

Chapter 47

Knowledge and Intellectual Property Rights: An Economics Perspective

Geraldine Ryan

University College Cork, Ireland

Edward Shinnick

University College Cork, Ireland

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INTRODUCTION

The role and importance of knowledge in economic development is a theme that can be traced back to writers such as Adam Smith, Karl Marx and Joseph Schumpeter. These authors dealt with how knowledge was created, its various uses and how to capture knowledge for gain. Later, writers such as Friedrich Hayek developed this field into areas such as the use of knowledge in society and the role of information in markets. In the economics literature, a critical distinction is made between

information and knowledge. Information is seen as data that is out there for most, if not all, to see, whereas knowledge is the use and (unique) interpretation of this data. With the development of the World Wide Web, access to information and the cost of collecting information has changed dramatically. This has implications for its value. Anything that is easy to collect is less valuable than something that is more difficult to collect. Furthermore, something that is valuable will be sought by others and therefore needs to be protected against theft.

Individuals and businesses collect and interpret information in order to make decisions and then use this information and turn it into knowledge for economic gain. Underlying this description is the assumption that the information we need exists, is freely available, easy to interpret and

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easily converted into knowledge. Yet in many instances this may not be the case. Information, especially more valuable information, is likely to be concealed, costly to assimilate or difficult to interpret for your own circumstances. Furthermore, people may look at the same information but, through differing interpretations, reach different opinions as to its value. This can give rise to distinct entrepreneurial opportunities for the individual who sees value creation possibilities by turning information into knowledge.

The theme of this paper is to analyse the role of knowledge in managerial decision making from an economics perspective. We argue that access to information and the creation of knowledge is essential for effective decision making. However, we make a crucial distinction between the ability to replicate information and the ability to replicate knowledge, which is much more difficult. Therein lies the key to creating profitable business opportunities and the entrepreneurial function is central to this. The idea of knowledge as a valuable asset is thereby explored and we analyse how this asset can be protected through the use of intellectual property rights. Finally we conclude by outlining likely future trends and research in this area.

BACKGROUND

In discussing information and knowledge we identify two types of information that helps to form knowledge. The first is costly information, where individuals must invest time and effort to search for information. The second is asymmetric information, where some individuals may not be in a position to judge the quality or make comparisons between different types of information. The more costly and more asymmetric this information is, the more valuable the knowledge that stems from it is likely to be.

Over the last four decades, the analysis of information and its value has generated vast amounts of economic research. The role information plays

in markets, industries and countries has been explored across both developed and developing economies. The pioneers of this research were George Akerlof, Michael Spence and Joseph Stiglitz who began studying this issue in the 1970s. Akerlof (1970) is seen as the single most important study in the literature on the economics of information. He analysed how asymmetric information in markets could cause them to fail, if it increased organisational costs. Up to then it was assumed that markets could be competitive when the market price reflected the marginal valuation of the product. Two implications exist from such asymmetric information. One is called adverse selection, that is, bad quality services drive good quality services out of the market. The second is called moral hazard, where effort, such as quality, cannot be easily detected.

Spence (1971) conducted his research on 'signalling', defined as the transmission of information between two participants in a market which can help overcome the problem of adverse selection. Signalling requires market participants to take measures that are both visible and costly in order to convince other participants of the quality of their products or their intentions in market negotiations. Examples of such signals are costly advertising and product guarantees as signals of quality, price wars as signals of market power and strength, and delaying tactics in wage offers as a signal of bargaining power.

Stiglitz's (1976) research focused on the issue of screening. That is, how a market participant who is initially uninformed can overcome this obstacle by capturing this information in more subtle ways. The insurance market is an excellent example of where screening works very effectively for companies. Here companies divide their customers into distinct risk classes and devise unique policies to match the characteristics of each class where different premiums are offered to different risk classes; the lower the risk, the lower the premium.

These informational issues can have a powerful impact on markets and can also give rise to

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