# CUSTOMER-SUPPLIER DIVISION 2003 AQC PRESENTATION
# 'RISK MANAGEMENT IN THE SUPPLY CHAIN'

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**Summary:**

Today, risk is the #1 criterion for supply management decisions. Ten years ago, it was quality. Five years ago, it was price and in the last three years it was total cost of ownership. This session discusses how risk management has become the primary filter for senior management decision-making and how it will impact the supply chain. For example, just in time is now just in case. Supply chain risks will be evaluated in light of two overall drivers: 1. Corporate governance and 2. Homeland security.

Our goal today in general is to discuss the importance of supply management and in particular to discuss the importance of risk in the supply chain. At the close of today's presentation, you will be able to:

- Explain how corporate governance and homeland security impact the supply chain, supply management, and ultimately quality management
- Make a case how risk management is today's #1 filter for Board of Director and senior management decision making
- Provide simple and effective solutions ways for monitoring and even managing suppliers
- Examine career options as quality professionals to move into supply management

## INTRODUCTION

These are turbulent and chaotic times. In the past, most issues facing senior management were usually linear. Operations and processes could be stabilized and products could be made consistent. And, consistent products and stabilized processes were key value adders of quality management. No more. This is the age of chaos. System spikes, discontinuous operations, and constraints abound throughout the supply chain and are more often the norm. These will require new ways of managing and more ‘out of the box’ solutions.

Enron, WorldCom, Global Crossing and other corporate disasters have changed the way companies are being managed. Also, they will change how supply managers and quality managers add value to their organizations, their stakeholders, and ultimately to themselves. The bottom line of this presentation is that quality professionals have an important value add in this world.

In this talk, we’ll examine how these two seminal events are changing how supply managers and quality managers are approaching their jobs:

- Corporate governance initiatives
- Homeland security

**FIRST DRIVER: CORPORATE GOVERNANCE INITIATIVE**

Let’s look at recent corporate responsibility/reporting requirements. Sarbanes/Oxley Bill on Corporate Responsibility became law in August 2002. Senior management and the Board of Directors now have higher levels of statutory and fiduciary responsibilities. CEOs and CFOs are personally responsible both civilly and criminally for the accuracy of financial documents. If convicted for criminal fraud, they can be imprisoned for 20 years.

What does this all mean? Boards of Director, CEOs and CFOs don’t want surprises in their organizations. CEOs usually are $8^{th}$ level management. They want to know what’s happening at the lowest levels of the organization as well as throughout the supply chain, especially if these events can impact the financial statement, reputation of the organization, or its share price. In other words, senior management wants to know of possible risk events and know there are processes in place to predict, control, and prevent their occurrence and recurrence. Surprises involve risk to the organizations as well as personal exposure and consequences to individual senior management.

**Governance Directives**

The new governance initiatives can be understood in terms of new Securities and Exchange Commission (SEC) requirements. For example, the SEC requires companies to have internal auditing organizations to provide independent and objective assurance to senior management and more often report directly to a company’s Board of Directors.

This is a definite expansion in scope, authority and ultimately influence as the new definition of Internal Auditing indicates:

> “Internal auditing is an independent, objective assurance and consulting activity designed to **add value and improve an organization's operations.** It helps an organization accomplish its objectives by bringing

> a systematic, disciplined approach **to evaluate and improve the effectiveness of risk management, control**, and governance processes."[i]

**Management Decision Making**
Organizations following the Securities and Exchange Commission (SEC) and recent New York Stock Exchange commission rulings are now strengthening financial and most importantly to quality managers are strengthening operational and supply management controls.

So what does that mean to us? Ten years ago, the primary filter of most management decision-making was quality. Five years ago, it was price. In the last two years, the primary filter for senior management decision-making was total cost of ownership. Since the 9/11 catastrophe, the primary filter and primary concern of most senior management is 'risk' in almost all business decisions - how to predict, monitor, and ultimately control it.

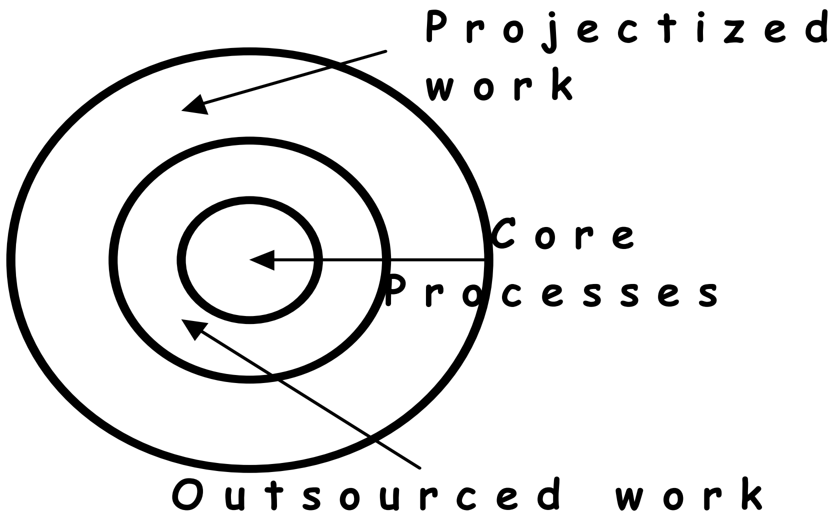
This is critical to supply management and quality management decisions. In the last five years, there has been more focus on outsourcing. So, the critical question for senior management is: "So if we outsource 85% of our manufacturing dollar, how do we manage risks down the supply chain?"

**What Is Risk?**
Let's first define risk. Risk is the probability that an event or action may adversely affect the organization. The following are common elements of most risk definitions:

- Ability to meet contract, process, and product requirements
- Possibility of harm or loss if requirements are not achieved
- Probability of an undesirable event with consequences
- Variation away from a specification or requirement is monitored and controlled

Let's look at how risk impacts one of the most important strategic organizational decisions - the 'make or buy decision.' This decision used to be based on a 'cost-benefit' decision. Now 'the 'make or buy' decision is based on risk-value as companies determine if they have internal core capabilities, or have suppliers with those core competencies, or have the internal supply management resources to manage these outsourced activities.

**Handy/Hutchins Work Model**
This can be understood by the Handy/Hutchins Work Model. Several years ago, Charles Handy developed a model for work, which is illustrated in the figure on the next page. The model is illustrated by 3 concentric circles consisting of:




- Core processes
- Outsourced processes
- Projectized processes

Competitive companies have operationalized the Handy/Hutchins work model. The model can be distilled into the following:

- Identify what you do best or identify core process competencies
- Outsource non-core work to 'world class' suppliers
- Acquire/integrate supply processes
- Measure supply performance
- Innovate and improve continuously

**Today's Business Models**
Most global businesses and OEMs, such as auto and aerospace companies, have adopted variants of the Handy/Hutchins model. For example, OEMs, such as auto and aerospace companies often use the following business model:

- Manage their brand
- Design Product
- Outsource (up to 85% of manufacturing $)
- Assemble/Test
- Sell products

Sara Lee Solution has adopted this business model. Sara Lee Corporation plans to sell its non-core factories. It will focus on its core strengths, specifically developing new products, managing its brands, and increasing market share. Sara Lee will outsource commodity manufacturing and other non-core activities and only retain its 'highly proprietary' processes. In other words, it plans to focus on 'what it does best.'

**The Critical Business Model Question**
**Question:** If 80% or more of the manufacturing dollar is outsourced, who will evaluate, manage, and improve the effectiveness of the risk associated with outsourced materials/services?

**Answer:** Supply Management and Quality Management Professionals. I believe that this partnership is the biggest professional challenge facing the quality profession in the next five years. These assessments will be reported to senior management and even the Board of Directors.

**SECOND DRIVER: HOMELAND SECURITY**
In the last decade, there has been an increase in outsourcing. The numbers are stunning. Top 250 procurement departments in the U.S. spent $1.4 trillion for goods and services in 1999, 10% increase over the $1.27 trillion spent in 1998, and a 40% increase over the $1 trillion spent in 1996.[ii]

**Homeland Security Risk Challenges**
Several months ago, the Department of Homeland Security was formed. This is the second largest federal department after the Department of Defense. The risk is that a shipping container can be the delivery system of a nuclear weapon or a dirty bomb.

This department has key homeland security challenges that involve risk, specifically:

- How to keep ports and airports safe for travelers, while maintaining customer service, ease of transport, etc?
- How to inspect and screen baggage, freight, and containers
- How to secure sufficient assurance, verification, validation of the security processes
- How to do this economically without supply disruption?

These questions challenge fundamental principles in just in time and lean management. To meet the homeland security needs, there are now more risk management solutions being proposed, such as 100 % inspections, 'womb to tomb' verification, and validation audits.

Examples of the above include:

- Supplier and product profiling
- Higher quality expectations of suppliers
- Shipping containers are source inspected
- Containers are not opened from point of manufacture to point of use
- Smart Tags (RF) on found on all containers
- JIT becomes 'just in case'
- More supply risk management and process audits
- Discrete (one) vendor per container for 'womb to tomb' verification and validation
- Fewer 'less than truckload' shipments
- Simple risk management tools

**SIMPLE RISK MANAGEMENT TOOLS**

There are a number of simple tools for evaluating supplier risk. In this section, we'll discuss the following risk management tools:

Risk/value product profiles

- Compliance audits
- Process audits
- ORCA risk audits
- Internal control assessments
- Self assessments

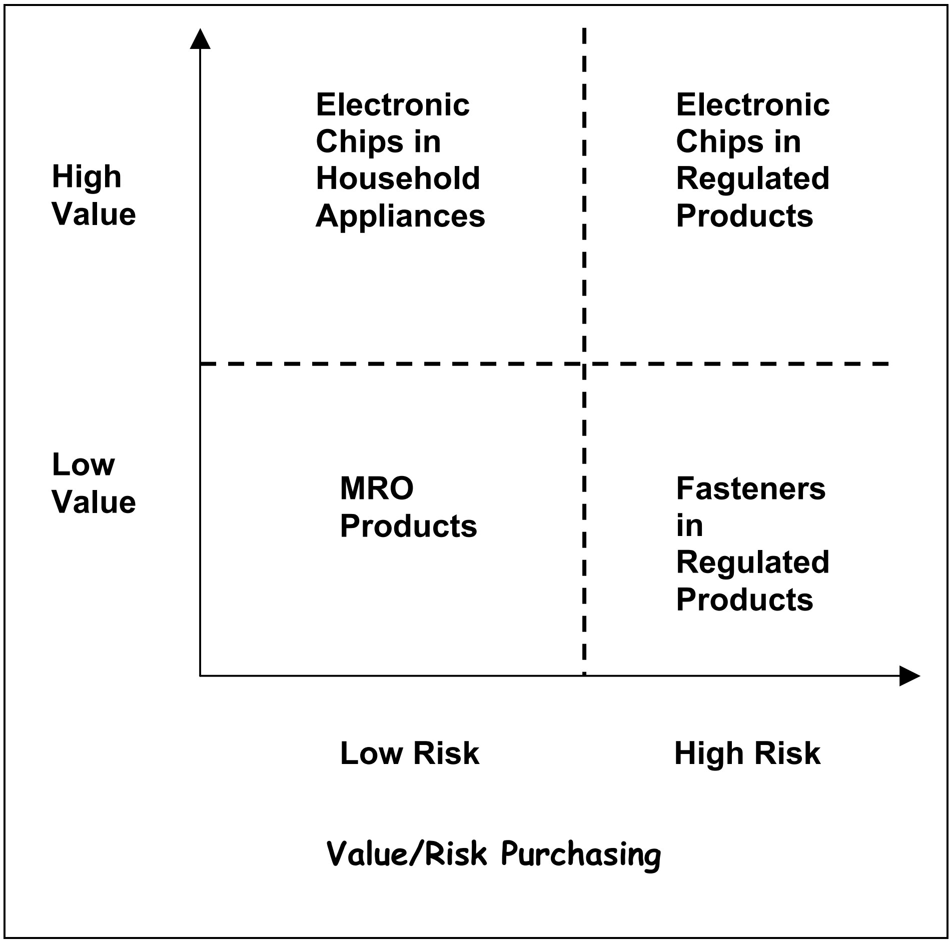
**Risk/Value Profile of Products and Suppliers**

A simple and reliable way to determine supplier risk is through developing a simple value/risk profile of supplier's products as illustrated on the following page. Products are mapped on the value/risk profile as seen in the next page. Higher risk and higher value product suppliers on the upper right of the matrix are managed more carefully than those on the lower left of the matrix that are of lower risk and lower value.

**Process Audits**

Process audits are very interesting and new to the quality world. ISO 9000 – 2000 is fundamentally a process standard. So, this would imply that the standard would be audited much like a process using Plan – Do – Check – Act as the primary means to ensure effectiveness.

Another method for conducting process audits would incorporate the following steps:




- Identify business objectives
- Identify high risk processes
- Flowchart processes
- Identify process measures
- Evaluate process performance measures
- Recommend improvements

The above process auditing methodology uses a PDCA format except that it focuses on business objectives, which are broader than a QMS or EMS audit objectives. Also, the above methodology ensures that core supply processes can be integrated with the customer's (OEM's) core processes.

**ORCA Risk Assessments**

ORCA is a common risk assessment that reflects what the IIA, AICPA, and other financial groups use for conducting their audits. The major difference is that post Enron, ORCA or some of its variants are now the preferred methodology for conducting operational assessments.

- Identify business objectives
- Identify operational and other risks
- Identify controls
- Assess effectiveness of controls

Risk management assessments are the future of most operational, homeland security, and customer-supplier assessments.

**Internal Control Assessments**

Senior management wants controls to permeate the organization including the supply chain. Controls can be soft or hard. Soft controls are the ethics and culture of the organization. Hard controls include SPC, FMEA, procedures, and other controls.

A number of factors can be evaluated in determining control effectiveness, including the following:

- Control environment
- Risk assessments
- Control activities
- Information and communication
- Monitoring activities

If the above exist and are implemented in critical areas to minimize risks, then this provides a level of assurance that the organization's controls are effective.

**Self Assessments**

Self-management is a critical element of supply and quality management these days. What does this mean? Suppliers are now responsible for self managing their work, including cost, quality, delivery, and service. Customers are no longer inspecting or want to correct nonconforming products or services. Supply managers want to work with suppliers that can deliver the right products to the right location on time and in the right count.

There are a number of self-assessment controls that are used:

- SPC charts
- Balanced scorecards
- Checklists with ratings
- Process capability

**RISK MANAGEMENT IN THE SUPPLY CHAIN**

So, what does this mean to supply management and quality management professionals? The supply management challenge is according to a *Purchasing Magazine* Survey

> 93% of purchasing professionals believe their senior management expects purchasing strategy to contribute to shareholder value.[iii]

But, there's a problem:

> 91% of manufacturers rank SCM as 'critical' or 'very important' to their company's success, only 2% rank their supply chains as world class. [iv]

Going back to the Handy work model discussed earlier, senior management doesn't want surprises or risk. They want as much stability and consistency in a chaotic world as they can get. This means they are reassessing all elements of their business.

The marketplace abhors a vacuum. There are a number of business and capability vacuums to be filled, specifically:

- Who will fill this gap between the requirements of manufacturers and their perception of their supply chains?
- Who will think and act strategically throughout the supply chain?
- Who will manage supply chain risk?
- Who will develop supplier capabilities that reinforce the existing Handy/Hutchins business model?
- Who will manage supplier security risks?

**BOTTOM LINE**

Most quality professionals are familiar with risk through quality, such as six sigma, process capability, process control, FMEA, DOE, and statistical decision making. Risk is a measure of movement away from a specification, business requirement, performance target, or business objective.

Think about it. Process capability, process control, and other statistical measures are risk measures. Quality professionals have all the tools needed to conduct:

- Homeland security assessments
- Supply chain risk assessments

Again, the marketplace abhors a vacuum. Someone or some organization will fill this vacuum. Quality professionals who think strategically and can manage risks will be very well positioned in the chaotic and dangerous marketplace over the next ten years.

**FOR MORE INFORMATION**

SME, ISM, APICS and ASQ Customer Supplier Division have much information on the state of Supply Management. Also, you can visit www.LeanSCM.net for career management information on the topic.

[i] About Internal Auditing," IIA Web Site, 2000.
[ii] Porter, Anne Millen, "Purchasing's Top 250 Spent $1.4 Trillion in 1999,"
[iii] "CEOs Get Religion About Supply Management," Purchasing Magazine, March 23, 2000, p. 22.
[iv] A recent survey of more than 200 companies by Deloitte Consulting