

## Chapter 12

# Competitive Advantage and Automated Sharing of Tacit Knowledge

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### ABSTRACT

*In this chapter, the authors investigate how raw data, obtained from a variety of sources, can be processed into knowledge using automated techniques that will help organizations gain a competitive advantage. Firms have amassed so much data that only automated methods, such as data mining or converting existing knowledge into expert systems is possible to make any sense of it or to protect it from competitors. Further, the data that is processed may be considered tacit knowledge because it is hidden from people until it is processed. In this chapter, the authors discuss various sources of data that might help an organization achieve and sustain a competitive advantage. A firm can data mine its own production database for insight regarding its customers and markets that have previously been ignored. It might also mine social media (e.g., Facebook and Twitter), which has become a forum for individual preferences and activities from which the savvy organization could turn into competitive advantage. They also discuss how this knowledge can be protected from intrusion by competitors to sustain the competitive position it may achieve as a result of the discovery of knowledge from massive data sets.*

### INTRODUCTION

Much of the research into Knowledge Management has been conducted on the implicit assumption that all knowledge should be shared and that whenever possible, tacit knowledge should be made explicit to enhance an organization's ability to share it.

Studies have attempted to show that knowledge and intellectual capital are assets that provide a competitive advantage and because of this, any knowledge that is not shared is at best, a hindrance to organizational performance and competitiveness and at worst, "seriously unethical" (Lin, 2007, p. 411). To that end much work has been

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done in order to identify the factors that affect knowledge sharing and to provide frameworks, methods and innovations in order to accomplish knowledge sharing. Identified factors include those that are socially based, such as group interaction, knowledge boards and wikis, and those that are computer based, such as expert systems, video training/tutorials and others. But the assumption that all knowledge should be shared and the assertion that knowledge is an asset that can provide competitive advantage seem to be contradictory. If an organization encourages knowledge sharing and much of this knowledge is proprietary and does provide competitive advantage, then how does the firm protect its knowledge assets from discovery by its competitors?

Consider a restaurateur who hires a cooking staff and trains this staff on his own recipes. Aren't his recipes his competitive edge? If his competitor hires some of his staff away, don't they take the knowledge of those recipes with them? How can the restaurateur protect his intellectual capital?

In this chapter we explore these questions and attempt to provide some answers that will allow both the sharing of knowledge (both tacit and explicit) within an organization and prevent its spread to competitors. We first provide a brief definition of the concepts so that the reader understands our perspective. Next we discuss the various types of electronic systems that are and can be used in knowledge transfer and perform a literature review of these systems. We then look at specific types of systems and the ways in which they can be used (or abused) to maintain proprietary knowledge and information. Finally we end with suggestions for future research and other opportunities that might help practitioners maintain their competitive stance, yet share knowledge within their organization.

## **Definitions**

We first provide a few definitions of salient terminology that we will use to analyze knowledge

sharing in organizations. Later we will discuss the systems used to transfer knowledge in much greater detail.

Knowledge is considered to be processed information; information is processed data; and data is simply a set of observable facts that have been stored for later use. While Tuomi (1999) argues that the hierarchy is reversed, because knowledge must exist before information can be obtained and before data can be made meaningful, the underlying theory that describes which came first does little to assist the practitioner in deriving benefit from existing knowledge or in creating new knowledge from stimuli present in the environment. What does help practitioners is how to use current knowledge to decide what facts to observe and collect as data and subsequently how to transform the data collected into new knowledge that will improve the efficiency and/or effectiveness of a business. Thus, like Tuomi, we assume that some knowledge must be present to collect data, and data must be present that can be processed into knowledge. We use these definitions because later we will describe how knowledge that is buried in the facts can be exploited and protected at the same time.

According to Polanyi (1969), knowledge is of two types—tacit and explicit. Explicit knowledge is codified and easily passed from person to person. Tacit knowledge is gained over time and is stored in our minds, but it is much harder to transfer to another person because it is difficult to explicate. An example of explicit knowledge is the set of recipes cited in the example previously. They can be easily written down and stored for later use and transmitted to others easily. An example of tacit knowledge is knowing where to build the next restaurant. This would require knowledge of the market and its demographics that would incorporate a large number of factors and would not be easily transmitted to others.

An expert system is a software program that emulates the actions of a human expert within a particular (and narrow) domain. It contains a

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