

# **FINAL PROJECT**

## **ANALYSIS OF CAUSES OF DELAYS IN THE ROYAL EXTENSION HOSPITAL PROJECT RUNGKUT SURABAYA USING THE FAULT TREE ANALYSIS METHOD**



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UNIVERSITAS 17 AGUSTUS 1945 SURABAYA**

**2022**

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## **PREFACE**

All praise and thanks to God Almighty who has bestowed all His Grace and Hidayah so that we can complete the final project proposal with the title " ANALYSIS OF CAUSES OF DELAYS IN THE ROYAL EXTENSION HOSPITAL PROJECT RUNGKUT SURABAYA USING THE FAULT TREE ANALYSIS METHOD ". The final project proposal is the preparation of a report starting from chapter 1 to chapter 3. This proposal will also be used as a prerequisite for participating in the final project. We have also prepared this final project proposal to the maximum and received assistance from reference journals, books, the internet, articles, and other sources. This Final Project Proposal was prepared by going through several stages which would not have been completed without the guidance, advice and guidance of various parties. For that I would like to thank:

1. Parents who always support us.
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4. Mr. Dr. Mulyanto Nugroho, MM. CMA., CPA. as Chancellor of the Faculty of Engineering, Civil Engineering Study Program, University of 17 Agustus 1945, Surabaya.
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6. All parties who have helped a lot in the preparation of this report, both morally and materially, which cannot be mentioned one by one.

Sidoarjo, 02 January 2022

Researchers

## ABSTRAK

Rumah sakit merupakan salah satu bagian terpenting dari bidang kesehatan. Hal ini tak lain karena rumah sakit yang berkualitas merupakan layanan untuk menciptakan masyarakat Indonesia yang sehat, dari segi fisik dan mental. Rumah sakit sebagai fasilitas kesehatan merupakan bagian dari sumber daya manusia yang sangat diperlukan dalam mendukung pelaksanaan upaya kesehatan. Oleh karena itu, pembangunan gedung Rumah Sakit yang termasuk dalam pengembangan pengembangan ini sangat dibutuhkan oleh RS Royal Surabaya, dimana hal ini merupakan salah satu solusi untuk meningkatkan upaya mewujudkan pelayanan optimal yang lebih baik bagi masyarakat sehingga RS Royal Surabaya berharap pembangunan ini akan tercapai sesuai dengan waktu yang telah ditentukan dan sesuai dengan standar pembangunan gedung rumah sakit yang telah ditentukan. Namun pada kenyataannya, perkembangan pembangunan telah tertunda sejak 6 Desember 2021, yang dapat dilihat melalui kurva S.

Dalam penelitian ini, peneliti menggunakan kuesioner yang dibagikan kepada responden, yaitu staf konstruksi Rumah Sakit Royal Extension Surabaya untuk mendapatkan data, kemudian data tersebut diolah menggunakan metode analisis fault tree dan diagram pareto untuk mengetahui apa yang menyebabkan keterlambatan dan keterlambatan item pada proyek.

Hasil penelitian ini menemukan bahwa penyebab keterlambatan tersebut disebabkan oleh keterlambatan pembayaran pemilik kepada kontraktor atau pihak terkait, keterlambatan pemilik dalam menyetujui dan melakukan perubahan desain, kurangnya pengawasan terhadap desain, kerusakan dan efektivitas penggunaan alat berat, dan kurangnya bahan konstruksi. Barang-barang yang terlambat adalah pekerjaan struktural dan arsitektur. Dapat disimpulkan bahwa penyebab keterlambatan adalah karena 4 faktor dan item kerja terlambat 2 item.

**Kata kunci :** Fault tree analysis, Keterlambatan, Proyek

## ABSTRACT

Hospitals are one of the most strategic parts of the health field. This is none other than because a quality hospital is a service to create a healthy Indonesian society, in terms of physical and mental. Hospitals as health facilities are part of human resources that are indispensable in supporting the implementation of health efforts. Therefore, the construction of the Hospital building which is included in the development of this development is very much needed by the Royal Surabaya Hospital, where this is one of the solutions to improve efforts to realize optimal better services for the community so that the Royal Surabaya Hospital hopes that this development will be achieved as expected in accordance with the predetermined time and in accordance with the standards of hospital building construction that has been determined. But in reality, the development of development has been delayed since December 6, 2021, which can be seen through the S curve.

In this study, researchers used a questionnaire that was distributed to respondents, namely the construction staff of the Royal Extension Hospital Surabaya to get data, then the data was processed using the fault tree analysis method and pareto diagrams to find out what causes delays and late items on the project.

The results of this study found that the cause of the delay was caused by the owner's late payment to the contractor or related parties, the owner's delay in approving and making changes to the design, lack of supervision of the design, damage and effectiveness of the use of heavy equipment, and lack of construction materials. The late items are structural and architectural work. It can be concluded that the cause of the delay is due to 4 factors and the work item is late 2 items.

**Keyword :** Fault tree analysis, Delays, Project



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## **LIST OF NOTATION**

- FTA : Fault Tree Analysis
- BOQ : Bill of Quantity
- ISO : The International Organization for Standardization
- MA : Markov Analysis
- Mocus : Method obtain cut set
- CPM : Critical Path Method
- HR : Human resources
- TOR : Term of Reference

