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**MULTI-ITEM REPLENISHMENT POLICY  
USING FIXED ORDER-PERIOD APPROACH  
(Case Study at PT Budi Makmur Jayamurni Yogyakarta)**

**THESIS**

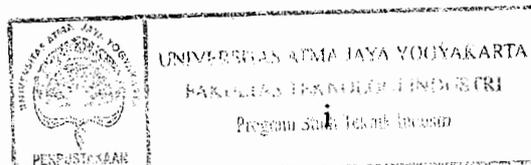
**Submitted as Partial Fulfill of the Requirements  
to Obtain the Bachelor of International  
Industrial Engineering Degree**



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FACULTY OF INDUSTRIAL TECHNOLOGY  
UNIVERSITAS ATMA JAYA YOGYAKARTA  
YOGYAKARTA  
2007**



STATEMENT OF WORK'S ORIGINALITY

I honestly declare that this thesis which I wrote does not contain the works or parts of the works of other people, except those cited in the quotations and bibliography, as a scientific paper should.

Yogyakarta, June 6, 2007

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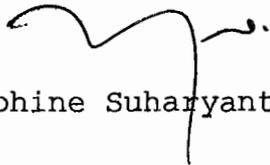
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**MULTI-ITEM REPLENISHMENT POLICY  
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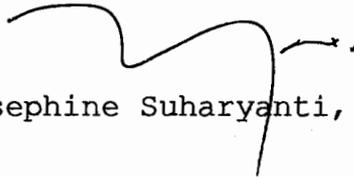
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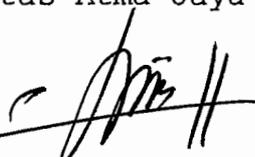
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**Memories are irreplaceable...**

**This project is dedicated to my  
family, my love, and all of my  
friends...**

## FOREWORD

First of all, the writer would like to thank God, for all His blessings during the research until the final report arrangement.

Final project is the last subject in syllabus to achieve the bachelor degree of Industrial Engineering in Atma Jaya Yogyakarta University, as a tool for students in practicing the knowledge and theories given in lectures. The research is conducted in PT Budi Makmur Jayamurni with the special discussion concerns about "MULTI-ITEM REPLENISHMENT POLICY USING FIXED ORDER PERIOD APPROACH", focuses in imported chemical material. This report is arranged to complete the final project task.

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Last but not least, writer realizes that this report is still far from perfection, all critics and suggestion referred to better report will be a great income. Hopefully, this report can be functioned as good as possible.

Yogyakarta, 15<sup>th</sup> of May 2007

The writer

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## ABSTRACT

In PT Budi Makmur Jayamurni, it seemed that there was a problem in the chemical material stock. The shortage of chemical material, especially the imported ones, often occurs. The imported chemicals have high setup cost and long ordering lead-time.

The objective of this research is to obtain the appropriate method in defining the optimum order lot-size and order point for multi-items that are purchased from many suppliers. The proposed policy uses the fixed order-period approach and it is run using Microsoft Excel. This approach is used to determine the order quantity using the proportion of each chemicals.

The existing method of defining the order point and order quantity is not appropriate as it causes a very high procurement cost. With the new proposed method, the total cost can be decreased in very significant value. The total cost of current policy for Mine Trading is Rp 101,011,302.90, for Buckman Rp 73,992,773.84, for ALPA Rp 128,157,817.25; while the total cost of proposed policy for Mine Trading is Rp 80,458,318.80, for Buckman Rp 61,614,214.60, and for ALPA Rp 84,455,738.90.