

# Network interoperability and platform competition \*

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September 3, 2025

(PRELIMINARY, NOT FOR CIRCULATION)

## Abstract

We develop a framework to study how interoperability between competing platforms affects equilibrium prices and welfare. Our analysis considers two dimensions: interoperability strength—the extent to which network benefits spill over across platform users—and interoperability configuration—including industry-wide, coalitional, and hub-and-spoke arrangements. We characterize pricing equilibria under different configurations and show that, contrary to conventional wisdom, interoperability can intensify competition: a price cut by one platform may increase demand for its coalition partners, prompting all members to lower prices. We then compare prices, consumer surplus, and market shares as interoperability strength and configuration vary. Our findings show that the effects of interoperability depend crucially on its structure, with coalition- and hub-and-spoke arrangements in some cases yielding higher welfare than the conventional industry-wide model.

**Keywords:** network, platforms, interoperability, interconnectivity, compatibility, data sharing, learning curve, coalitions

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\*This article was previously circulated as “network interoperability in multi-sided markets”. We thank Zhi-jun Chen, Xinyu Hua, Bruno Jullien, Teddy Kim, Sanxi Li, Martin Peitz, David Rietzke, Susumu Sato, Robert Somogyi, Greg Taylor, Flavio Toxvaerd, Julian Wright, as well as other participants at Academia Sinica, Kyoto University workshop on Search and Platform, Monash University, CRESSE 2024 (Crete), CMID 2024, SER Conference 2024, Lingnan IO Conference 2025, Singapore Initiative on Digital Economics Workshop 2025, NTU-CAU Workshop 2025, and Yonsei Workshop on AI and Platform Economics for valuable comments and suggestions. We acknowledge research funding from the NET Institute Summer Grant 2024. Tat-How Teh gratefully acknowledges research funding from Singapore MOE-Tier 1 Seed Grant No. 023701-00001. Errors are ours.

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