New Product Forecasting With Limited or No Data

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Abstract. In the real world, forecasts would always be based on historical data with the assumption that the behaviour be the same for the future. But how do we forecast when there is no such data available? New product or new technologies normally has limited amount of data available. Knowing that forecasting is valuable for decision making, this paper presents forecasting of new product or new technologies using aggregate diffusion models and modified Bass Model. A newly launched Proton car and its penetration was chosen to demonstrate the possibility of forecasting sales demand where there is limited or no data available . The model was developed to forecast diffusion of new vehicle or an innovation in the Malaysian society. It is to represent the level of spread on the new vehicle among a given set of the society in terms of a simple mathematical function that elapsed since the introduction of the new product. This model will forecast the car sales volume. A procedure of the proposed diffusion model was designed and the parameters were estimated. Results obtained by applying the proposed diffusion model and numerical calculation shows that the model is robust and effective for forecasting demand of the new vehicle. The results reveal that newly developed modified Bass diffusion of demand function has significantly contributed for forecasting the diffusion of new Proton car or new product.

INTRODUCTION

In the real world, forecasts would always be based on historical data with the assumption that the behaviour be the same for the future. But how do we forecast when there is no such data available? New product or new technologies normally has limited amount of data available. Knowing that forecasting is valuable for decision making, this paper presents forecasting of new product or new technologies using aggregate diffusion models and modified Bass Model.

There are many challenges when forecasting future event with limited or no data. One such problem is in the qualitative side of forecasting where one may produce over-optimistic forecasts that are influenced by personal agendas or a uniform thinking or perception while a limited or no data on the quantitative side would lead us to misleading mathematical models. To make a better forecasts, it would be appropriate to combine