

Modeling the material cost of newspaper industry in Sri Lanka

J. M. T. N. Jayasinghe^{1*} and R. A. B. Abeygunawardana²

*¹Department of Statistics and Computer Science, Faculty of Science,
University of Kelaniya, Sri Lanka*

*²University of Colombo, Sri Lanka
thilinijayasi@gmail.com*

Pricing of a product is the most critical issue that confronts most of firms. In order to make a product price, the company has to master all product cost information as well as the product cost structure. In newspaper industry material cost represents a large amount from the production cost and also the pricing of the newspaper is depending on the material cost which is associated with the newspaper. Therefore if the company has an appropriate model for material cost it will be beneficial for the company to price the product and budget planning. The study conducted by Genesis Analytics (Pvt) Ltd about "Factors influencing the cost of books in South Africa" suggested that printing cost is highly affected by number of printed copies, number of pages. This study is an attempt to investigate the impact of mentioned factors to the newspaper industry in Sri Lanka. In this study, the analysis was carried out by using weekly data of material cost from January 2013 to July 2014, for a daily newspaper from leading Newspaper Company in Sri Lanka. The data set was divided into two parts; one for model fitting and other for model validation. As the first step correlation between material cost and number of printed copies, numbers of pages were analyzed. Then multiple linear regression models were fitted for the logarithmic data. Correlation coefficients between material cost and number of printed copies, material cost and number of pages were 0.7446 and 0.6108 respectively. Variance Inflation Factor (VIF) value is 1.0778, suggested that there is no multicollinearity. The proposed multiple linear regression model suggested that, if the number of print copies increased by 1% material cost of the newspaper will increase by 0.850593% and if number of pages increased by 1%, material cost of the newspaper increased by 2.107160 %. The overall model represents 74% of the data. It can be concluded that as well as in the book printing cost, newspaper cost is highly affected by number of pages and the number of printed copies.

Keywords: Variance Inflation Factor (VIF), Correlation coefficient