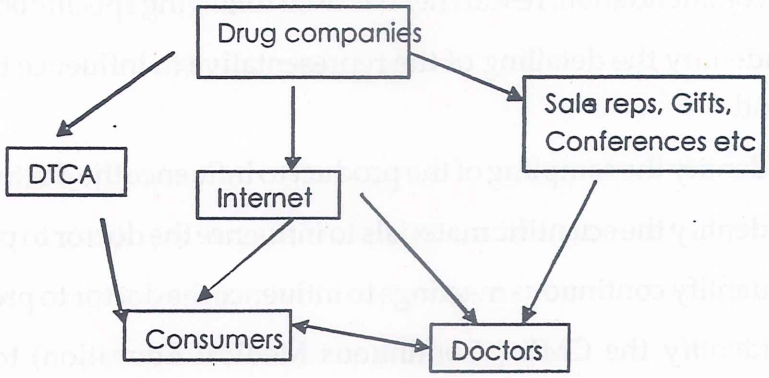
Literature review

How are drugs promoted?

The average cost to bring to market a so-called block-buster drug was estimated at $895 million (EFPIA, 2002). Obviously firms who spend that kind of money need to recoup their costs. Furthermore industry analysts point out that Big Pharma under pressure. It needs to expand sales of blockbuster drugs since there are fewer drugs in pipeline. In order to sustain current level of growth, firms would need to introduce one new product each year that would sell $4.9 million for each 1 to 1.5 percent of the world pharmaceutical market. "A company in the capacity of the newly merged Glaxo Wellcome/Smith KlineBeecham needs at least three to seven products each year, while in the capacity of Astra Zeneca needs two to four products each year. The problem is that research productivity is failing. None of the major companies is close to the target." (Horrobin 2000)

In the United States all drugs may be promoted to consumers, but in practice direct to consumer advertising focuses on OTC and common-ailment targeted prescription drugs. There are other more limited application drugs for less common diseases that are only promoted to health care professionals, and hospitals and organizational formulary committees (such as HMO formulary committees). The drug marketing process can be described by the model below in Figure 4.1, which shows the information flow from drug companies, both to consumers and doctors. It also shows the power that consumers, informed by DTCA and the Internet, have in "pulling" prescription drugs from doctors.

Figure 4.1 Information flow from drug companies



Source: Calfee (2002),

Creating the Pull – Directly:

Historically promotion for prescription drugs occurred only from manufacturer to prescriber so that physicians and others with prescribing authority were the gatekeepers to eventual drug sales. The promotion strategies therefore were all essentially "push" focused. However the decision in 1997 by the US Food and Drugs Administration (FDA) to relax restrictions on broadcast DTCA of these drugs has resulted in increased "pull" from consumers. In both the United States and New Zealand DTCA of prescription drugs occurs with considerable effect, as will be discussed below. A further source of 'indirect' pull has been the impact of the Internet on pharmaceutical promotion, which will also be discussed below.

Creating pull from key opinion leaders

In the world of medicine, "key opinion leader" is the somewhat Orwellian term used to describe the senior doctors who help drug companies to sell their drugs. These influential doctors are engaged by industry to advice on marketing and help boost sales of new medicines through all specialties, in hospitals and universities everywhere, many leading specialists are being paid generous fees to peddle influence on behalf of the world's biggest drug companies (Moynihan, 2008)

Two recent business intelligence reports on how drug companies identify, recruit, train, and pay their opinion leaders state that influential doctors can earn up to $400 an hour. The reports were produced by a company called Cutting Edge, which works closely with drug company executives. A publicly available summary of one report shows that some doctors can earn more than $25,000 a year as advisory fees. A press release promoting the other report suggests

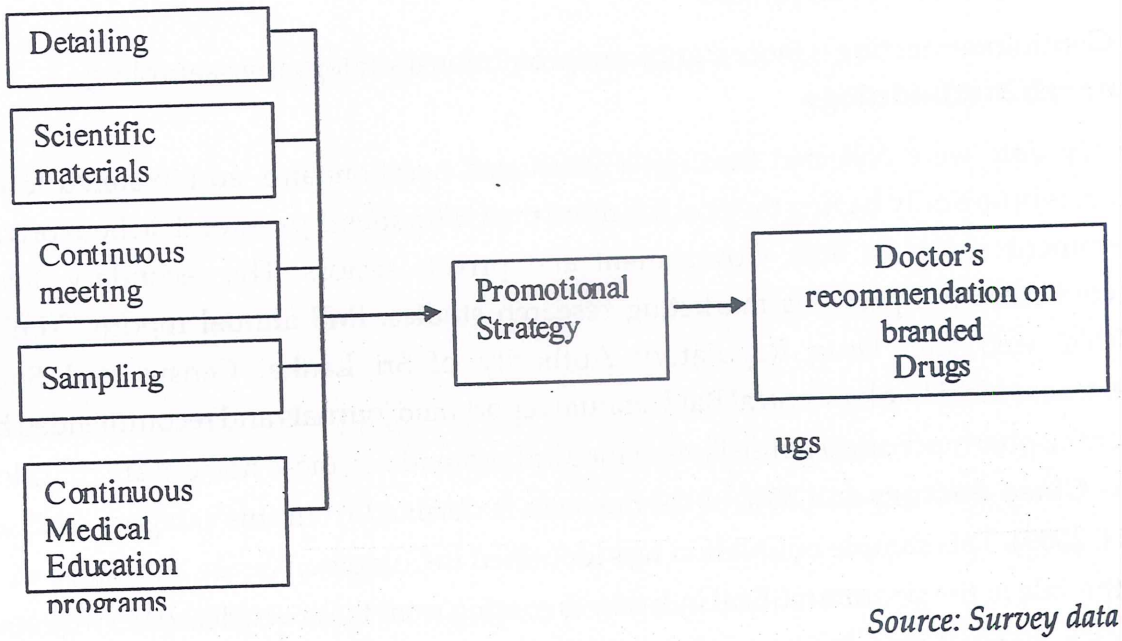
that the average fee paid to a doctor for a "scientific speech" is more than $3000. Typically these speeches are delivered at educational events sponsored by companies (Cutting Edge Information, 2007).

The Push Strategy: Promotion to Physicians and health-care professionals

"Despite the boom in consumer ads, doctors are still king" Maguire (1999). However enormous the implications of DTCA of drugs and the budgets devoted to this, the issue of physician targeted promotion is significantly greater on all fronts, both financially and in terms of eventual outcomes. Komesaroff and Kerridge (2002) state that promotion and marketing to doctors makes up a quarter to a third of their annual budgets "… totaling more than US$11 billion each year in the United States alone. There are no comprehensive figures available, but it is estimated that, of this, about US$3 billion is spent on advertising and US$5billion on sales representatives, while expenditure per physician is believed to be over US$8000." As mentioned earlier in this article the Canadian Medical Association Journal in 2002 estimated the US promotional spend to be even higher at approximately $19 billion dollars. This activity includes advertising, gift giving and support for medically related activities such as travel to meetings and support for conferences.

Conceptual frame work

Figure 2 Conceptual framework



Source: Survey data 2010

As per the literature review it was found that promotional strategies are having a significant impact of doctor's recommendation of branded drugs. In pharmaceutical industry many companies are conducting different promotional methods in order to get the mind share of the doctors. Basically in Sri Lankan context, frequently doing promotional activities are concentrated into; detailing, sampling, continuous meeting of the doctor, scientific materials and continuous medical education programs. These variables are as a whole represent the promotional strategies which influence the recommendation of the branded drugs by the doctors.

Hypothesis of the study

H1:- The promotional strategies of pharmaceutical companies have significant influence on doctor's recommendation of branded drugs.

H2:- Detailing is most important promotional strategy which highly influential on doctor's recommendation of branded drugs

H3:- Scientific materials are more influential on doctors' prescription than providing samples.

H4:-Continuous Medical Education (CME) is least significant promotional strategy which can influence on doctors' prescription.

H5:-Continious meeting is more significant promotional strategy than sampling

Research Methodology

Primary data were collected through a structured questionnaire, administered to the key doctors who are only having the practice more than 500 patients per month in both private and government sector in both Government and private sectors. The secondary data were collected from the previous marketing research studies, IMS annual reports, Ministry of Health's' web site, Drug Regulatory Authority of Sri Lanka, Census and Statistical Department of Sri Lanka, Central Bank annual reports and journals and recommended books. As per the pharmaceutical guide lines of medical promotions, these doctors are considered as the **A- Class doctors** and 80% of the business is obtained from this category (IMS annual report, 2009). This sample population was identified in Colombo, Kandy and Galle, where 60 % of the sale in the pharmaceutical industry is coming from these districts (IMS regional wise revenues, 2009). It was done a random sampling method after finalizing number of doctors who are having practice more than 500 patients. It was selected 150 doctors from three districts

after doing the random sampling from the doctor's data base. The samples were collected, Colombo district 51, Kandy 41, Gall district 58 respectively.

Both descriptive and inferential statistics methods were used to analyze the data. As the descriptive tools, frequency count percentages, central tendency means, median were used. A correlation analysis was used to test the relationship among the independent and dependent variables. Correlation analysis was used to test the hypothesis. SPSS program was used to calculate statistics.

Findings & Discussion

Factors considered by doctors in recommending branded drugs

The data showed that many doctors selected scientific materials as a first priority for prescribing a branded drug. This resembled 61 doctors out of 150 doctors (41%). The least selection criteria for prescribe a branded drug was gift, which was not given a single selection out of 150 doctors as a first priority. Though it was not selected as a first priority few doctors selected gift as a second and third priority. 50 doctors considered continues medical education as second priority it was resembled 33% from the total responds. It was also found that doctors' perception towards the sponsorship also not giving a favorable feedback where that only 40 doctors prioritized sponsorship among first three priorities. Detailing and sampling also not given the significance consideration by doctors where only 32% of the doctors prioritized detailing and 20% doctors prioritized sampling as the first three priorities

Impact of detailing in recommending the branded drugs

The impact of detailing on recommending the branded drugs has been significant because correlation coefficient was 0.217. It was also found that overall detailing has moderate impact due to the actual mean value 3.19 within the range of 3.67-2.33.

3 Impact of sampling in recommending the branded drugs

Degree of sampling and its impact on recommendation of branded drugs was found to be of moderate level with the respective mean value of 3.16. There was a 36% of significant response rate on agreed level too. The analysis of sampling impact on recommendation was operationalized with three sub variables like importance of sampling, use of sampling and sampling practiced in Sri Lanka. The each sub variable was shown a moderate impact towards the recommendation of branded drugs where actual mean values (3.04, 3.05, and 3.42) were falling to moderately impact category (3.76-2.33). The overall conclusion is that the sampling is moderately impact on doctors' recommendations of branded drugs.

The Impact of scientific materials in recommending branded drugs

It was found that scientific materials have high impact in recommending the branded drugs in the Sri Lankan pharmaceutical industry. This is because that the actual mean was 4.11 and it was falling within the range of highly impact category (5.00-3.67). The scientific materials also shown the significance impact towards the recommendation of branded drugs where the significance was 44% (correlation coefficient – 0.439). The overall understanding of scientific materials is highly impact on recommending the branded drugs in Sri Lankan pharmaceutical industry.

The Impact of continuous meetings in recommending branded drugs

It was found that all three variable showing highly impact towards the prescription of branded drugs. The mean values of these three variables were 4.01, 3.62 and 3.68. Except second variable all the others are with in the highly impact range. Even though second variable mean value (3.62) is not with in the highly impact range it is close to the lower limit of the highly impact range (5.00- 3.67) and median (4.00) and mode (5.00) also in the highly impact range. Hence it can conclude that second variable also towards the highly impact category. Hence all three variables are highly impact towards the recommendation of branded drugs. The researcher also calculated the overall impact of continues meeting, which was 11.26. This value is also falling to highly impact category and with the 37 % significance it could concluded that continues meeting has high impact and positive significance towards the recommendation of branded drugs.

The impact of continuous medical education (CME) in recommending branded drugs.

CME was structured with two sub variables such as interest level of CME and frequency of CME. The each variable showed the high impact towards the recommendation of branded drugs by doctors. The mean values of each variable were calculated as 4.07 and 3.94 respectively. The each mean value was falling to the highly impact category (5.00-3.67). Not only that the actual mean value (4.00) of overall impact of CME also with in the high impact range.

This findings are backed by correlations analysis where that 0.368 correlation coefficient showed positive correlation towards the recommendation of branded drugs by doctors. The overall conclusion is that continuous meeting is highly impact and positively correlated towards the recommendation of branded drugs.

Impact of overall promotional strategies on recommendation of branded drugs

The results of the study revealed that the promotional strategies of pharmaceutical companies

have moderately significant effect towards the recommendation of branded drugs. This is due to that overall mean (38.37) of the promotional strategies was fallen to the moderately impact category (44.00-28.00). Apart from the mean value, correlation analysis was found that promotional strategies were positively significance towards the recommendation of branded drugs in Sri Lanka pharmaceutical Market. This convey the message to the companies that current practices have positive impact towards the doctors and it is also a fact that there is large gap to be filled in order to get the correct endorsement of their brand from doctors.

Testing Hypotheses

Hypotheses have been developed with special attention to the main promotional strategies used by pharmaceutical companies and its impact on doctors' prescriptions. The following five hypotheses were tested to scientifically analyze the conceptual framework.

H1 The promotional strategies of pharmaceutical companies have significant influence doctor's recommendation of branded drugs.

From the total of 150 respondents, more than 50% respondents indicated that all promotional strategies are having significant impact on Doctor's recommendations. According to the hypothetical mean values, if promotional strategies significantly influence on Doctor's recommendations, it should be laid under range of 44.00 and 60.00. According to the respondents' feedback, the actual mean value is 38.00. Therefore, it is obvious that promotional strategies have moderate impact on Doctor's recommendations. In addition to that Pearson correlation between promotional strategies and recommendation of branded drugs is 0.520. It is significant at 0.01 levels (2-tailed). However, it is clear that promotional strategies are positively significant. Therefore, the hypothesis number one can be accepted.

H2 Detailing is most important promotional strategy which highly influenced on doctor's recommendation of branded drugs

The findings revealed that different promotional strategies are having different degree of impact on doctors' recommendations. The actual mean value of detailing is 3.19 and relative values of scientific materials, continues meetings and continues medical educations are higher than that values (Scientific materials- 4.11, Continues meetings-3.75, and Continues Medical Education-4.005). It is clear that detailing is not most significant promotional strategy of pharmaceutical company. This findings aging rectified from the correlation analysis where that Correlation coefficient of Scientific materials is (0.439) much higher than the correlation coefficient of detailing (0.217). Hence detailing is not the most important promotional strategy for influence the doctors to recommend the branded drugs. Therefore, the hypothesis number two can be rejected.

H3 Scientific materials are more influenced on doctors' prescription than providing samples.

As discussed in the above analysis of the hypothesis, though the promotional strategies have a significant impact on doctors' recommendations each promotional strategy has different degree of impact towards the doctors' influence. The actual mean value of both scientific materials and sampling are 4.11 and 3.16. There is a significant difference between the mean values of scientific materials and sampling. Therefore it is clear that the scientific materials are more influentional on doctors' prescription than providing samples. This was justified from the correlation analysis where that correlation coefficient of the sampling (0.364) is much lower than the correlation coefficient of scientific materials (0.439). Hence it is clear that scientific materials are more influenced on doctors' prescription than providing samples. Therefore, the hypothesis number three can be accepted.

H4 Continuous Medical Education (CME) is least significant promotional strategy which influence on doctors' prescription.

The findings revealed each promotional strategy has different impact towards the recommendation of the branded drugs by doctors. Especially when researcher compare the actual means of each variable there was a clear difference found among them. This rectified that level of influence made by each variable towards the recommendation of the branded drugs is differ. The actual mean value of the continuous medical education is 4.005 and the mean value of the other variables are; detailing-3.19, sampling – 3.16, scientific materials – 4.11, continuous meeting – 3.75. The actual mean value of continues medical education is second highest mean compare to other actual mean values. It is not the lowest mean value among the other variables. These findings also justified through correlation coefficients where that correlation coefficient of CME (0.368) is much higher than the detailing (0.217) and sampling (0.364). This data suggested that CME is much more positively correlates than sampling and detailing. Hence it is clear that continues medical education is not the least significant promotional strategy which influenced on doctors' prescription. Therefore, hypothesis number four is rejected.

H5 Continuous meeting is more significant promotional strategy than sampling

According to the actual mean comparison between sampling and continues meetings, it was found that the mean values are much differ from each other and impact towards the doctor's recommendation differ too. The actual mean value of continues meeting is 3.75 where it is

much higher than the sampling mean value, 3.16. This also further explained by the correlation analysis where that correlation coefficient of continues meeting (0.373) is higher than the correlation coefficient of sampling (0.364). This suggested that continues meeting is much positively correlates than sampling. Hence continues meeting is more significant promotional strategy than sampling. Therefore, hypothesis number five is accepted.

Conclusion and Recommendations

The management application of key findings have been given as follows with the purpose of recommending some strategies to enhance the promotional services of pharmaceutical companies in order to endorse their brands by health professionals in Sri Lankan health sector:

- The research finding recommend that pharmaceutical companies have to rethink their sampling practice and proper allocation of budget towards the sampling
- Brand mangers can use the visual aid for a scientific material rather than use it for conventional communication material and enable them to reduce the cost incurred for the separate printing of scientific materials.
- Findings have suggested that pharmaceutical companies have to work more on scientific based promotions rather than concentrating on short method of giving gifts and sponsorships where doctors response is very poor
- As a recommendation the researcher suggests pharmaceutical companies could form a key opinion in the industry where they can use them to establish a product among the doctors
- Pharmaceutical companies should focus on regular visits of the representative It is always better to create a field manager/field coordinator level above the representative category to coordinate the regular meetings of doctors. At the same time it is also suggested that to make a small areas or territories to medical reps where they can increase the frequency of visits to the doctor.
- As a whole the analysis revealed that promotional strategies of pharmaceutical companies had a considerable impact on doctors' recommendation. Therefore, product managers, brand managers, marketing managers should have a balance approach in promoting the drugs to the doctors and should concentrates more strategy planning, execution and controlling to reach for substantial and sustainable results.

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