

Organizational Structure

Masco Corporation manufactures, sells and installs home improvement and building products, with emphasis on brand-name products and services holding leadership positions in their markets. The company is among the largest manufacturers in North America of products designed for the home improvement and new construction markets. Masco had world-wide sales of over \$12.8 billion in 2006, employs approximately 57,000 people and has 6,200 shareholders.

Rationale behind the Initiative

As a global decentralized organization, Masco's Corporate Purchasing Team understood the critical need to maximize synergies across the organization and measure and manage our spend on a global basis. A significant challenge was finding a way to gather spend from our 38 disparate ERP (Enterprise Resource Planning) systems across the company. Historically, we gathered purchasing information through manual surveys and focused on our companies' top 20 purchases. We found the surveys to be time consuming for our business units, we had data overload, and the data was difficult to analyze. The SRM (Supplier Relationship Management) tool allowed Masco to address our challenge, leverage our spend and optimize our supply base.

Initiative Date Range Compliance

The SRM Tools were in use for North America as of October 1, 2004. In October 2006, we upgraded to SAS Version 9 and made enhancements such as the Commodity Tracking Tool, customized Help section, and Property Sheets including D&B Data. From October 1, 2004 through September 14, 2007 the Masco divisions have identified and posted savings as shown in the validation section. In November of 2006, we implemented the tool throughout five of our eight European divisions.

Organizational Impact

The SRM Solution is now integrated across 38 of Masco's divisions, representing 695 manufacturing and service locations. As of September 14, 2007, the SRM data warehouse contains in excess of \$10 billion in spend¹, 19 million purchase transactions, 800,000 items and 44,000 suppliers. These numbers reflect 24 months of historical data plus the current year. The Masco Divisions are utilizing the SRM Data Warehouse daily to identify opportunities to leverage spend and optimize our supply base, as shown in the validation section. The SRM Tools provide additional resources for Masco Divisions to work collaboratively to leverage spend, share supplier information, improve payment terms², etc. We can now measure and manage Masco's spend collectively, identify key commodities from different suppliers and prioritize our sourcing efforts. This solution did not require process changes, redundant entries, or changes to our internal coding. We were able to extract the data non-invasively and load it into the data warehouse. Management reports³ are readily available to all divisions and Masco HQ, which minimizes manual work that was previously required to gather the data.

The SAS Portal and SRM Tools allow us to expand into other areas. We have been working to enhance the SRM Tools for Commodity Tracking⁴, Supplier Evaluation Ratings⁵, Advanced Scorecards⁶, and soon we will also include Global Supplier Assessments⁷. In addition to these enhancements, in April 2007 we began an initiative to automatically create the Global Spend Report that divisions currently pull together manually to send to our Vice President – International on a quarterly basis. In 2008, we plan to eliminate the manual process altogether as our divisions will be able to pull the report out of the SRM Tools. All of the above mentioned enhancements have a great impact as they eliminate many manual processes and give us greater visibility of our suppliers and spend.

Leadership and Innovation

An aggressive 18-month roll out plan was executed, coordinating efforts of over 200 purchasing and IT personnel throughout our North American divisions. The plan consisted of ten phases to ramp up 32 North American divisions, each phase consisting of seven components of training over a 16-week schedule. For our European Divisions, we modified the plan due to location constraints and we conducted a kick-off, review of data extraction and trained over 60 purchasing and IT personnel in person and via WebEx. The successful launch and implementation of this project can be attributed to the leadership and extensive planning by Masco's Purchasing and IT team, which consisted of five personnel, and outstanding support and cooperation from our divisions.

To ensure the SRM data remains current, an extraction process was developed. The non-invasive process consists of flat files that are mapped to a data model and transmitted by each of our 38 disparate ERP systems on a monthly basis to Masco headquarters. We also receive data direct from two Masco national contract suppliers, with whom we primarily place orders through their web site, and therefore do not have the information in our ERP systems.

A web based tote board was developed to track savings identified by divisions through utilizing the SRM tools. These tools include a payment terms calculator and inventory/consignment calculator. We consulted with our financial team to validate the formulas. These formulas provide our divisions with tools to calculate their savings for the tote board.

In 2007, we developed a Masco-Personalized help section⁸ for the Spend Analysis tool to make the tools more user-friendly. To assist our divisions with tracking of commodity data, we developed the Commodity Tracking Tool using the Producer Price Index which is provided by the United States Bureau of Labor Statistics.

Validation of Results

The SRM Tote Board was developed by the Masco SRM Team as a web based tool to record and track savings identified and implemented by the divisions through the use of the SRM tools. The division buyers enter information into an online form and the information is automatically posted. Between October 1, 2004 and September 14, 2007, Masco's divisions have posted \$9,982,251.99 in savings ranging from 7% to 75% and \$2,635,176.83 in cash flow improvement. This represents 29 business units, and 537 individual savings entries⁹.

Sustaining the Initiative

Masco Platform Sustainability: Divisions are grouped by platform¹⁰ and calls are scheduled throughout the year with each group to review progress on opportunities identified through the SRM tools. We assist personnel in navigating through Spend Analysis and identifying new savings opportunities. Projects are tracked on a shared website for all attendees to access.

SRM Team Meetings: The Masco SRM team meets monthly to review, discuss and anticipate technical and/or application issues to include root cause, corrective action and enhancements to SRM.

SRM Demos and Trainings: An interactive tutorial of the SRM tools including Spend Analysis, and standard reports is conducted via WebEx twice a month. We also conduct all day, in person sessions to train new buyers as requested.

SRM Data Cleansing: In July 2007, our IT team implemented a SRM Data Validation program that audits all incoming SRM files for invalid information. In August 2007, our IT team began a UNSPSC (United Nations Standard Products and Services Code) Review process to identify items which appear to be mis-classified. Data that is identified through this process is returned to the divisions for correction and reloaded into the SRM tools. This assists us in our effort to ensure data integrity.

Feedback: Regularly, the SRM Team requests feedback from divisions and we continuously seek ways to enhance the tools to provide value-added. Most of the enhancements discussed in this document are the result of feedback from users.

MASCO

Purchasing Department
Supporting Documentation

1. Masco's Global Spend in Spend Analysis:

- a. Over \$10.8 billion in spend and 19 million transactions in the tools
- b. Spend is grouped by Commodities utilizing the UNSPSC and can be viewed by the UNSPSC view or the Commodity view as opposed to the manual commodity classification process we used in the past
- c. Global spend is available by plant location and supplier location
- d. Data can be viewed in 8 different hierarchies or 24 views and displayed as a pie chart, bar chart or table
- e. Data can be exported to Excel or HTML formats
- f. The only Masco Global Purchasing database

Commodity (UNSPSC) Hierarchy: Masco buyers classify every line item to the UNSPSC (United Nations Standard Products and Services Code) and views similar to the one below allow us to identify spend by commodity. The UNSPSC consists of four levels: Segment, Family, Class and Commodity. This allows us to slice and dice the data in multiple variations. Our disparate existing ERP systems could not provide this information on a consolidated basis.

Segment	Description	Spend	Qty	Transactions
Total				
10.00.00.00	LIVE PLANT AND ANIMAL MATERIAL AND ACCESSORIES AND SUPPLIES			
11.00.00.00	MINERAL AND TEXTILE AND INEDIBLE PLANT AND ANIMAL MATERIALS			
12.00.00.00	CHEMICALS INCLUDING BIO CHEMICALS AND GAS MATERIALS			
13.00.00.00	RESIN AND ROSIN AND RUBBER AND FOAM AND FILM AND ELASTOMERIC MATERIALS			
14.00.00.00	PAPER MATERIALS AND PRODUCTS			

Plant Location Hierarchy: As of 2006, our European divisions were added to provide global visibility.

Country	Spend	Qty	Transactions
Total			
USA			
CAN			
DEU			
GBR			

2. Divisions Working Collaboratively: The Common Payment Terms report is customized for Masco. This was developed in cooperation with the SAS Consultants and is one of the many tools our divisions can access to identify commonality. The report can be run for any combination of divisions, up to 11 at a time, and makes it easy to spot instances where divisions have different payment terms from the same supplier. This gives us the opportunity to leverage the total Masco spend and obtain optimum payment terms. Prior to developing this report, we did not have common supplier payment terms visibility.

	Supplier Name	Spend	Division	Spend	Payment Terms
1	CONFIDENTIAL SUPPLIER 1	\$50,586,685	CONFIDENTIAL DIVISION 1	\$368,414	NET 60 DAYS
			CONFIDENTIAL DIVISION 2	\$600	Net 30 days
			CONFIDENTIAL DIVISION 3	\$50,217,671	1.0% 60 NET 60
2	CONFIDENTIAL SUPPLIER 2	\$12,560,305	CONFIDENTIAL DIVISION 1	\$2,190	1/2% 10 days Net 30
			CONFIDENTIAL DIVISION 2	\$12,558,115	0.5% 7 NET 60
3	CONFIDENTIAL SUPPLIER 3	\$8,278,834	CONFIDENTIAL DIVISION 1	\$1,280	net 0 days
			CONFIDENTIAL DIVISION 2	\$8,277,554	0.0 NET 60
4	CONFIDENTIAL SUPPLIER 4	\$7,814,854	CONFIDENTIAL DIVISION 1	\$102,955	2% 60 DAYS; net 60 days
			CONFIDENTIAL DIVISION 2	\$109,686	2% 10 Days, Net 60
			CONFIDENTIAL DIVISION 3	\$7,602,213	1.0% 60 NET 60

3. **SRM Reports:** The SRM Tools create monthly reports by division to provide various profiles and overviews of spend. Below is a screenshot of the available reports, which were designed by Masco. Divisions use these reports as a management tool to identify opportunities and data issues.

SRM REPORTS	
Back to SRM Reports Main	
Purchasing Profile Reports	Supplier Reports
Expenditure Type Enterprise Organization Purchasing Profile Enterprise Organization Transaction Value Profile Enterprise System Purchasing Profile Enterprise System Transaction Value Profile	Discounts Quantity Fill Rate Summary National Supplier Compliance National Supplier NON-Compliance NON-Compliant Delivery Plant / Supplier Matrix Single Supplier Materials Supplier By Buyer Supplier Consolidation Supplier Exposure Time To Pay
Spend Opportunities Reports	
Price Variance Spend Opportunity	
Top 20 Reports	
Top 20 Commodity Types Top 20 Items Top 20 Suppliers	Exception Reports

Example Reports and Savings:

[Enterprise Organization Transaction Value Profile](#) displays monthly spend divided into the categories of less than \$1,000, over \$10,000, and between \$1,000 - \$10,000. Divisions use this report to identify spend under \$1,000 that can be redirected to our Procurement Card (P-Card) Program. By utilizing this report, 9 additional divisions have implemented the P-Card program. Based on spend from 1/1/07-8/27/07, these additional divisions accounted for 25% of the total Masco P-Card spend.

**Transaction Value Profile – Division 1
Super Hero of P-Card**

- Pre P-Card
 - 80 PO's per day
- After P-Card
 - 10 PO's per day
- Savings

– PO Cost	\$50.00
– POs per day	70
– Work days	260
– Annual Savings	= \$910,000
- Resources
 - Reallocate to strategic activity

Example report (below) Example savings (right)

Plant	Spend Range	Total Spend	Total Transactions	Average Transaction Value
1 Plant 1	< \$1,000	\$66,803	175	
	\$1,000 - \$10,000	\$718,128	212	
	> \$10,000	\$706,660	51	
	Total:	\$1,491,591	438	\$3,405.46

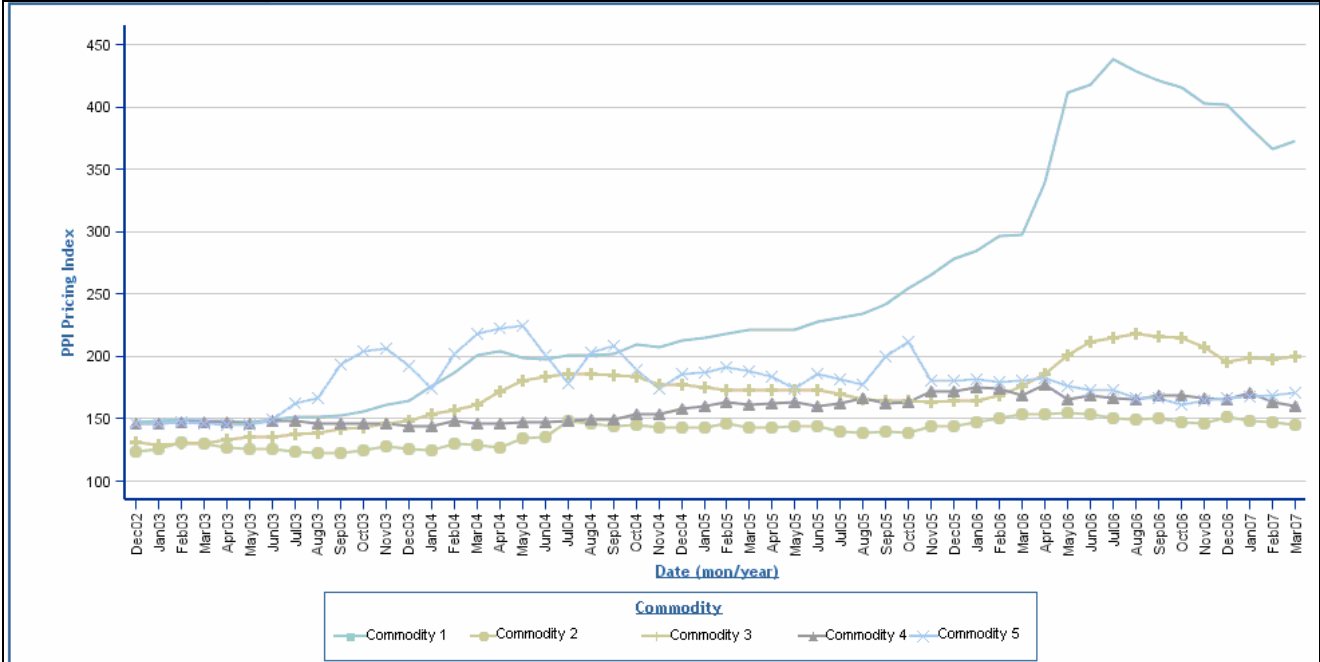
[National Supplier NON-Compliance](#) identifies commodities, products or services where the division is not using a National Contract. We then work with our divisions to determine opportunities to direct their spend to National Contract Suppliers. Masco worked with SAS Consultants to develop a NON-Compliance Explanation Form for buyers to explain the compelling reason for not using National Contract Suppliers. This form is unique as it maintains the NON-Compliance explanation from month to month and eliminates redundant efforts by the buyers.

	Commodity Description	UNSPSC	Supplier Name	Total Spend	Reviewed By	Non-Compliance Explanation	Date Reviewed
1	Commodity 1	30.10.25.15	CONFIDENTIAL SUPPLIER	\$409,776.78			
2	Commodity 2	24.11.25.00	CONFIDENTIAL SUPPLIER	\$12,457.22			

Supplier Consolidation and Plant/Supplier Matrix highlight areas where a division has a large number of suppliers for one commodity. The Supplier Consolidation (not shown) lists all suppliers for the division, and the Plant/Supplier Matrix (below) breaks it down by individual plant location. The division can use this information to consolidate suppliers, leverage spend and improve payment terms.

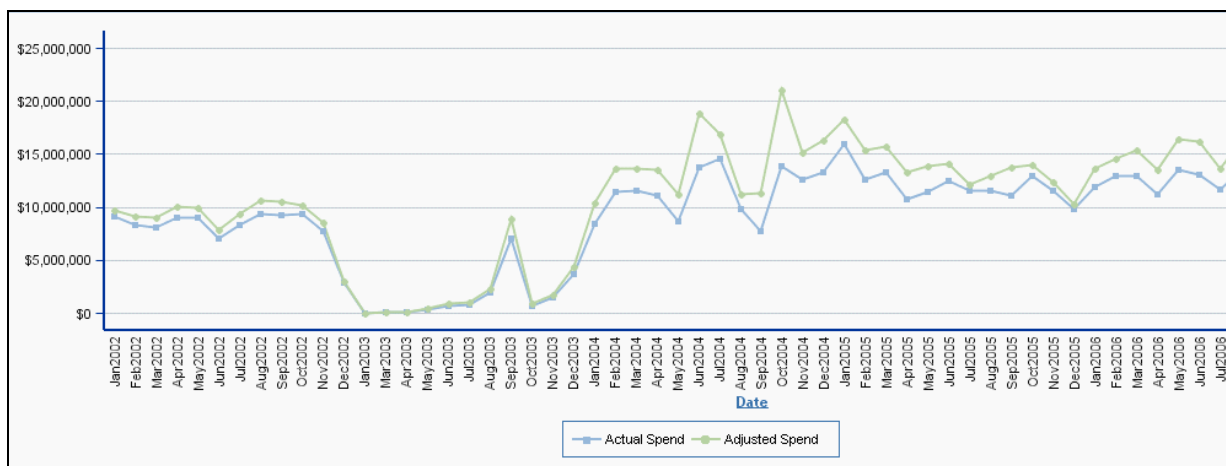
	Plant 1 from Division x	Plant 2 from Division x	Plant 3 from Division x	Plant 4 from Division x	Plant 5 from Division x	Plant 6 from Division x	Plant 7 from Division x
Supplier Name	Total Spend	Total Spend	Total Spend	Total Spend	Total Spend	Total Spend	Total Spend
CONFIDENTIAL SUPPLIER	.	\$1,929	.	.	.	.	.
CONFIDENTIAL SUPPLIER	.	.	\$720	\$411	.	\$823	.
CONFIDENTIAL SUPPLIER	.	.	.	.	.	.	.
CONFIDENTIAL SUPPLIER	\$239	.	.	\$503	.	.	.
CONFIDENTIAL SUPPLIER	.	\$1,922	.	\$836	.	\$836	\$953
CONFIDENTIAL SUPPLIER	.	.	.	.	.	.	\$243
CONFIDENTIAL SUPPLIER	\$26,284	\$12,213	.	\$47,538	\$23,976	.	\$55,342

4. Commodity Tracking: A Commodity Tracking tool was developed by Masco Corporate Purchasing to enhance our SRM Tools. The tool is unique and innovative and has not been implemented by SAS for any other customer. This tool provides Masco a differentiating capability for our buyers to track commodity pricing, compare pricing to the Producer Price Index (PPI) and determine how Masco's pricing compares to the market in an easy to understand graphic and numeric format. The report reflects historical pricing trends from 2002 through year-to-date and current market pricing. These trends alert us to critical cost drivers, the impact on market pricing and potential cost avoidance strategies. The graph below reflects the PPI Component Increases and the market changes for our selected commodities.



The tool allows us to calculate the adjusted spend using the PPI and provides a barometer as to how our cost compares to the PPI as reported by domestic producers to the U.S. Bureau of Labor Statistics. Adjusted spend is compared to the Actual Spend in SRM and the difference is calculated as shown below. The data is displayed in a table as shown below. Divisions can also see a graphical representation of this data.

Commodity	Commodity 1			Commodity 2			Commodity 3		
	Actual Spend	Adjusted Spend	Diff (Actual - Adjusted)	Actual Spend	Adjusted Spend	Diff (Actual - Adjusted)	Actual Spend	Adjusted Spend	Diff (Actual - Adjusted)
Year									
2002	\$1,003,152	\$1,002,769	\$384	\$312,571	\$321,102	\$-8,532	\$97,602,668	\$108,051,756	\$-10,449,088
2003	\$75,827	\$102,080	\$-26,253	.	.	.	\$16,981,028	\$20,834,958	\$-3,853,930
2004	\$1,819,936	\$2,067,638	\$-247,701	\$13,605,446	\$9,561,781	\$4,043,665	\$137,146,001	\$173,430,376	\$-36,284,376



5. **Supplier Evaluation Ratings:** In 2007, Masco utilized the property sheet functionality that is offered through SAS Business Intelligence, but took it a step further. Masco's property sheets are unique and valuable as we receive quarterly data refreshes from Dun and Bradstreet for 75% of our suppliers. The data encompasses Supplier Evaluation Risk scores, DUNS ratings and Spend-to-Sales Ratios. It provides Masco buyers with supplier assessment tools that are integrated from multiple sources.

Hierarchy: Supplier Risk View | Level: DUNS Number | Rows: 24695								
	DUNS Number	Name	Curr SER	Prev SER	Curr DUNS	Prev DUNS	Spend Ratio	Spend
<input type="checkbox"/>	Total							\$10,866,224,986
<input type="checkbox"/>	001883677	CONFIDENTIAL SUPPLIER 1	8	--			0.36	\$8,325
<input type="checkbox"/>	007499460	CONFIDENTIAL SUPPLIER 2	2	.2R2			.	\$41,312
<input type="checkbox"/>	969750256	CONFIDENTIAL SUPPLIER 3	5	--			9450.05	\$49,978,062
<input type="checkbox"/>	030466106	CONFIDENTIAL SUPPLIER 4	4	.2R2				\$356
<input type="checkbox"/>	787096044	CONFIDENTIAL SUPPLIER 5	8	.DS			0.55	\$552

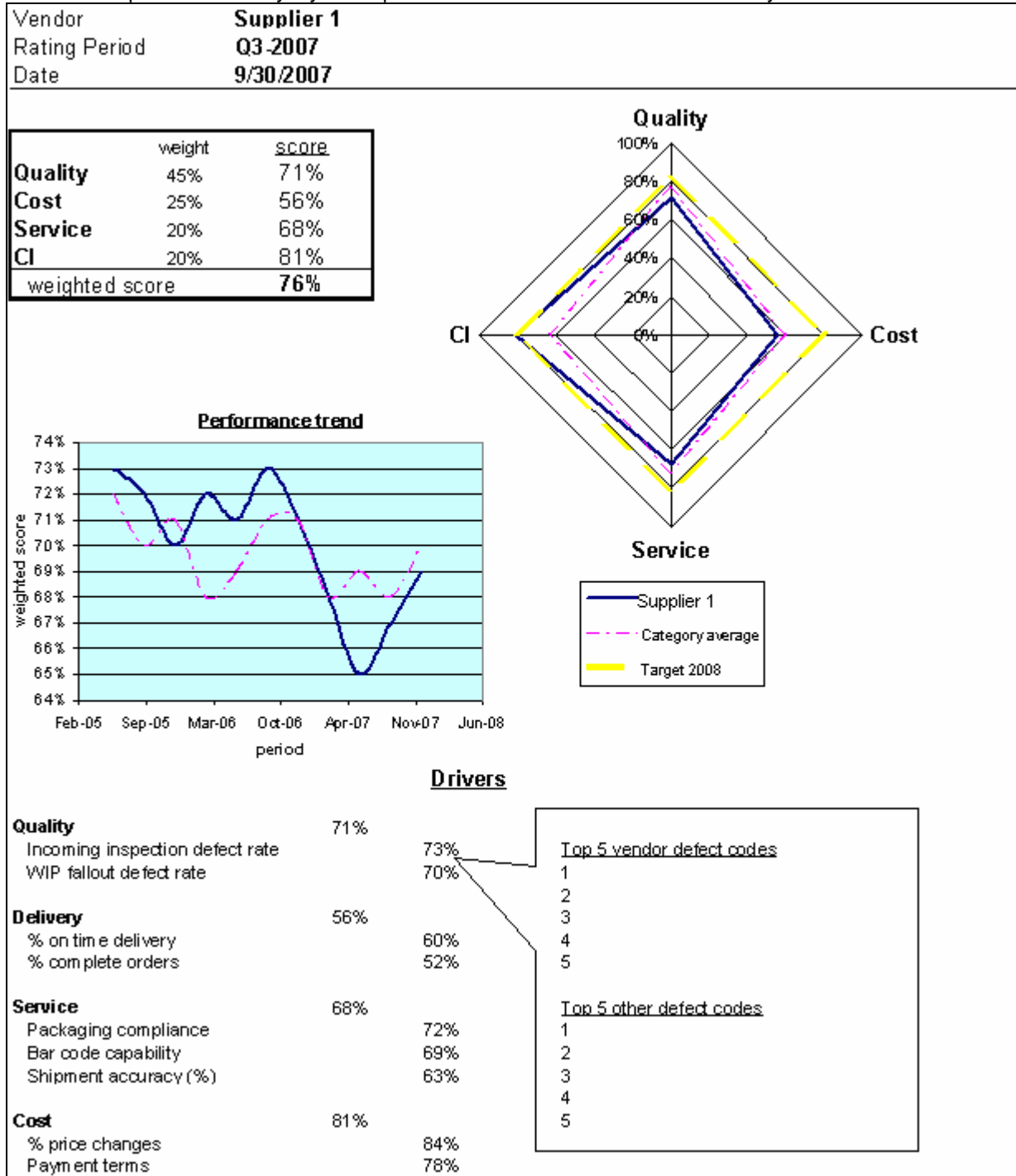
This information can be viewed by divisions to assist in determining the financial stability of a supplier. The data is displayed on the Supplier Evaluation Risk View as well as in Property Sheets that are linked to each supplier.

Supplier Risk View (above): Shows the Current and Previous SER and DUNS ratings for each supplier, the Spend Ratio and Masco Spend with the supplier.

Property Sheet (right): Shows the address information, payment terms, SIC (Standard Industrial Classification), and Duns Number as well as the ratings and spend ratio, if available.

SRM Spend Analysis - Properties				
Supplier Properties				
Supplier ID:	01010101			
Name:	CONFIDENTIAL SUPPLIER			
Address:	CONFIDENTIAL ADDRESS			
Phone:	CONFIDENTIAL PHONE#			
Contact:				
Fax:				
Payment Terms:	15 day after last day of month			
Government ID:				
Certified?:				
Minority Status:				
SIC Code:	0101 - CONFIDENTIAL SIC CODE			
Site DUNS:	001100111			
Global Parent:	001100111 - CONFIDENTIAL DUNS			
SER Scores and DUNS Ratings				
Rating	Current Qtr	Last Qtr	Previous Qtr	Previous Qtr
SER Score	1	0	0	0
DUNS Ratings	5A2			
Masco Financials				
Last Year Spend:	147,593,652 USD			
Last Year Sales:	8,230,000,000 USD			
Spend to Sales Ratio:	1.79%			

6. Advanced Supplier Scorecards: We are currently working with our divisions to develop advanced supplier scorecards. Our divisions require a secure platform to store and access supplier quality information based on select criteria. This information will be incorporated into the Spend Analysis Supplier View. The data will be extracted from our divisions to create the scorecards and displayed as shown below for each supplier. The SRM Tools provide security by user profile so that this information will only be visible to authorized users.



7. Global Supplier Assessments: We are in the developmental stages of incorporating a global supplier database into SRM for new suppliers with whom Masco divisions are not currently doing business, but due diligence has been completed. The supplier assessments will be managed by Masco Asia who will be responsible for populating the database and exporting the data to Masco to be loaded into the SRM tool. New views and fields are being created to display this data. The target completion date for this project is 1st Quarter 2008.

This is another example of feedback we received from our users to incorporate new information and ideas into our SRM tools.

8. Customized Spend Analysis Help: In July 2007, we customized the Spend Analysis Help section to make it more user-friendly and applicable to meet the needs of Masco users. Our new Help section describes all the Masco-specific views and data, has examples for identifying savings opportunities, and defines terms such as the SER Score and the DUNS Rating. Below is our new menu as well as an example for Finding New Suppliers.

- SRM Spend Analysis
 - 1. Spend Analysis Overview
 - [1.1 What is SRM?](#)
 - [1.2 About SRM Spend Analysis](#)
 - 2. Spend Analysis General How-To
 - 3. Using the Menus
 - 4. Hierarchies and Views Explained
 - 4.1 Hierarchies
 - 4.2 Views
 - 5. Finding Savings
 - [5.1 P-Card Example](#)
 - [5.2 Payment Terms Example](#)
 - [5.3 Find New Suppliers](#)
 - [5.4 Attend a Demo](#)
 - 6. Additional Info
 - [6.1 What is the DUNS Number?](#)
 - [6.2 Where does the data come from?](#)

Find New Suppliers

You can utilize Spend Analysis to identify potential suppliers that may offer lower pricing, improved payment terms, or meet your needs better than your current supplier.

The following example shows how a division can find suppliers that sell various types of Commodity x

1. First, we can set the time frame to make sure we are seeing the most recent data. Go to **Time Hierarchy** and **Checkmark** 2007.

Hierarchy: Time Hierarchy | Level: Year | Rows: 15			
	Year ↓	Spend	Qty
<input type="checkbox"/>	Total	\$10,050,030,139	72,800,912,6
<input type="checkbox"/>	2002	\$0	124,5
<input type="checkbox"/>	2003	\$-234	9,169,9
<input type="checkbox"/>	2004	\$5,920,081	469,513,1
<input type="checkbox"/>	2005	\$3,894,679,189	35,393,639,4
<input type="checkbox"/>	2006	\$4,455,190,252	30,564,938,2
<input checked="" type="checkbox"/>	2007	\$1,694,159,307	6,363,377,7

2. Next, go to the **Commodity View**, then choose **Create/Edit Filter** from the Filter menu. Change the radio button to **Text Fields**, set the Subset to **Commodity Description**, set the Condition to **Contains** and enter the Value of x. Hit OK when you are finished to continue.

Filter

Numeric Fields Text Fields

9. SRM Tote Board Savings: Our divisional buyers post savings to the tote board upon implementation. Below is a snapshot of our most recent entries and total savings on the Tote Board. **Note: Total savings reflects the period of October 1, 2002 – September 14, 2007.

ID	Name	Division	Year	Savings Type	Commodity	Supplier	Savings \$	Sav %	Cash Flow	View Details
593	Confidential Buyer	Confidential Division	2007	Payment Terms Improvement	Confidential Commodity	Confidential Supplier	\$595.83	0	\$3,972.22	Details
594	Confidential Buyer	Confidential Division	2007	Payment Terms Improvement	Confidential Commodity	Confidential Supplier	\$198.20	0	\$631.95	Details
595	Confidential Buyer	Confidential Division	2007	Payment Terms Improvement	Confidential Commodity	Confidential Supplier	\$425.74	0	\$746.92	Details
596	Confidential Buyer	Confidential Division	2007	Payment Terms Improvement	Confidential Commodity	Confidential Supplier	\$4,981.04	0	\$9,766.75	Details
597	Confidential Buyer	Confidential Division	2007	Payment Terms Improvement	Confidential Commodity	Confidential Supplier	\$735.39	0	\$1,225.64	Details
598	Confidential Buyer	Confidential Division	2007	Consolidation of Spend Intra, within, Division	Confidential Commodity	Confidential Supplier	\$12,968.00	24	\$0.00	Details
							\$11,815,089.84		\$2,635,176.83	

10. Platform Phase Calls: Our projects for each group are accessible through a Sharepoint website. All users can access their group’s projects. The snapshot below shows how we have grouped our divisions by Platform so that those with related products can communicate and work collaboratively.

Sample Supplier xyz	7/10/2007	Suzanne, Kim, Angela	\$25,130.00
Description: Payment Terms Improvement		UNSPSC: 10.10.10.10	
We want to get better payment terms from Supplier xyz. Our goal is Net 60.			
Updates:			
7/10/07 - During the July 10th SRM refresher meeting, Suzanne identified a possible payment terms improvement opportunity with Supplier xyz. Currently SRM is showing this supplier as having Net 10 payment terms.			
8/23/07 - Angela called Supplier xyz to discuss improved payment terms, they offered to move it up to Net 20 but would not budge further. Kim to advise.			
9/10/07 - Suzanne ran the Common Payment Terms report and found that DivisionA has better payment terms with Supplier xyz then we do. Angela will call Supplier xyz to leverage our total spend.			