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Advanced Materials Research  
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## Forecasting demand: Development of a fuzzy growth adjusted holt-winters approach (Conference Paper)

Abdesselam, M.<sup>a</sup> [✉](#), Karim, A.N.M.<sup>a</sup> [✉](#), Emrul Kays, H.M.<sup>a</sup> [✉](#), Sarker, R.A.<sup>b</sup> [✉](#) [👤](#)

<sup>a</sup>International Islamic University Malaysia, Kuala Lumpur, Malaysia

<sup>b</sup>SEIT, University of New South Wales Canberra located at ADFA, ACT, Australia

### Abstract

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Irrespective of the type of items manufactured by an industry, environment is now becoming progressively more and more competitive than the past few decades. To sustain in this severe competition, companies have no choice but to manage their operations optimally and in this respect the importance of more accurate demand prediction cannot be exaggerated. This research presents a forecasting approach tailoring the multiplicative Holt-Winters method with growth adjustment through incorporation of fuzzy logic. The growth parameter of the time series values is adjusted with the conventional Holt-Winters method and tested for predicting the real-life demand of transformer tank experienced by a local company. The result obtained by applying the new approach shows a significant improvement in the accuracy of the forecasted demand and sheds light on further enhancement of the proposed method by optimizing other time series parametersthrough fuzzy logic application for possible application in prediction of demand having trend, seasonal and cyclical changes. © (2014) Trans Tech Publications, Switzerland.

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 Bermúdez, J.D. , Segura, J.V. , Vercher, E. (2007) *Journal of Applied Statistics*