



The 13th International Research Seminar on Supply Chain Risk Management (ISCRIM)

**19-20 September 2013, Università degli
Studi di Verona, Verona (Italy)**

LOCATION OF THE EVENT
University of Verona - Polo Zanutto
Building, Classroom T1
Viale Università, cap 37129 Verona (Italy)



**LOCATION OF THE WELCOME
RECEPTION AND GROUP DINNER**
Antico Caffè Dante, Piazza dei Signori,
2, 37121 Verona



AGENDA

Wednesday, September 18

19:00 – 20:00 Welcome reception (Antico Caffè Dante, Piazza dei Signori, Verona)

Thursday, September 19 (University of Verona - Polo Zanotto Building, Room T1)

09:00 – 09:30	Welcome and opening Prof. Federico Testa, Head of Department of Business Economics, University of Verona (Italy) Bob Ritchie, Professor of Risk Management, Lancashire Business School, United Kingdom Martin Christopher, Emeritous Professor in Logistics Management, Cranfield University, United Kingdom
09:30 – 10:15	“Risk management framework for systematic evaluation of risks in supplier networks” Jukka Hallikas, Lappeenranta University of Technology, Finland Mika Ojala, Tampere University of Technology, Finland
10.15 – 11.00	“Reconsidering the effect of supply chain glitches on shareholder wealth; an update and extension of Hendricks and Singhal (2003)” Lammertjan Dam, University of Groningen, Netherlands Boyana Petkova, VU University Amsterdam, Netherlands
11.00 – 11.30	Coffee break
11.30 – 12.15	“Risk Management in Sustainable Supply Chains” Mihalis Giannakis, Audencia Nantes, France
12.15 – 13.00	“Investigating the utility of Predictive analytic techniques to manage risks within supplier portfolios” Samir Dani, Loughborough University, United Kingdom
13.00 – 14.00	Lunch
14.00 – 14.45	“Evidences from a research on Supply Chain Risk Assessment” Barbara Gaudenzi, University of Verona, Italy Ila Manuj, North Texas University, USA

	Ilenia Confente, University of Verona, Italy
14.45 – 16.00	Discussion and conclusions
19:30 – 21:30	Group dinner at Antico Caffè Dante, Piazza dei Signori (40 €)

Friday, September 20 (University of Verona - Polo Zanotto Building, Room T1)

09:00 – 09:45	<p>“Managing Sustainability Risks in Supply Chains”</p> <p>Hannes Hofmann and Michael Henke, EBS Business School, Germany</p>
09.45 – 10.30	<p>“The Role of Supply Chain Risk Management Scholars in Public Discourse Regarding Construction and Maintenance of Freight Transportation Infrastructure”</p> <p>Michael Smith, Western Carolina University, USA</p>
10:30 – 11.15	<p>“Using a research club to gain insights into the theory and practice of supply chain risk and resilience”</p> <p>Omera Khan, University of Hull, UK</p>
11.15 – 11.30	Coffee break
11:30 – 12.00	<p>ISCRIM update and conclusions</p> <p>Prof. Bob Ritchie and Prof. Martin Christopher</p>

Abstracts

Risk management framework for systematic evaluation of risks in supplier networks

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Abstract

This paper explores risk management in supplier networks. The challenges and needs to perform risk management in supplier networks are identified in the literature. In the current research, risks and management actions are often investigated separately. This study takes a holistic perspective for connecting risks to management actions. It also addresses the suppliers' perspective on risks in supply networks, which is often neglected in the current literature. The empirical part of the paper outlines a case study based on the research conducted in two case supplier networks operating in the electronics and metal industries. The primary aim of the research is to identify risk factors and risk management actions and assess these with a systematic model. Connecting risks with management actions allows us to identify and implement the most important and relevant actions.

Keywords: supplier network, risk management, risk management actions

Reconsidering the effect of supply chain glitches on shareholder wealth; an update and extension of Hendricks and Singhal (2003)

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Abstract

This paper revisits the effects of supply chain glitches that are characterized by production and shipment delays on shareholder wealth. Previously, the study of Hendricks and Singhal [The effect of supply chain glitches on shareholder wealth. *Journal of Operations Management* 2003, 21, pp. 501-522] indicated that such glitches can decrease shareholder wealth by a staggering 10.28%. We argue that these findings which are based on supply chain glitches in the period 1989-2000 may not hold for the period which we investigate (i.e. 2001-2012). We re-assess these effects whilst including the moderators from the original study (growth prospects, firm size, debt-equity ratio). In addition, we argue that an important moderator (i.e. the source of the supply chain glitch) should be added to understand the evaluation of supply chain glitches by financial markets. We use an event study and regression analysis to investigate the effects of supply chain glitches on shareholder wealth for the more recent period. Our results show that on average supply chain glitches decrease shareholder wealth by 1.94%. This is much lower than the result found by Hendricks & Singhal (2003). Furthermore, we find that only firm size has the same moderating effect as reported by Hendricks & Singhal (2003). In addition, we show that the source of the supply chain glitch is crucial in understanding the exact shareholder wealth effects. Our results indicate that especially supply chain glitches that arise from regulatory and catastrophic sources trigger a more negative reaction in financial markets (3.8% respectively 2.0% lower than those from supply side sources). We discuss the implications of our findings both for theory building and business practice, and end with limitations and suggestions for future research.

Keywords: Supply chain management; Supply chain glitches; Stock price; Performance

Managing Sustainability Risks in Supply Chains

Hannes Hofmann and Michael Henke

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Abstract

During the 1990s, Nike has been a poster child for corporate villainy stemming from sweatshop labour practices in its Southeast Asian factories. Since then, the company has charted a very different course and succeeded in many important aspects. Especially social issues within its supply chain were dealt with and stayed a top priority until today. However, recently the US based NGO “Education for Justice” accused one of Nike’s Indonesian suppliers with forcing employees to unpaid overtime resulting in litigation and a \$1m compensation for affected employees. Although Nike was showing strong commitment to sustainable behaviour, it got hit by sudden detection by social issues in its supply chain by one of its stakeholders. There is ample anecdotal evidence suggesting that firms can experience serious losses from social, ecological or ethical problems that exist in their supply chains. So far, however, research on supply chain risk management has largely neglected these sustainability issues despite a few notable exceptions (e.g., Spekman and Davis, 2004; Anderson, 2006; Foerstl *et al.*, 2010; Christopher *et al.*, 2011). Researchers have not attempted to integrate sustainability issues into the existing supply chain risk literature (Chopra and Sodhi, 2004; Harwood and Humby, 2008). In fact, current supply chain risk management frameworks do not provide insights of how sustainability issues materialise as risks. Thus, they also fail to delineate specific risk management approaches.

Therefore, the first part of my dissertation deals with the materializing mechanism and a conceptualization of sustainability risks. Stakeholders’ expectations and reactions proved to be crucial for manifesting supply chain sustainability issues as actual damage for buying firms. Building on conceptual work, a management concept for supply chain sustainability was developed. The proposed concept can help firms to mitigate sustainability issues in global supply chains, thus making them less vulnerable to losses resulting from these risks. Its application will also foster sustainability standards within supply chains (Hofmann *et al.*, 2013).

Ongoing research strives to advance the understanding of supply chain sustainability risks. There are numerous practical examples suggesting alternating severity of sustainability risks: Apple, for example, got aggressively accused of being responsible for dire working conditions at Foxconn’s production sites. Although, Foxconn is supplying

other major electronic manufacturers like Acer, Dell, Sony and Toshiba, they were either not punished to the same extent or not at all. Obviously, Apple's competitors are not perceived to be responsible for labour issues at Foxconn. Therefore, the current part of my dissertation seeks to understand what logic stakeholders do apply in connecting buying firms with social or ecological misconduct of their suppliers. Applying a Social Connection Logic (Young, 2006; Schrempf, 2012), limitations of established liability based argumentations are overcome to identify factors that account for the alternating severity of supply chain sustainability risks.

Risk Management in Sustainable Supply Chains

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Abstract

This paper explores and assesses major risk factors in sustainable operations and analyses different levels of risk mitigation strategies for each identified risk factor. Through an extensive literature review, fifty-four (54) risk factors in ten risk categories are identified and analysed. This is followed by an exploratory empirical research on risk mitigation strategies in two manufacturing companies that operate within sustainable supply chains. The identified risks are analysed with the use of the failure mode and effect analysis (FMEA) to identify the importance of the risk factors, followed by a correlation analyses to identify potential causal relationship between the identified risks. Risk mitigation strategies are proposed by analysing the data from the case studies. The study reveals a wide spectrum of different risk factors, whose importance/prevalence can vary according a company's (and its supply chain's) level of implementation of sustainable strategies, its strategic objectives, its size as well as the industry norms.

Keywords:

Sustainable Operations, Risk Management, Supply Chain

Investigating the utility of Predictive analytic techniques to manage risks within supplier portfolios

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Abstract

In recent years global supply chains have faced an onslaught of catastrophes' and uncertainties across the world. In the recent past, supply chains have been vulnerable to hurricanes in the US, floods in Thailand, tsunami in Japan and volcanic ash in Europe. Catastrophes can also be events such as droughts or excessive rainfall, which in recent times has made an impact on the wheat supply chain both in the US and Europe. In recent times due to impact that catastrophes' and other uncertain events have on supply chains, major insurance providers have been researching the utility of the portfolio management technique for managing supply chain risks. Predictive Analytics, a process to analyse current and historical information to identify risks and opportunities in the future is used in diverse business sectors. The process uses a variety of quantitative techniques to capture patterns and provide guidance for future decisions. This technique when combined with 'Big Data' can provide a way for supply chains to try and mitigate risks from otherwise unknown, events. This paper aims to consider the utility of 'predictive analytics' with 'big data' to manage risks within supplier portfolios. For example: quantitatively, simple hazard maps will not provide as much insight on losses as catastrophe models will. Catastrophe models are based upon realistic physical simulations of hazards (e.g., flooding). The size of 'worst-case' losses critically depends upon how the spatial distribution of elements in the supply chain is placed with respect to the footprints of all likely future hazards. These spatial correlations have not yet been explicitly considered in the supply chain literature. The paper introduces a new thought process and methodology for supply chain professionals to manage their sourcing portfolios and thus mitigate their supply chain risks.

Evidences from a research on Supply Chain Risk Assessment

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Abstract

Over the past years, academics have increasingly focused on supply chain risks and risk management (Khan and Burnes, 2007; Manuj and Mentzer, 2008a; Rao and Goldsby, 2009). A review of the literature reveals three emerging trends. First, supply chain risk management plays a strategic role in a company's success (Narasimhan and Talluri, 2009). Second, there are significant overlaps between operational and financial issues in a supply chain (Hendricks *et al.*, 2009; Hendricks and Singhal, 2005). Third, supply chain risk management is becoming increasingly sophisticated with emergence of mathematical and statistical techniques, at least as evidenced in the recently published literature (Sodhi, 2005; Tomlin, 2006; Neiger *et al.*, 2009). While the negative impact of risks is evident and widely discussed in both academic journals and business magazines, evidence from the business world suggests that managers do not fully incorporate risks in supply chain decisions (Hauser, 2003; Manuj, 2013), and managers tend to focus on reoccurring, low impact risks at the cost of high-impact, less probable risks (Chopra and Sodhi, 2004). Robust risk assessment and management processes form the basis for effective and efficient risk mitigation plans and business continuity plans (Poojari *et al.*, 2008; Pyke and Tang, 2010; Blos *et al.*, 2010). Given this backdrop, this exploratory research investigates the process of risk management as practiced by managers in terms of interpreting, assessing, and managing risks. The specific objectives of this research are: (a) to understand how managers employ risk assessment techniques and their understanding of relationships between different risks and risk drivers; (b) to explore the relationship that managers perceive between supply chain risk and other risks such as strategic, financial, operational and reputational risks; and (c) to understand how risk drivers influence how managers prioritize risks.

The Role of Supply Chain Risk Management Scholars in Public Discourse Regarding Construction and Maintenance of Freight Transportation Infrastructure

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Extended Abstract

Supply Chain Management (SCM) has been described as representing a systemic approach to managing inter-organizational strategy (Smith and Buddress, 2005). While dyadic relationships between firms, which are viewed as nodes from a network perspective, represent an important aspect of such a systemic approach, recent developments point to crucial importance of the linkages between the nodes (c.f., Motter and Albert, 2012; Christakis and Fowler, 2009). However, it has also been observed that the majority of research in SCM and Supply Chain Risk Management (SCRM) is focused on dyadic relationships (Power, 2005; Zybell, 2013). Among contributing factors to this state of affairs in research on SCRM may be that risk is more readily characterized and managed at the level of the relationship between firms.

In general, risk with its roots in the logistic networks that represent the links between firms in a supply chain is beyond the immediate control of individual firms (Smith, 2012; Wright and Datskivska, 2012), and this is particularly true for risk that requires large amounts of capital investment for construction or repair of transportation infrastructure. While funding of such activities is frequently based upon studies of feasibility (Smith, 2010) and economic impact (Findley, et al., 2011), often conducted by consultants and academicians, these types of studies leverage known impacts, and are commonly nearly bereft of information regarding potential, particularly with respect to risk. Bridges, roadways and ports usually are in the public domain, and funding of improvements is the result of public discourse that brings pressure to bear on legislative bodies and government policy makers. Who better than SCRM scholars to address the potential opportunities and risk of such projects with respect to the business community?

Personal Experience

When the ISCRiM group met in October 2009 in western North Carolina, a number of members had their travel plans disrupted by a massive rock slide, which effectively severed Interstate 40, a major passenger and freight link in the national transportation network. This event was followed during the next several months by similar events on a number of roadways, which ultimately disrupted two other routes through the western North Carolina region. These disruptions were so substantial that they were reflected in new transportation patterns, including the removal of a portion of Interstate 40 from Global Positioning System (GPS) maps of the region. Transportation costs to the region were estimated at \$197 Million, but little information is available regarding impacts due to other costs of doing business as a result of supply chain risk (HDR Decision Economics, 2010).

While direct costs are substantial, so are the costs of infrastructure projects, and the argument for investments are substantially bolstered by including the cost of infrastructure inadequacy and failure to the sustainability of the business models in the region. I find that I am increasingly called upon to give voice to these hidden costs of transportation, a role in which I find a level of trepidation, since I then take the role both of a scholar and an advocate. However, without advocacy, our scholarship is generally conveyed to other scholars, and in the best of cases, to supply chain professionals. Such a restricted audience may be adequate to helping businesses deal with many challenges, but our influence needs to be heard beyond this audience if it is to impact the state of our transportation infrastructure.

Economies and Infrastructure Adequacy

To be effective as advocates, we must be able to place infrastructure investments in the context of economic development. Quite simply, economic development requires the ability to accomplish economic exchanges beyond the region. In particular, economic vitality is dependent upon exchanges that bring a flow of capital from outside the region, and such exchanges require effective logistics. Effective transportation networks are the means necessary to accomplish the kinds of trade that we need, a fact recognized in the advent of development highway systems in previous times (Appalachian Regional Commission, 2012), and today requires a broader network to facilitate connection to the global economy (Moffatt & Nichol, 2010).

This reality points to a need not to just look at direct impact, but to realize that our transportation infrastructure has very direct impact on business viability. In general, SCRM represents a good window into such impact. Poor or inadequate transportation infrastructure increases uncertainty in the cost, availability and performance of linkages to other regions (Smith, 2012; Buddress and Smith, 2008). The unique perspective of SCRM scholars with respect to risk in these areas makes us ideal spokespeople for the critical nature of well-targeted infrastructure investments. However, this is a new role for most of us, and we would do well to understand the implications of the way in which we present our information, and the challenges of greater political awareness, in order to be effective.