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The effect of unethical behavior and learning on strategic supplier selection

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ABSTRACT

The unethical behavior of suppliers, such as the use of child labor or the use of unsafe processes, is becoming an increasingly common problem in many industries. Despite lower sourcing costs, such social irresponsibility can have a severe negative effect on firms because of growing awareness and punishment from consumers toward unethical practices. To study how ethical behavior of suppliers and supplier learning affect a firm's sourcing strategy, we analyze a buying firm's strategic sourcing decision on supplier selection between unethical and ethical suppliers by considering the risk likelihood and the impact to the firm of unethical events, and the supplier learning. We show that supplier learning matters and that the benefit of high learning rates may outweigh the concerns of unethical behavior or high ethical sourcing cost and so, long-term contracts are optimal. We also show that the firm may prefer a selection policy contingent on the realization of unethical events only when risk is low or impact is high. In addition, we show that a changing environment may cause the firm to take a more proactive sourcing strategy by adopting short-term switching policies.

1. Introduction

In strategic procurement planning, supplier selection is one of the most important decisions for a buying firm. Recently, in addition to cost and quality, supplier ethics is becoming another key factor to consider after a series of unethical practices at the contract manufacturing factories. For example, in the garment industry, unsafe working conditions have resulted in two recent incidents killing 112 and 1130 people in the capital of Bangladesh (McLain, 2013). In another incident, a factory in Cambodia that produces sneakers for ASICS collapsed and three people were killed (McDowell et al., 2013). In Indonesia, tin, an essential material for producing tablets and smartphones, has led to 44 deaths in 2011 (Simpson, 2012). These tragedies drew the attention of consumers and governments to unethical issues in the low-cost regions serving the world's demand (McDowell et al., 2013).

Concerns of losing reputation, in addition to compliance pressure from governmental agencies cause many firms to start scrutinizing their supplier production practices. However, many companies focus more on the short-run tradeoff between cost and ethics, at the expense of longer-run performance, when making selection decisions. For instance, soon after the deadly fire and collapse incidents, Disney totally cut Bangladesh out of its supply chain while Wal-Mart, GAP and J.C. Penney contracted with other Bangladeshi factories and refused to sign a legally binding accord to improve fire and building safety there. On the other hand, some European companies, like H&M, Inditex, and PVH, agreed to sign the accord and form a more effective coalition to improve the safety and working conditions (Berfield, 2013). In January 2012, under social pressure from the suicides and an explosion at Foxconn facilities, Apple for the first time disclosed in the new "Supplier Responsibility" report a supplier list and detailed auditing and training programs to better monitor and improve conditions at factories (Vascellaro and Fletcher, 2012). The report found that 62% of its suppliers were not compliant with working hours limits, 32% violated hazardous-substance management practices, and 35% failed to meet Apple's standards to prevent worker injuries.

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Though trying to shift the supply chain away from Foxconn to another contract manufacturer Pegatron, Apple ended up still giving Foxconn the bulk of the production for its iPad mini due to the low yield rates with the new contractor (Dou, 2013).

> "There's a learning curve for any new products, so our yield rates are increasing," said Mr. Lin [Chief Financial Officer of Pegatron].

For commonly used minerals, there are only a few conflict-free smelters far from enough to meet the needs of large manufacturers like Samsung Electronics Co and Motorola Mobility (Schectman, 2013). In spite of a small operation and an admittedly risky venture, a Dutch startup called Fairphone unveiled and received over 15,000 orders for its world's first ethically-sourced smartphone (Winter, 2013).

Given the increasing utilization of contract manufacturing, these recent developments, along with increasing consumer awareness, make ethical sourcing an increasingly integral part of corporate social responsibility. Undeniably, ethical production often involves high costs but unethical sourcing may also increase long-run costs significantly (Banjo, 2013). When consumer willingness-to-pay is influenced by socially responsible behavior, it would ultimately influence the profitability of the firm (Nielsen, 2014). As reflected in a statement from the head of Disney's consumer products division, firms must balance profit and reputation against the backdrop of a disastrous socially irresponsible incident.

> "These are complicated global issues and there is no 'one size fits all' solution," said Bob Chapek, president of the division. "Disney is a publicly held company accountable to its shareholders and after much thought and discussion we felt this was the most responsible way to manage the challenges associated with our supply chain." (Palmeri and Rupp, 2013)

In this paper, to study how ethical behavior of suppliers and supplier learning affect a firm's sourcing strategy, we analyze a buying firm's strategic sourcing decisions between ethical and unethical suppliers using a stylized economic model. We find that a firm's strategic supplier selection decisions should depend not only on the risk likelihood (probability) and the impact to the firm (discount in consumer willingness-to-pay) of unethical events, but also on the supplier learning (cost reduction). We glean further managerial insights by characterizing the optimal strategies for supplier-specific learning and time-dependent risk environments.

The remainder of this paper is organized as follows. Section 2 investigates the literature on sustainable supply chain management and ethical behaviour of suppliers. Then we present our model of the selection system in Section 3 and analyze it in Section 4. Section 5 presents our conclusions and suggestions for future work on this topic.

2. Literature review

2.1. Sustainable sourcing strategy

Based on the Brundtland Report on sustainable development for the United Nations (Brundtland, 1987), Elkington (1997) proposes three types of capital within the triple bottom line of corporate sustainability: economic (profit), environmental (planet), and social (people) capital. Sustainability is also recognized as a critical element in supply chain management (Linton et al., 2007). Kleindorfer et al. (2005) further develop a dynamic framework in the context of sustainable operations and emphasize the importance of external strategies for the future, which includes developing core capabilities in products, processes, and supply chains for long-term sustainability and pursuing strategies to facilitate it. Pagell and Wu (2009) integrate three pillars of sustainability to describe a sustainable supply chain as the one that performs well both on traditional measures of profit and on expanded conceptualization of performance that includes social and environmental dimensions. Tang and Zhou (2012) and Seuring (2013) provide comprehensive reviews on research applying modeling techniques in sustainable supply chain management. However, both reviews observe that the social aspect is widely ignored as the extant quantitative research is mainly focused on the environmental measure.

In the social aspect, supplier ethics has emerged as an important part of corporate social responsibility in safeguarding organizations from being accused of unethical behavior and subsequent reputation damage (Carter and Easton, 2011). Klassen and Vereecke (2012) find that irresponsible events leave the firm with social risk leading to uncertain negative outcomes on performance. The consumer perspective is reiterated in a study by Melnyk et al. (2010), who state that modern supply chains should be designed with sustainability being one of the outcomes based on consumer's needs. Experimental studies by Creyer and Ross (1997) indicate that, although consumers buy from unethical firms, they punish them by demanding lower prices. On the other hand, De Pelsmacker et al. (2005) find from a survey that consumers pay premium prices for ethical products. In a more recent experimental work, Trudel and Cotte (2009) investigate the impact of ethical production with results suggesting that the punishment exacted is far greater than the premium consumers are willing to pay.

In supply chain management, supplier selection is generally considered one of the most important responsibilities of management (Golmohammadi and Mellat-Parast, 2012) and increasingly as a strategic issue (Araz and Ozkarahan, 2007). For supplier evaluation and selection problems, Ho et al. (2010) present a comprehensive review of popular multi-criteria decision making approaches. Among the 78 papers reviewed from 2000 to 2008, they find that the top three popular criteria (more than 80%) used for evaluating the supplier performance are quality, followed by delivery, and cost. In contrast, the long-run and social attributes (relationship, risk, and safety & environment) are the least used criteria (less than 4%). To build a sustainable supply base, according to Goebel et al. (2012), supplier selection is a particularly important area of strategic decisions. Tang and Zhou (2012) make a similar observation and stress the need for more quantitative models integrating sustainability issues with traditional supplier selection criteria.

2.2. Supplier risk and learning effect

Because of the significance of supply risk management for a successful sustainable supply chain, Butner (2010) suggests that sustainability-related risk should be factored into sourcing decisions. From interviews of top executives, Hallikas et al. (2004) classify risks based on two components: (1) the likelihood of the occurrence of a risk event; and (2) the impact or consequences of the event occurring, which is the most common definition of risk (Ritchie and Brindley, 2007). Grounded within contingency theory, Trkman and McCormack (2009) suggest that sourcing strategy in response to supplier risk should take into account not only their characteristics and performance,