Chapter 7.18
Knowledge Calibration

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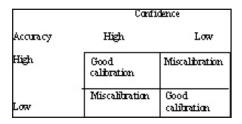*Florida State University, USA*

INTRODUCTION

The purpose of this article is to describe the concept of knowledge calibration within the context of knowledge management. Knowledge calibration is a concept borrowed from the psychology of decision making. It refers to the correspondence between knowledge accuracy and the confidence with which knowledge is held. Calibration is a potentially important concept for knowledge management because it describes one of the subtle errors that can lead to poor decisions. Where the correspondence between the accuracy of one's knowledge and the confidence in that knowledge is high, decisions are described as well calibrated; but poor correspondence implies miscalibrated decisions. Since one concern of the field of knowledge management is the best use of knowledge for decision-making purposes, this topic is relevant.

BACKGROUND

A variety of scientists, including meteorologists, statisticians, and psychologists, have been interested in measuring and in explaining judgments of confidence and their relation to accuracy (e.g., Harvey, 1997; Yates, 1990). Most of these studies report that people are systematically overconfident about the accuracy of their knowledge and judgment. In fact, scholars have even considered overconfidence as a stylized fact of human cognition.

The construct "calibration of knowledge" refers to the correspondence between accuracy of knowledge and confidence in knowledge (see Figure 1). High accuracy and high confidence in knowledge promote high calibration; confidence in these decisions is justified. Low accuracy and low confidence also promote high calibration. In this case, decision makers are aware of their

Figure 1. Accuracy-confidence matrix

Accuracy	Confidence	
	High	Low
High	Good calibration	Miscalibration
Low	Miscalibration	Good calibration

MAIN FOCUS

Literature on knowledge management has focused on: (a) defining the constructs of knowledge and knowledge management; (b) describing processes associated with knowledge creation, storage and retrieval, transfer, and application; and (c) developing and implementing systems to facilitate these processes. Implicit in these tasks is the idea that knowledge is embedded in individuals, groups, as well as in physical structures (Alavi & Leidner, 2001; Brown & Duguid, 2000). These discussions implicitly assume that knowledge available in the organization will be used in decision making and that such use will enable users to make better decisions. As research has noted, however, knowledge, which as commonly used refers to accurate or correct knowledge, is not the sole factor affecting decision quality. Users have to access and wisely use the knowledge in decision making before KM systems can be said to improve management activity. One instance of this can be found in the "knowledge/use-reuse" situation where knowledge is developed and stored for reuse by its creators later on or by other subsequent users (Markus, 2001). If the knowledge is not well recorded, stored, or made easily retrievable, users will be few and their effectiveness compromised. A further problem is described by the impact of new technologies on marketing management, where Tapp and Hughes (2004, p. 293) argue that "…KM systems have increased the supply of knowledge 'objects' (explicit, recorded, packets of knowledge), but that usage of these 'objects' by other workers (the crucial added value) remains elusive." The skill with which users and re-users take advantage of knowledge depends on many factors, including capturing, packaging, and distribution of the knowledge (Markus, 2001). Moreover, the confidence with which the decision maker accepts that knowledge also affects the way he/she uses the knowledge to make decisions. In other words, knowledge calibration affects the quality of decision making.

ignorance and are unlikely to overreach. A lack of correspondence between accuracy and confidence means miscalibration. Miscalibrated individuals are either overconfident or underconfident—situations that can result in costly mistakes in decision making.

For example, a description of the difficulties Xerox had in successfully bringing their new inventions to market (Carayannis, Gonzalez, & Wetter, 2003) reveals that, among other problems, managers placed great faith in their knowledge of the market, technology, and future trends that was subsequently proved to be misplaced. One could argue that the Bush Administration's decision to go to war with Iraq in order to destroy weapons of mass destruction that did not exist, but were claimed to exist on the basis of high confidence in flimsy evidence, is also an example of miscalibration and its influence on decision making.

Although several approaches to improving knowledge calibration have been suggested, little effort has been made to integrate them into the field of knowledge management. A new dimension of the discourse on knowledge management can be added by examining the implications of the construct of knowledge calibration to knowledge management. In the subsequent paragraphs, we elaborate on how this can be achieved and why it is important.

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