

Product Sales Analysis

ABSTRACT

There are several factors associated with the sale of cosmetic products which contribute to gaining market share for related companies in this industry. Furthermore, sales forecasting is indispensable in all levels of a company's supply chain including production, distribution and logistics, marketing, and sale. This article mainly focuses on the analysis of characteristics affecting sales and sales forecasting in the cosmetics industry in which it will be helpful in determining sales strategies of cosmetics companies. Therefore, as a case study in this study, the main factors affecting the sale of cosmetic products were determined and categorized; accordingly. Three products including moisturizing cream, perfume, and sunscreen were examined using a statistical method. The effect of factors on product sales was predicted using the spline smooth prediction method and based on the predicted values, using the non-parametric Friedman test and Mean Rank, the effective factors were ranked in each of the three products. Moreover, the company's sales volume in each of the three products was forecasted by using ARIMA models. The results demonstrated that factors such as "price" and "product" elements are the main drivers influencing the sales of moisturizing creams and "promotion" and "Inflation rate" factors play the most effective role in the sales of the perfume. Also, the compound aggregated growth rate (CAGR) for moisturizers, perfumes, and sunscreens over a 5-year period in the study company are 30%, 29%, and 45%, respectively. It is very clear that to achieve ideal sales, paying attention to these influential factors and forecasting product sales lead to predicting material procurement of manufactures, distribution channels, and sales which finally provides business with customer satisfaction.

Keywords: Cosmetic Industry, Marketing, Sale Forecasting, Purchasing Power, Time Series, ARIMA Model

JEL Classifications: C32, C39, D49, D53

1. INTRODUCTION

The cosmetic industry grows in developed and developing countries throughout the world. Such constant growth and development in the cosmetic industry may provide a good opportunity for fans of this trade to introduce their cosmetic products. The Asian cosmetic market has been turned into one of the attractive and ever-growing markets in the world. The size of Asian and Oceania markets has been increased to more than 70 billion USD that is the second premium market after the western European market in the world (Hassali, 2015). At present, attitudes may vary toward the use of cosmetics among people. Personally, the females have attached great importance to cleaning and also the employed women and those with higher income are often interested in purchasing the premium personal caring products (Swidi, 2010).

Some of the cosmetic artifacts, which have been probably used for ornamentation of the eye and as perfumes, may indicate the first archeological pieces of evidence of cosmetics in Egypt for over 4000BC. At that period, cosmetics were assumed as an important part of dressing for the Egyptians. In addition, cosmetics were created for personal care and health because of hot and dry sunlight and weather and sandy land in Egypt. Cosmetics were consumed almost widely in all items throughout the world in the middle of the twentieth century. Following to rising number of employed women and increase in urbanism sales of beautification products was continued (Eze, 2012).

Conducting a study on the cosmetic industry is not only vital to the world's Gross National Product (GDP) but also essential because of its noticeable impact on the social life of humans in the world. As people talk about the cosmetic industry, they mainly refer to cosmetic tools that comprise a bit higher than

18% of the total market for the personal care industry (Kumar, 2005).

The US is the largest cosmetic market and France acts as the greatest exporter of cosmetic products in the world. The growth of this market has been transferred from the western hemisphere to the developing regions in South America, Eastern Europe, and Asia, especially China. Despite the world economic crisis, with an average growth rate of over 5% in this industry, the cosmetic industry has experienced good performance (Kumar, 2005). This industry has recorded a recession in growth for sales and peerless revenue in other economic resources. The great and private enterprises are still active in this field as well. Most of the given reports from sales and revenue may show that the previous growth is going to progress, while one could surely look at growth objectives in the long run (North, 1963).

Some of the well-known foreign manufacturers have devoted the relatively great market share in this industry at world level, but new rivals have affected the share market of these enterprises by manufacturing products proportional to the needs and requests of consumers, affordable prices, modern techniques to supply products, and extensive promotions, etc. The present paper is focused on the study and analysis of key effective factors on three selected products from one of the middle east's enterprises. As a result of this study, effective factors on sales of products have been ranked throughout the country and the rate of sales is estimated for a 5-year period conceptual model of the study is evaluated. This study has been prepared in 5 sections. Section 2 discusses the theoretical bases of research and related concepts. In Section 3, the selected products and methodology are explained in detail. Then, the analytical results are interpreted in Section 4 and our concluding remarks are presented in the final section.