The Role of Market Structure in Competitive Experimentation∗

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Abstract

This paper develops a framework to examine the role of market structure on the incentives for competitive experimentation. In a general market setting, two competing firms allocate resources in continuous time between (a) experimentation in a patent race and (b) investment into short-term competitiveness. In contrast to existing patent race models, both flow payoffs and the value of exit are endogenously determined in equilibrium. This endogeneity leads to strategic considerations that substantially alter the dynamics of competitive experimentation and yield new insights into the fundamental relationship between market structure, innovation incentives, and welfare. Implications for antitrust, specifically the effect of mergers on innovation and welfare, are also considered.

JEL Classification: C73, D25, O31

Keywords: market structure, innovation, patent race, R&D competition, competitive experimentation, exploration versus exploitation

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