

# ANALYZING SEAPORT PERFORMANCE TO AVOID SHIPPING DELAYS

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## ABSTRACT

Companies continue to globalize their supply chain operations increasing cargo traffic and creating excessive shipping demand on ports across the globe resulting in port congestion. This increased congestion impacts the United States Transportation Command's cargo movement operations, which compete for use of the same port resources. While the US Department of Defense has organic transportation capabilities, most of the cargo is moved by commercial ocean liners. It is, therefore, necessary to understand port operations, identify excess capacity, and exploit it to avoid congestion at ports. The purpose of this study is to identify peak and idle periods by evaluating the comparative performance of seaports using data envelopment analysis. This study finds that while all south Korean ports are not fully efficient due to mixes of cargo types, the port of Pyeongtaek demonstrates significant inefficiencies or underutilized capacity in containerized cargo throughput. This inefficiency could be exploited for finding an alternative port when the major container port in South Korea, Busan, becomes busy for extended time or unavailable.

Keyword: Seaport; Container; data envelopment; transportation