Information Sharing in a Supply Chain: Using Agency Theory to Guide the Design of Incentives

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Sharing accurate and timely supply and demand information throughout a supply chain can yield significant performance improvements to all members of the supply chain. Despite the benefits, many firms are reluctant to share information with their supply chain partners due to an unequal distribution of risks, costs, and benefits among the partners. The information shared will usually benefit the recipient, yet the majority of costs will be incurred by the provider. Many firms are also reluctant to share information due to the risk of it being divulged to competitors or used for opportunistic bargaining. This paper uses agency theory to (1) help explain the reasons firms are reluctant to share information and (2) guide the design of incentives to redistribute risk and encourage information sharing in a supply chain. A principal-agent model is described that suggests traditional fixed payment incentives or investments are insufficient for ensuring timely and accurate sharing of information. Instead, a mix of profit sharing, payments for sharing forecasts, and nonmonetary incentives is required. Using the model, managers can examine the feasibility of information sharing in their supply chain and devise appropriate strategies to manage and redistribute the risks, costs, and benefits among their supply chain partners. This paper also makes an important contribution to the literature by re-examining the role of agency theory in supply chain information sharing.

Introduction

Sharing accurate and timely supply and demand information throughout a supply chain can yield significant performance improvements to all members of the supply chain (Diaz, 2000). Despite the benefits, many firms are reluctant to share information with their supply chain partners due to an unequal distribution of risks, costs, and benefits among the partners (Kumar & van Dissel, 1996). The information shared will usually benefit the recipient, yet the majority of costs will be incurred by the provider (Iacovou, Benbasat, & Dexter, 1995; Subramani, 2004). Furthermore, many firms are reluctant to share information due to the risk of it being divulged to competitors or used for opportunistic bargaining (Xu & Dong, 2004).

A supply chain is a system of suppliers, manufacturers, distributors, retailers, and customers with material, financial, and information flows connecting participants in both directions (Fiala, 2005). Information sharing in a supply chain refers to the act of

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capturing and disseminating knowledge and data for decision makers to plan and control supply chain operations (Togar, Alan, & Ramaswami, 2002). The type of information shared includes, but is not limited to, what products are supplied, the amount of goods being made or transported among supply chain partners, and what consumers are demanding, as reflected by product sales.

Information asymmetries in a supply chain (where one firm is better informed than another) often lead to local decisions being made that are not necessarily optimal for the entire supply chain. As a result, additional direct or opportunity costs are incurred by the other members. These extra costs are eventually transferred back to the other supply chain partners or customers in the form of higher prices or lower quality. To avoid this inefficient situation, incentives can be used to encourage information sharing, reduce information asymmetries, and encourage globally-rather than locally-optimized decision making.

Existing research has examined the need for incentives to optimize supply chain costs and service levels (e.g., Baiman & Rajan, 2002; Corbett, DeCroix, & Ha, 2005), but little research has addressed the need for incentives specifically designed to encourage information sharing. Researchers have also demonstrated the benefits and risks of information sharing in a supply chain (e.g., Agrell, Lindroth, & Normann, 2004; Lee & Whang, 1999), yet little guidance is available to help supply chain decision makers in designing information-sharing incentive schemes.

The goals of this paper are to (1) help explain the reasons firms are reluctant to share information and (2) guide the design of incentives to redistribute risk and encourage information sharing in a supply chain. The following section discusses the benefits, costs, and risks of information sharing in a supply chain. The next section describes how agency theory can be used to understand the barriers to information sharing in a supply chain. It then shows how a principal-agent model can be constructed to guide the design of incentives to encourage information sharing. The final section discusses the conclusions and implications for research and practice.

Little research has addressed the need for incentives specifically designed to encourage information sharing.

Benefits, Costs, and Risks of Information Sharing in a Supply Chain

Firms are increasingly developing strategic partnerships with their suppliers and customers and implementing supply chain collaboration initiatives in an effort to reduce waste in their procurement and order fulfillment processes (Porter, 1985). Research indicates that supply chain collaboration creates better functioning and effective organizations, yet many organizations find it challenging to encourage their partners to share supply and demand information (Barratt, 2004; Kumar & van Dessel, 1996). The intent of supply chain collaboration is to gain additional business benefits beyond those obtained by simply exchanging and integrating information between suppliers and customers. Collaboration usually involves tactical joint decision making among the partners in the areas of collaborative planning, forecasting, distribution, and product design (Horvath, 2001; Kumar, 2001). Suppliers can quickly respond to demand and get products to customers faster when they have the required data. For example, Amazon.com is able to respond quickly to customer orders without holding inventory by sharing customer order and forecast data with their suppliers (Chopra & Meindl, 2001). Information sharing is not only used for operational ordering and tactical planning purposes, but also for strategic, long-term knowledge creation to support new product development and innovation (Williamson, Harrison, & Jordan, 2004).

Prior research on the effect of partnership quality on information technology outsourcing suggests that information sharing is significantly related to business performance (Lee & Kim, 1999). The amount of information shared dictates how much a supplier knows about its customers and other agents in the network (Ye & Farley, 2006). The more the different parties know about each other, the better they will be at coordinating activities and building long-term business relationships. The information being shared must be accurate, relevant, and easily accessible to all members of the chain for any benefits to be realized (McLaren, Head, & Yuan, 2002). Poorly managed and unmonitored information flows can work to magnify the “bullwhip effect,” in which demand variability amplification through the supply chain sequence leads to inaccurate forecasts and inadequate customer service (Lee, Padmanabhan, & Whang, 1997; Mason-Jones & Towill, 2000). This happens because the increased order variability requires each supply chain member to hold excessively high inventory levels in order to meet a boom-and-bust demand pattern. This lack of synchronization between supply and demand could eventually lead to complete stock-outs or increases in physical inventories and operating costs (Li, Sikora, Shaw, & Woo Tan, 2006).

Coordination and decision making requires information flowing to and from several interdependent entities in a supply chain. For example, setting inventory levels requires downstream information
from customers on demand, upstream information from suppliers on availability, as well as information on inventory levels, costs, and margins (Chopra & Meindl, 2001). Poor demand forecasts based on distorted orders result in erratic capacity planning and missed production schedules.

The value of information sharing can only be inferred after it has occurred and once the profit, sales, and cost figures have been analyzed. Supply chain members who have invested in information sharing face the possibility of not receiving any payment or reward for doing so. Thus, the inability to know the value of information sharing in advance exposes firms to the risk that the return from sharing information will be below expectations.

In addition to the risk of uncertain payoffs, firms face three major risks or costs in information sharing that may discourage them from sharing complete and accurate information: (1) coordination costs—the costs of gathering, collating, and sharing information with another firm; (2) operational risk costs—the costs of shirking or reneging on previous agreements; and (3) opportunistic risk costs—the costs of information being used inappropriately to gain bargaining advantages or provide information to competitors (Xu & Beamon, 2006). As discussed in the following section, incentive schemes are an important mechanism for counteracting these costs and encouraging information sharing in a supply chain.

Using Incentives to Encourage Information Sharing

Before embarking on a plan to use incentives to encourage information sharing, supply chain partners need to ensure that they are all striving to achieve the same goals in order to be motivated by a joint incentive scheme. Motivation to share information can be explained by expectancy theory and equity theory (Vroom & Deci, 1970). Under expectancy theory, supply chain partners are motivated to participate in information sharing when it is easily feasible to do so and if they value the offered rewards (Gagné & Deci, 2005). Equity theory proposes that supply chain members will first assess the information they have to share and the rewards being offered in return (Tyson, 1996; Vroom & Deci, 1970). The policies for sharing information will be adhered to only if a cost-benefit analysis proves that the benefits of doing so outweigh the costs and risks of compiling and disseminating information to supply chain partners. Thus, before a firm decides whether or not to participate in an information-sharing incentive system, it has to interpret and convert the associated costs and benefits of information sharing into dollar amounts and compare them to each other.

Implementing an incentive scheme requires defining (1) what information will be shared, (2) how the information will be shared, and (3) how the parties will be rewarded. First, a decision is made on the type and quantity of information that will be shared and the method that will be used to distribute it to all supply chain members. Information quality guidelines should be developed to distinguish good information from irrelevant or distorted information. The quality guidelines also make it possible to base incentive payments on how much the information shared deviates from the prescribed standards (Li & Lin, 2006).

Next, the decision about how information will be shared is made. For example, supply and demand forecasts are increasingly shared over the Internet through secure portals. Retailers and suppliers can post their latest sets of forecasts for a list of products electronically through a dedicated server. The server will then analyze the pairs of corresponding numbers and flag any that differ beyond a preset safety margin—for example, 5% (Verity, 1997). Supply chain members will then work to reconcile forecasts that are different and create only a single one. Rules and deadlines are put in place to ensure that the shared information is correct and received on time. Companies in the retail industry such as Wal-Mart, Sears, and Sara Lee collaborate this way with supply chain partners. They share and develop accurate forecasts and have been able to successfully save time, cut costs, and better manage their inventory according to demand (Marilyn, Lawrence, & Sharon, 2000).

Finally, to encourage and reward information sharing, an incentive scheme must be defined. As described below, traditional fixed payment incentives are often insufficient for encouraging information sharing due to unequal distributions of costs, benefits, and risks among the supply chain partners involved.

Limitations of Traditional Fixed Payment Incentives

Economic arrangements that involve information sharing, risk, and incentives can be described in terms of a principal-agent relationship (Eisenhardt, 1989). The principal (the supply chain member who needs information) wants to motivate the agent (the supply chain member who possesses it) to share actionable information (Campbell, 2006). The principal is usually risk neutral (i.e., takes some risks, cautiously), whereas the agent is typically risk adverse (i.e., avoids risks at all costs). The risk that the principal will use the information for opportunistic purposes, or divulge it to competitors, together with the costs of providing the information usually dissuade agents from participating in an information-sharing arrangement. Despite the potential benefits of interorganizational information sharing, lack of trust in the principal organization creates real or perceived risks that act as major disincentives to sharing information with a supply chain partner (Fawcett, Magnan, & Williams, 2004; Hart & Saunders, 1997). Despite the theoretical advantages of information sharing, incentive schemes are often necessary to motivate agents to share information once risk-
adjusted costs are considered (Ronchi, Luzzini, & Spina, 2007).

Traditionally, the incentive to share information is in the form of a fixed-price payment to the agent, or in similar kind investments in technologies to enable the supply chain partner to share information. For example, a supplier may pay its retailers for providing point-of-sale (POS) information or may install the POS information systems for the retailers. However, these fixed payment incentives are prone to failure as they transfer too much risk to the principal. The principal has no way of assessing beforehand whether or not the agent will use the provided technology to share information with the principal. Under a fixed payment scheme, the agent is not motivated to share accurate or timely information because the payment or investment is up front and not dependent on effort or results of information sharing (McAfee & McMillan, 1986).

Agency theory suggests that the “first-best” solution to this problem would be a variable incentive scheme in which the incentive varies with the effort expended on information sharing or on the quality of the information provided (Nicholson, 2005). However, basing the incentive on effort or quality of information would be infeasible because quality is subjective and difficult to measure. Therefore, the most feasible solution to the principal-agent problem is usually what economists call the “second-best” (and most feasible) solution (Basov, 2003): to assume that effort cannot be directly measured, but results can be measured. Because there is uncertainty that the agent’s efforts are responsible for any subsequent attainment of gains, the principal must accept some risk in sharing the resulting gains with the agent in order to motivate the agent to share information. An agent in this situation will typically be risk adverse because it does not have as many resources as the principal to buffer the effects of uncertainty in the realization of profits. However, in order for the incentive scheme to be adopted, the principal must be risk neutral and have sufficient resources to buffer the effects of uncertainty (Eisenhardt, 1989).

The canonical example of this solution to the principal-agent model is in “sharecropping,” when the principal (landowner) incites the agent (sharecropper) to provide optimal effort by providing the sharecropper with a share of the proceeds of the farm’s production. In a supply chain example, this translates to the principal inciting the agent to share information by sharing a portion of the profits generated in the supply chain. However, in contrast to farming, there is a stronger possibility that there will initially be no apparent proceeds to share in the supply chain, in which case the principal must insurance that the agent will receive a modest benefit regardless of the outcome. Rather than making this a fixed payment that might act as a disincentive for further effort (Shavell, 1979), the principal could make this insurance through investments such as infrastructure or training investments.

The principal-agent model suggests that traditional fixed-price payment incentives or investments are insufficient for ensuring timely and accurate sharing of information in a supply chain. Instead, a mix of fixed payment, profit-sharing, and nonmonetary (insurance) incentives is needed.

**Fixed Payment Incentives**

A fixed payment can be offered to encourage sharing of supply and demand forecasts. Collaborative forecasting is driven by the need to make timely and accurate forecasts of demand by gathering data from customers, retailers, or suppliers and disseminating it throughout the chain (Marilyn, Lawrence, & Sharon, 2000). The effectiveness of collaborative forecasting depends greatly on the correctness of the forecasting approach and the availability of accurate information. Multiple sources of forecast data can create problems if not reconciled correctly. However, if reconciled, forecast reliability can be improved by combining and triangulating information from multiple sources, which reduces forecast error (Klassen & Flores, 2001).

Information such as POS data is often needed to forecast demand and estimate order quantities. Manufacturers, distributors, and suppliers need this data from retailers to help them plan ahead and anticipate the number of goods that must be manufactured or distributed. However, retailers are not always willing to part with confidential information for fear that it may be used for opportunistic ends, for example, a supplier leaking POS data to the retailer’s competitor. This can potentially cripple the retailer if the competitor uses the information to continuously undercut the retailer’s prices. Incentives become a way to convince supply chain members to willingly and safely give other members the information they need and obtain something in return. The drawbacks of collaborative forecasting are that it is difficult to see or measure the cause-and-effect relationship between sharing forecasts and increasing profits. The accuracy of the forecasts can only be seen at the end of the information-sharing process when forecasts are compared with the actual amounts they predict. If the agent is given payment for the forecasts before actual results are compared to the forecasts, the principal loses out if the forecasts are inaccurate. A way to avoid this situation is to pay for forecasts only after they have been compared to actual results and the level of discrepancy is determined.

**Profit-sharing Incentives**

Profit sharing is when the principal offers part of its profits to the agent for information sharing if the profits exceed a specified baseline. It not only rewards supply chain members for sharing accurate information but it also drives them to continue doing so. It is, however, very difficult to draw the link between the sharing action and the profits, complicating the process of
choosing the right amount of payment. The optimal level of profit sharing depends on how much risk the principal is absorbing (McAfee & McMillan, 1986). If there is a high degree of certainty that the shared information will yield significant results, the amount of profit shared should be relatively high. If not, the percentage of profit to be shared should be low because in such high-risk, low-payout situations, there will be little motivation to share information. Having the organizational tools to effectively use shared demand and supply information and a goal-oriented partnership built on mutual trust will lead to the achievement of the goals set by the collaborating firms.

From the perspective of the agent, profit-sharing schemes have two major drawbacks. First, there may be no profits resulting from the agent’s information-sharing efforts. Second, it may be difficult to determine if a profit was made. For both reasons, an agent may be reluctant to expend the required effort when there is a risk there will be no payoff or the payoff will be less than expected (Shavell, 1979). Therefore, the agent may be inclined to not engage in information sharing, or else put minimal effort into it, both of which will fail to produce the desired results. The solution to the sharecropping example is to provide agents with some type of insurance that they will receive benefits, even if the profit-sharing rewards are minimal. Without this enticement, profit-sharing may be too uncertain (Nicholson, 2005).

This additional insurance benefit could be in the form of a monetary payment; however, if it is too generous, it would remove the incentive to provide quality information.

**Nonmonetary Incentives**

Less tangible, nonmonetary incentives may be a more preferable form of insurance because they are less likely to be directly incorporated into short-term managerial decision making. For example, offering preferred supplier status to a supplier who shares timely and accurate capacity information provides a long-term reward to the supplier via a strengthened trading relationship and preferential terms that they will want to maintain. In contrast, a cash payment may result in a short-term cost-benefit decision being made by the agent that ignores long-term benefits to the relationship. Monetary incentives are also more prone to shirking than nonmonetary incentives (Holmstrom & Tirole, 1991). An agent who accepts the payment has little further incentive to share information other than anticipation of future payments that may or may not materialize.

Nonmonetary incentives can be in many forms such as preferred supplier status, access to products or customers, or exclusivity agreements (see Table I). For example, in the computer industry, most products are supplied in limited quantities when first introduced to the market. A manufacturer of these goods can offer a distributor or retailer priority ordering when new high-demand products are developed if they have demonstrated previous commitment to the relationship by sharing information. Higher profits can be realized by firms that sell new products to customers first as they can initially charge high prices. This is because at this introductory stage, there is excess demand above what the market can supply, causing the price to rise.

Similarly, when a retailer needs specific data from a supplier, the retailer can create an incentive for the supplier to share data by offering the supplier exclusive rights to stock up the retailer’s shelves. The supplier operates like other functions of the company, such as Purchasing or Accounting, and the supplier’s employees can work from the retailer’s store, constantly ensuring store shelves are fully stocked. This establishes a guaranteed market for the supplier, bringing in a stable flow of profits. The retailer is able to reduce restocking costs by transferring the costs to the supplier. For example, Wal-Mart and Proctor & Gamble (P&G) share information regarding the retail sales of P&G products at Wal-Mart stores. This information enables P&G to do a better job of managing its production of these products and provides Wal-Mart with greater “in-store” availabilities (Li, Sikora, Shaw, & Woo Tan, 2006). Supply chain principals can selectively strengthen supply chain partnerships by giving preferential access to information to the partners who are the most cooperative in sharing beneficial information. Thus, the sharing of information can act as its own incentive when a principal shares valuable information only with partners who share information above a defined quota or frequency (Lee, Padmanabhan, & Whang, 1997).

**Designing an Appropriate Mix of Incentives**

When it comes to choosing between fixed and uncertain (e.g., profit-sharing) incentive schemes,
a risk adverse agent will choose a lower but certain incentive payment over a higher but uncertain incentive payment to avoid the risk associated with the higher payment. Even if the payment amounts were similar, the risk neutral agent would still choose the guaranteed payment over the nonguaranteed, more risky payment. This means that if an agent is risk adverse, a payment for forecasts is preferable over profit sharing. A principal is typically considered to be risk neutral because the principal is aware of possible shirking on the part of the agent. Therefore, the principal prompts the agent to share information by designing incentive contracts that encourages the agent to share information and at the same time minimizing any risky shirking the agent may engage in. Also, a principal who is aware of the risk tolerance of the agent can design sustainable incentives, sensitive to the expectations of the agent. Table II outlines six propositions regarding the relative desirability of a fixed payment versus a profit-sharing incentive scheme to encourage information sharing.

**Cost Transparency**

When a principal and agent agree on how to share profits for information sharing, a profit sharing scheme is easy to compile and recommend. An agent is usually unmotivated to share information in the absence of either fixed payments (Raghunathan, 2003) or anticipated rewards of profit sharing (Li, 2002). If it is difficult to mutually agree on profits, a fixed payment incentive becomes more desirable. Members have to agree on the profit that has been achieved despite different accounting methods used to arrive at profit figures.

**Ease of Measuring Quality**

A fixed payment incentive is practical when information quality can be easily measured. It directly rewards the information-sharing effort of the agent and hence motivates the agent to continue sharing information (Shavell, 1979). Even under conditions of asymmetric information, measuring and compensating information quality is an outcome-based approach that makes the information-sharing process less complicated and not solely effort based (Hartmann-Wendels, 1993; Shavell, 1979). Profit sharing can be used as an alternative compensation scheme if there are not enough tools to measure information quality with precision (Clarke, 1983).

**Coordination Costs**

A supply chain with low information-sharing costs can easily add on fixed payment incentives without overinflating costs. Under such conditions, the fixed payment scheme is more practical than the profit-sharing scheme because it can be implemented with little effort due to low costs (Li, 2002). The fixed payment will also reduce the variability of the incentives, common in profit-sharing schemes (Shavell, 1979). Fixed payments can be adjusted after periodic assessments to prevent the agent from underperforming or working below levels agreed on with the principal (Hartmann-Wendels, 1993).

**Operational Risk Costs**

If a supply chain has high operational risk costs—such as the costs of shirking or reneging on agreements—a fixed payment incentive will provide a binding agreement that minimizes operational risks. Because a principal has to pay for the information needed from the agent, the principal is unwilling to leak the obtained information to outsiders (Li, 2002). When operational risk costs are high, profit sharing has to be adopted to lure reluctant agents back into the information-sharing process by offering them attractive financial rewards (Li, 2002).

**Profit Margins**

If the principal’s profit margins are low, profit sharing will no longer be a feasible option because no profits are available to share. An agent who knows about the principal’s low profit margins will demand a fixed payment incentive to eliminate the risk of not receiving payment after sharing information (Raghunathan, 2003; Shavell, 1979). The principal will also prefer a fixed payment incentive because the principal will pick the incentive scheme with the greatest benefits under the circumstances (Porteus & Whang 1991).

### Table 2

<table>
<thead>
<tr>
<th>Proposition</th>
<th>Construct</th>
<th>Supporting Literature</th>
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<tbody>
<tr>
<td>1. The harder it is for the principal and agent to agree on the amount of profit made, the more desirable the fixed payment incentive will be compared to a profit-sharing scheme.</td>
<td>Cost transparency</td>
<td>(Li, 2002); (Raghunathan, 2003)</td>
</tr>
<tr>
<td>2. The easier it is to measure the quality of the information shared, the more desirable the fixed payment incentive will be compared to a profit-sharing scheme.</td>
<td>Ease of measuring quality</td>
<td>(Hartmann-Wendels, 1993); (Clarke, 1983)</td>
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<td>3. The lower the costs of sharing information, the more desirable the fixed payment incentive will be compared to a profit-sharing scheme.</td>
<td>Coordination costs</td>
<td>(Li, 2002); (Shavell, 1979)</td>
</tr>
<tr>
<td>4. The lower the operational risk cost of sharing poor quality information, the more desirable the fixed payment incentive will be compared to a profit-sharing scheme.</td>
<td>Operational risk costs</td>
<td>(Li, 2002)</td>
</tr>
<tr>
<td>5. The lower the principal’s profit margins are, the more desirable the fixed payment incentive will be compared to a profit-sharing scheme.</td>
<td>Profit margins</td>
<td>(Porteus &amp; Whang, 1991); (Raghunathan, 2003)</td>
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<td>6. The more powerful the agent is compared to the principal, the more desirable the fixed payment incentive will be compared to a profit-sharing scheme.</td>
<td>Agent power</td>
<td>(Xu &amp; Beamon, 2006); (Hartmann-Wendels, 1993); (Porteus &amp; Whang, 1991); (Shavell, 1979); (Raghunathan, 2003)</td>
</tr>
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</table>
Agent Power

There are times in the information-sharing process when the agent is more powerful than the principal because the agent possesses the information the principal needs. The agent is in a position to dictate the terms of the incentive contract and can demand more benefits (Li, 2002; Xu & Beamon, 2006). The agent will choose the fixed incentive scheme, which minimizes the risk of not receiving compensation in the future by rewarding information-sharing efforts immediately. If the opposite is true and the principal possesses substantial market power and can exercise price discrimination against agents, no fixed payment will be given for incomplete information that is below prespecified levels (Li, 2002). Here, profit sharing is the best option because it compensates that agent only when the information-sharing process increases profits.

Conclusions and Discussion

In summary, even though the importance of information sharing in a supply chain seems clear, many supply chain members are reluctant to share information due to the asymmetrical distribution of risks, costs, and benefits. The risks include uncertain payoffs, operational risks such as shirking, and opportunistic costs such as misusing proprietary information. The costs of coordination include paying for technology or human resource infrastructures. The benefits include reduced inventory levels, reduced waste, and increased responsiveness to changing demand. Properly designed incentive schemes can be used to more equitably distribute the risks, costs, and benefits of information sharing among the supply chain members, providing the necessary motivation to ensure success.

This paper uses agency theory to (1) help explain the reasons firms are reluctant to share information and (2) guide the design of incentives to redistribute risk and encourage information sharing in a supply chain. A principal-agent model is described that suggests traditional fixed payment incentives or investments are insufficient for ensuring timely and accurate sharing of information. Instead, a mix of profit-sharing and nonmonetary incentives is required. Using the model, managers can examine the feasibility of information sharing in their supply chain and devise appropriate strategies to manage and redistribute the risks, costs, and benefits among their supply chain partners.

It is important to note that supply chain performance does not always improve with increased information sharing. Planning, using the information shared, and coordinating all activities in the supply chain are separate functions that still must be effectively performed. It is up to the members of a supply chain to gauge whether the benefits of offering incentives for information sharing outweigh the associated costs. Costs may include information costs, such as information systems investment and other charges by either suppliers or customers for providing information, and coordination costs, such as communication costs and administration costs (Li, Sikora, Shaw, & Woo Tan, 2006).

A key assumption of many economics-based models (including agency theory) is that individuals and organizations act rationally and in their own self-interest. These assumptions are necessary to enable the development of incentive contracts, yet they do not necessarily reflect the more complex, irrational, or altruistic behaviors that are described in alternative theories of human or organizational behavior (Eisenhardt, 1989). Although agency theory can provide guidance in setting up incentive contracts, researchers and practitioners must recognize the limitations of monetary incentives in motivating behavior. Furthermore, agency theory adopts a somewhat pessimistic view of human behavior that assumes all efforts must be explicitly rewarded—usually with money. Alternative methods of encouraging information sharing and collaboration in a supply chain should also be explored, given the difficulties of measuring and structuring incentives.

Nonetheless, a supply chain principal who demonstrates willingness to absorb risks and share gains with partners through information-sharing incentives sends a clear signal of interest in improving the mutual benefits of the supply chain relationships. Thus, the willingness of a firm to redistribute risk and profits by using incentive contracts may be as important as the actual results of the redistributions. Although firms might understand the benefits of collaboration on a conceptual level, they may not act until supply chain principals make a clear commitment to improving the relationship, which includes sharing the costs, risks, and rewards with their partners.
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