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Optimizing and Satisficing: The Interplay Between Platform Architecture and Producers' Design Strategies for Platform Performance

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Abstract

Two-sided platforms are gaining increasing attention in practice and as the subject of IS and management research. We explore an assumption of research and practice: that a platform's architecture needs to be decoupled so that producers can easily mix and match the platform's design elements (APIs, code libraries, process models, etc.) into apps that perform well competitively, and insulate the platform from skewed outcomes and low market performance. However, in practice, complete decoupling is not just difficult but almost impossible. Based on more than two million runs of an exploratory NK model in which producers use a platform's design space for the creation of apps, we generate several surprising insights. First, we show that tighter coupling may not necessarily be harmful depending on the producers' design strategies and the amount of constraints placed on design elements. Second, we observe that if moderate to tightly coupled platforms with *optimizing* producers focused exclusively on being competitive, platform performance is lower compared to platforms with *satisficing* producers who put a lower priority of being competitive because of other interests. This is surprising since optimizers are better suited to cope with the inherent uncertainty of coupling. Finally, moderately coupled platforms can outperform platforms with loose coupling when constraints nudge producers into distant design moves while also isolating them from downside uncertainty. These three findings offer implications for multiple streams of literature on platform architectures.

Keywords: Platforms, apps, platform architecture, modular systems, loose coupling, software design, design strategy, NK model, simulation