

Optimal Innovation

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Abstract

Innovators who can develop high quality products fast and at low cost command a significant competitive advantage. However, they face uncertainty about (a) product development cost, time, and outcome, and (b) emergence of competing products. While better products attract more customers, developing them may cost more and take longer, increasing the risk that competing products may emerge and take away market share. Innovators must consider these uncertainties and tradeoffs in determining their optimal innovation strategies. Socially optimal innovation depends upon the number of innovators, and whether they compete or cooperate. This paper models innovation as a two-person optimal stopping game to analyze these issues.

Keywords:

Bibliography