

Chapter 16

Proving the Science: Opportunity Identification to Research Contract

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ABSTRACT

This chapter is about the process by which an inventor (a physician) secures the expertise he needs to determine if his observations and resulting patent have commercial value. It is also about the process by which the university accepts the engagement. A physician with an unproven patent contracting with a university for market and scientific research that would establish the commercial viability of his invention. It explores patterns of social networking, searching, communications, and negotiations theory to describe an inventor's quest for evidence that his invention worked. The chapter outlines the process by which the physician searched his network to find resources outside of his field of expertise that could guide his next steps in evaluating the commercial potential of his invention. In addition, it describes the information gathering and negotiation process leading to a university contract. The case illustrates that the issuance of a patent does not represent either technical proficiency or market potential for an invention.

INTRODUCTION

Much has been written about universities and technology transfer. Less has been written about universities and the processes for integration of knowledge between university specialties and the transfer of that integrated knowledge to parties outside the university. And, even less has been written

about the issues in communication and contracting present when an inventor, from the community, seeks out a university in their quest to determine the commercial viability of their invention.

The term technology transfer gained prominence after the U.S. Congress passed the Bayh-Dole Act of 1980. This Act and its subsequent amendments grant to the university the right to secure patents on discoveries made under federally funded research. The purpose of the law is to encourage the com-

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Table 1. Sample of news articles on American inventors

Headline	Date	Publication
Inventor's refrigeration system for planet shows promise, but scientists are skeptical	December 21, 2008	McClatchy – Tribune News Service, Washington
Inventor gets the wood out: pencil made from scrap tires wins space on Staples' shelves	March 9, 2009	Indianapolis Business Journal
So you want to be an inventor?: It'll take money, patience to get patents, raise capital and market ideas.	April 12, 2009	The Atlanta Journal – Constitution
Energy-Efficient Engine Technology Wins Ford Team National Inventor of the Year Award	May 28, 2009	PR Newswire. New York

mercial application of research findings in pursuit of economic growth (Remington, 2005). Thus, the term technology transfer relates to discovery and invention from within the university. The term university entrepreneurship has also been linked to these concepts (Rotheraermel, Shanti et al, 2007).

Golish, Besterfield-Sacre and Shuman (2008) studied academic and corporate technology development processes and found there was little commonality among the elements in the concept maps of these two groups. The research also found that the elements missing from the concept maps of the academic inventors were related to market identification, cost evaluation, and changing customer needs/market requirements.

The passage of Bayh-Dole ushered into the university an awareness of opportunity to not only patent, license, and create new firms based on discoveries within the university, but also to collaborate with companies as a means for decimation of expertise in the university. However, around the globe, cultural differences between the university and corporations have been identified as providing obstacles to be overcome if this desire to transfer knowledge is to be fully realized (Valentín, 2000).

In both the above scenarios, invention within the university, and the transfer of knowledge through cross-collaboration between university faculty and corporations, the entities are sufficiently large to garner the attention of academic

researchers. The same is not true in the case of the individual inventor. Where the popular press publishes numerous articles reporting the insights and activities of both corporate and independent inventors (Table 1), we were not successful at finding any academic research study linking an independent inventor to a research contract with a university – the subject of this case study.

Interestingly, the same themes that are linked to the areas of technology commercialization and knowledge integration across disciplines appear in this case of a highly educated inventor seeking assistance from the university and negotiating the necessary contract for services through the university Office of Research. That is, we see the topics of communication, negotiation and commercial viability of discovery manifested in the case and its .

BACKGROUND

MDH, a highly skilled and well-known neurosurgeon has a reputation for keen observation, quick opportunity identification and an ability to easily visualize solutions. In 2003, MDH observed that his home sprinkler system washed down one air conditioner unit and not the other. The unit being washed down was in surprising good condition while a second air conditioner sitting right next to it appeared to be in poor condition. On December 23, 2003, MDH was successful in having a patent

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