UNIVERSITY OF MANAGEMENT & TECHNOLOGY

Agent base simulation
Fashion retail chain

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Submitted By

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Research Completion Certificate

It is certified that the research work contained in the thesis “Agent Base Simulation Fashion Retail Chain” has been conducted under my supervision to my satisfaction by Mr. Azam Saeed, ID, 14002203002, of MS Applied Statistics program.

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Dated:----------

DECLERATION

I Azam Saeed ID #. 14001203008 Session 2015-2016, hereby certify that this thesis is being submitted in partial fulfillment of the requirements for the MS degree in Applied Statistics

This thesis is my original work, and the data/material presented herein has not been used for the acquisition of any other degree from any institution.

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ABSTRACT

This research develops a multi-agent simulation model for fashion retail supply chain. Intelligent agents are designed using SQL to performed key roles of supply chain management for fashion retail. Baseline model is validated and proposed model is designed using pooled inventory warehouse to make supply chain more responsive.

Results shows that pooled inventory having a positive impact on customer services level, merchandise performance and mark-downs percentage is also reduced.

Supply chain physical cost can also reduce by using deploying intelligent agents in real life and performance of these agent can improve by analyzing of simulation results and gaps analysis.

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1. Introduction

Retailing today is at an interesting cross-order. On the other hand, retail sales are at heist point in history. Wal-Mart is now leading company in word in term of sales ahead of ExxonMobile, General Motors, and other manufacturing giants. New technologies are improving retail productivity.

Retailing can be divide into two parts, one is functional retailing & other is innovative or fashion retailing. Same supply chain model is not recommended for both type of products by supply chain experts to understand the difference, one should understand that a supply chain performs two type of function, physical functionality is readily apparent and deals with converting raw materials to final product and transport these products to end-customers. Another supply chain functionality which is less visible but equally important and specially in the case of fashion product is market-mediation whose role is to ensure that customer demand is fulfilled with right product from a vast verity of products.

Efficient supply chain is mismatched with fashion products; a responsive supply chain is solution for fashion products.

Uncertainty in customer preference, product lead time and production capacity make supply chains more complicated. Building the mathematical or statistical model for fashion retailing is difficult.Therefore, a simulation model is proposed for fashion product supply chain