A Case Study on an Approach to Minimizing Inventory Cost through categorization of Items and forecasting Uncertain Demand

Robin Saha
robinruetipe25@gmail.com
Esteak Ahmed
estiakaz24@gmail.com
Md. Sazol Ahmmed
sazol.ahmmed@ipe.ruet.ac.bd,sojol.ipe11@gmail.com
Fuad Ahmed Choyon
fuadchyon@gmail.com
Department of Industrial & Production Engineering (IPE)
Rajshahi University of Engineering & Technology (RUET)
Rajshahi, Bangladesh

Abstract

The Spare parts of inventory are required for appropriate maintenance and repair of finished goods, automobiles, and industrial machinery. Keeping unused spare parts for an extended period usually contributes to additional costs. Therefore, our case study sought to reduce the cost of inventory by categorizing spare parts and forecasting uncertain demand. The ABC analysis has been used to classify the essential items and exponential smoothing technique was used to estimate the customer's demand for "A'' items. Although the cost of purchasing rises, the overall cost of the inventory for item "A'' decreases 11.74 percent compared with the current cost of the stock.

Keywords

Inventory Cost, Uncertain Demand, Minimization, Item Categorization, ABC Analysis, Exponential Smoothing**.**

Biographies

Robin Saha is an undergraduate student of Rajshahi University of Engineering & Technology (RUET) under the department of Industrial & Production Engineering. He has published article on entitled "Agile Humanitarian Relief Supply Chain in Cyclone Prone Bangladesh: Problems and proposal" in Supply chain Insider published by Bangladesh Institute of Human Resource Management in 2020. His field of interest is Operation Management and Supply Chain.

Esteak Ahmed is an undergraduate student of Rajshahi University of Engineering & Technology (RUET) under the department of Industrial & Production Engineering. He exhibits excellent management and leadership skills. He was developing on the "High Pressure Jet Washer" project. His research interest is in the field of operations management and Supply Chain.

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Md. Sazol Ahmed is assistant professor of Rajshahi University of Engineering & Technology (RUET) under the department of Industrial & Production Engineering. He has published article on entitled "Inventory Management in Automobile Industry | Case Study on Pragoti Industries Limited" and "A Lean-Kaizen Model to Prepare the Engineering Students for Industry 4.0: A Self-training Manual" in International Conference on Mechanical, Industrial and Materials Engineering. He has also three International Journal paper Engineering entitled 'Automatic Street Light Control System Using Light Dependent Resistor and Motion Sensor.', 'Understanding Apparel Preference of Different Social Status People of Bangladesh Apparel Market.' and 'Supplier Selection Using Integer Linear Programming Model.'

Fuad Ahmed Chyon has passed undergraduate degree from Rajshahi University of Engineering & Technology (RUET) under the department of Industrial & Production Engineering. He has published article on entitled "Inventory Management in Automobile Industry | Case Study on Pragoti Industries Limited" in International Conference on Mechanical, Industrial and Materials Engineering. Also, he is the co-author of the conference paper entitled "Endogenous Uncertainties of Agricultural Production Yield".