



The clock is ticking: The role of uncertainty, regulatory focus, and level of risk on supply chain disruption decision making behavior



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ABSTRACT

Supply chain employees must make decisions on when and how to react to potential and realized supply chain disruptions. Drawing on regulatory focus theory, we examine how an individual's regulatory focus, level of risk, as well as the uncertainty of the supply chain disruption affect willingness to pursue a new disruption mitigation strategy. Employing a vignette-based field experiment, we present and discuss findings related to supply chain risk decision making. These findings have implications for future behavioral supply chain risk research.

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1. Introduction

Risk management has become an important topic in the field of supply chain management (Hult et al., 2010; Wagner and Bode, 2008; Kleindorfer and Saad, 2005). Because of the complexity associated with managing today's supply chains, firms undoubtedly experience supply chain disruptions that result in negative outcomes (Craighead et al., 2007). Examples of supply chain disruptions include a labor port strike, natural disaster at manufacturing facility, and a supplier who experiences financial difficulty manufacturing a critical component for its customer. Even though many firms have developed contingency plans to address potential points of vulnerability, it is the firm's supply chain employees who, often without much warning, must make decisions on how to best react, or not react, to potential supply chain risks or supply chain disruptions. For example, a supply chain employee's risk mitigation strategy can involve re-routing sourced materials away from a potential disruption in the supply chain. Wagner and Bode (2008) point out that supply chain decision makers are often "caught off guard" in the face of a supply chain disruption. In addition, supply chain employees are responsible for understanding when risk situations exist and when the risk warrants action (Zsidisin and Wagner, 2010). Undoubtedly, supply chain employees must decide on whether or not to take action in *anticipation* of a potential disruption or *wait until a disruption has already occurred* (Tomlin, 2006). Making supply chain disruption mitigation decisions is often challenging because the exact time, location, and severity of a disruption are rarely known in advance with complete certainty.

The purpose of this paper is to examine how the role of uncertainty, risk level, and an individual's regulatory focus affect supply chain disruption decision making behaviors. In so doing, this study examines the individual level determinants of supply chain disruption decision making. A burgeoning amount of research is also beginning to examine how uncertainty

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affects decision making behavior (see for example: Shipp, 2013; Shipp et al., 2009; Ancona et al., 2001). In this paper we focus on the uncertainty of when a disruption may occur. Finally, we investigate the impact of the type of risk (e.g., high risk and low risk situations) on supply chain disruption decision making behavior.

This study makes several important theoretical and empirical contributions to the supply chain risk management literature. There is a growing scholarly interest in examining individual level behavior in the supply chain risk literature (Bendoly et al., 2010; Tokar, 2010; Gino and Pisano 2008). We contribute to this literature by leveraging the regulatory focus theoretical framework to increase our understanding of how an individual's promotion-focus, prevention-focus, perception of uncertainty, and level of risk influences their supply chain disruption decision making behavior. Scant supply chain literature has examined how individuals make supply chain disruption decisions from this behavioral perspective. Making supply chain disruption decisions has been found to be important in prior research (e.g., Craighead et al., 2007) and we contribute to this literature by examining these issues at the individual level of analysis. In so doing, we empirically test our research model using a vignette-based field experiment that was distributed through the *Amazon Mechanical Turk* service (mTurk) using an on-line survey instrument, which is responsive to the call for the use of innovative data sources in supply chain management by Boyer and Swink (2008). We next turn to the development of the theoretical model.

2. Theoretical framework and hypotheses development

2.1. Regulatory focus theory

Regulatory focus theory is the theoretical lens for this study. In this section, we discuss this theoretical basis in the context of supply chain risk. Grounded in the social psychology and organizational behavior literatures, regulatory focus theory provides insight into how the personality of an individual affects their attitudes towards risky decision making behavior (Higgins, 2002). Regulatory focus theory posits that individuals have two basic self-regulation systems (e.g., goals) (Higgins, 1997, 1998). One self-regulation system focuses an individual on the achievement of rewards (promotion focus), while the other self-regulation system focuses an individual on the avoidance of punishments (prevention focus). It is our contention that regulatory focus theory can provide important insights into how individuals either adopt a promotion or prevention focus as a part of their supply chain disruption decision making behavior. In particular, regulatory focus theory is a useful theoretical framework that can be used to increase our understanding of an individual's risky processing information style (Förster et al., 2003) and an individual's motivation to handle uncertain situations (Molden and Higgins, 2004).

Individuals who have a promotion focus are eager to regulate their behavior toward advancement, aspirations, and accomplishments and utilize more creative problem-solving skills (Kark and Van Dijk, 2007). These individuals are risk seeking (Gino and Margolis, 2011). Promotion-focused individuals strategically work to achieve a goal and pay special attention to advancements and gains. They are motivated to engage in risky behavior especially when there is the presence of rewards. These individuals are ambitious and strive to reach their aspirations as reflected in a tenacious goal pursuit focused on maximal goals (Keller et al., 2008). Promotion oriented individuals explore the advantage of creative and novel behaviors. Brockner and Higgins (2001) note that individuals with a promotion focus think about outcomes as gains (i.e., a favorable outcome) or non-gains (i.e., an unfavorable outcome). Promotion focused individuals react cheerfully when given positive feedback, and react dejectedly or disappointedly when provided with negative feedback.

In contrast, individuals who have a prevention focus are comfortable with maintaining the status quo. These individuals act in more careful and cautious ways compared to promotion-oriented individuals. Prevention-focus individuals are sensitive to the presence or absence of negative outcomes. These individuals regulate their behavior away from risky situations and are less likely to choose new and innovative courses of action. Prevention focused individuals are more concerned with duties and obligations and experience emotions ranging from agitation or anxiety to quiescence or calmness (Keller et al., 2008). These individuals are either risk averse or risk neutral and possess a defensive orientation in the pursuit of minimal goals. Therefore, staying a course of action is viewed as a safe decision. Individuals who focus on prevention hold values based on security, tradition, and conformity (Kark and Van Dijk, 2007). We contend that an individual's promotion and prevention foci together influence her or his willingness to pursue a new disruption mitigation strategy. In our setting, an individual approaches supply chain risk situations using varying regulatory focus levels depending on the uncertainty and potential severity of the disruption. In Table 1, we highlight the main attributes of promotion and prevention-focused individuals.

2.1.1. Contextual factors within regulatory focus theory

We now discuss two contextual factors which are also important aspects of regulatory focus theory (Molden and Hui, 2011; Brockner and Higgins, 2001). We discuss how these factors play a role in an individual's risky decision making behavior. The first contextual factor is the **level of uncertainty** that an individual faces in the organization. Regulatory focus theory provides an important basis for examining how the level of uncertainty an individual faces affects their willingness to pursue a new disruption mitigation strategy. Drawing-upon regulatory focus theory (RFT), Molden and Higgins (2004) explore how different types of uncertainty affected decision making performance. Also leveraging RFT, Hazlett et al. (2011) suggest that individuals who are focused on growth and advancement (i.e., promotion) perform better when they adopt an optimistic forecast of the future whereas those individuals who are more comfortable with safety and security (i.e., prevention) perform

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