

# **Managing Strategic Alliance Risk: Survey Evidence of Control Practices in Collaborative Inter-organizational Settings**

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January 2006



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ISBN 978-0-89413-649-8  
01/06 First Printing

## TABLE OF CONTENTS

ACKNOWLEDGMENTS.....	i
ABOUT THE AUTHORS.....	i
ABSTRACT.....	1
EXECUTIVE SUMMARY.....	1
INTRODUCTION.....	2
REVIEW OF RELEVANT ACADEMIC LITERATURE.....	3
MANAGEMENT RISK AND CONTROL FRAMEWORKS.....	4
<i>COSO (2004) Enterprise Risk Management- Integrated Framework.....</i>	<i>4</i>
<i>SIMONS' (1995) LEVERS OF CONTROL FRAMEWORK.....</i>	<i>6</i>
RESEARCH METHODOLOGY AND PARTICIPANT DEMOGRAPHICS.....	8
STRATEGIC ALLIANCE RISK ASSESSMENT.....	11
CONTROL ACTIVITIES USED TO MANAGE STRATEGIC ALLIANCE RISKS.....	17
IMPLICATIONS OF THE SARBANES-OXLEY ACT.....	20
CONCLUSION.....	21
REFERENCES.....	23

## ACKNOWLEDGMENTS

This document reports on the findings of an academic study funded by The Institute of Internal Auditors Research Foundation (Anderson et al. 2006). Contact the authors for the complete study. The authors are grateful to The Institute of Internal Auditors and its membership for their participation in this project. This research benefited from the helpful suggestions of Urton Anderson.

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## ABSTRACT

Using data from a survey administered to 151 chief audit executives and internal audit consultants, this research seeks to identify, categorize, and quantify common and systematic risks associated with the formation and performance management of innovative inter-organizational forms, control practices currently being implemented, and effectiveness of chosen control practices.

## EXECUTIVE SUMMARY

Firms are increasingly using collaborative organizational arrangements (e.g., joint ventures, strategic alliances, and strategic supply chains) to complete transactions that require a high level of inter-organizational involvement and coordination. The adoption of these organizational forms has created a need for new management control practices that comprehend the risks of transacting with self-interested parties when complete contracts cannot be written or when the cost of doing so is prohibitive. This study seeks to identify, categorize, and quantify:

1. The common and systematic risks associated with the formation and performance management of innovative inter-organizational forms, and
2. The control practices currently being implemented by firms engaged in these activities.

Using a Web-based survey, we obtained responses from 151 chief audit executives and internal audit consultants regarding the inherent level of specific risks their firms face as a result of their critical strategic alliances, as well as the specific control mechanisms they use to manage these risks. Specifically, we identify and collect data from respondents regarding risk and controls associated with four specific types of strategic partnerships:

1. Upstream partnerships,
2. Downstream partnerships,
3. Marketing partnerships, and
4. Research and development partnerships.

We use the COSO Enterprise Risk Management (ERM) framework (COSO 2004) to guide our investigation of the processes by which firms identify, assess, and manage business risks as related to these four types of strategic alliances. We focus on two of the COSO ERM risk management components (risk assessment and control activities) and provide additional insight into the control activities component by integrating into our analysis the “Levers of Control” framework as proposed by Simons (1995). In the framework, Simons describes four control levers – beliefs systems, boundary systems, interactive control systems, and diagnostic control systems – each with a distinct purpose for controlling business activities while maintaining an innovative work environment.

Results indicate that most of the risks faced by firms as a result of strategic alliances are not highly probable; however, many of the risks would be highly detrimental to the firm if they were to occur. Therefore, careful management of these risks is critical to the success of the alliance partnership and the strategic objectives of the firm. Further, consistent with the theory underlying the Levers of Control framework, firms use all four levers to control the risks raised by strategic alliances, regardless of the type of alliance. However, the specific control mechanisms that firms use differ for the different types of alliances. Finally, respondents indicate that the use of SAS 70 reports as a control mechanism has increased greatly as a result of the U.S. Sarbanes-Oxley Act of 2002.

## INTRODUCTION

Recent evidence indicates that firms have dramatically increased the use of strategic collaborations for transactions that require a high level of involvement and coordination between alliance partners (Anderson and Sedatole 2003). These collaborations may take the form of arrangements that align the interests of participating parties through formal profit-sharing rules (e.g., franchises, licensing agreements, and joint ventures). Alternatively, they may take a more amorphous form, using few mechanisms from contract law to structure their interactions or allocate the gains from trade (e.g., strategic alliances, consortia, and strategic supply chains). However, it is important to recognize that collaborative organizational forms are inherently risky and, in fact, it is this additional risk which offers many of the important strategic advantages, as long as those risks can be “safely managed” (Buehler and Pritsch 2003).

In this study, we suggest that the adoption of collaborative organizational forms has created a need for new management control practices that comprehend and effectively manage the risks of transacting with self-interested parties when complete contracts cannot be written or when the cost of doing so is prohibitive. Historically, many of the risk identification and risk management tasks have fallen to managers who work in the area of strategy. However, as collaborative organizational forms are adopted as equilibrium forms of organizing, inter-organizational control must devolve to those in the role of internal auditor.

This research is important to managers and internal auditors of firms that utilize strategic alliances to enhance their business practices. The results of this study provide valuable insights into the types of risks that can be expected when entering into an inter-organizational collaboration, as well as the level of impact (magnitude) and the likelihood of the occurrence (probability) of specific risks. Further, the results can be used as guidance for firms that strive to effectively manage inter-organizational collaborations, as it describes the practices commonly used by a diverse cross section of firms.

The primary contribution of this study is to provide descriptive evidence of the different types of risks that affect firms that engage in strategic alliances and the management control practices these firms use to manage those risks. To do so, we conducted an online survey of chief audit executive (CAE) and consultant members of The Institute of Internal Auditors (IIA). Participants were solicited through e-mail communication from the Institute of Internal Auditors Research Foundation (IIARF) and provided responses to a Web-based survey. The survey consisted of questions regarding the management of strategic alliance networks in general, as well as specific questions regarding the type of strategic alliance with which the respondents were most familiar.

Using the COSO Enterprise Risk Management (ERM) framework (COSO 2004), we provide data describing the risks faced by firms when operating within each of the major alliance categories: upstream partnerships, downstream partnerships, marketing partnerships, and research and development partnerships. As we discuss below, many firms currently use, or are in the process of implementing, the COSO ERM framework. Therefore, the use of this framework provides a meaningful and practical context for our results. Further, we integrate the Levers of Control framework (Simons 1995) to provide a basis for organizing and understanding the types of control mechanisms commonly used by firms to manage the risks that arise as a result of their participation in strategic alliances.<sup>1</sup> The four control levers identified by Simons (1995) are:

1. Beliefs systems – organizational standards used to reinforce the firms’ core values,
2. Boundary systems – regulations regarding what partners are *not* to do,
3. Diagnostic control systems – traditional feedback systems,
4. Interactive control systems – formal information systems that allow management to involve themselves regularly and personally in the partner’s activities.

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<sup>1</sup> In Anderson et al. (2006), we further analyze the correlations between risks facing firms engaging in strategic alliances and the control practices implemented to manage these risks. In addition, that study includes descriptive evidence of control practices used by three large companies and one national consulting company that specializes in risk management based on extensive interviews.

Finally, we provide preliminary evidence regarding the changes to control practices firms have undertaken in response to the enactment of the Sarbanes-Oxley Act, which requires that firms assess the risks and internal control practices of certain strategic partners.

Our results indicate that while most of the risks introduced by strategic alliances are not highly probable, many would be highly detrimental to the firm if they were to occur. Further, we find that firms rely on many types of control mechanisms to manage their strategic partner risk. Specifically, we find that firms tend to rely on each of the four Levers of Control (Simons 1995) equally. Finally, respondents indicate that they are making significantly greater use of SAS 70 reports as a means of demonstrating that key strategic partners have adequate internal control practices than they did prior to the enactment of Sarbanes-Oxley.

In the following sections, we provide a brief review of prior academic literature. We then describe the management risk and control frameworks used to guide our survey development. We use the COSO ERM framework to organize and examine the risks faced by firms using strategic alliances and the Levers of Control typology, designed by Robert Simons (1995), to organize and describe the relevant control practices utilized by these firms. After describing the research methodology and participant demographics, we provide the results of our survey regarding risks faced by firms using strategic alliances and the control mechanisms used to manage those risks, respectively. We conclude this report by describing implications of the Sarbanes-Oxley Act on strategic alliance risks and control systems followed by some concluding remarks.

### REVIEW OF RELEVANT ACADEMIC LITERATURE

Strategic alliances account for a large and increasing segment of the global economy today. Since the 1980s, the number of alliances has increased by approximately 20% per year and account for as much as 25% of firm revenue for many U.S. companies (Ernst 2002). As alliances have become a dominant force in the world economy, they have also received substantial attention in academic research. Extensive research on transaction cost economics addresses the determinants of firm boundaries.<sup>2</sup> Further, there is increasing research on when and how firms choose “hybrid” organizational forms (e.g., Menard 1995, 1996; Williamson 1985, 1991), on the specific type of hybrid chosen (Buvik and Reve 2001; Gulati 1995; Gulati and Singh 1998; Osborn and Baughn 1990; Pisano 1989, 1990; Pisano et al. 1988) and on the determinants of hybrid success (e.g., Anand and Khanna 2000; Baum et al. 2000; Dekker 2003; Lorenzoni and Lipparini 1999; Stuart 2000; Wolff and Reed 2000; Zaheer et al. 1998). However, there is little research on the day-to-day controls used by firms in managing collaborative arrangements.

The high incidence of failure of collaborative arrangements – reportedly, 60 percent of alliances fail – (Anonymous 2000), is typically linked to the *risks* associated with collaborative organizational forms; risks associated not only with the lack of cooperation among partner firms, but also with performance failure *despite full cooperation* (Das and Teng 1996, 2000, 2001). Indeed, collaborative arrangements are subject to severe “business process” and “information risks” (as defined by Kinney 2000). *Business process risks* include the risks associated with “hold-up” by a partner firm and risks associated with the inequitable allocation of collaboration returns in the absence of complete contracts. The measurement of partner performance and overall collaboration performance is difficult in many of these settings in which performance quality is not clearly defined (e.g., R&D alliances). This represents a significant *information risk* to individuals (e.g., internal auditors) attempting to monitor and control such collaborations.

There is a fairly extensive literature on collaborative arrangements examining the role of individual and organizational *trust* in enabling economic transactions that appear to be subject to severe risks (i.e., hazards of opportunistic behavior) (e.g., Granovetter 1973; Lewis 1999; Ring and Van De Ven 1992; Ring and Van De Ven 1994; Zaheer et al. 1998; Zaheer and Venkatraman 1995). Although empirical studies generally confirm trust as an important determinant of strategic alliance success, it is not clear to

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<sup>2</sup> See Anderson and Sedatole (2003) for a brief review of this literature as it relates to managerial and accounting controls.

what extent trust serves as a complement to or substitute for other forms of control in collaborative settings. Nor is it clear how firms create or even measure trust levels in these settings.

Previous research on control practices in collaborative arrangements (Anderson and Dekker 2005; Anderson et al. 2000; Christ et al. 2005; Coletti et al. 2005) has attempted to provide initial evidence on the relationship between transaction characteristics, the design of inter-organizational control practices, the trust levels created, and the performance achieved under alternative control design choices. The current study adds to extant literature by identifying the common and systematic risks associated with various forms of collaborative arrangements and the control practices currently being used by firms to manage those risks. Further, based on data obtained by CAEs and internal audit consultants, we are able to quantify the pervasiveness and magnitude of the risk management and control problems in a large cross section of firms.

### **MANAGEMENT RISK AND CONTROL FRAMEWORKS**

#### ***COSO (2004) Enterprise Risk Management-Integrated Framework***

In reviewing the literature, and based upon discussions with practicing internal auditors, we identified several commonly used risk frameworks. We selected one, the COSO Enterprise Risk Management-Integrated Framework (hereafter, COSO ERM) developed by the Committee of Sponsoring Organizations of the Treadway Commission (COSO 2004) for providing a useful structure for our survey.<sup>3</sup>

COSO ERM, released in 2004, was developed to provide a robust framework to guide firms through the identification, assessment, and management of business risks. The framework is designed to be implemented by management during strategy setting, during which management considers the risks inherent in each of the strategic alternatives. These alternatives may include, but are not limited to, the decision to form new strategic alliances. The key purpose of the framework is to “help managements of businesses and other entities better deal with risk in achieving the entity’s objectives” (COSO 2004). Further, the framework seeks to integrate various risk management models and develop a common tool for enterprise risk management.

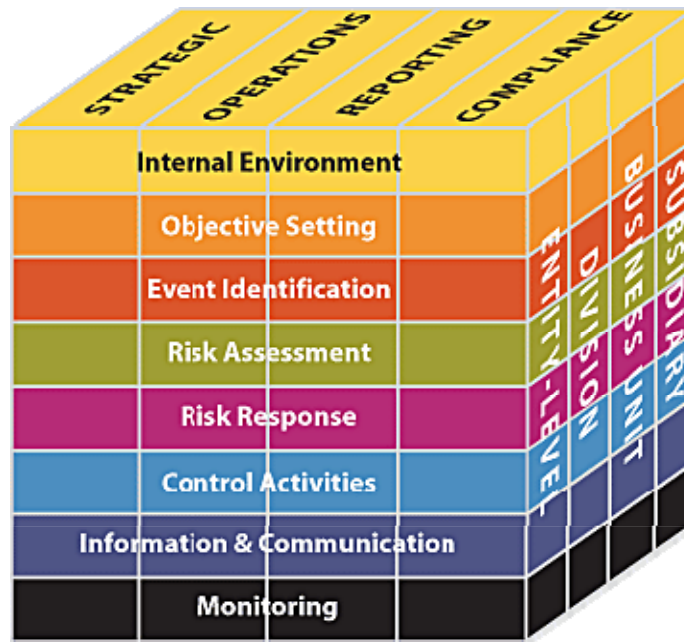
COSO ERM recognizes that first, and foremost, companies strive to increase shareholder value. However, greater shareholder value is not achieved without increased business risk, which is defined as “the possibility that an event will occur and adversely affect the achievement of objectives” (COSO 2004, p. 4). COSO ERM establishes four classes of business objectives: (1) strategic, (2) operations, (3) reporting, and (4) compliance. Strategic objectives are those which relate to high-level goals and are aligned with and supporting the firm’s mission. Operations objectives relate to the effective and efficient use of firm resources. Reporting objectives are those that relate to the reliability of a firm’s reporting and compliance with relevant laws and regulations (COSO 2004, p. 9). By organizing business objectives into these classifications, firms are able to focus specifically on the separate aspects of enterprise risk management and concentrate on achieving performance and profitability objectives while preventing losses.

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<sup>3</sup> The other frameworks considered were the Australian Standards and Basel II. However, results from discussions with practicing internal auditors, survey responses, and current practitioner literature suggest that the COSO ERM framework is currently the most widely used framework. For example, results from an IIA GAIN survey conducted in 2004 indicate that 84% of respondents expected that the issuance of the COSO ERM framework would have at least a little impact on their current ERM practices. Further, 60% of respondents indicated that their firm had already implemented a formal ERM system to some extent. In addition, while the PCAOB does not expressly require that management use the COSO ERM framework for its assessment of the adequacy and effectiveness of internal controls, it does indicate that this is a suitable framework. Further, Auditing Standard No. 2, issued by the PCAOB in 2004, uses the COSO ERM framework as a basis for directing management’s internal control assessment activities because of the “frequency with which management of public companies are expected to use the framework for their assessments” (Public Company Accounting Oversight Board (PCAOB) 2004, p. 9).

COSO ERM also identifies eight interrelated components of enterprise risk management: (1) internal environment, (2) objective setting, (3) event identification, (4) risk assessment, (5) risk response, (6) control activities, (7) information and communication, and (8) monitoring, which are represented by the horizontal rows of the COSO ERM three-dimensional cube as shown in Exhibit 1. Each component of risk management is applicable to all four objective categories for the firm. Finally, the organization and its units (subsidiaries, business units, and divisions) are represented on the third side of the cube to indicate that enterprise risk management may pertain to the enterprise as a whole, or any of its business units or segments. The COSO cube is intended to illustrate the direct relationship between the objectives (what the firm strives to achieve), enterprise risk management components (how the entity will achieve the objectives), and the business units of the firm.

**Exhibit 1**  
**COSO ERM Three-dimensional Matrix (COSO 2004)\***



\*This cube-shaped, three-dimensional matrix illustrates the direct relationship between objectives and the enterprise risk management components (COSO 2004).

Our research focuses on the risk assessment and control activities components of COSO ERM. The risk assessment process allows management the opportunity to consider the extent to which potential events may have an effect on the achievement of firm objectives. Generally, management assesses each potential event based upon the expected likelihood of occurrence and the potential impact of the event using a combination of qualitative and quantitative methods. Control activities are the policies and procedures implemented to ensure that management’s risk responses are carried out as intended (COSO 2004).

Based upon interviews with practicing internal auditors we have identified a set of risks that often develop or intensify when a firm enters into strategic alliance relationships. We have classified these risks as they affect the four business objectives identified by the COSO ERM framework (see Exhibit 8 below).<sup>4</sup>

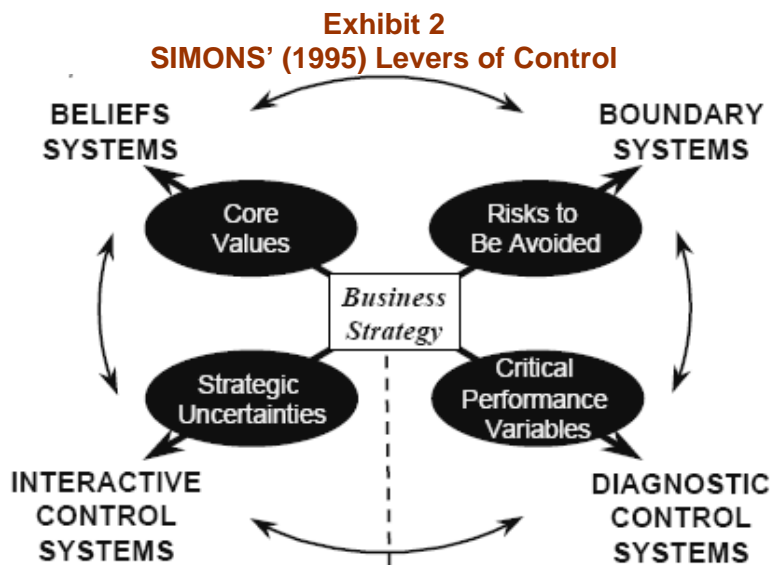
<sup>4</sup>It is important to note, however, that our classification is based on a general understanding of these risks. As noted in the COSO framework, “no two entities will or should apply enterprise risk management in the same way” (COSO 2004, p. 11). Therefore, risk classifications may vary between firms. Further, for simplicity, we restrict our

Typically, the risk assessment process includes consideration of both inherent and residual risk. However, in our survey respondents were instructed to focus on inherent risk only so that we could gain an understanding of the extent to which these risks exist in the absence of any control techniques management may implement. Therefore, respondents provided their assessments of the inherent probability and magnitude of each of these risks. Finally, we have identified the control mechanisms used by firms to address these risks.

**SIMONS' (1995) LEVERS OF CONTROL FRAMEWORK**

Firms that use inter-organizational collaborations require flexibility and typically embrace innovation. As such, these firms cannot be effectively controlled using traditional control methods alone. Instead, management must empower employees to initiate process improvements and respond to opportunities in a manner that is consistent with the overall objectives of the firm. To do so, management must strike a balance between opportunity and control. The Levers of Control framework, designed by Robert Simons (Simons 1995), provides a structure for finding this balance (see Exhibit 2 below).

In the framework, Simons describes four control levers, each with a distinct purpose for controlling business activities while maintaining an innovative work environment. While the original intent of the Levers of Control framework is to provide a control structure for managing internal activities of firm employees, we suggest that the framework is applicable to firms managing their strategic alliance relationships as well. In a strategic partnership, it is imperative that firms use an appropriate combination of controls and trust. Prior research suggests that a main cause for alliance failure is uncertainty of partner cooperation, also known as "relational risk" (Das and Teng 1996; Das and Teng 1998; Das and Teng 2001). Formal control systems help to mitigate relational risk by reducing the opportunities and/or incentives for opportunistic behavior. However, prior research also suggests that implementation of control systems may have negative signaling effects that result in reduced trust and decreased cooperation (Christ et al. 2005; Das and Teng 2001). Because cultivating and maintaining high levels of trust between alliance partners is vital to strategic alliance success, the choice of controls in strategic alliances is of paramount importance. By utilizing the Levers of Control framework, firms can strike a balance between more traditional, formal control mechanisms as well as more abstract control systems, such as corporate norms and interactive feedback. This balance is necessary to facilitate the innovations sought by the alliance formation while maintaining adequate control.



Reprinted from: Simons (1995)

categorization to only one objective per risk; however, under COSO ERM risks may be classified under multiple objective categories.

The first lever of control described in the framework is *belief systems*. These are the organizational standards that are used to reinforce the core values, purpose, and direction of the organization. Examples of belief systems include corporate credos and mission statements. *Boundary systems* comprise the second lever of control. Boundary systems indicate the minimum standards of a company and indicate what partners are *not* to do. The third control lever, *diagnostic control systems*, is defined as feedback systems and include the most traditional control practices used by management. Diagnostic control systems are designed to: (1) measure the outputs of a process, (2) identify the existence of a predetermined benchmark to which results can be compared, and (3) enable the manager to correct deviations from these benchmarks. Finally, the fourth lever, *interactive control systems*, is formal information systems that allow management to involve themselves regularly and personally in the partner's activities.

Based upon discussions with professional internal auditors, we developed a comprehensive list of control mechanisms commonly used by firms for controlling the risks related to their strategic partnerships. In Exhibit 3, below, we have categorized those controls within the Levers of Control framework. We use this categorization when describing the control practices most often used by our survey respondents for managing their strategic alliance risks. We further categorize these controls by the more familiar categories utilized by internal auditors of preventive, detective, and monitoring controls.

**Exhibit 3**  
**Control Practices Commonly Used in Strategic Partnerships**  
**Classified by Simons' (1995) Levers of Control Framework**

Lever 1: Belief Systems	
Preventive	<ul style="list-style-type: none"> <li>• Written and agreed-upon code of ethics or code of conduct</li> <li>• High level of trust between partners</li> </ul>
Lever 2: Boundary Control Systems	
Preventive	<ul style="list-style-type: none"> <li>• Written policies and procedures regarding alliance operations</li> <li>• Strategic identification of suppliers</li> <li>• Standard contract template</li> <li>• Contract terms detailing specific payment terms, delivery dates, etc.</li> <li>• Contract terms specifying cost sharing arrangements</li> <li>• Contract provisions to assign property rights</li> <li>• Contract terms regarding handling of failure to meet contract terms</li> <li>• Other contract terms</li> <li>• Segregation of duties within the alliance</li> <li>• Authorization levels for investment decisions (within the alliance)</li> <li>• Physical safeguards of alliance assets</li> <li>• Physical safeguards of firm assets</li> <li>• Controls to protect proprietary information</li> </ul>

**Exhibit 3, cont.**

<b>Lever 3: Diagnostic Control Systems</b>	
Preventive	<ul style="list-style-type: none"> <li>• Formal review process for supplier selection</li> <li>• Require partners to provide SAS 70 reports</li> <li>• Contract terms specifying how performance will be measured for contract fulfillment</li> <li>• Contract terms related to dissolution of or exit from relationship</li> <li>• Interactive feedback for continuous learning between partners</li> <li>• Interactive feedback within the firm with respect to partner selection, alliance management, etc.</li> </ul>
Detective	<ul style="list-style-type: none"> <li>• Periodic announced audits</li> <li>• Periodic unannounced audits</li> <li>• Periodic review of your partner's financial information</li> </ul>
Monitoring	<ul style="list-style-type: none"> <li>• Ongoing review of non-financial performance indicators</li> <li>• Ongoing review of financial performance measures</li> </ul>
<b>Lever 4: Interactive Control Systems</b>	
Preventive	<ul style="list-style-type: none"> <li>• Accountability w/in firm for partner selection</li> <li>• Formation of formal profit-sharing entity (e.g., joint venture)</li> <li>• Composition of alliance management team</li> <li>• Accountability of alliance personnel for alliance performance</li> </ul>
Monitoring	<ul style="list-style-type: none"> <li>• Informal monitoring of partner operations</li> </ul>

**RESEARCH METHODOLOGY AND PARTICIPANT DEMOGRAPHICS**

**Research Methodology and Participant Demographics**

With the assistance of The Institute of Internal Auditors Research Foundation (IIARF), we surveyed chief audit executive (CAE) and consultant members of The IIA. The survey was completed in spring 2005. We received 151 responses (98 CAEs and 53 consultants). CAE respondents represented internal audit departments of varying sizes as shown in Exhibit 4.

**Exhibit 4  
Descriptive Statistics for the Firms Represented by Respondents**

**Panel A: Size of Internal Audit Department**

<b>Size</b>	<b>Number of Respondents</b>	<b>Percentage of Respondents</b>
1 auditor	12	12%
2 auditors	15	15%
3 – 10 auditors	43	44%
11 – 20 auditors	6	6%
21 – 30 auditors	5	5%
31 – 50 auditors	3	3%
51 – 100 auditors	1	1%
> 100 auditors	3	3%
Did not respond	10	10%

CAE respondents had an average of 13 years performing internal audit work and 5 years performing external audit services. Approximately 73% of respondents indicated that they were either chief audit executives or internal audit directors, with the balance indicating that they were internal audit managers or seniors. Approximately half of the respondents were from U.S.-based companies. About 62% indicated that they performed all internal audit services in-house, while 37% co-source some internal audit services and only 1% outsource the entire internal audit function.

Consultant respondents represent a variety of service firms, including Big Four public accounting firms (23%), other CPA firms (26%), and internal audit/risk management boutique firms (28%). Consultant respondents also hold a range of positions within their firms with 48% of respondents holding the title of partner or director at their respective firms, 19% managers, and 15% internal audit seniors. The respondents have an average 8 years of internal audit experience and 7 years of external audit experience. Additionally, they indicate that they have an average of 4 years of experience working with strategic alliances. Of the consultant respondents, 43% are certified internal auditors (CIA) and 36% are CPAs. Further 19% indicated that they are certified in Information Systems Audit (CISA) and 2% are certified in production and inventory management (CPIM). Finally, 25% of consultant respondents have been involved in performing SAS 70 reviews for their clients.

Both CAE and consultant respondents were asked a series of questions regarding the management of strategic partner networks. Further, the CAE respondents were asked to identify one critical partner with which they are knowledgeable and to classify that partner as one of four partner types: (1) upstream partners (53%) (e.g., such as raw materials suppliers, or product or service providers), (2) downstream partners (21%) (e.g., final assembly, transportation, and distribution partners or franchisees), (3) marketing partners (13%) (e.g., co-branding), or (4) research and development partners (13%). Participants were then asked a series of questions regarding the risk and controls used to manage that specific partner relationship.

Similarly, consultant respondents were asked to first identify one of the four types of strategic partnerships – upstream, downstream, marketing, or R&D – with which they had the greatest familiarity. They provided assessments of the risks and controls relevant to managing that specific type of partnership. Importantly, although CAE respondents were asked about their experience with the one critical partner who they identified, consultant respondents were asked to provide their overall impressions of the risks and controls in strategic alliances gained from their experiences with client firms.

### ***Use of formal control and risk frameworks***

Many companies adopt (or develop) formal control frameworks to provide guidance and structure to the control assessment process. Furthermore, in its final rule on management's report on internal controls over financial reporting, the SEC requires that companies include a "statement identifying the framework used by management to evaluate the effectiveness of the company's internal control over financial reporting" (SEC 2003 – [www.sec.gov/rules/final/33-8238.htm](http://www.sec.gov/rules/final/33-8238.htm)). While the SEC does not specify which internal control frameworks are preferred, it does state that "a suitable framework must: be free from bias, permit reasonably consistent qualitative and quantitative measurements of a company's internal control; be sufficiently complete so that those relevant factors that would alter a conclusion about the effectiveness of a company's internal controls are not omitted; and be relevant to an evaluation of internal control over financial reporting."

We asked respondents to identify the control framework currently in use by their company (or clients).<sup>5</sup> Based on discussions with internal audit practitioners and academics we identified the following control frameworks as the most commonly used: (1) COSO, (2) COCO, (3) COBIT, and (4) Turnbull Report. As shown in Exhibit 5, the largest percentage of respondents (46%) uses the COSO Internal Control-Integrated Framework to evaluate their internal control system. COBIT (Control Objectives of Information

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<sup>5</sup> Responses may include partial implementation of control framework.

and Technology) was the second most frequently listed control system (20%). Only 18% of respondents indicated that their company (or clients) did not use a formal control framework of some kind.<sup>6</sup>

**Exhibit 5  
Use of Formal Control Frameworks**

<b>COSO</b>	<b>COCO</b>	<b>COBIT</b>	<b>Turnbull</b>	<b>Other</b>	<b>None</b>
46%	2%	20%	3%	10%	18%

Risk frameworks provide a logical and often visual representation of the business risks faced by a company and are designed to be easily understood by personnel at all levels of the organization (McNamee 2000). Over the past several decades, various risk frameworks have been developed and widely adopted – the most recent being the COSO ERM framework which was released in September 2004.

Based on discussions with practicing internal auditors and academics, we determined that the following formal risk frameworks were the most commonly used: (1) COSO ERM, (2) Australian Standards, and (3) Basel II. We asked respondents to indicate whether their companies (or their clients' companies) had implemented one of these formal risk frameworks. Alternatively, if applicable, participants identified any other frameworks currently used by their company to assess business risk. As shown in Exhibit 6, COSO ERM is the most commonly used formal risk framework (37%). Only a slightly smaller percentage of firms, 32%, indicate that they use a formal risk framework classified as "other," possibly indicating the use of an internally developed framework. Further, we find that only approximately 10% of respondents have not implemented some sort of formal risk framework.<sup>7</sup>

**Exhibit 6  
Use of Formal Risk Frameworks**

<b>COSO ERM</b>	<b>Australian Standards</b>	<b>Basel II</b>	<b>Other</b>	<b>Type Unknown</b>	<b>None</b>
37%	4%	12%	32%	4%	10%

<sup>6</sup> Many of the CAE respondents (63%) indicated that their companies were not required to comply with Sarbanes-Oxley; therefore, they would not be subject to the SEC's final rule requiring a statement identifying the control framework used by management.

<sup>7</sup> The survey question permitted participants to respond positively to this question if their firm was in the process of implementing part or all of any formal risk framework.

## STRATEGIC ALLIANCE RISK ASSESSMENT

### Management of the Strategic Partner Network

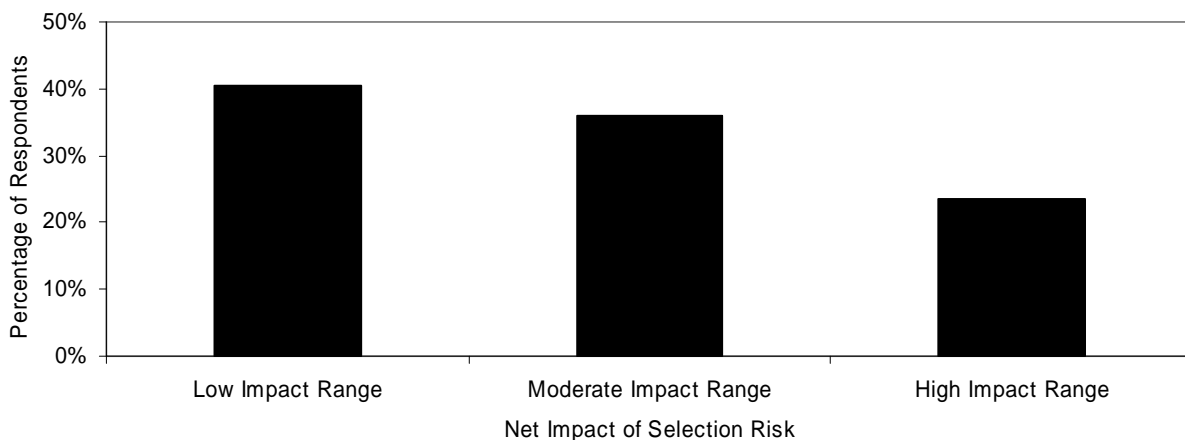
The benefits associated with strategic alliances are great; however, strategic alliances are inherently risky endeavors that require careful and methodological risk management throughout their lives – from partner selection, through the dissolution of the partnership. In general, firms must effectively manage: (1) selection risk, (2) monitoring risk, and (3) failure identification risk.

*Selection risk* is defined as the risk that the firm has nonexistent, irrelevant, or unreliable processes by which to select viable strategic partners. *Monitoring risk* is the risk that the firm lacks the appropriate financial and/or non-financial measures for evaluating the progress of the alliance. Finally, *failure identification risk* is the risk that the firm will have nonexistent, irrelevant, or unreliable processes by which to identify when a partnership should be terminated.

CAE and consultant respondents provided their evaluations of the magnitude and probability of occurrence for each of the three risk types as they relate to the entire strategic partner network of the firm. Their responses, displayed in panels A – C of Exhibit 7, indicate that for most firms, these risks have a moderate to high expected impact. Expected impact is calculated as the magnitude of the risk multiplied by the probability of occurrence for that risk. CAEs and consultants provided their evaluations of magnitude and probability using a 7-point Likert scale (1 indicates no magnitude or likelihood and 7 indicates very high magnitude or likelihood). Thus, an impact score of 16 indicates that the CAE rated both magnitude and likelihood to be moderate and an impact score of 49 indicates the highest possible rating, 7, was provided for both magnitude and likelihood. As can be seen in Exhibit 7, over 35% of respondents indicate that each of the three risk types have a moderate impact on the operations of the firm. It is also important to note that a large number of respondents (greater than 20% for each risk type) indicate that the potential impact for each of these three risk types is much greater than moderate. Several respondents also indicated that the manifestation of these risks would have a critical impact on the operations of their firm, as evidenced by responses yielding the upper bound of 49 (untabulated).

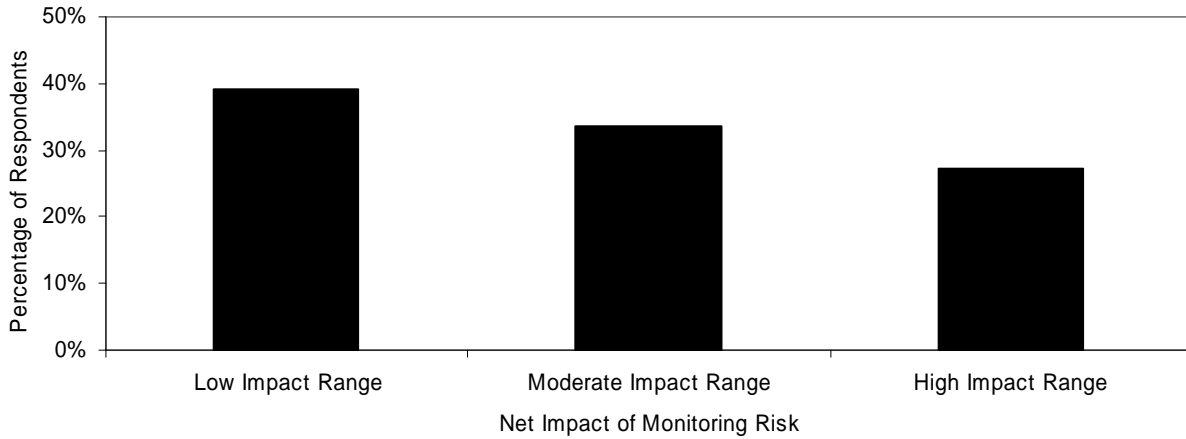
### Exhibit 7 Strategic Alliance Network Risk Assessment\*\*

#### Panel A: Net Impact of Selection Risk

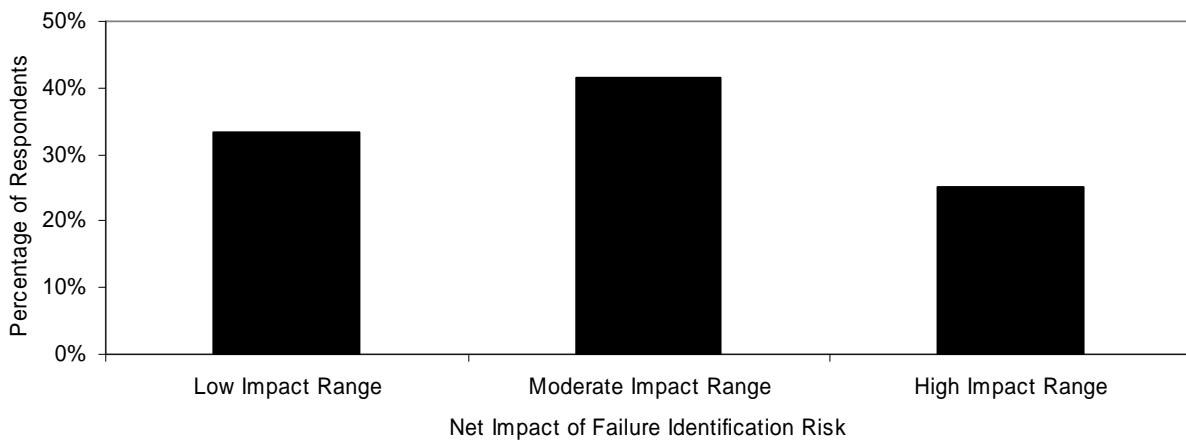


**Exhibit 7, cont.**

**Panel B: Net Impact of Monitoring Risk**



**Panel C: Net Impact of Failure Identification Risk**



\*\* Low impact range includes net effects scores from 1 – 9  
 Moderate impact range includes net effects scores from 10 – 19  
 High impact range includes net effects scores greater than (or equal to) 20.

**Specific Strategic Alliance Risks**

As firms strive to increase stakeholder value, they set goals and objectives and develop strategies that will enable them to achieve those objectives. COSO ERM suggests classifying the objectives into four distinct categories – (1) strategic, (2) operations, (3) reporting, and (4) compliance. By distinguishing these objectives from one another, firms can focus directly on the specific risks that may prevent the company from achieving its objectives in each of the areas. Further, this classification facilitates the development of effective internal control mechanisms that will lead to success in each category.

We have used the classification of objectives suggested by COSO ERM to categorize the risks most commonly occurring in strategic alliance relationships. These risks, and their COSO ERM classifications, are defined in Exhibit 8, below.<sup>8</sup>

<sup>8</sup> Risk definitions are consistent with those used by DeLoach (2000).

**Exhibit 8  
Risk Classification**

<b>Strategic – relating to high-level goals, aligned with and supporting the entity’s mission</b>	
<b><i>Innovation risk</i></b>	The risk that strategic partners will not maintain adequate levels of innovation to support the firm’s needs.
<b><i>Intellectual property risk</i></b>	The risk that your strategic partner will make inappropriate use of proprietary information in a manner that could negatively affect the firm.
<b><i>Product/ service failure risk</i></b>	The risk that faulty or non-performing products or services from your strategic partners expose your company to sanctions from endcustomers.
<b><i>Misalignment of incentives risk</i></b>	The risk that strategic partners have incentives to take actions that would negatively affect the firm (e.g., relationships with your competitors, incentives for their employees to take action which are not in the best interest of the firm).
<b><i>Partnering lock-in risk</i></b>	The risk that the choice of a specific strategic partner locks the firm into a relationship with negative long-term consequences for the firm.
<b><i>Outside scope risk</i></b>	The risk that the alliance will create products or services outside the scope of the original agreement.
<b>Operations – relating to effective and efficient use of the entity’s resources</b>	
<b><i>Input supply risk</i></b>	The risk that the strategic partner is unable or unwilling to supply key commodities, raw materials, or component parts in a timely manner to meet the firm’s regular demand patterns.
<b><i>Surge capacity risk</i></b>	The risk that the strategic partner is unable or unwilling to supply key commodities, raw materials, or component parts in a timely manner to meet unusually high, unexpected demand.
<b><i>Quality performance risk</i></b>	The risk that the strategic partner is unable or unwilling to supply key commodities, raw materials, or component parts according to the quality and reliability standards of the firm.
<b><i>Cost/price renegotiation risk</i></b>	The risk that the strategic partner will take advantage of its position at a later date and seek unexpected increases in the price of key commodities, raw materials, or components.
<b><i>Coordination risk</i></b>	The risk that the firm and its strategic partner will fundamentally misunderstand one another’s needs due to complexity or uncertainty associated with the task or difficulty of coordinating complex actions.
<b><i>Financial viability risk</i></b>	The risk that the strategic partner will experience financial distress that limits its ability to meet the firm’s consumption needs.
<b><i>Contribution valuation risk</i></b>	The risk that the firm’s non-monetary contribution to the partnership will be undervalued by the partner.
<b><i>Financial commitment risk</i></b>	The risk that entering into a strategic partnership may expose the firm to credit risk
<b>Reporting – relating to the reliability of the entity’s reporting</b>	
<b><i>Verification and evaluation risk</i></b>	The risk that the firm will be unable to verify, monitor, or evaluate its strategic partner’s performance in an accurate or timely manner.
<b><i>Misalignment of incentives risk</i></b>	See above.
<b>Compliance – relating to the entity’s compliance with applicable laws and regulations</b>	
<b><i>Compliance and regulatory risk</i></b>	The risk that the strategic partner’s failure (intentional or unintentional) to comply with customer requirements, firm policies, or government laws and regulations may expose the firm or its employees to sanctions.

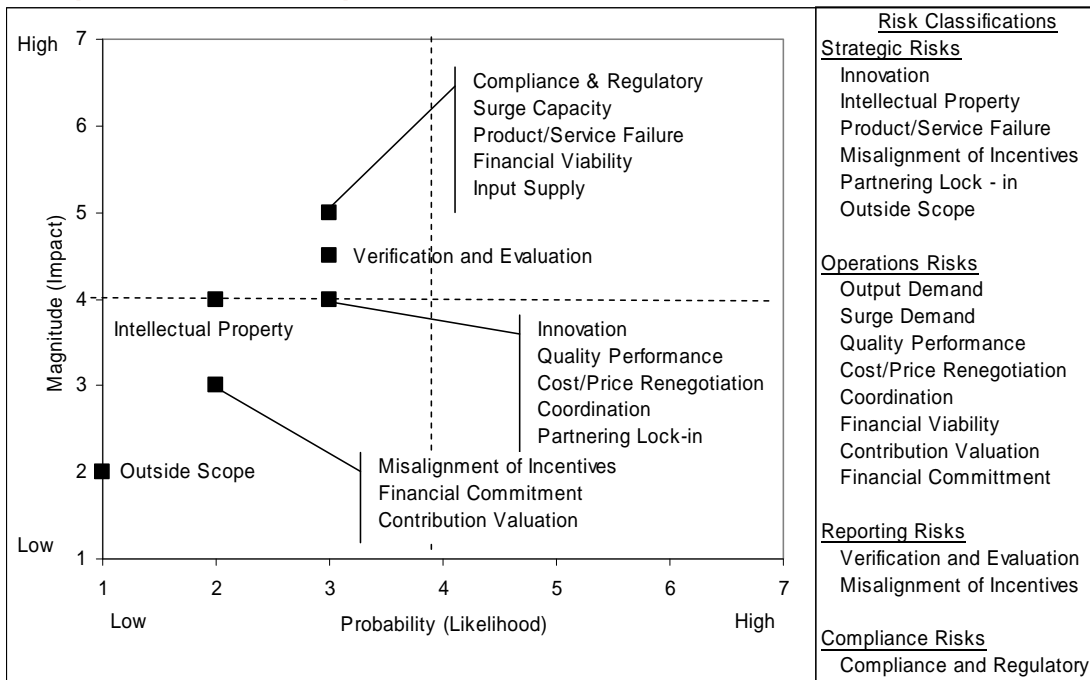
As described by COSO ERM, the risk assessment process provides an opportunity for firms to consider the events which might occur and which would prevent the firm from achieving its objectives. During the risk assessment process internal auditors typically consider the impact (or magnitude) of the potential events as well as the likelihood (or probability) of the occurrence of those events. Assessing the expected impact and likelihood of each risk allows management the ability to determine the appropriate level of resources to focus on mitigating those risks. For example, if the firm determines that the impact and likelihood that the alliance will create products that are outside the scope of the partnership (outside scope risk) are both low, then they will focus only minimal attention on that event. Instead, management will direct resources toward events with a high impact and likelihood of occurrence.

We asked CAE respondents to assess both the perceived impact and likelihood of each of the previously described risks for their critical partner. Further, we asked consultant respondents to assess the perceived impact and likelihood of each risk for the strategic partner type with which they are most familiar. The risk maps, shown below, illustrate the median responses for each partner type (see Exhibit 9, Panels A - D).<sup>9</sup>

As evidenced by Exhibit 9, the magnitude and likelihood of occurrence for each risk type varies by strategic alliance partner type. However, for each partner type, most risks fall into the upper left quadrant of the risk maps. While risks in this quadrant are not the most critical to the firm, they do warrant close attention.<sup>10</sup> These are the risks that may have a low likelihood of occurrence, but will have a significantly detrimental effect on the firm in the event of occurrence. It is imperative that management develop and maintain effective control mechanisms to minimize these risks, and that internal auditors routinely evaluate these risks and assess the applicable controls.

**Exhibit 9**  
**Inherent Risk Assessment by Partner Type**

**Panel A: Upstream Partnerships**

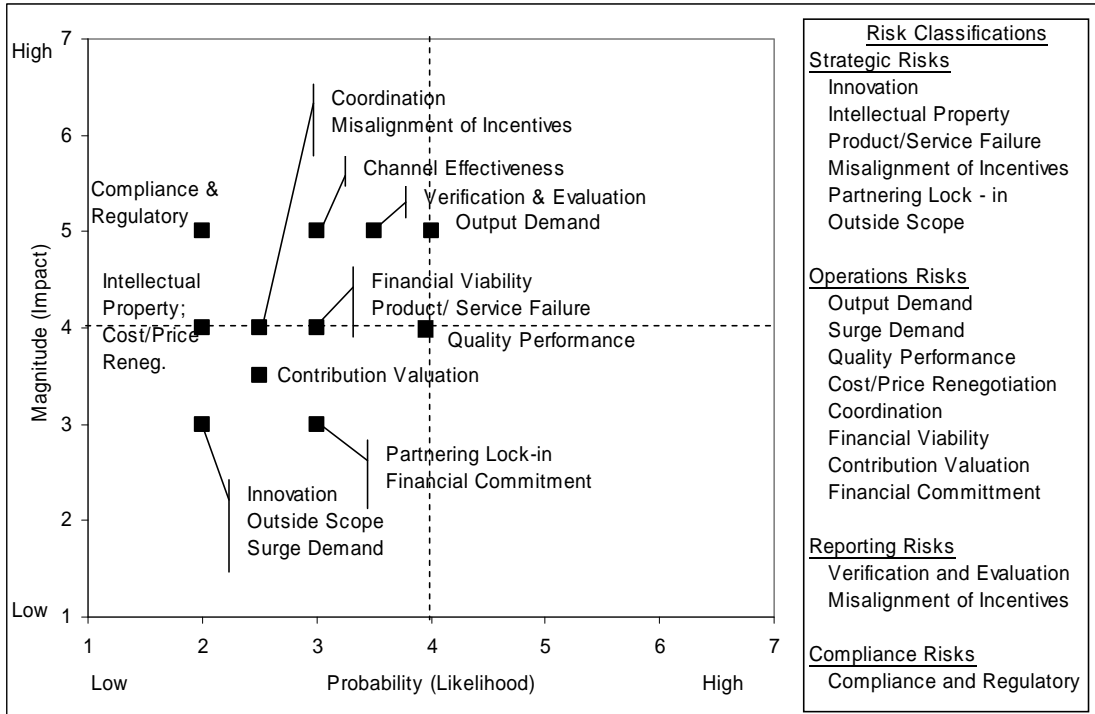


<sup>9</sup> CAE and consultant responses have been combined for analysis of risks and control mechanisms.

<sup>10</sup> Risks determined to be in the upper right quadrant are considered to be the *most* critical. If uncontrolled, risks in the upper right quadrant would be devastating to the firm.

Exhibit 9, cont.

Panel B: Downstream Partnerships



Panel C: Marketing Partnerships

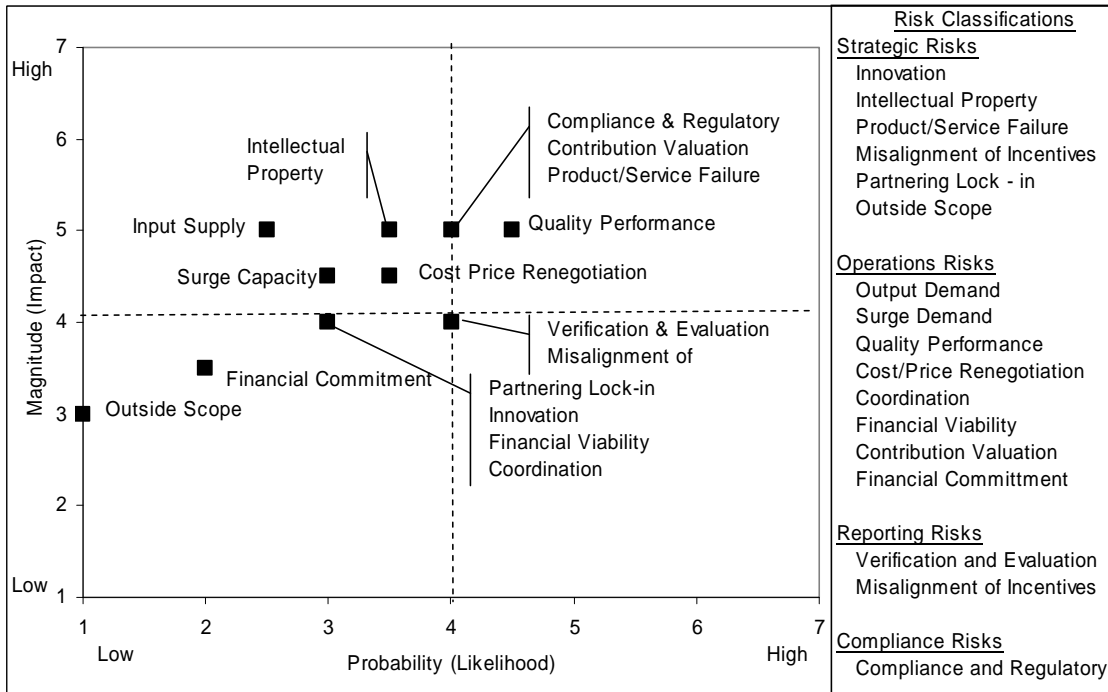
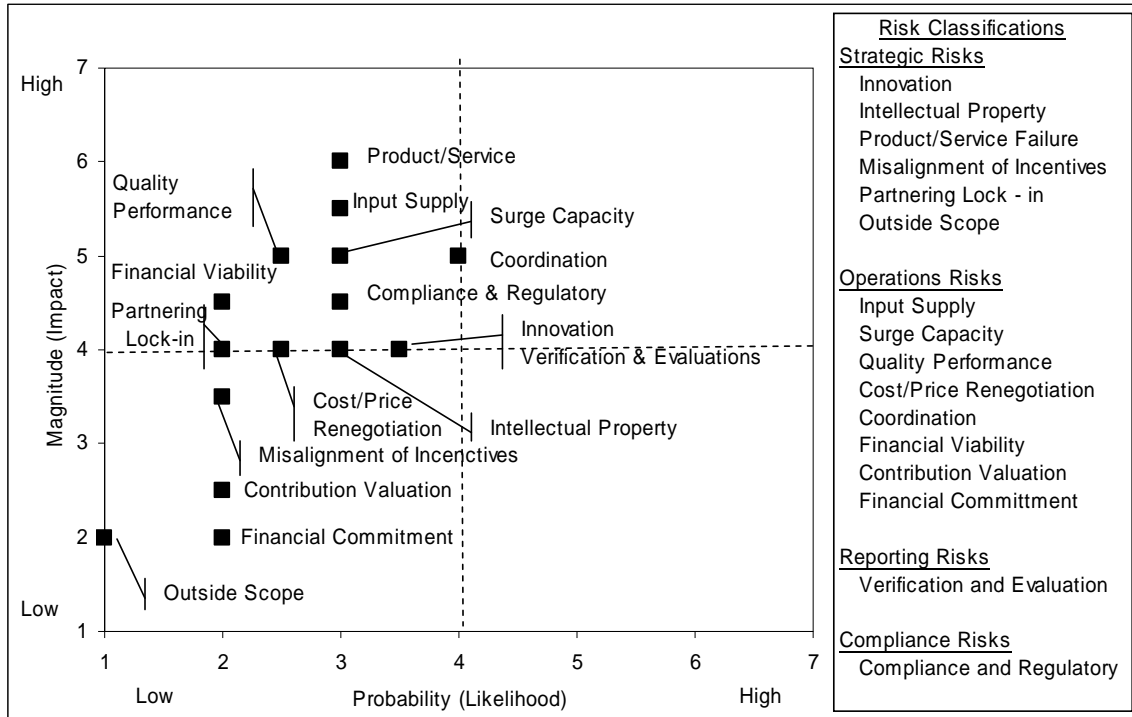


Exhibit 9, cont.

Panel D: Research and Development Partnerships



In general, CAE and consultant respondents assessed the likelihood of all risk to be less than or equal to the midpoint (somewhat probable).<sup>11</sup> While the risk assessments for each risk type vary, and are most clearly evident by reviewing Exhibit 9, several interesting results are worth mentioning here. For all (applicable) partner types, compliance and regulatory risks are assessed to be within the upper right quadrant of the risk maps, indicating that these risks are both highly probable and would have a large negative impact on the firm if they were to occur. This is consistent with the increased scrutiny that most firms are experiencing as a result of the Sarbanes-Oxley Act (see below for further discussion on the implications of the Act). Further, risks such as: (1) product/service failure, (2) input supply, (3) financial viability, and (4) quality performance, are also included in the upper right quadrant, indicating an elevated need for effective control mechanisms.

Outside scope risk, the risk of engaging in activities not included in the scope of the original partnership is consistently rated the most unlikely of all risks to occur, as evidenced by its median probability ranking of 1 for three of the partner types. Financial commitment risk is also assessed to have both a low probability of occurrence and low impact by all partner types.

<sup>11</sup> The sole exception is the risk of poor quality performance by a strategic marketing partner. CAEs and consultants with expertise in handling marketing alliances indicated that the likelihood of this was greater than moderate (4.5 on a scale from 1 – 7).

## CONTROL ACTIVITIES USED TO MANAGE STRATEGIC ALLIANCE RISKS

Consistent with the Levers of Control framework, CAE and consultant respondents providing responses for each partner type indicate equal reliance on each of the four types of control systems: belief systems, boundary systems, diagnostic control systems, and interactive control systems. Median responses indicate that firms rely upon each lever of control to a moderate extent.<sup>12</sup> Therefore, firms seek a balance in their control practices to enhance the overall control environment. By utilizing all four levers, firms are able to reveal the core values of the business, empower strategic alliance partners to strive for goal achievement, and encourage long-term success.

Although the data suggest that firms rely equally on each of the four broad categories of the Levers of Control regardless of the partner type, further investigation suggests that the *specific* control mechanism used differs depending upon strategic partner type, as evidenced in Exhibit 10, below.

In general, firms place moderate reliance on written codes of conduct (see Panel A, Exhibit 10), regardless of the type of strategic alliance in which they are involved (although the reliance is somewhat lower for R&D alliances). Importantly, all firms indicate a relatively high reliance on trust between partners, as evidenced by a score of 4 on a 5-point Likert scale. This result is consistent with the widely held belief that effective strategic alliance management is dependent upon both control and trust (Das and Teng 2001).

Panel B of Exhibit 10 shows survey responses regarding reliance on boundary systems. All firms seem to rely significantly on various contract terms. Specifically, regardless of the partner type, respondents indicate greater than average reliance on contract terms detailing specific payment terms, delivery dates, etc. as evidenced by a score of 4 on a 5-point Likert scale. Firms with strategic marketing partners indicate greater reliance on contract terms to assign property right and to address the handling of failure to meet contract terms than do other firms.

Panel C of Exhibit 10 illustrates survey responses regarding reliance on diagnostic control systems. Interestingly, firms with marketing partners indicate a greater reliance on SAS 70 reports than do other firms. Further, firms with upstream and downstream partners indicate that they place very little (if any) reliance on SAS 70 reports. Also noteworthy is the greater reliance on periodic unannounced audits by firms engaged in research and development partnerships than other firms, who indicate greater reliance on periodic *announced* audits. In addition, research and development partners indicated less reliance on formal review process for partner selection, contract terms specifying performance measurement, and contract terms for partnership dissolution than did other firms.

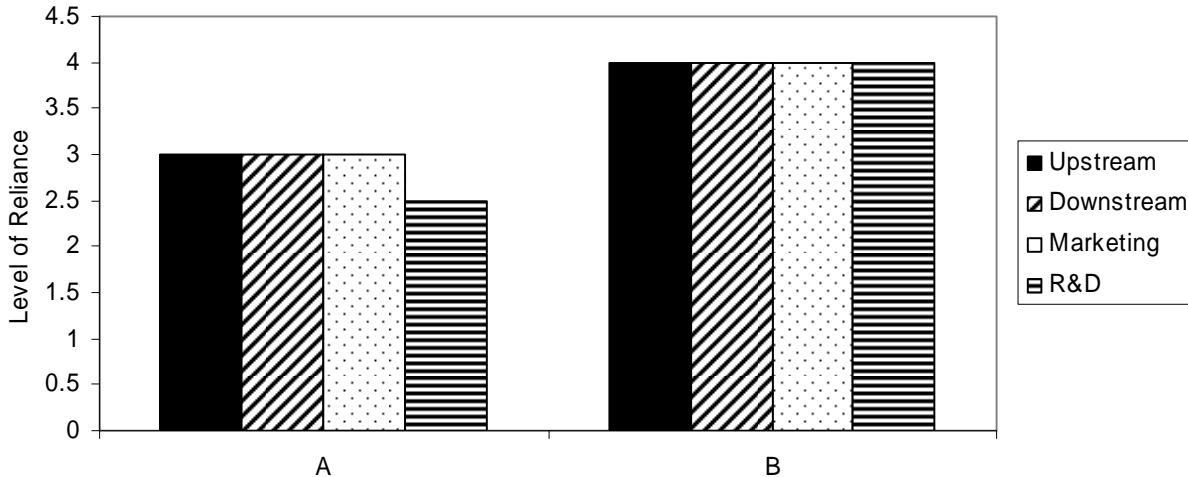
Finally, Panel D of Exhibit 10 illustrates survey responses regarding reliance on interactive control systems. Firms with marketing partnerships appear to be more likely to form formal profit-sharing entities (such as joint ventures) than do other firms. Further, firms with downstream partnerships indicate very little reliance upon formal profit-sharing entities. Instead, these firms indicate a greatest reliance upon accountability for partner selection. Finally, firms with upstream partnerships place little reliance upon the composition of the alliance management team.

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<sup>12</sup> The median response for all partner types is 3 on a 5-point scale for each of the four partner types.

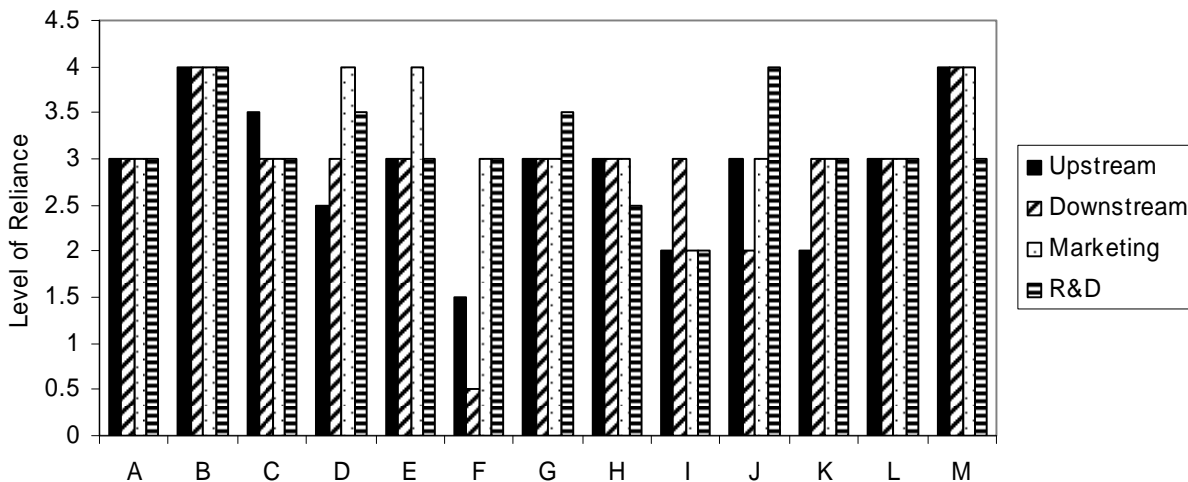
**Exhibit 10**  
**Level of Reliance on Simons' Levers of Control**

**Panel A: Belief Systems**



A - Written and agreed-upon code of ethics/ code of conduct  
 B - High level of trust between alliance partners

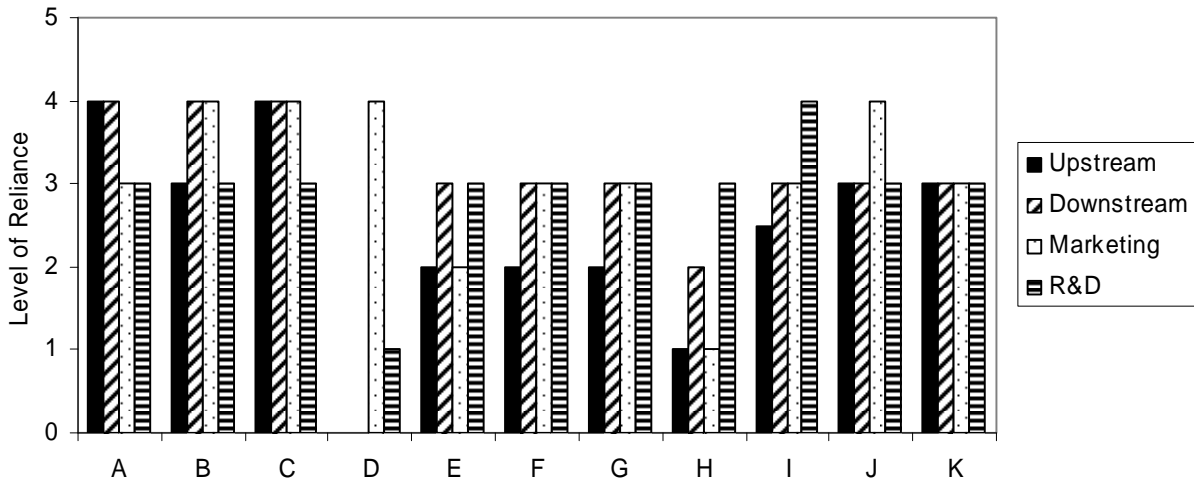
**Panel B: Boundary Systems**



- |   |   |
|---|---|
| A - Standard contract template  | H - Strategic identification of suppliers       |
| B - Contract terms detailing specific payment terms, delivery dates, etc. | I - Segregation of duties within the alliance   |
| C - Contract terms specifying cost sharing arrangements                   | J - Authorization levels within the alliance    |
| D - Contract provisions to assign property rights                         | K - Physical safeguards of alliance assets      |
| E - Contract terms regarding handling of failures to meet contract terms  | L - Physical safeguards of firm assets          |
| F - Other contract terms  | M - Controls to protect proprietary information |
| G - Written policies and procedures                                       |   |

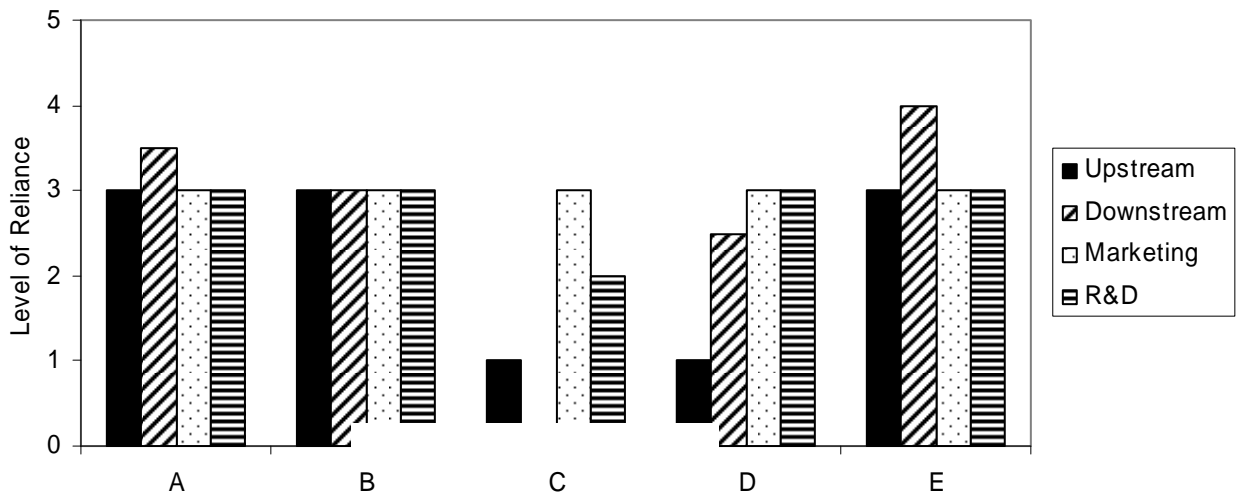
**Exhibit 10, cont.**

**Panel C: Diagnostic Control Systems**



- A - Formal review process for supplier selection
- B - Contract terms specifying how performance will be measured for fulfilling the contract
- C - Contract terms for dissolution of partnership
- D - Require partners to provide SAS 70 reports
- E - Interactive feedback for continuous learning between partners
- F - Interactive feedback within firm with respect to partner selection, alliance management, etc.
- G - Periodic announced audits
- H - Periodic unannounced audits
- I - Periodic review of partner's financial information
- J - Ongoing review of non-financial performance indicators
- K - Ongoing review of financial performance measures

**Panel D: Interactive Control Systems**



- A - Informal monitoring of partner's operations
- B - Accountability of alliance personnel for alliance performance
- C - Formation of formal profit-sharing entity
- D - D – Composition of alliance management team
- E - E – Accountability w/in firm for partner selection and alliance partners

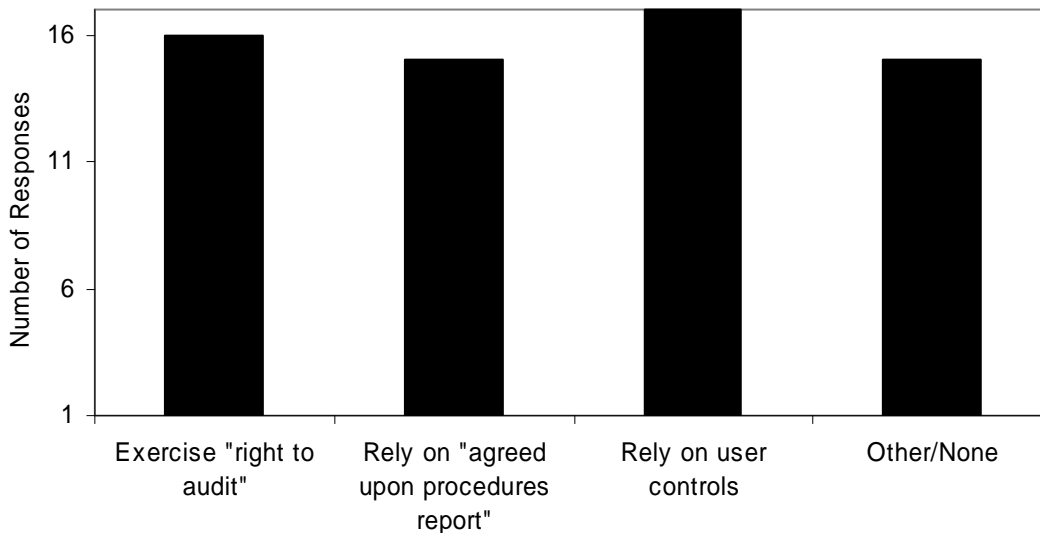
### IMPLICATIONS OF THE SARBANES-OXLEY ACT

Firms with strategic alliance partnerships expose themselves to additional business risk as a result of the partnership. The Sarbanes-Oxley Act, which requires firms to perform an annual assessment of their internal controls systems, has led many companies to increase scrutiny of the internal control mechanisms of their strategic partners.

We asked CAE and consultant respondents with experience implementing Sarbanes-Oxley how their firms (or clients) have changed their control systems in response to the Sarbanes-Oxley requirements. Twenty-five (25) CAE respondents and 23 consultants responded to the Sarbanes-Oxley portion of the survey. Five of 25 CAEs (20%) work for companies that had filed statements of internal control weaknesses with the Securities and Exchange Commission (SEC) at the time of our survey.<sup>13</sup> Further, 3 of 23 consultants (13%) indicate that their clients filed statements with the SEC.

Approximately half of CAEs and 57% of consultants indicate that their firms (clients) have implemented new control systems over their strategic partners in response to Sarbanes-Oxley.<sup>14</sup> Further, participants were asked which of the following commonly used control mechanisms their firms intended to rely upon to ensure partners' Sarbanes-Oxley compliance: (1) exercise the right to audit clause from contract, (2) rely upon an "agreed-upon procedures" report, and/or (3) rely on partner controls. As Exhibit 11 illustrates, most firms rely on more than one of those specific control mechanisms. Further, both CAE and consultant respondents indicate that approximately 67% of firms intend to exercise their right-to-audit clause included in the original contract terms of the partnership.

**Exhibit 11**  
**Control Mechanisms Used to Ensure Partners' Sarbanes-Oxley Compliance**

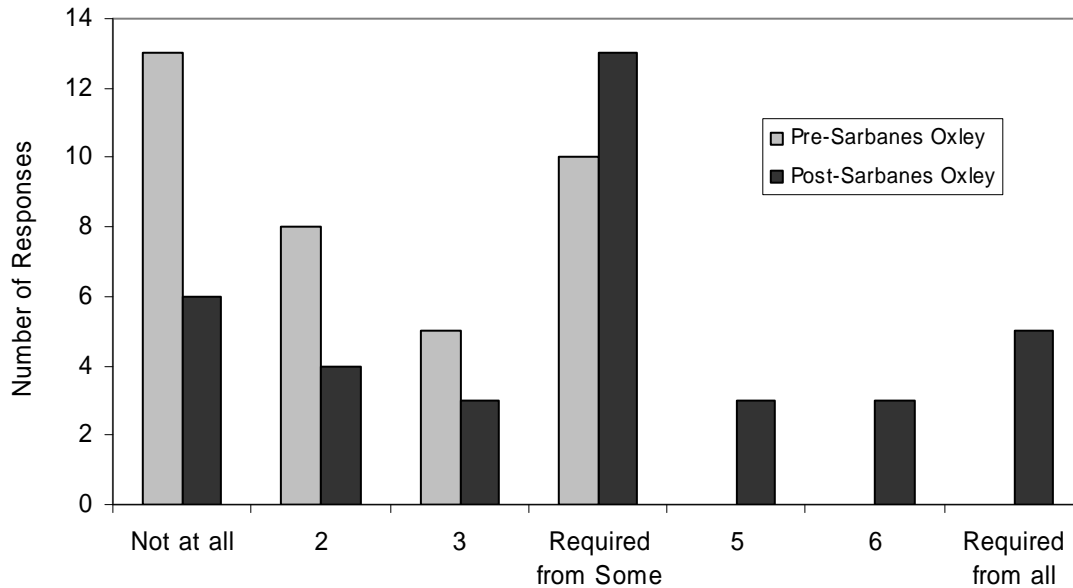


<sup>13</sup> Only one of the five CAEs who indicated that their firm had filed statements of internal control weaknesses with the SEC indicated that the internal control weakness was partially attributable to their strategic partnerships. This CAE indicated that its partner was minimally responsible (rating of 2 on a 7-point Likert scale with 1 indicating not at all attributable and 7 indicating completely responsible).

<sup>14</sup> 11/24 CAEs indicated that new controls had been implemented, two indicated that they "did not know" whether new controls had been implemented.

We also asked respondents to describe the extent to which their firms' strategic partners are requiring *them* to amend their existing internal control structure (untabulated). Approximately 29% (12/42) indicate that no internal control changes are required of their firms by their strategic partners. However, 40% (17/42) indicate that their partners (clients' partners) are requiring changes to varying degrees.<sup>15</sup>

**Exhibit 12**  
**Use of SAS 70 Reports Pre- and Post-Sarbanes-Oxley**



Finally, we asked CAE and consultant respondents to indicate the level of reliance their firm and their partner firms were placing on SAS 70 reports to ensure adequate internal control mechanisms were in place. Exhibit 12, above, indicates that the number of firms that placed little or no reliance on SAS 70 reports has diminished as a result of Sarbanes-Oxley. Further, the number of firms that place moderate to high reliance on SAS 70 reports has increased in the post-SOX era and several respondents (approximately 14%) indicated that their firms or clients now require SAS 70 reports from all strategic partners.

**CONCLUSION**

While strategic alliances offer firms opportunities for growth and innovation, they also present unique challenges to these firms. These alliances are inherently risky, as evidenced by the high incidence of alliance failure. Therefore, firms that utilize strategic alliances need to develop and maintain new management control practices that effectively mitigate the risk of transacting with self-interested parties.

We collected survey responses from CAE and internal audit consultant members of The Institute of Internal Auditors to identify, categorize, and quantify the risks that firms face when entering into strategic alliances. Further, we examined the control practices used by firms to mitigate these risks.

When considering the management of their strategic alliance network as a whole, respondents indicated that (1) selection risk, (2) monitoring risk, and (3) failure identification risk each have a moderate to high impact on the operations of the firm, suggesting that the magnitude and likelihood of each is greater than average. Further, when assessing specific risks (as they apply to a critical partner or specific partner

<sup>15</sup> Four CAE and three consultant respondents indicated that they did not know of any internal control changes required by partners.

type), survey respondents indicated that the manifestation of most risks would have a significant impact on firm operations, although the likelihood of the manifestation was low. However, these assessments indicate that careful consideration and evaluation of these risks is necessary.

Using the Levers of Control framework, we categorized and examined the control practices firms use to mitigate the risks raised by strategic partners. Consistent with the framework, firms appear to use control mechanisms from each control lever equally. This indicates that firms use a variety of complementary control mechanisms to minimize strategic partner risks. The data also suggest that firms rely on high levels of trust between partners to preserve the alliance and minimize the fear of opportunistic behavior. Further, respondents indicate a reliance on contract terms to manage the partnership.

As strategic alliances continue to be a dominating force in the business community, their effective management and control is critical. Internal auditors are in a unique position, as risk and control experts, to evaluate strategic alliances before their formation, throughout their lifecycle, and through their dissolution. Risk frameworks, such as COSO ERM, can aid internal auditors in these assessments. Effective risk management during all stages of the strategic partnership can increase the likelihood of alliance success and propel the organization toward the achievement of its strategic goals.

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