A Three-Phased Perishable Inventory Simulation Model with Quality Decrease Consideration

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**Title**

A Three-Phased Perishable Inventory Simulation Model with Quality Decrease Consideration

**Abstract**

In this article, focus on the simulation of a three-phase perishable product inventory system of a SMEs selling fresh and processed milkfish. This research was conducted to simulate a perishable product inventory system to understand and analyze the problems that occur then propose solutions to fix them. The simulation model was developed with ARENA software, simulation results of the existing condition show that there is 162 kg/month waste in fresh fish, 158 pcs/month in processed product A, and 86 pcs/month in processed product B. A model with a product renewal process mechanism was proposed to overcome this problem, and seven improvement scenarios were developed. The results obtained from the seventh improvement scenario revealed that there was a 100% reduction in fresh fish and processed product B and 94% in processed product A. Besides, there was a saving in need for fresh fish supply of 10 kg/day. In this article, we show how ARENA software can be adopted to simulate inventory system problems effectively. The method in this research can be applied to investigate various supply system scenarios and their consequences before implementing it in a real system.

**Indexing**

**Keywords**

inventory simulation; inventory model; arena; perishable product

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Singh, S., & Vishnoi, M. J. I. J. o. P. M. (2013). Supply chain inventory model with price-dependent consumption rate with ameliorating and deteriorating items and two levels of storage. 6(2), 129-151.


Zhang, J., Liu, L., Mu, W., Moga, L., & Xiaoshuan, Z. (2009). Development of temperature-
#11769 Review

## Submission

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Submission

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Muhammad Faisal Ibrahim, Yunita Siti Mardhiyyah, Ahmad Rusdiansyah, Meidina Kalse Boer, Dana Marsetiya Utama

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Assalaamu’alaikum wa rahmatullaahi wa barakaatuh

Alhamdulillah, all praise is due to Allah, the Most Gracious and the Most Merciful.

We congratulate that the manuscript that you have sent to the editor of Jurnal Ilmiah Teknik Industri, Title: A Three-Phased Perishable Inventory Simulation Model with Quality Decrease Consideration

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has been accepted for publication in Vol. 19 No. 2, which will be published in December 2020.

For this reason, a publication fee of IDR 1,000,000 can be transferred to Bank Mandiri, account number 138.00.0501276.5 (Much Djunaidi). We expect publication fees to be transferred no later than December 15, 2020. Please, send the transfer evidence to this email.

Thank you for your attention.

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Waalaikumsalam warahmatullaahi wa barakaatuh

Along with this e-mail, I attach evidence of the publication fee transfer. We will re-upload the full paper soon.

Thanks

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Thank you for submitting the manuscript, "A Three-Phased Perishable Inventory Simulation Model with Quality Decrease Consideration" to Jurnal Ilmiah Teknik Industri. With the online journal management system that we are using, you will be able to track its progress through the editorial process by logging in to the journal web site:

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Our decision is to: **REVISION REQUIRED**

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Universitas Muhammadiyah Surakarta
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Reviewer A:

Please describe your detail inputs in pointers format. You are permitted to provide direct inputs to the manuscript by providing direct comments in every section of the manuscript as guided in the following list. Abstract (concise and complete):

The abstract should be concise

Introduction and Theoretical Background (problem clarity and theoretical framework):

This sentence "In previous studies, there have been many inventory models for perishable products, but very few consider the renewal process" in the introduction section is ambiguity, lack of support and only based on the writer perspective.

The gap from previous research is not explained with proper flow in the section of introduction.

Methods (clarity and details of the research steps):

The method is using Arena simulation. There are no justification on some treatment of the simulation model such as scenarios and some modules used in the Arena.

Results and Discussions (results of data processing, depth of analysis and discussion):

Results are not analyzed in depth. The results from scenarios are not discussed firmly.

Conclusion (summary of analysis and discussion):

The conclusion should not just mention the results, it should beyond the results.

References (up-to-date and conformity with citations):

There is no Reference published in 2019 and 2020.

Substantive Manuscript (important things related to the decision on the manuscript):

the fundamental flaws of this article.

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Introduction and Theoretical Background (problem clarity and theoretical framework):
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The gap from previous research is not explained with proper flow in the section of introduction

Methods (clarity and details of the research steps):
The method is using Arena simulation however there are no justification on some treatment of the simulation model such as scenarios and some modules used in the Arena.

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