Extended Abstract

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Developing a model to identify the fade-awayimpact of promotional activities onmarket share of firms

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1. Abstract

When a particular promotional tool is used, the impact of that promotional tool is not restricted to the current period, but the effect permeates across future periods as well. The study identifies this impact as *'fade-away-impact'* of promotional activities on the financial performance. The traditional practices restrict the impact of promotional activities only to short term results and completely ignores the medium and long term impact of promotional activities on the market shares of the firm. The purpose of this study is to develop a model to identify whether there is a *fade-away-effect* of promotional activities over the market share values of the firm and identify how the impact behaves over the time.

Promotional activities bring tangible and intangible benefits. Most of the marketing literature is focused on understanding the immediate/short term impact of promotional

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activities on the financial performance. This motivates the use of long-term or persistence models instead of event windows to study the impact of tangible and intangible effects. In order to reach the above mentioned objectives, the researchers use *Markov Chain* related theories. The researchers use state vectors of the Markov process to understand how the impact of promotional activities varies over time when a customer repeatedly purchase a given brand/ product or switch to a different brand.

The study proves that the impact of promotional activities will never go to zero, but it will become steady creating brand equity for the firm after a certain period and that period could be measured in which the researchers identify as the period of *fade-awayimpact.* The outcomes of the research enable the Marketing managers to make informed decisions on the selection of promotions mix tools and thereby to manage the promotional expenditures effectively. At the same time, this research enforces on the importance of having periodical aggressive promotions campaigns to increase the Return on Investment.

2. Introduction and research problem/issue

Selecting the ideal Mix of Promotional Strategies from the traditional promotional mix in order to maximize the return gained by these discretionary expenditures is critical for the sustainability of the marketing mangers as a professional as well as for the long lasting wellbeing of the firm. Due to the increasing level of competition of the modern market place, utilizing organizational resources wisely is very important for the survival of the organization.

Today, marketing has risen from the traditional thinking stage of it where people used different promotional tools in ad hoc manner without having a good understanding about the short, medium and long term impact of them. According to the findings of the literature, there are many studies which focuses on measuring the immediate, short term impact of promotional activities over the financial performance, there are hardly any strong evidence found from the existence research of the timely existence of the effects of the promotions.

By implementing promotional campaigns, the firms can gain tangible as well as intangible benefits. There are many researches which investigated these effects. But it is a fact that both of these tangible and intangible benefits have a timely existence i.e. when a particular promotional campaign is being implemented, the impact of it not only lies in the same period which the campaign was implemented, but it creates tangible benefits (Increase in revenue, profits, number of goods sold etc.) which lasts for some time even after the period which the promotion is being done.

By understanding how the market share values of a given firm behaves when the customers repeatedly purchase, the marketers can decide how to utilize the promotional activities in a periodical manner which will enable them to maximize the Return on Investment from the marketing/ promotional activities.

3. Research Methodology

The researchers use Markov Process related statistics theories to prove that there is a fade-away-effect created from any promotional campaign that is being implemented. According to Markov theories when the Initial State (initial market share values) and the Transition Probability Matrix are known, it can be used to show that in the long run when the Initial State is transformed using the Transitional Probability, it comes to a steady.

The state vector at stage "n" denoted by $\pi(n)$, gives the probabilities that the system is in different states at stage (n). that is,

$$\pi(n) = [\pi_1(n)\ \ \pi_2(n)\ \ \pi_3(n)\ \ \pi_4(n)\ldots\ldots\ldots\ldots..\ \pi_m(n)\ ]$$

Then we could evaluate $\pi(n+1)$ multiplying $\pi(n)$ by Transition matrix P. Then, $\pi(n+1)= \pi(n) *P$ -- (1) In the same way we can denote that, $\pi(n) = \pi (n-1) \times P$ $\pi(n-1) = \pi(n-2) \times P$ $\pi(n-2) = \pi(n-3) \times P$ $\pi(n) = \pi(n-1) \times P = \pi (n-2) \times P^2 =\pi (n-3) \times P^3 = \ldots\ldots = \pi (n-n) \times P^n$
$\pi(n) = \pi (0)\ P^n$--- (2)

The researchers use milk powder industry as the case for this research. The researchers collect the data needed to build the initial market share values (MP-1, MP-2 and Other) and the transition probability matrix from a survey.

A questionnaire was created to collect data related to the current and the immediate next purchasing preference of milk powder. Data were collected from around 100 respondents. The researchers collected the data from the consumers shopping at leading supermarket chains in Sri Lanka.

Then using matrix multiplication (repeatedly multiplying the initial probability/ market share with the transitions probability matrix), the researchers arrive at how the market share values change when the customers repeatedly purchase milk powder. The researchers come to the main conclusions using the market share values which were derived from the above.

4. Results and findings

The market share values of MP-1, MP-2 and other milk powder brands according to the data collected from the survey is as follows:

Table 1: The existing market share values

MP-1	MP-2	Other
0.382979	0.276596	0.340426

s from the data collected from

The transitions probability m the survey is as

atrix derive

follows:

Table 2: The Transitions Prob

ability Matrix

	MP1	MP-2	Other
MP1	0.9	0.01	0.09
MP2	0	0.87	0.13
Othe r	0.1	0.1	0.8

ws how the market share values of MP-1, MP -
brands changes when t he consumers repeatedly

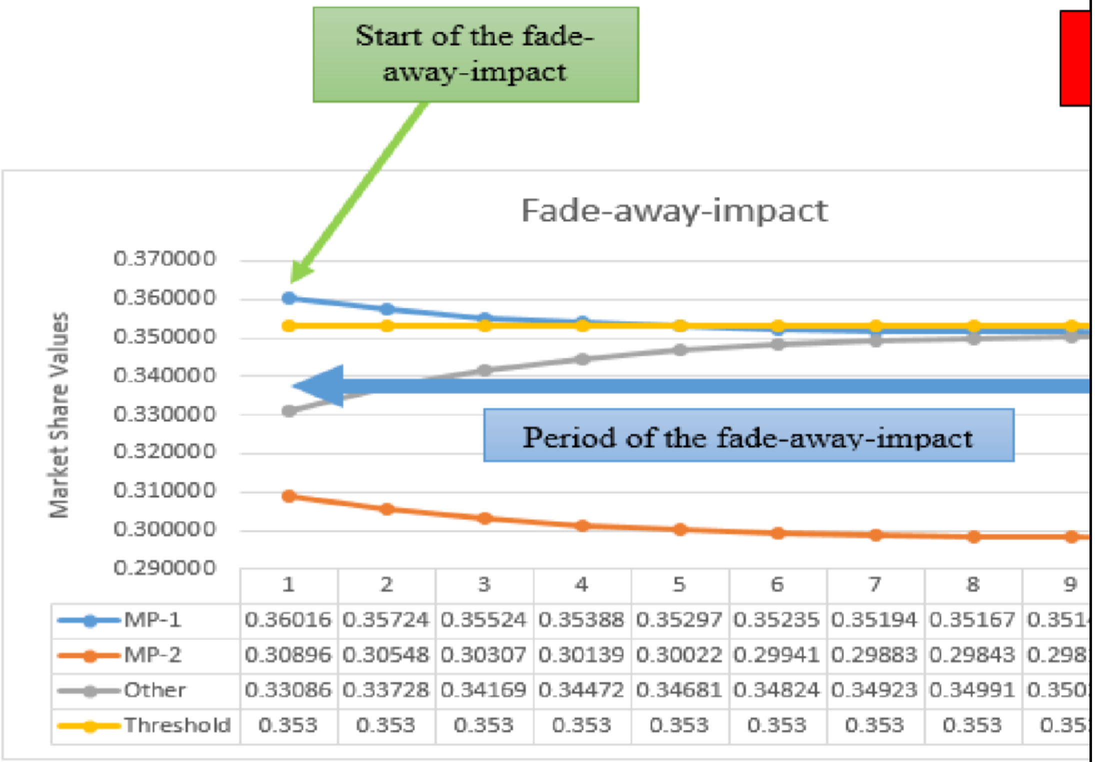
The following table sho and other milk powder purchase them.

2

market share values whe n continuous purchasing

Table 3: The change of

	0	1	2	3	4	5	6	7	8	9	10
MP-1	0.360165	0.357236	0.35524	0.353884	0.352968	0.352352	0.351941	0.351669	0.351493	0.351311	0.351311
MP-2	0.308966	0.305489	0.303075	0.301396	0.300225	0.299407	0.298831	0.298425	0.298137	0.297783	0.297783
MP-3	0.330869	0.337276	0.341685	0.34472	0.346807	0.348242	0.349228	0.349905	0.35037	0.350906	0.350906
Thre shol d	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353



	1	2	3	4	5	6	7	8	9
MP-1	0.36016	0.35724	0.35524	0.35388	0.35297	0.35235	0.35194	0.35167	0.351
MP-2	0.30896	0.30548	0.30307	0.30139	0.30022	0.29941	0.29883	0.29843	0.298
Other	0.33086	0.33728	0.34169	0.34472	0.34681	0.34824	0.34923	0.34991	0.350
Threshold	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.35

When customers repeat purchase, MP -1 milk powder brand's impact of the promotions done in Period 1 will gradually diminish, making MP -1 to lose the market share and ultimately there comes a state where the MP -1's market share will be at a stagnated level. From the inception of the impact of promotional activities till the market share values come to the steady state is called the *fade -away -period* in which the impact of promotions done in October 2016 exists. This scenario is called the *Fade -Away -Impact* of promotional activities over the revenue/ financial performance of the firms.

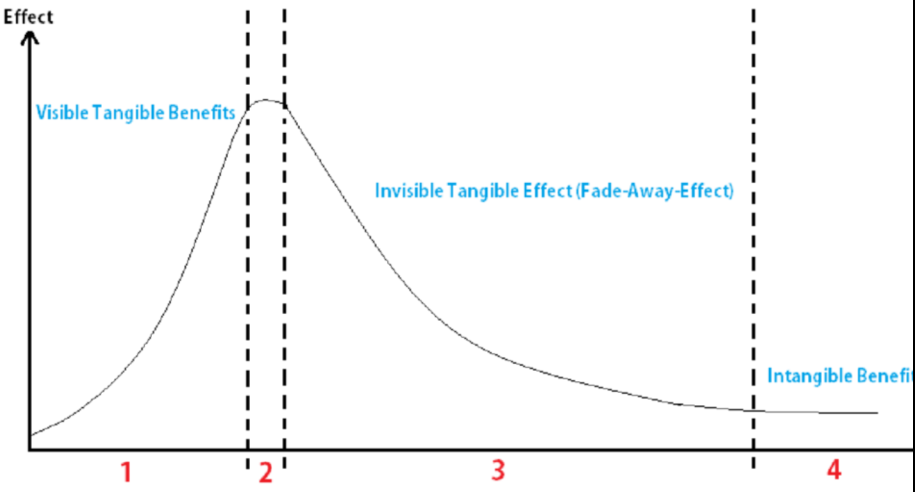
If MP -1 intends to keep their market share at a threshold level of 0.353. In period 1, the market share of MP_1 is about 0.36. Then because of the fade -away -impact, the market share of MP -1 drops gradually when the consumers repeatedly purchase. It is clear that MP -1 takes 4 months after the initial promotions campaign to come to the threshold level. The Researchers' recommendation for MP -1 is not to continuously promote MP -1 every month by spending their marketing budget but to do aggressive

Figure 1: The behaviour of the fade-away-impact

campaigns at period 1 and period 5 so that MP -1 can save their annual marketing budgets while optimizing the marketing expenditures and the benefits gained.

The above market share graph reminisces the Promotions -Impact Life Cycle (PILC) which the researchers suggest. It is as below:

Figure 2: The Promotions Impact Life Cycle



According to the PILC, when a promotion campaign is done by a firm, it immediately creates gamut of tangible benefits. Then the impact will become stagnated and start to fade-away with time creating invisible tangible benefits. At this stage, even though there is a positive momentum created for the firm's cash flows by the promotions campaign, it cannot be studied because of the general practice of firms to do promotions continuously every month. Ultimately, the impact of the promotions campaign will come to a stagnated low level creating th e Brand Equity for the firm, which will not diminish.

5. Conclusions, implications and significance

The initial market share values and the transitions probability matrix be used as the up-to-date information on the milk powder industry in Sri Lanka which is currently being dominated by one MNC. The high level of accuracy of the transitions probability matrix proves that it can be used as a National Transitions Probability matrix applied broadly to any player in the milk powder industry in Sri Lanka.

The existence of the fade-away-impact shows the importance of having aggressive periodical campaigns to promote products/ service which contradicts with the traditional practice of promoting the products and services continuously every month. It is recommended for the marketing managers to take the best return from the promotions expenditure by considering the period of the fade-away-impact.

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