14.1 Introduction

Population statistics may be useful in overall characterization of risk, but ultimately, as Zuckerman (2007) notes, the way that risk is experienced is a matter of subjective assessment as represented in individual perception. In a managerial context, it is aggregation and interaction of these individual assessments in relatively small (at least as compared with society) organizational groups that drives business strategies and adjustments at the tactical level. Thus, organizational risk management responses are a function of coordination of subjective perceptions at a level sufficient to gain coherence in the responses from key employees. Of course, supply chain risk management often involves coordination of responses requiring such coherence at the level of inter-organizational responses. While the emerging literature in supply chain risk management focuses on types, magnitudes, and appropriate responses to risk at the organizational and inter-organizational level, this chapter will focus on the roots of perceived risk in the psychology of critical persons because detection and assessment of risk still requires thinking, judgment, and decision making by individuals.

14.2 Perception in Risk

If we take as our starting point the standard definition of risk, we combine two distinct perspectives on events that might occur. First, we have some event that, if it materialized, would be detrimental to organizational performance. Note that this event could be the occurrence of something negative or the failure of something good to happen. Secondly, we have some probability, less than one, or certainty that the event will occur. While there have been a number of other definitions proposed that include more terms, for example hazard, exposure, consequences and probability (Ropeik and Gray 2002), the formulation of risk in two terms (the
magnitude of a negative future event and its probability of occurrence) is the most common approach (Adams 1995) and has become generally accepted in framing supply risk as the product of these two elements (Zsidisin and Ellram 2003). Note that for many supply risks the magnitude of detriment to organizational performance can, at least in theory, be specified with substantial accuracy based upon the organization’s financial information. However, this is not generally the case with the probability of an event, because only in extreme forms of risk, for example, death, are general statistical data maintained (Zuckerman 2007). Management in environments that present risk can often have consequences for the employment of the person classifying events and collecting data. This can be among many forms of trouble in better estimating the likelihood of adverse events (Adams 1995). Further, Smith and Buddress (2006) have found that for most businesses, organizational data related to the frequency of supply disruptions are not maintained, or are not collected in a form that would be useful in attempts to better estimate the probabilities of supply disruptions. Thus, we see that the discipline has resorted to managerial perceptions in attempts to assess and manage risk (e.g., Zsidisin 2003).

Essentially, we have resorted to perception because supply risk management involves making decisions under uncertainty. This uncertainty is a fundamental reality of the business environment, and is commonly seen as increasingly influencing our ability to manage the relationships within and between organizations. The challenges range from the dynamic complexity of business relationships (e.g., Roberts 1984; Senge 1990; Stacy 1992) to cognitive limitations (Reed 1982).

The challenges that the decision maker faces in risk detection and assessment lead to a substantial number of shortcuts, often referred to as heuristics, and the associated biases (Tversky and Kahneman 1974) can induce flawed decisions. Thus, it is important to understand the psychological roots of faulty perceptions in order to improve managerial effectiveness in assessing and preventing or mitigating supply risk.

14.3 The Challenged Decision Maker

A complex, chaotic business environment presents the supply management professional with a dizzying array of situations that tax and often exceed the limitations of the human mind, which after all evolved for problem solving in an environment vastly different from that imposed by modern society. Risk assessment tests the limits of human rationality (Zeckhauser and Viscusi 1990). Limitations that may impact effective supply chain risk management decision making include many topics in the field of cognitive psychology (Eysenck and Keane 1995). A multitude of constraints on rational thought can be found in structural limitations on perceptual processes and pattern recognition, limited attention, limited memory, limitations of mental representations including mental models and the impact of language on conscious processing, limitations in reasoning, and the impact of emotional responses. Such constraints drive simplistic