Sales Force Effectiveness in Pharmaceutical Industry: an Application of Shift-Share Technique

Sales Force Effectiveness nell’industria farmaceutica: un'applicazione della tecnica Shift-Share

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1. Introduction

Companies can monitor the effects of promotional efforts through territorial market dynamics evaluation. Shift-Share Analysis (SSA) is usually applied in order to isolate the single REP (Representative/ISF) contribution to information and product prescription. Medical-scientific information, like advertising and promotion, has the goals to improve brand and product notoriety, to improve the perception of product characteristics and, last but not least, to augment the prescriptive propensity. The goal of this job is to apply this approach on data concerning hospital detail.

2. Shift-share analysis on hospital sales data

Shift-Share\(^1\) analysis allows to divide the volume of sales growth into national growth, territorial mix and competitive components. Previous studies show that national component emphasizes the effect of national sales growth on total sales in a local area; territorial mix identifies fast growing or slow growing sales in a local area based on national growth rates of individual areas; finally, competitive component drive the comparative advantage of an area.

Apply Shift Share Analysis to Hospital data. We obtain sales data (in unit) of the ethical product opportunely blinded from May to July 2007 from a pharmaceutical company.

The company splits the Italian market in 10 areas led by 10 area manager. In order to illustrate the approach we use data related to one of these areas. At the first level of analysis the sales decomposition results are quite different from Pharmaceutical data results showing a high variation among the three sales’ components which belittles REP contribution. The national component reflects expected growth in an area; it shows if that growth has the same rate of the nation’s. The average of sales of this component is 139%. Territorial mix refers to initial number of patients (sales) of a given area. If an area is growing faster than the national average, it may be due, in part, to a rapid growth of patients number: in our application the value is –7%. Competitive component measure –32%. This results present very high variations: it is necessary to remove seasonality.

\(^1\) See S. Biffignandi (1993) for more details.
Given that the Hospital sales data are continuous and periodical we remove seasonality which causes variations: we hypothesize that each series has an yearly beat - that is a combination of the not observable components - and we use simple moving average centred on the last term.

Considering now the data without seasonality: the national component is 101.4%; territorial mix is –0.2%, competitive component measure –1.2%.

We find a link between visits and REP contribute given that visits’ distribution and Rep component have a similar trend. Therefore, high frequency of visits corresponds to high level of REP shift. (Fig.1)

**Figure 1:** Call gap distribution and REP component for May to July 2007. Source: Company data

3. Sum up

Our findings extend the Shift Share Analysis application field to Pharmaceutical and Hospital data analyses leading to the similar results: REP visits increase sales so REP strongly contributes to sales growth.

This paper intends also to show the meaning of the customer communication management in the Pharmaceutical Industry. In particular, it shows that the REP communication is close to Company and Customer needs.

**References**


