

# Introduction of New Technologies to Competing Industrial Customers

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**M**otivated by several examples from industry, such as the introduction of a biotechnology-based process innovation in nylon manufacturing, we consider a technology provider that develops and introduces innovations to a market of industrial customers—original equipment manufacturers (OEMs). The technology employed by these OEMs determines the performance quality of the end product they manufacture, which in turn forms the basis of competition among them. Within this context of downstream competition, we examine the technology provider's introduction strategies when improving technologies are introduced sequentially.

We develop a two-period game-theoretic framework to account for the strategic considerations of the parties involved (i.e., the technology provider and the OEMs). Our main result indicates that the technology provider may find it beneficial to induce partial adoption of the new technology, depending on the technological progress the provider intends to offer in the future. We analyze many technology-specific and market-related characteristics—such as volume-based pricing for new component technologies, upgrade prices, and OEMs with differing capabilities—that correspond to various business settings. Our key result (i.e., partial adoption) proves to be a robust phenomenon. We also develop additional insights regarding the interactions between adoption and OEM capabilities.

*Key words:* technology introduction; technology adoption; game theory; industrial markets; industrial customers; business-to-business; multistage game

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