

# Sourcing Optimization

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# Agenda

- **Introduction**
- **Problem Statement**
- **Sourcing Optimization Solution**
- **Oracle Sourcing Cycle**
- **Where does Sourcing Optimization fit in Sourcing Cycle**
- **Oracle Sourcing Optimization Features**
- **Myths and Realities**
- **Benefits**
- **Sourcing Optimization Illustration**

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## **Introduction**

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# INTRODUCTION

## Oracle Sourcing Optimization

- Guides the buyers to automatically analyze sourcing problems.
- Creates optimal solutions and award recommendations while allocating business to suppliers
- Takes care of business policies and goals.
- Generates better and faster award decisions.
- Was originally released in Sourcing Mini-Pack J.

# Agenda

- Introduction

## **Problem Statement**

- Sourcing Optimization Solution- The Next level in Sourcing decisions
- Oracle Sourcing Cycle
- Where does Sourcing Optimization fit in Sourcing Cycle
- Oracle Sourcing Optimization Features
- Myths and Realities
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# Real Life Scenario – Non-ideal Situation



# Problems in the Real Life Scenario

- Client in the manufacturing sector faced a problem while allocating business.
- The client was using earlier versions of Oracle applications(11.5.8).
- Sourcing team manually handled evaluations/analysis of quotes/bids while awarding business to supplier.
- Absence of a decision support tool.
- Multiple bids and line items received from large number of suppliers.
- What - If Analysis process is time consuming since manually done.

# Major Challenges





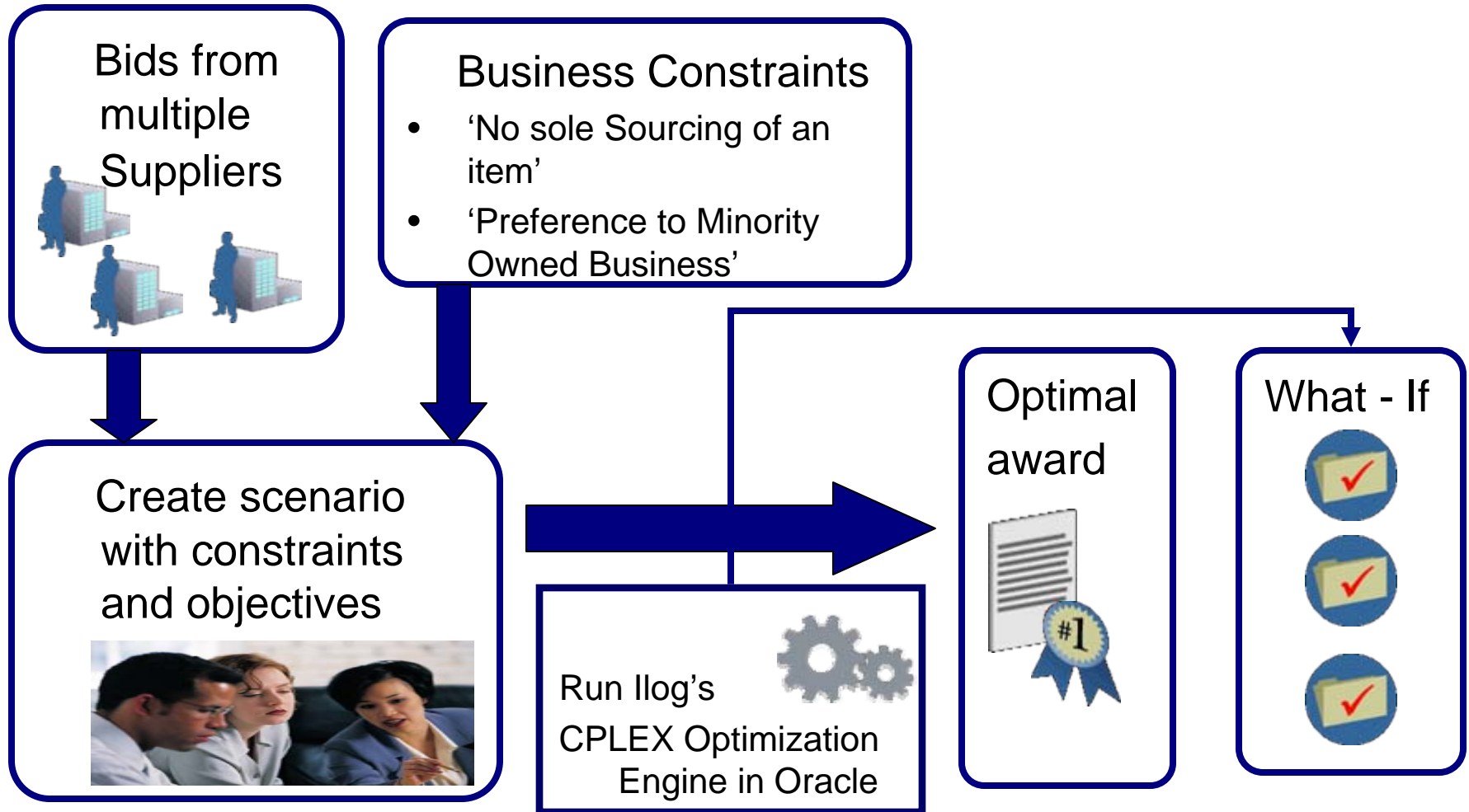
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# The Solution

***ORACLE  
SOURCING OPTIMIZATION***

# Award generation - Ideal Situation



# What is Sourcing Optimization?

- Sourcing Optimization uses mathematical analytics to arrive at the best possible solution given a set of purchasing policies and objective represented in the form of business constraints.
- It guides the buyer in making Award decisions.
- It helps in analyzing and evaluating supplier bids and quotes.
- Referred to as a scenario modeling tool.
- Optimization is the next level in Sourcing decisions.

# Optimization in Strategic Sourcing

- Strategic Sourcing is an institutional procurement process which uses advanced technology to help an organization to make better buying decisions.
- Strategic Sourcing was introduced by General Motors in 1980s.
- Strategic Sourcing involves identifying the Supply market, current company's procurement requirement, identifying suppliers to be present in the negotiation cycle.
- Sourcing Optimization is a key component in Strategic Sourcing.

# Optimization in Theory

*In mathematics, the term optimization, or mathematical programming, refers to the study of problems in which one seeks to minimize or maximize a real function by systematically choosing the values of real or integer variables from within an allowed set.*

# Sourcing Optimization in Oracle

- Sourcing Optimization is a decision support tool.
- It helps in evaluating supplier's responses to provide the best award recommendation while adhering to the purchasing policies and goals.
- It is also referred to as Award Optimization in Oracle terminology.
- The optimization tool is designed to allow the buyer to evaluate a much wider range of cost elements and non-cost factors.
- Configurable award rules build in compliance with policies such as minority business preference or multi sourcing of critical items are taken into consideration while generating award recommendations.

# Reviews on Sourcing Optimization

**German Bertot,  
group manager,  
Oracle Sourcing  
Product  
Management.**

*“Oracle Sourcing Optimization helps you define in business terms your criteria for deciding how to award the business, and then it determines what will be the optimal award given the constraints that you specify.”*

**Aberdeen  
Group**

*“The application of optimization tools to analyze total costs, and of flexible bidding functionality to uncover creative supplier solutions has enabled early adopters to identify average incremental savings of 12% above those that basic, price-focused auctions alone have generated”*



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# Sourcing Cycle in Oracle

- Sourcing activities precedes purchasing activities
- Various processes in the Oracle Sourcing are:
  1. Identifying Sourcing Team
  2. Creating Negotiation Document
  3. Determining Item attributes/Price Structure
  4. Identifying Vendors
  5. Identifying Sourcing rules of engagement
  6. Publish negotiations
  7. Evaluate supplier responses
  8. Award responses

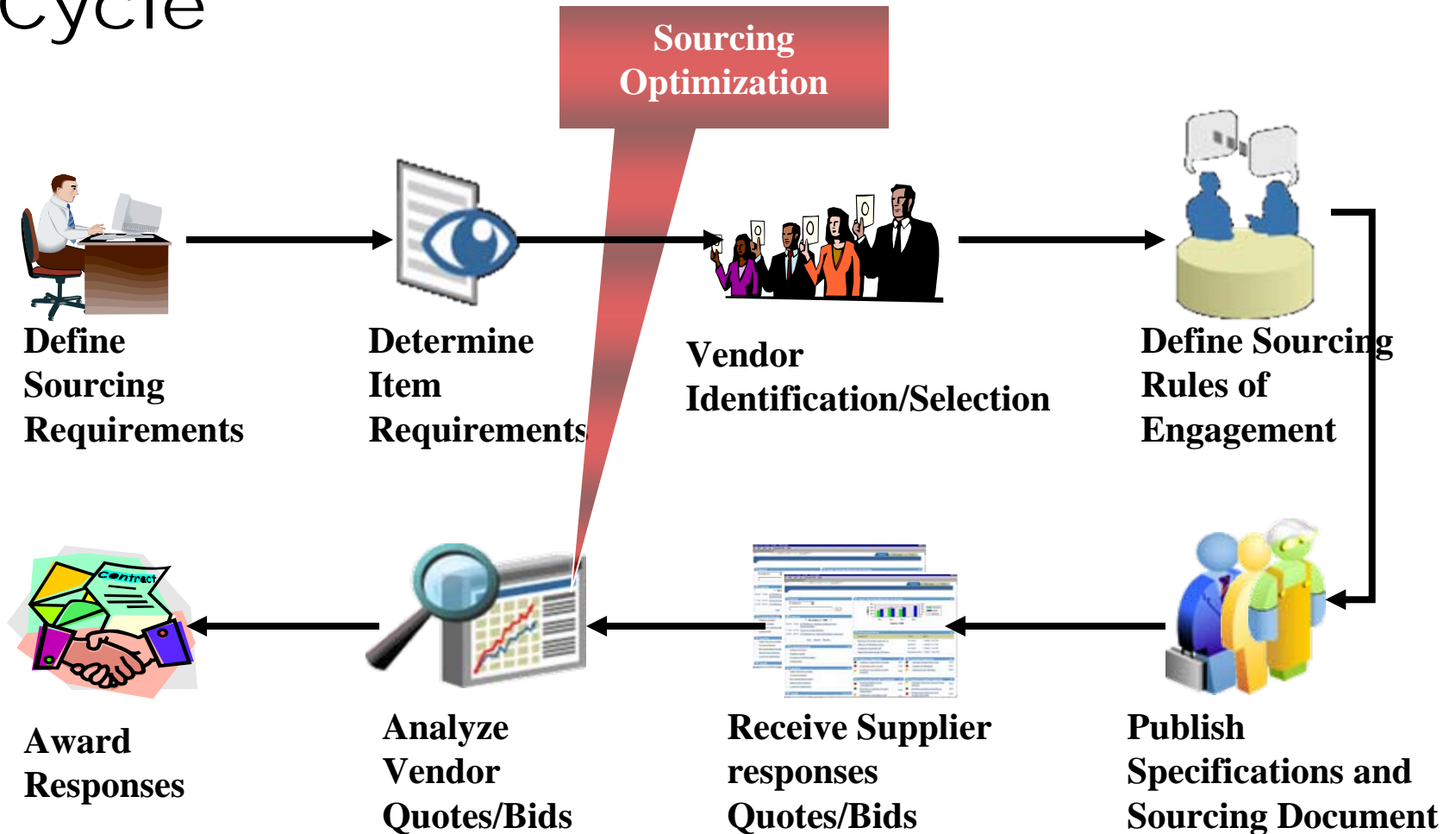
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## **Where does Sourcing Optimization fit in Sourcing Cycle**

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# Sourcing Optimization in Sourcing Cycle

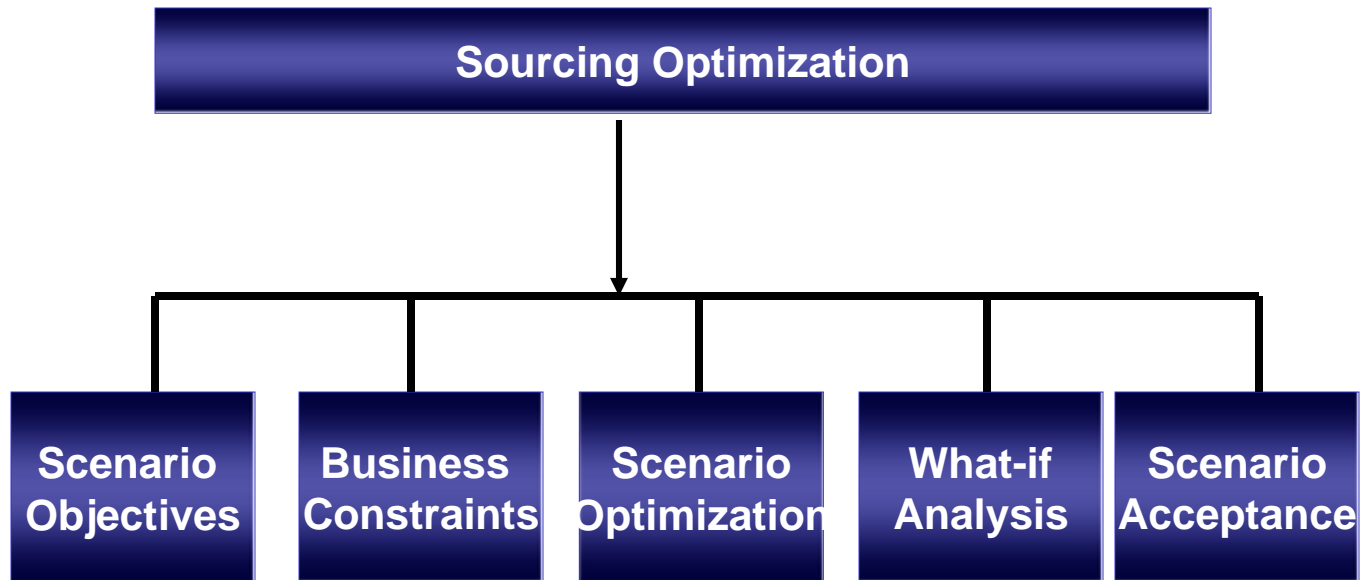


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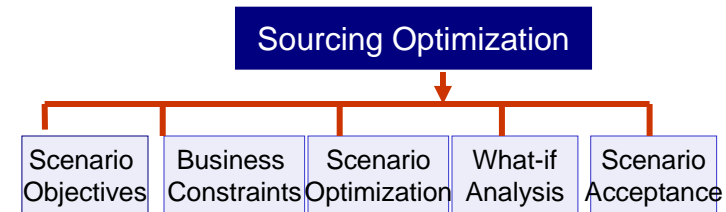
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# Oracle Sourcing Optimization Features

Sourcing Optimization comprises features like Scenario Objectives, Business Constraints, Sourcing Optimization, What if Analysis and Scenario Acceptance.



# Sourcing Optimization



- **Feature Description**

- Allows buyers to create scenarios that can help in creating the best award.
- Allows buyers to achieve maximum savings while meeting business policies and goals.
- Particularly useful in cases of large line items and a large number of Competitive bids.

## Change from Prior Releases

The above functionality was originally released as a patch for 11i.10.

## Set Up Steps

Profile Option → PON: Enable Award Optimization to Yes at Site level

# Sourcing Optimization

The screenshot shows the Oracle Sourcing interface for an auction. The 'Actions' dropdown menu is circled in red and contains the option 'Award Optimization'. A blue callout box points to this menu with the text: 'Buyer kicks off the Sourcing Optimization process after receiving the bids from the suppliers.'

**ORACLE Sourcing** Home Logout Preferences Help Diagnostics

Requisitions Negotiations **Intelligence**

Negotiations >

Auction: 45613

Title: Lcc Test10  
Status: Closed  
Time Left: 0 minutes

Open Date: 05-Oct-2007 15:43:48  
Close Date: 05-Oct-2007 16:25:20

Header Lines Controls Contract Terms Suppliers

Buyer: Abby, Mrs. Caroline  
Negotiation Style: Standard Negotiation  
Bid Style: Open  
Security Level: Public  
Sourcing Project Description

Approval Status: Requires No Approval  
Operating Unit: Vision Operations  
Outcome: Blanket Purchase Agreement  
Event

Collaboration Team

Member	Position	Approver	Access	Task	Target Date	Task Completed	Last Notified
<a href="#">Abby, Mrs. Caroline</a>	AA910.Exec\, Assistant To SVP Mfg	No	Full				
<a href="#">Ross, Mr. Dan</a>	EX125.Executive VP, S						

Terms

Global Agreement: No  
Effective Start Date: 06  
Effective End Date:  
Bill-To Address: V1  
Ship-To Address: M1  
FOB: Or

Amount:  
Lease Amount:  
Payment Terms: 45 Net (terms date + 45)  
Carrier:  
Freight Terms: Due

Currency

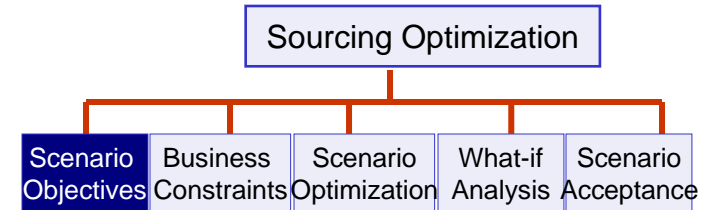
**Responsibility: Sourcing Buyer**

**Navigation: Sourcing Home Page>Select the Auction Number.**

**Sourcing Optimization begins after buyer receives responses from all suppliers (Evaluation phase)**



# Scenario Objectives



- The buyer chooses an objective that defines what the optimization engine should consider to generate recommendation.
- The objective 'Maximize award quantity and minimize award amount' will cause the optimizer to try to award quantities indicated on the negotiation while minimizing the total cost of the award.
- Buyer can choose the following objectives seeded in the system while creating a scenario:
  - Maximize Award Quantity and Minimize Award Amount
  - Maximize Award Quantity and Minimize Price/Score ratio.
  - Maximize Award Quantity
  - Minimize Award Amount
  - Minimize Price/Score ratio

# Creating Scenario Objectives

The screenshot shows the Oracle Sourcing interface for 'Award Optimization (Auction 45613)'. The page includes navigation tabs for Requisitions, Negotiations, and Intelligence. A breadcrumb trail shows 'Negotiations > Auction: 45613 > Award Optimization (Auction 45613)'. Key information includes Title 'Lcc Test10', Buyer 'Abby, Mrs. Caroline', and Auction Currency 'USD'. A 'Scenarios' section contains a table with one entry: 'Award (System Generated)' with an Award Total of 25,000.00 and Total Savings Percent of 25.00%. The 'Create Scenario' button is circled in red, and a blue arrow points from it to a text box.

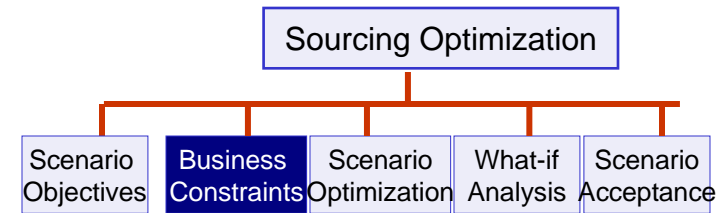
Accept Scenario	Scenario Name	Award Total	Total Savings Percent	Awarded Last Suppliers Updated	Updated By	Last Optimized	Optimize Update Copy Delete
<input type="checkbox"/>	Award (System Generated)	25,000.00	25.00%	1		05-Oct-2007 16:21:07	

Buyer creates the scenario for the optimization process.

**Responsibility: Sourcing Buyer**

**Navigation: Sourcing Home Page>Select the Auction Number>"Award Optimization" from the Actions LOV**

# Business constraints



- Buyers specify the purchasing policies or goals in terms of constraints.
- There can be business constraints and rules that need to be followed, such as:
  - No sole-sourcing of an item
  - Maximum business that can be awarded to any supplier is X
  - Minimum spend with the primary supplier is Y
- The optimizer will satisfy all the constraints defined for a scenario, while it seeks to find the optimal solution for the chosen objective.

# Types of Business constraints

Constraints can be defined at three levels viz.

- **Header level**
  - Header constraints span all the lines in the negotiation.
  - Buyer can put a cap on the budget amount so that the award amount is not exceeded.
  - Constraints can also be set up to exclude suppliers that do not meet cutoffs for header attribute scores, header attribute group scores or total score.

# Types of Business Constraints...contd.

- **Line level**

- The buyer can decide whether or not a line award can be split between multiple suppliers.
- Price and score cutoffs can be defined for the lines so as to eliminate bids that do not meet the cutoff.
- Line constraints can be used to limit the maximum amount or quantity awarded for a particular line.
- The buyer can specify if he or she wants to award all lines in a group to the same supplier.

- **Supplier Level**

- Supplier constraints can also be set up based on business classifications such as Minority Owned, Women Owned, etc.
- Setting up constraints based on Approved Supplier List statuses can ensure that a certain percentage of the business is awarded to approved suppliers

# Adding Constraints in Scenario

The screenshot shows the Oracle Sourcing interface for creating an award scenario. The form includes fields for Title, Scenario Name, Objective, and Cost Factors. Below these are three sections for constraints, each circled in red: 'Header Constraints', 'Line Constraints', and 'Supplier Constraints'. A blue callout box points to the 'Header Constraints' section with the text: 'Buyer can create 'Header'/line'/Supplier' level constraints.'

**Header Constraints**

Min Total Award Amount:  Max Total Award Amount:

**Line Constraints**

Line	Allow Split	Integer Quantity	Unit	Quantity Agreed		Award Amount		Max Price	Min Score	Additional Constraints	Delete
				Min	Max	Min	Max				
1 Auction1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EACH	200	500	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

**Supplier Constraints**

Exclude suppliers on Purchase Order Hold.

Number of Suppliers: Min  Max

Award to Incumbent Suppliers: Type  Amount

Award to Any One Supplier: Type  Amount

**Responsibility: Sourcing Buyer**

**Navigation: Sourcing Home Page>Select the Auction Number>"Award Optimization" from the Actions LOV**

# Supplier Constraints

**Header Constraints**

Min Total Award Amount  Max Total Award Amount

**Line Constraints**

Line	Allow Split	Integer Quantity	Unit	Min Quantity	Award Quantity		Award Amount		Max Price	Min Score	Additional Constraints	Delete
					Min	Max	Min	Max				
No results found.												
<input type="button" value="Add Another Row"/>												

**Supplier Constraints**

Exclude suppliers on Purchase Order Hold.

Number of Suppliers

Min  Max

Award d  Supplier

Type  Min  Max

**Business Classification**

Classification	Type	Min Award	Max Award	Delete
Veteran Owned	Percentage	80	80	<input type="button" value="Delete"/>
<input type="button" value="Add Another Row"/>				

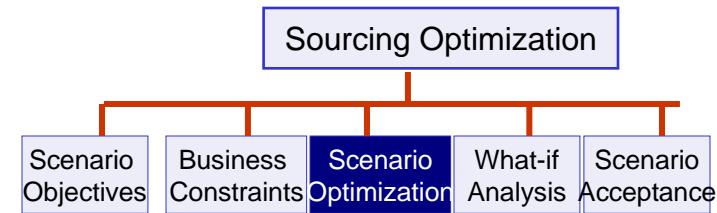
**Approved Supplier List Status**

TIP Status applies to Approved Supplier List entries for items and categories in this RFQ.

Status	Type	Min Award	Max Award	Delete
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Adding the supplier constraints that 80% of the award should go to the Veteran supplier.

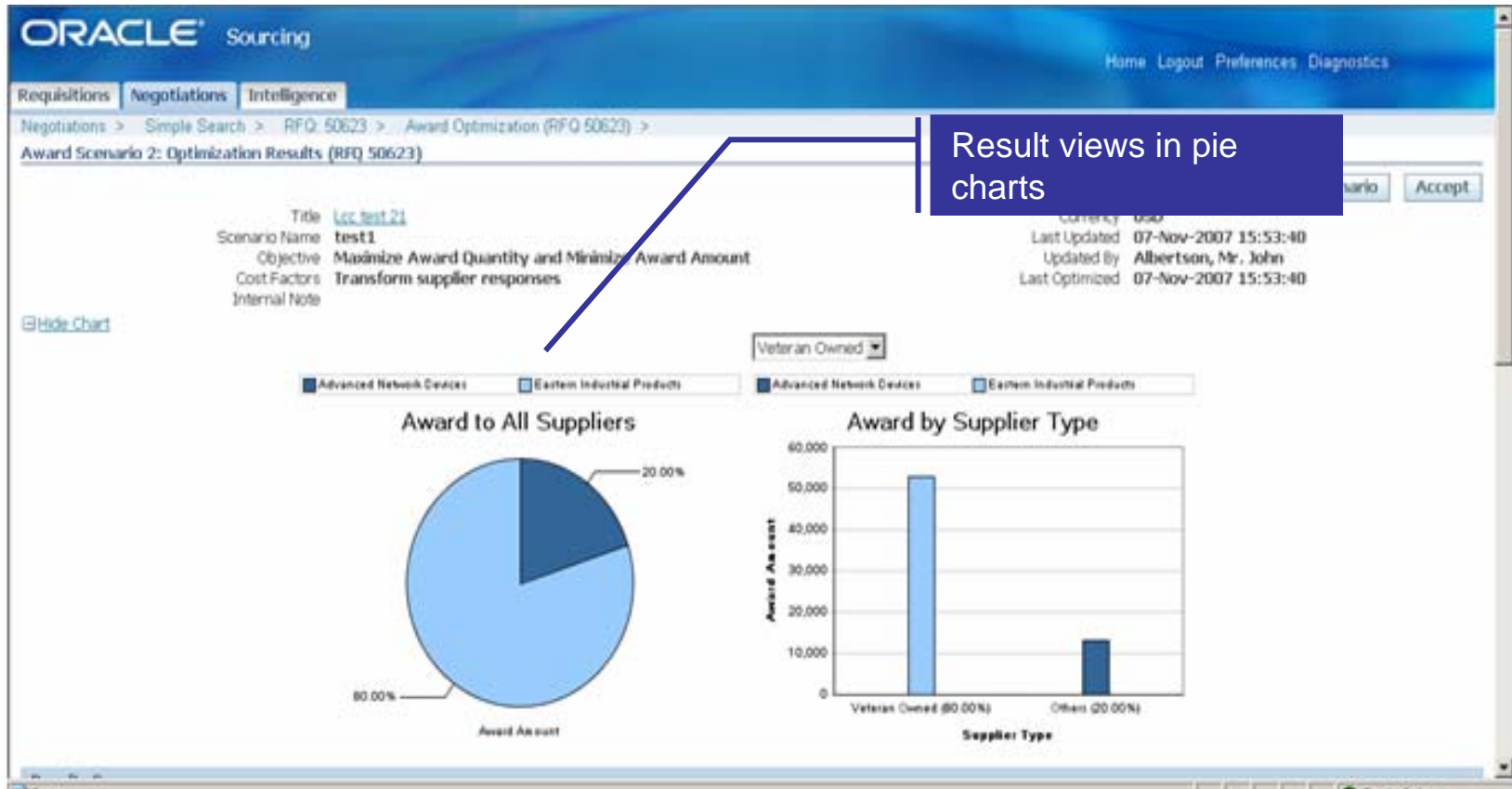
# Scenario Optimization



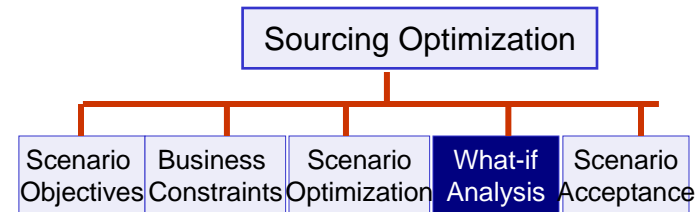
- The buyer can compute the optimal award allocations for a scenario with a single click.
- Oracle Sourcing uses ILOG's CPLEX optimization engine to generate the optimal award allocation that satisfies the constraints.
- Optimization results are displayed in both graphical and tabular formats for ease of interpretation.
- The buyer can easily view savings resulting from the optimal solution for the scenario.
- The constraints are summarized and supplier type constraints are graphed so the buyer can see how these constraints were met.



# Scenario Optimization

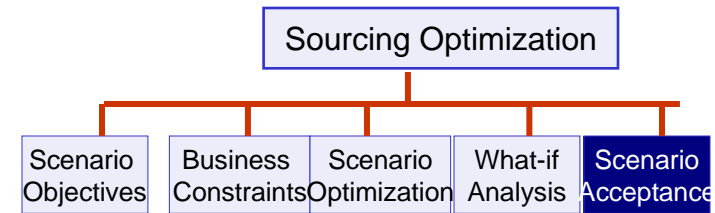


# What-If Analysis



- Through ‘What-if’ Analysis buyer can define multiple scenarios and compare optimization results.
- The buyer can edit an existing scenario or copy it to create a new scenario to quickly generate alternate scenarios.
- The buyer can create such scenarios e.g. no more than 5 suppliers are awarded.
- Another scenario might stipulate minimum award percentage to Minority or Women-owned businesses.
- The buyer can compare the optimal solutions for different scenarios; the buyer may realize savings that would otherwise not be apparent.

# Scenario Acceptance



- The buyer can choose the scenario that provides the most savings and satisfies company policies and business objectives to create the award.
- A single click copies the accepted scenario results into a draft award.
- The buyer can modify the draft award if desired.
- Award approvers can compare the accepted scenario results to other scenarios to better understand the rationale for the proposed awards.


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# Myths and Realities

- It is a Decision support tool; not an intelligent one.
- Guides the buyer in taking the correct decision; does not enforce it.
- Given a complete scenario, it will find the optimal answer; but can not build the proper scenario.
- In cases where constraints clash, the tool cannot generate the award and hence no result is found.
- The buyer has to define the scenario, ensure all the data are present and correct, make sure all the constraints are present and analyze the alternatives. Hence it does not replace a human being.

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# Benefits

- Purchasing professionals can save effort and time while selecting vendors for award.
- Speeds the awarding process.
- Increases accuracy in decision making.
- Helps in performing What-If analysis quickly with multiple scenario building.
- Buyer has the advantage to view the percentage savings in each case of scenario optimization.

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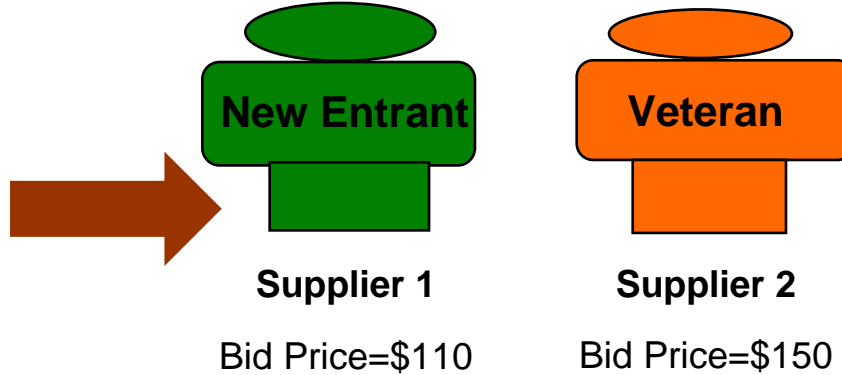


## **Sourcing Optimization Illustration**



# Sourcing Optimization Illustration

2 Suppliers bidding for "Laptop Carrying Case" order



## Scenario 1: Without Constraint

Bid Price of **Supplier 1** < Bid Price of **Supplier 2**

100% of Order will go to **Supplier 1**

## Scenario 2: With Constraint

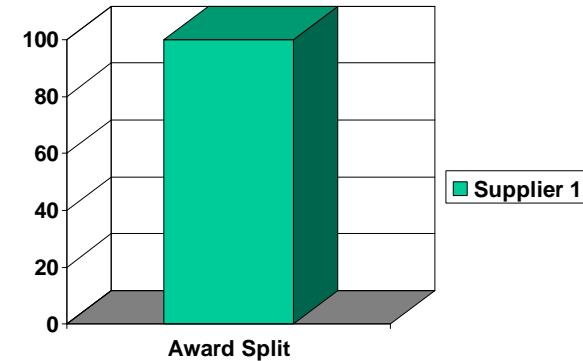
**Constraint** — Minimum 80% of business should be awarded to the Veteran supplier

In spite of Bid Price of **Supplier 1** < Bid Price of **Supplier 2**

80% of Order will go to **Supplier 2** & remaining 20% to **Supplier 1**

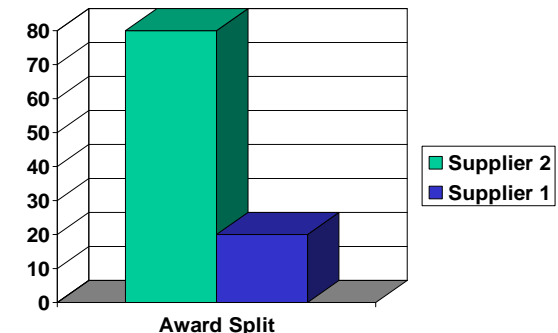
## Scenario 1

Award recommendation without constraint



## Scenario 2

Award recommendation with Constraint



Thank You