INTEGRATED SINGLE SUPPLIER – SINGLE BUYER SUPPLY CHAIN SYSTEM WITH TIME DEPENDENT QUADRATICALLY DECLINING DEMAND

Chetan A. Jhaveri[1] and Ajay S. Gor[2]

ABSTRACT

Due to the introduction of more attractive products in the markets and rapid changes in the technology, demand of product decreases. This study proposes integrated supplier-buyer supply chain system with declining market. A mathematical model is developed for a product with time dependent quadratically declining demand. This study indicates that integrated strategy results in significant decrease in the total cost. A numerical example is presented to illustrate the model and sensitivity analysis is carried out to obtain percentage integrated cost reduction of the integrated system.

Key-Words: *Integrated supply chain system, Quadratically declining demand, Single supplier – single buyer*