

1-1-2015

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Recommended Citation

Butler, Timothy W., Williams, David L., & Yan, Tingting. (2015). MMOG/LE: Improving supply chain delivery performance through buyer- supplier collaboration. *Journal of Transportation Management*, 25(2), 57-68. doi: 10.22237/jotm/1420070700

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**MMOG/LE:
IMPROVING SUPPLY CHAIN DELIVERY PERFORMANCE THROUGH BUYER-
SUPPLIER COLLABORATION**

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ABSTRACT

This article introduces readers to a relatively new self-assessment tool for measuring the readiness and effectiveness of supplier materials management and logistics processes in the automotive industry. The tool, the Material Management Operating Guidelines/Logistics Evaluation (MMOG/LE), was developed by the Automotive Industry Action Group (AIAG), and Odette International – a European alliance of automotive companies. The article begins with an introduction to the topic of quality and materials management assessment systems. The author’s then report on what they learned about MMOG/LE based on a review of the system and other comparable systems, and based on interviews with OEM’s and tier 1 and 2 auto suppliers that use the system. The article begins with a description of what the MMOG/LE system is, and how it works. The article then has a section comparing MMOG/LE and ISO/TS16949, and then another section comparing MMOG/LE and the SCOR model. The authors then address and comment on various strengths and weaknesses of the MMOG/LE model. Finally, the authors make several recommendations on how the system and processes for managing it could be improved. Overall, the authors find that MMOG/LE is an effective system for improving materials management and logistics performance.

INTRODUCTION

Over the past 20 years, supply chain excellence has become a key dimension of successful business competitiveness. A supply chain can create sustainable competitive advantage for a firm by reducing cost, enhancing product quality, ensuring on-time delivery and/or producing innovations. As a result, business and the academe have strived to develop theories, practices and guidelines that can assist companies in improving their supply chain performance.

Supply Chain Management performance guidelines have evolved from a number of performance evaluation programs developed for business and finance. A range of tools have been developed to facilitate improved business performance, such as the Balanced Scorecard (Kaplan and Norton, 1996) and Activity Based Costing (Kaplan, 1983). Also, during the

1980’s and 1990’s, several programs were developed to promote business performance standards of organizations. Most notably, among these programs, are the ISO standards. ISO 9000 — arguably the most widely recognized of the ISO standards – addresses quality issues. The automobile manufacturing industry, recognizing its unique environment, particularly the reliance on suppliers in terms of number of parts, volume of business, and complexity of purchased components, developed a “technical supplement” to ISO 9000, known as TS -16949, specific to the automotive industry.

Consequently, beginning in the 1990s, programs were developed to address supply chain performance. The best known of these is the Supply Chain Operations Reference (SCOR) system (SCOR, 2010), a 976 page document that covers the broad spectrum of supply chain management. SCOR provides a resource for identifying problems and developing solutions

across an organization's supply chain. However, like in the quality arena, where the automotive industry developed a specific program in TS-16949, there was recognition of a similar need in the supply chain domain. In response, a supply chain related model was developed specifically for the automotive industry. This model is called MMOG/LE — Materials Management Operating Guideline / Logistics Evaluation (AIAG, 2010; Odette, 2010). The development and introduction of MMOG/LE and SCOR emphasize the importance of an effective and efficient material flow process in ensuring supply chain reliability and responsiveness in today's uncertain world.

The Material Management Operating Guidelines / Logistic Evaluation (MMOG/LE) is a jointly developed supply chain self-assessment program that focuses exclusively on supply chain delivery performance. It was developed by the Automotive Industry Action Group (AIAG), a United States based alliance of automotive manufacturers and suppliers), and Odette International, a European alliance of automotive companies. MMOG/LE provides organizations a thorough assessment of their material management and logistics processes, from strategic planning issues, to production planning, to lower tier supplier relations, to customer relations. It is widely utilized by original equipment manufacturers (OEMs) in the vehicle manufacturing industry for suppliers to self-assess their logistics and material management processes. There also is a growing emphasis on Tier 1 suppliers using MMOG/LE with their suppliers (Tier 2). These often are somewhat smaller suppliers that may be especially in need of process support. MMOG/LE guides the establishment of formal processes in supply chain material flows, which enhances supply chain reliability and responsiveness.

Beyond helping suppliers to improve supply chain delivery performance, MMOG/LE is also an instrument that has the potential to encourage buyer-supplier collaboration, which has been widely shown to be a key to realize supply chain

excellence. A paradox exists in the business relationships between a buying company and its suppliers. On one hand, buyer-supplier open communication would enhance the efficiency, connectivity and long term profitability of both firms. On the other hand, a buying company and its suppliers are independent companies whose stakeholders expect quick and high short-term profits – which may require actions detrimental to the other side. Such emphasis on short-term financial performance can mitigate the establishment of a collaborative atmosphere that supports efficiency, connectivity, and long term profitability of supply chain partners. The common expectation of a buyer is high quality and on-time delivery at the lowest cost. Because of its reliance on the supplier, the buyer organization often wants to monitor supplier processes to make sure they are reliable. However, suppliers often believe that if they are delivering products as agreed upon, they do not require “oversight” by the buyer.

To help mitigate this paradox, MMOG/LE is designed in a way that encourages buyer-supplier interactions for a common purpose: on-time and reliable deliveries to maximize profits for both sides. Long term profitability can be attained most likely when two distinct “successful” companies act like one company. Key business relationship elements are facilitated: product exchange, financial transactions, quality improvement, and product development. The more that distrust and opaque understanding with your supply chain partner is converted to trust and transparency, the more likely the relationship will lead to long term profitability for both parties.

To introduce MMOG/LE to supply chain researchers and practitioners, we answer the following questions in this study: (1) what is MMOG/LE, (2) differences between MMOG/LE and other major supply chain performance evaluation tools, (3) strengths and weakness of MMOG/LE and (4) recommendations for improving MMOG/LE. We conducted our analysis by using two sources of information:

- MMOG/LE documents including the program itself, training programs, and journal articles (Estampe, et al. 2013).
- Interviews with two (2) automotive original equipment manufacturers (OEMs), ten (10) suppliers in the auto industry, and two (2) ERP provider organizations.

WHAT IS MMOG/LE AND HOW DOES IT WORK?

MMOG/LE means different things to different people. But following are two views by automotive industry executives:

- A continuous improvement tool that establishes processes for enhancing the quality of the material flow and delivery systems. (Automotive Industry OEM Executive)
- A self-audit tool that helps identify problems in the current processes and establishes new processes to improve delivery performance to satisfy customer demand. (Automotive Industry Tier 1 Supplier Executive)

The authors see MMOG/LE as an assessment program where the user *self-evaluates* the logistics and material management capabilities of an operating facility. It can assure that all necessary processes are documented and in place for on-time delivery by 1) identifying weaknesses in the out-bound distribution system, 2) ensuring that appropriate materials scheduling is in place, and 3) reducing the likelihood of production shutdowns. MMOG/LE provides evidence for an organization's customers, or for internal purposes, that appropriate EDI capabilities are in place for customers and suppliers, inventory control processes are in place, appropriate freight planning (inbound and outbound) is in place, and that production and capacity planning procedures and capabilities are in place. With grading and gap analysis capability, MMOG/LE can facilitate continuous

improvement analysis and benchmarking best practices. A total of 206 questions, covered in six chapters, provide detailed analysis of the materials management and logistics functions. After completing the program, the company has a useful, comprehensive, and complete picture of those functions. MMOG/LE does not, however, recommend the specific tasks that an organization uses to satisfy the requirements.

In order to complete the MMOG/LE survey, the questions, or criteria, are each answered in one of three ways: Compliant, Not Compliant, or Not Applicable. In order for an item to be designated as Not Applicable (N/A), the organization's customer must approve the N/A designation (see MMOG/LE Introduction and Instructions). Each guideline item is weighted at either one, two, or three points (designated F1, F2, or F3 items, respectively), depending on how critical that item is. After all the items have been scored, grades on the overall MMOG/LE assessment can be either an "A", a "B," or a "C"; with an "A" grade only being possible if the following three requirements are met:

- 90% or higher score out of all possible applicable points
- Compliance on all F3 criteria
- Non-compliance on fewer than six F2 criteria

A "B" grade is obtained if all above state F3 criteria are met, with the following exceptions:

- More than six, but no more than twelve F2 criteria are violated
- At least 80% but less than 90% out of the possible applicable points allowed.

If an "A," or "B" grade is not received, then a "C" grade is assigned.

Assessment Question Categories

As noted earlier, there are three categories of questions – F1, F2 and F3. This section explains each of these types of questions and provides

examples. We start with the F3 category, as it includes the most critical types of questions. F3 items (35 questions) are those policies and procedures that are fundamental to the organizations ability to serve the customer in the short term – failure to comply create immediate risk of interruption of delivery or create significant cost to the organization (MMOG/LE, 2009). All F3 criteria must be met to achieve an A or B grade (i.e. failure to meet any single F3 criteria results in a “C” score). Examples of F3 questions in the program are:

- Example 1. (From Strategy and Improvement Chapter) There shall be a process in place to identify and, where appropriate, manage bottleneck processes within the supply chain to maximize output while ensuring production and delivery to the customer are not compromised.
- Example 2. (From Customer Interface Chapter) The organization shall have a process in place to develop and define labeling and packaging solutions for standard and back-up packaging, including pack size, in conjunction with all involved parties and before the start of production
- Example 3. (From Production and Product Control Chapter) There shall be a process in place that satisfies customer, industry, government and/or internationally mandated traceability standards, including reporting requirements, for all affected parts (e.g. Transportation Recall Enhancement, Accountability and Documentation (TREAD) Act, Federal Motor Vehicle Safety Standard (FIVES), End of Life Vehicle (ELVA)).

F2 questions (75) are those policies and procedures that are significant to the materials management and logistics goals and performance of the organization. If an F2

criterion is disregarded, the organizations performance and customer service may be severely impacted (MMOG/LE, 2009).

Examples of F2 items are as follows:

- Example 1. (Strategy and Improvement) Production batch/lot size is evaluated on a regular basis and is adjusted accordingly in support of lean objectives.
- Example 2. (Customer Interface) There is a process in place to validate the packaging and labeling solution with all involved parties. The process includes a formal sign-off with the customer for the packaging and labeling solution.
- Example 3. (Production and Product Control) There is a process in place to ensure that lot, partial lot, and/or serial traceability is managed according to customer, industry, government, and/or international standards. This may involve traceability of individual part/pallet/batches for all stages of inventory (finished goods, WIP, raw material).

F1 questions (96) demonstrate overall control and completeness of the material management and logistics policies. Failure to comply with the F1 criteria can be detrimental to the long term successful operations and success of the organization (MMOG/LE, 2009). F1 criteria contribute one point to the overall MMOG/LE score. There is no requirement on the specific number of F1 criteria that must be completed satisfactorily, however, if the overall score of the MMOG/LE assessment is below 90%, a “B” score is assigned. If less than 75% of criteria are satisfactory, then a “C” score is assigned.

Examples of F1 criteria include:

- Example 1. (Strategy and Improvement) Cycle counts are used to measure and improve the accuracy of perpetual inventory records, reducing the need for inventory adjustments and/or physical inventory counts.

- Example 2. (Customer Interface) All applicable manufacturing, storage, and shipping processes are considered when developing the customer packaging solution.
- Example 3. (Production and Product Control) Collecting, recording, and tracking of lot, partial lot, and/or serial traceability data are automated (e.g. bar coding, RFID).

Of course the concept here is that the urgency for satisfactory implementation is highest for F3 criteria. The criticality of the items declines as you move to the F2 category and then the F1 category. MMOG/LE is a system that focuses on improving performance by establishing basic processes and assuring that important materials and logistics management processes are developed and implemented. It is a program that integrates activities of both OEMs and suppliers to ensure smooth material flow.

MMOG/LE AND ISO/ TS16949: SIMILARITIES AND DIFFERENCES

The key similarity between MMOG/LE and ISO/ TS 16949 is that both programs include a checklist for process criteria. Neither program makes assurances that quality is achieved in either the product, service or delivery realms, but they do assure that processes are in place that can lead quality and service goals being achieved. There are two primary differences between the two programs: First, ISO/TS 16949 addresses processes to maintain and improve product quality. MMOG/LE addresses processes for material management and logistics. Second, ISO/TS 16949 criteria are checked by independent, third party auditors in order to certify the organization. MMOG/LE is primarily a self-assessment, where no certification is attained.

ISO/TS 16949 criteria comprise ISO 9000 quality standards with additional criteria targeted specifically for the automotive industry. The

standard was developed by the International Automotive Task Force (IATF) with the Japanese Automotive Manufacturers Association (JAMA) and ISO Technical Committee 176 to facilitate suppliers compliance to military, national, and consumer standards (Franceschini, et al. 2011). There are 267 criteria in the ISO/ TS16949 document. While there is some overlap between MMOG/LE and ISO/TS16949, MMOG/LE is intended to complement ISO/ TS16949. Again, ISO/TS16949 is focused on product quality, while MMOG/LE concentrates on the accuracy and reliability of material management and logistics processes. The ISO/ TS 16949 introduction states that:

- The adoption of a quality management system should be a strategic decision of an organization. The design and implementation of an organization's quality management system is influenced by:
 - a) its organizational environment, changes in that environment, and the risks associated with that environment,
 - b) its varying needs,
 - c) its particular objectives,
 - d) the products it provides,
 - e) the processes it employs,
 - f) its size and organizational structure. (ISO Technical Specification, 2009)

The focus of MMOG/LE is spelled out clearly in the program introduction:

- Materials Planning and Logistics (MP&L) is the process of managing the procurement, movement, and storage of materials, parts, and finished goods (and the related information flows) throughout the organization through the timely and cost-effective fulfillment of orders.

This assessment tool has been produced to assist organizations in developing and implementing world class MP&L processes (MMOG/LE Introduction and Instructions).

To further examine differences between the two programs, we conducted a key word search to identify the most popular words used in each program. Table 1 below shows terminology that demonstrates the difference in emphasis between MMOG/LE and ISO/TS16949, with an emphasis on the most widely used words in MMOG/LE.

There is clearly a distinction in emphasis between the two programs. MMOG/LE emphasizes processes related to inventory, shipping, transport, material, and logistics. ISO/TS 16949 emphasizes quality, validation, specification, and conformance. What terms are common between both programs? Terms we found in common were “delivery” and

“resource”. One term that we found commonly used that should be introduced more frequently in both programs was “safety.”

The specific term strategy (or strategic) is raised only once in the ISO/TS16949 2009 document. It covers the implications of quality initiatives as a strategic initiative. Strategy is more explicitly detailed in MMOG/LE—the first section is dedicated to Strategy and Vision. Several F1 and F2 criteria relate specifically to strategic plans and planning.

Strategy-related Criteria included in the MMOG/LE program include:

- A documented strategy is in place for delivery of the MP&L vision.
- The MP&L vision and strategy is a fundamental part of the organization’s overall business objectives, including

**TABLE 1
KEY WORD SEARCH OF MMOG/LE AND ISO/TS16949
NUMBER OF TIMES EACH TERM IS USED BY EACH SYSTEM**

MOST USED WORDS IN MMOG/LE WITH TS16949 COMPARISON

Term	MMOG/LE	ISO/TS16949
Strategy (Strategic)	15	1
Inventory	34	3
Capacity	20	0
Ship (shipping, shipment)	45	4
Transport	30	1
Material	72	16
Logistic	18	1

MOST USED WORDS IN ISO/TS16949 WITH MMOG/LE COMAPRISON

Term	ISO/TS16949	MMOG/LE
Realization (new product)	26	4
specification	30	4
quality	198	10
conform	76	1
Design	86	4
audit	33	3
purchase	26	9
Validate (invalidate, validation)	25	4

customer requirements and continual improvement.

- The MP&L vision and strategy are communicated to and understood by all employees within the organization.
- Objectives are documented, specific, measurable, achievable, realistic, timely and consistent with the organization's MP&L strategy.
- Training objectives are clearly defined within the MP&L strategy, understood by all employees concerned, and monitored by management.

The number of questions regarding articulated strategy, vision, and communications in the MMOG/LE document confirm their importance. However, the lack of F3 designations for vision and strategic planning subordinate the urgency within the MP&L framework.

ISO/ TS 16949 offers much less coverage of Inventory and Material Management Requirements

ISO/TS16949 does state the following:

- The organization shall use an inventory management system to optimize inventory turns over time and assure stock rotation, such as "first-in-first-out" (FIFO). Obsolete product shall be controlled in a similar manner to nonconforming product. Plant layouts shall optimize material travel, handling and value-added use of floor space, and shall facilitate synchronous material flow (ISO/TS 16929).

But in MMOG, there is extensive consideration for inventory control. For instance, in the Material Management Chapter (5), there is a complete section on Inventory. Within that chapter there are F3 requirements such as the following:

- Operational parameters (e.g. transport time, lead times, inventory levels, packaging) and internal production requirements (e.g. supplier constraints, scrap rates, set-up times) shall be integrated into the production planning system.
- The organization shall use all customer's business systems as required (e.g. inventory management, container management, capacity planning, supplier portals). A structured problem solving process is in place to determine root cause and prevent the recurrence of any problems within the supply chain (e.g. material, delivery, logistics, systems).

The differences in the treatment of inventory demonstrate the emphases of the two programs.

SCOR AND MMOG/LE: SIMILARITIES AND DIFFERENCES

The Supply Chain Reference Model (SCOR) is produced by the Supply Chain Council and was introduced in 1996. Now in its 11th version, SCOR is designed to address five SCM challenges: superior customer service, cost control, planning and risk management, supplier/partner relationship management, and talent (Huan, Sheoran, and Wang, 2004). It is intended to have a broader focus than individual project management. SCOR does this by introducing a common language and set of metrics that can be applied across SC functions and by integrating business strategy with SC design. SCOR explicitly excludes the sales and marketing, research and development, information technology, and quality functions. The SCOR model is developed around four interrelated concepts: performance metrics, SC processes, practices (emerging, best and standard), and employee skills and training (Huan, Sheoran and Wang, 2004).

The performance metrics are organized into five core performance attributes: reliability (e.g., on-time, right quality, right quantity),

responsiveness (e.g., cycle time), agility (e.g., flexibility and adaptability), costs (e.g., cost of goods sold, SCM costs), and assets (e.g., cash-to-cash cycle time, return on fixed assets). Within these five core areas, specific metrics are placed at one of four levels. Level 1 attributes are strategic in nature and are tied to overall business strategy. Level 2 metrics are seen as diagnostic of Level 1 measures, while Level 3 measures are diagnostic of those at Level 2. Thus, the organization of the metrics is designed to facilitate root-cause analysis. Level 4 metrics are not specified and should be developed by the individual firm, if appropriate.

SCOR processes are also organized hierarchically. There are five Level 1 processes: Plan (strategic planning within SC), Source (ordering and receipt of goods), Make (conversion of materials, which is viewed as broader than production and includes...), Delivery (to customers), and Return (reverse flow related activities excluding repair and remanufacturing which are included in Make). Again, Level 2 processes are nested under the various Level 1 processes and are classified into three types: planning, execution, and enabling (e.g, managing information or relationships). Level 3 processes are subsumed under Level 2 processes, so as to support root-cause analysis as with the performance metrics. At each level, linkages of processes to appropriate performance metrics are provided.

SCOR describes numerous practices which are categorized into emerging (not yet well established and thus higher risk), best (established in some industries and thus moderate risk), and standard (widely employed and thus moderate to low risk). A practice is defined as a unique way to configure a process or set of processes. Uniqueness can be in automation, technology, personnel skills, sequencing of processes or the method of connecting them. Each of the practices discussed are tied to particular processes and metrics. SCOR also provides discussion of best

practices specifically for managing risk and environmental performance.

Lastly, the SCOR model discusses employee skills and training using a skills management framework. An extensive list of specific skills is included and each is related to particular processes. Training, experience, and aptitudes are suggested as a means to develop each skill.

Both the five SCM challenges that motivate the SCOR model as well as the list of five Level 1 (strategic) processes clearly suggest that SCOR has a broader focus than MMOG/LE. SCOR's greater breadth is reflected in its industry perspective, its business process perspective, and in the detail it provides. At the industry level, the greater breadth of SCOR is not surprising in that MMOG/LE is designed specifically for the auto industry, while SCOR is presented as applicable to all businesses including those in the service and retail sectors. The Level 1 processes in SCOR cover both the Sourcing and Return areas. It also considers engineering-to-order (as part of the Make group of processes) and the planning and selection of transportation providers (as part of the Delivery group of process). These functions are either absent from or substantially limited in MMOG/LE. Again, this is likely due to MMOG/LE's focus on the auto industry. In particular, its focus is on parts suppliers who deliver parts on an ongoing (JIT) basis. Parts are produced following previously agreed to specifications (often engineered by the buyer or OEM) and following contracts that are generally the length of a model run which is 3 years or more. Deliveries are often made daily using transportation providers selected by the OEM. The fact that MMOG/LE does not consider the Return function is somewhat surprising in light of the occasional need for rework of parts in the auto supply chain. Finally, the detail provided by SCOR is substantially greater than that in MMOG/LE. SCOR provides an extensive set of metrics and their linkages to specific processes, a feature largely absent from MMOG/LE. The SCOR user is given some latitude in the selection of the metrics used to

assess the performance of a particular process. However, the recommended metrics are quite specific. In this sense, SCOR can be seen as more proscriptive than MMOG/LE in pointing to a certain approach for measuring each process. Clearly, this has both advantages and disadvantages.

Two of the five core performance attributes of the SCOR model deserve separate discussion because they highlight another important difference between SCOR and MMOG/LE. These are agility and costs, which are not emphasized in MMOG/LE. Much of the focus of the agility component in SCOR is on risk management and includes value-at-risk metrics. It encourages those responsible for the supply chain to consider ‘what if’ scenarios that potentially threaten supply chain performance. MMOG/LE would benefit from a greater emphasis in this area. There is also no direct assessment of cost factors in MMOG/LE, which would be of obvious value to firms in the automotive supply chain.

Perhaps the most significant difference between the two models is the implied need for integration of processes. As the name implies, SCOR is designed as a reference source for companies interested in enhancing particular aspects of their supply chain operations. It is not intended that it be implemented in its entirety all at once; nor does it suggest an overall metric of supply chain performance. In contrast, MMOG/LE requires comprehensive adoption and yields an overall score and letter rating. Thus, with SCOR the user decides which processes to prioritize for improvement. With MMOG/LE the priorities are imposed by the weights given to each process. Of course, the supplier that is following a customer orientation may see the priorities in MMOG/LE as appropriate since the weightings come from the OEM customers.

This last point leads us to suggest that the two models can best be seen as complementary rather than as competing alternatives. MMOG/LE addresses the customer’s priorities and

SCOR provides guidance as to the metrics, practices, and employee skills that are most useful for addressing the priority processes.

MMOG/LE STRENGTHS AND WEAKNESSES

MMOG/LE Strengths

The earlier mentioned interviews with OEMs and Tier 1 suppliers reported strengths and weaknesses of MMOG/LE. A consistent theme about the strengths of MMOG/LE relates to the comprehensive coverage of material management and logistical criteria and principles. Interview respondents uniformly stated that the survey content was appropriate and useful. Detailed strengths of MMOG/LE as articulated by the respondents were:

- Focus on EDI, Planning, and Customer Communication
- It provides thoughtful guidelines to best practices
- Encourages vendor EDI.
- More detail on material and logistic processes than ISO/TS 16949.
- Helpful in improving processes and helpful in looking for improvements — helps in solving problems
- It forces discipline. It focuses on detail, yet is comprehensive.
- It identifies weaknesses and gaps.
- It provides guidelines on what to be done to be world class — can be used as a competitive differentiator.
- Helps to be compliant with customer... to do business better with customer.

One of the key strengths of MMOG/LE is simply the fact that OEM’s require it. For instance one interview with a small tier 1 supplier describes a management reluctant to acquire electronic data

interchange technology (EDI) for communications between themselves and the OEM customer. The OEM requirements for the supplier to complete MMOG helped persuade management to make the necessary investment in the technology. The implementation of EDI resulted in improved data accuracy, delivery performance, and improved inventory levels.

Another benefit of MMOG relates to improvements in the accuracy of records and improved responsiveness to customers. Specific Tier 1 supplier remarks about improvements that were made as a result of MMOG/LE include the following:

- More accurate information moving between supplier and customer.
- Improved data accuracy
- Reduced Inventory levels
- Improved contingency planning
- Improved customer support
- Reduced order lead time and premium freight
- Improved supplier assessment score in customer evaluations
- Improved monitoring of containers

In conclusion, supplier interviews revealed a number of benefits related to use of MMOG/LE.

MMOG/LE Weaknesses

While MMOG/LE can be implemented independently by an organization to assess its material management and logistics processes, the vast majority of times it is recommended, or even mandated, by a customer. That said, a key criticism of MMOG/LE is not with the program, but on how it is managed by the customer organization. Respondents reported that customers require them to submit the program

reports, but then do not provide timely feedback or any feedback at all. Also, respondents reported that suppliers are not held accountable for poor scores, therefore suppliers are slow to institute improvements. Established companies with reputations for quality reported that they were required to document what they had long had in place. To summarize, respondents find that weaknesses apply to the management of MMOG/LE, and not to the program itself.

One example of poor management of the whole MMOG/LE process relates to a supplier that reported that his organization had complied with all MMOG/LE guidelines without actually conducting the necessary assessment. The customer organization apparently accepted this assessment until a surge in demand caught the supplier by surprise, unable to respond. When the customer's evaluators arrived to ascertain the problem, they discovered that the supplier's employees had neglected to perform the assessment – merely submitting the evaluation as 100% in compliance. That finding resulted in employee turnover at the supplier organization. This example demonstrates one of the key weaknesses with MMOG/LE – the lack of customer follow-up on suppliers self-reported results.

MMOG/LE RECOMMENDATIONS

Unanimously, tier 1 suppliers and OEMs agreed that the MMOG/LE standards are important for Material Planning and Logistic success. That does not suggest, however, that improvement cannot be made. Recommendations for future implementation include the following:

- The most common criticism of MMOG/LE is not about the program itself, but how it is implemented by OEMs. OEMs should adopt a hands-on approach through intensive communication with suppliers to encourage implementation and offer feedback. There should be prompt response to questions and prompt acknowledgement that the MMOG/LE

assessment has been received. OEMs can provide a priority list for improvements for suppliers to pursue based upon the assessments Gap-Analysis.

- Continuing with the theme that there should be more of a partnership between buyers and suppliers, OEMs should allow suppliers to discuss the “circumstances” related to non-compliance on individual factors. Unique circumstances and special situations may satisfactorily explain non-compliance and allow for an adjusted score that would make the supplier compliant overall at a higher level.
- A particularly valuable use of MMOG/LE is to provide startup businesses, and smaller tier 1 and tier 2 organizations with guidelines for implementing materials management and logistic best practices. As such it is recommended that there should be a:
 - Focus on promoting MMOG/LE with newly created, or smaller organizations.
 - Focus on highlighting how MMOG/LE is different from other supplier evaluation programs, such as SCOR.
- A common misconception about MMOG/LE among suppliers is that it is primarily about installing information systems. It would be beneficial to highlight the emphasis on improving processes.

Develop a common clearinghouse for suppliers to submit their MMOG/LE results to— preferably at AIAG Headquarters. This could eliminate the need for suppliers to complete the process for each of many customers.

- Develop an education program for top supplier management, including a presentation PowerPoint slide show or video -to persuade top management that the MMOG/LE self- assessment is a worthwhile program deserving attention and resources.

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