

ESSAYS ON PATENT LICENSING &  
TECHNOLOGY TRANSFER

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## Abstract

In this dissertation we have studied technology transfer in Hotelling's spatial competition with two asymmetric licensees (firms) and an outside innovator (an independent research lab, non-producer) for a market with inelastic demand. This dissertation consists of three core chapters with an introduction and a conclusion. It starts with a detailed introduction in the first chapter. Followed by the second chapter, which shows that it is optimal for the innovator to offer a pure royalty contract to both licensees leading to a complete diffusion of the new technology for a once-for-all licensing contracts. The result holds irrespective of the cost differences between the licensees and innovation sizes, that is, drastic or non-drastic. This robust finding supports the dominance of royalty licensing in practice. We also throw light on the situation where the innovator sells the patent right to one of the firms. Interestingly, we find that the inefficient firm acquires the new technology and further licenses it to the efficient rival. The third chapter addresses the issue of 'killer acquisition' where licensee firm pays to acquire new technology, however, does not use but shelves them. By shelving, acquiring firm prevents its competitor from using the technology to maintain its competitive edge. We show this can happen if an outside innovator exclusively licenses the technology which is not even beneficial to the acquirer firm. Technology diffusion will happen via royalty, two-part tariff licensing and selling of the patent right. Fourth chapter characterizes the influence of absorptive capacity of manufacturing firms on licensing of technology that helps the inefficient firm to reduce its cost but not below its rival. The asymmetry in cost-reduction is due to the difference in absorptive capacity of the firms. At optimal the innovator will always license the technology to the efficient firm through fixed fee licensing irrespective of absorptive capacity, initial cost difference and innovation size. Finally, the last chapter concludes the dissertation.