

Chapter 11

Harmonizing Stakeholder Synergy for Operational Excellence: Navigating Through Monte Carlo Simulation With a Case Study of Sabiha Gökçen Airport

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ABSTRACT

The surge in airline transportation since the early 2000s, buoyed by incentives like fuel discounts and landing-stopover benefits, has necessitated the expansion of existing airports for sustainable growth. Sabiha Gökçen Airport, experiencing rapid air traffic escalation since 2014, grapples with substantial waiting queues for both aircraft and passengers. Addressing these challenges requires effective stakeholder communication and collaboration. This study underscores the pivotal role of communication in mitigating issues arising from escalating aircraft traffic at Sabiha Gökçen Airport, emphasizing that sustainable growth cannot be attained amidst prolonged waiting times. The study interrogates the extent to which increased capacity influences operational productivity and explores strategies for leveraging enhanced capacity through effective stakeholder collaboration

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INTRODUCTION

Airports are complex structures that provide residents and businesses with access to air transport services. Airports host numerous companies and organizations in their service chain. These organizations operating at the airport collaborate to provide air travel services to their consumers in a trouble-free, safe and secure manner.

In Turkey, especially in airports located in major cities, consists of this several stakeholders. Sabiha Gökçen Airport, which will be considered in this regulation, consists of various stakeholders as the second airport in the country with the highest aircraft and passenger traffic. Sabiha Gökçen Airport, which was opened in 2001 within the body of Airport Operation and Aeronautical Industries Inc. (HEAS) affiliated to the Undersecretariat of Defense Industries was leased by Sabiha Gökçen International Airport Investment, Construction and Management Inc. (ISG) for 20 years and became a private enterprise. Currently, the airport authority operates under HEAS and the terminal management section operates within the body of ISG. Sabiha Gökçen airport serves the relatively medium body and low-cost airline companies, as well as serving few flag carrier companies. Aside from that, it hosts many businesses (Terminal tenants, ground handling companies, maintenance companies, etc.), Sabiha Gökçen airport served approximately 35 million passengers in 2019 (DHMI, 2010).

Sabiha Gökçen Airport has faced an increasing demand with the transfer of Atatürk Airport to Istanbul Airport. When evaluated in this that, it is an indisputable fact that the Sabiha Gökçen airport should be used more efficiently and increasing capacity. It is possible to use the Monte Carlo simulation in calculations to increase efficiency and capacity at Sabiha Gökçen Airport.

Monte Carlo Simulation, which is a method used in calculating productivity in many fields is based on predicting the expected situation by using current data instead of past data in order to predict future events (Şener and Şener, 2019: 296).

Within the scope of the study, the negative effects of the problems caused by ineffective stakeholder communication at Sabiha Gökçen Airport on operational efficiency have been emphasized. In order to end the inefficiency caused by this ineffective communication, what stakeholders do efficient communication has been examined. The effect of effective communication between stakeholders on operational efficiency for sustainable growth at Sabiha Gökçen Airport has been analysed using Monte Carlo Simulation, and even more, efficient availability of capacity is questioned.

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