Chapter 14
Collaboration in Risk Markets

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ABSTRACT

Collaboration can be an effective tool for managing risk. A structured environment for sharing critical risk information can improve decision-making. The business environment currently in place makes it difficult to collaborate, due to complex and overlapping regulatory schemes. In addition, the computing framework used in risk-based sectors is not integrated, resulting in a patchwork of ad-hoc systems that make it difficult to collaborate in an efficient or transparent way. This chapter will present an example of a business framework in which organizations collaborate by trading risk-based products. This arrangement mitigates risk by allocating it to those organizations that can best handle it. A computing framework utilizing Web Services is presented that can help facilitate these types of transactions. Several challenges recur in knowledge management of risk, including trust, information filtering, connecting information (‘connecting the dots’), and fluid information exchange. Examples from the insurance and financial industries are presented. Knowledge management of risk information can be facilitated by the development of an Ontology used to describe Web Semantics. A user interface for knowledge management that incorporates collaborative mapping, filtering, and community discussion is presented. Collaboration is being used more frequently to handle core business processes (deep collaboration) as opposed to generic communications such as Wikis (shallow collaboration). A structured environment for collaboration is risk environments can improve security, transparency, and effectiveness. This type of environment might have been used to mitigate the impact risk-based problems such as the current financial emergency. In conclusion, it is posited that a new type of product can emerge which incorporates the social-computing value of risk.

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INTRODUCTION

Collaboration can be an effective way to manage risk. Key information related to emerging trends and market risks, when made available in a collaborative system, can alert an organization earlier and improve decision-making. A number of tools have been developed which can help in this regard (Wikis, message boards, etc.). However, complex risk environments are usually not optimized for deeper forms of collaboration. A model in which market controls allow for the collaborative exchange of risk-based products and information can address this situation.

BACKGROUND

It has been demonstrated that collaboration can be an effective means to manage risk. Examples include processes, methods, and tools that allow users to share and process information related to risk in ways more effective than would be the case had they operated independently (van Grinsven, 2008). Decision networks of social agents can help build the confidence and cohesion required for successful action in an otherwise uncertain environment (Boff, 2007). Collaboration involving group decision support has been shown to increase productivity without information overload (Switzer, 2007).

The management of risk is becoming a most important part of the world economic scheme, as shown by recent financial market difficulties. Insurance and financial organizations must have sufficient funds to handle projected risk. Large corporations may have risk structures that are too complex to be transparent (Oster, 2002). This situation makes it difficult to implement a knowledge management program that could reduce risk.

While many organizations use Wikis and message boards to facilitate collaboration, these tools do not enable the rich interactions necessary to effect core business processes. As businesses move toward deep collaboration, the nature of the business interactions being done will change, and this will be reflected in the design of the resulting information systems.

COLLABORATIVE SYSTEMS FOR RISK ENVIRONMENTS

Organizational Framework

In order for collaboration to be practical in this context, various ways of looking at risk market organization should be considered. There are precedents for collaboration in risk management.

In the area of emission trading, the government assigns emission allowances for atmospheric pollutants produced in the U.S. on a yearly basis. Polluters that reduce their emissions can sell their pollution credits. Companies collaborate toward the most effective solution by buying and selling pollution credits. This is intended to encourage companies to make money by adopting new non-polluting processes. Those that do not will contribute to the cost of finding better alternatives.

In energy trading, power generators and users are never sure exactly how much power they will need in a given time frame, so they arrange for production based on estimates. They may buy or sell power to which they have already committed. This scheme will allow all parties to achieve the lowest marginal cost for power. The implementation of such a scheme is a large potential target of opportunity for the U.S. economy.

A related use is in the area of alternative fuels. If controls are used to create longer-term risk products, which can be fluidly traded, there is the potential for attracting a new large capital hedge market for investing in alternative energy, which is currently a major impediment to its development (Davis, 2008).
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