



## Paper 59

A Proposed Scheme for Supplier Certification Program  
for Non-Private Company

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# ICMEM

## The 7th International Conference on Management in Emerging Markets

**Abstract** - Supply and supplier management are essential for the sustainable success of a company. The company is more dependent on its suppliers, so effective supplier control is necessary. One of the methods used to control suppliers is through supplier certification and supplier audits. Non-private companies are responsible for providing services to society, so the continuity of material supply from reliable suppliers is crucial to the company's ability to meet customer needs and expectations. This study proposes a supplier certification scheme through supplier audits for non-private companies, particularly those in the public sector services. Literature on suppliers, supplier management, audit, supplier audit, supplier certification, and public procurement are reviewed to develop the proposed scheme. The proposed scheme for non-private companies is developed based on supplier life cycle management, capability and performance of suppliers, and collaboration and building relationships principles. The supplier certification scheme consists of capability audits, follow-through audits, improvement programs and performance evaluation.

**Keywords** - Supplier, Supplier Management, Supplier Certification, Supplier Audit, Non-private Company

### I. INTRODUCTION

Suppliers are essential to a company's supply management, where supplier contribution to value creation and risk for a company reaches more than 50% (Coleman, 2018). Suppliers also have an important role in organizational performance (Prajogo et al., 2012) because a supplier's materials and services significantly impact the company's ability to meet its customer's needs (Monczka et al., 2020). Producing quality products is not enough, a company faces a challenge in delivering the right products and services to customers at the right time, cost, location, conditions, and quantity (Monczka et al., 2020). Supply management requires strategic responsibility aligned with mission and strategy, which impacts the company's long-term performance (Monczka et al., 2020). Based on this, supplier management is one of the crucial aspects of the sustained success of an organization.

Effective supplier management is needed because the company's dependence on its suppliers is increasing (Kannan & Tan, 2002). Prajogo et al. (2012) explained that three supplier management practices are the main elements in supply chain management: long-

term relationships, supplier assessment, and logistics integration. That practices have two essential aspects in supply chain management: selecting the right supplier (who) through supplier assessment and building relationships with suppliers (how) through long-term strategic relationships and logistics integration.

Organizations that focus on developing core competencies will increasingly rely on the quality of the goods supplied and effective strategies by building long-term relationships with their supplier (Arter et al., 2014). Weele (2018) also emphasizes that the success of implementing supplier relationship management depends on how the organization builds collaborative relationships with its suppliers throughout the supply chain.

Non-private companies such as government institutions, regionally-owned companies, and state-owned companies have less flexibility in choosing permanent strategic suppliers because they must follow law-regulated procurement. Suppliers selected for a routine procurement activity (tender or public procurement) may change according to the tender results. The most important public procurement objective is continuity of supply from the best and most reliable source (Abul Hassan et al., 2020). Although public procurement has the characteristics of good legality and public accountability, procurement activity is more procedure-driven, not performance-driven (Weele, 2018). According to Abul Hassan et al. (2020), poor compliance with procurement specifications and lack of supervision are problems in public procurement. Some non-private companies are responsible for providing services to society, so the continuity of material supply from reliable suppliers is crucial (Abul Hassan et al., 2020).

Based on the explanation, how particularly for non-private companies to manage their suppliers through a supplier certification program. So, suppliers have the desired capability level, and products and services supplied consistently meet the company's quality, cost, and delivery requirements. The desired outcome is a non-private company can produce products and services that meet the needs and expectations of society as a customer.

This study proposes a supplier certification scheme through supplier audits for non-private companies, particularly those in the public sector services. The

proposed scheme applies to a manufacturer-type supplier.

The proposed scheme is expected to become insight and discussion in supplier management practices, particularly in non-private companies

## II. LITERATUR REVIEW

### A. Supplier Management

Supplier management is a critical factor in quality improvement and a way to build long-term relationships with suppliers to achieve quality, lead time, and cost (Fredendall, 2001). Supplier evaluation and certification programs are a way to increase control over suppliers.

According to (Coleman, 2018), supplier life cycle management, shown in Fig. 1, comprise: (1) supplier selection, (2) supplier evaluation, (3) supplier development, and (4) supplier reevaluation. That model is an integrated approach considering business and quality needs and risks. Prajogo et al. (2012) emphasize that assessment and monitoring of suppliers are crucial aspects of supply chain management.

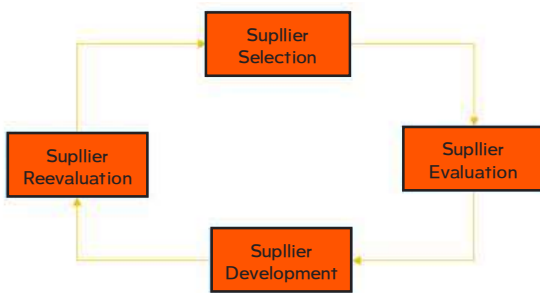


Fig. 1. Supplier Life Cycle Management

Suppliers contribute to supply chain performance, so poor suppliers will affect the performance and ability of a company to deliver quality products and services to customers (Sarkar & Mohapatra, 2006). Capability and capacity are essential aspects of supplier evaluation. The supplier's capability is measured by their consistency in producing products according to the requirements, while the supplier's capacity is measured by their ability to meet customer demands (Coleman, 2018). Supplier conformity can be assessed by testing, measurement, audit, inspection, or examination (ISO, 2010).

### B. Supplier Audit and Certification

Audit is a systematic, independent, documented process of objectively obtaining and evaluating audit evidence to determine compliance with audit criteria (ISO, 2018). According to ISO (2018), audit is divided into internal audit and external audit. Internal audit is also called first-party audit, while external audit can be in the form of a

second-party audit or third-party audit.

A supplier audit is a second-party audit where the supplier is audited by the customer or another party contracted by the customer (Kausek, 2006). Supplier audits are carried out because of the contractual relationship between the organization and its suppliers and usually focus on the supplier management system that affects the organization's products or services performance (Kausek, 2006). In supplier audit, processes that significantly affect the organization's products or services are audited in more detail (Kausek, 2006).

Supplier audits are carried out to determine the supplier's ability to meet product requirements, meet production demands, and the effectiveness of the implementation of the quality management system so that supplier audit management can be the basis for improving supplier relationships (Coleman, 2018). Suppliers who are consistently able to provide the highest quality goods will have an impact on increasing operational productivity and reducing costs (Bossert & Raddatz, 2004). Supplier audits can also impact the business where an organization can control the quality of purchased materials and improve communication relationships with suppliers (Bossert & Raddatz, 2004).

Supplier assessment also positively impacts organizational quality performance (Prajogo et al., 2012). The assessment is carried out to assess the capability and performance of suppliers, which are two important dimensions in supplier management (Prajogo et al., 2012). According to Prajogo et al. (2012), supplier capability refers to the potential suppliers that have long-term benefits and advantages for the company, while supplier performance is the supplier's ability to meet the company's purchasing requirements.

Park et al. (1996) define supplier certification as a formal assessment program used to evaluate supplier's systems to assess quality, on-time delivery, and cost conformity. Park et al. (1996) study of United States firms shows that supplier certification program significantly impacts quality, on-time delivery, cooperation, and cost.

### C. Non-Private Companies Procurement

Public companies and utilities are attractive to suppliers because of their monopolistic position and high contract value (Weele, 2018). Public authorities usually have specific characteristics of procurement policy and rule. Still, in some public sectors (for example: transportation, water control, electricity, public fuel, and ports), procurement has separated policy and is more flexible (Weele, 2018).

According to Abul Hassan et al. (2020), public procurement faces many problems, including poor specification

compliance, lack of work supervision on suppliers or vendors, poor asset management, insufficient fund, and low-level compliance with procurement criteria. Public procurement is seen as a source of waste and corruption because of many conflicts of interest (Thai, 2001).

Based on the explanation, good procurement rules and procedures are needed to increase trust in public and interested parties and to ensure fair and equitable treatment to all potential suppliers involved in the procurement (Thai, 2001).

### III. METHODS

This study uses a theoretical approach based on a literature review. Literature on suppliers, supplier management, audit, supplier audit, supplier certification, and public procurement are reviewed to develop the proposed scheme.

## IV. RESULT AND DISCUSSION

### A. Supplier Certification Scheme

The supplier certification scheme for non-private companies in Fig. 2 is developed based on supplier life cycle management by Coleman (2018), capability and performance of suppliers by Prajogo et al. (2012), and collaboration and building relationships principles by Weele (2018).

In the scheme, a capability audit, as part of supplier selection activity, is carried out to assess the ability of potential suppliers to produce goods or materials according to the quality, specifications, standards, and requirements of a company. The potential supplier will become registered or certified if they meet the capability criteria and requirements.

Supplier selection is a critical part of procurement because, according to Zeydan et al. (2011), a good supplier can contribute to operational cost reduction and end-product quality improvement. With the capability audit, a company gets registered suppliers with the required capability level, and all suppliers in the supplier base have the same level and standard of capability.

Audit follow-through (AFT) is part of supplier monitoring, conducted when a registered supplier wins a procurement tender. Both Audit capability and AFT are risk-based. An improvement program is a collaborative activity between a company and its supplier to conduct product, process, and management system improvements or innovations to achieve quality, cost, and delivery objectives. Supplier performance evaluation is carried out to assess the supplier's performance when supplying goods during

the certification period. The evaluation results consider whether the supplier is still within the capability baseline of a company.

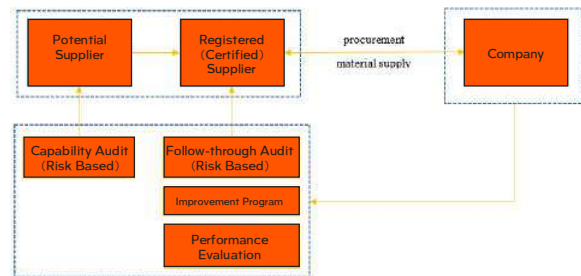


Fig. 2. Supplier Audit Scheme

### B. Capability Audit

According to ISO (2015), a capability is defined as an object's ability to produce output that will meet the requirements for that output. The capability audit is a combination of audit and site inspection activities. With the capability audit, a company is expected to get a supplier base that meets the capability criteria to build long-term strategic cooperation.

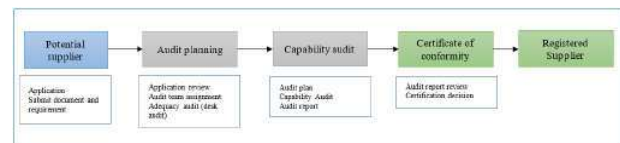


Fig. 2. Capability Audit Flow Process

Fig. 3 shows the capability audit flow process. Potential supplier capabilities are assessed based on criteria, including: (1) management system capabilities; (2) product capability; (3) production capability; (4) quality control capability; (5) top management capability; (6) human resource capability; (7) legal aspect capability; and (8) financial capability.

Table 1 - CAPABILITY AUDIT CRITERIA

Capability	Criteria
Management system	<ul style="list-style-type: none"> <li>- ISO 9001 certificate from an accredited certification body.</li> <li>- ISO 14001 and ISO 45001 from an accredited certification body (for products and processes with environmental, safety, and health risks).</li> <li>- Adequacy of management system documents.</li> <li>- Conformity of management system documents and processes implementation.</li> </ul>
Product	<ul style="list-style-type: none"> <li>- Prototype product type test</li> <li>- Product specification</li> <li>- Photo and product design</li> <li>- Raw material list and specification</li> <li>- Supplier list</li> <li>- Prototype research and development record</li> <li>- Product certificate (if any)</li> </ul>



Capability	Criteria
Production	<ul style="list-style-type: none"> <li>- Production capacity</li> <li>- Production process and documentation</li> <li>- Contingency plan in an emergency condition</li> <li>- Production infrastructure, tools, and equipment control (feasibility, identification, preservation, maintenance, and calibration)</li> <li>- Production work environment (5S implementation)</li> </ul>
Quality control	<ul style="list-style-type: none"> <li>- Quality control process and documentation</li> <li>- Quality control infrastructure, tools, and equipment control (feasibility, identification, preservation, maintenance, and calibration)</li> <li>- Quality control work environment (5S implementation)</li> </ul>
Top management	<ul style="list-style-type: none"> <li>- Commitment to supply product</li> <li>- Commitment to comply with the specification, quality, and standard</li> <li>- Commitment to building a strategic relationship</li> <li>- Commitment to support and comply with company value</li> </ul>
Human resource	<ul style="list-style-type: none"> <li>- Employee competence</li> <li>- Training program</li> <li>- Employee awareness and engagement</li> <li>- Understanding of related product standards</li> </ul>
Legal aspect	<ul style="list-style-type: none"> <li>- Legal and have permits required by law and statutory</li> <li>- Not facing legal problems</li> </ul>
Financial	<ul style="list-style-type: none"> <li>- Financial report audited</li> <li>- Health financial condition</li> </ul>

The outcome of audit capability is a registered supplier as a company's supplier base. The registered supplier can then participate in the company's procurement activity.

### C. Follow-Through Audit

A Follow-through audit is an activity to monitor a supplier's conformance and performance in supplying goods to a company based on communication, openness, and collaboration principles. Follow-through audits are carried out on suppliers who have received procurement contracts. Follow-through audit results as a basis for evaluating supplier performance. Poor incoming material quality from a supplier can incur a cost of inspection, rework and return, purchasing, and overproduction for a company (Chen & Paulraj, 2004).

A Follow-through audit is a risk-based audit and a combination of audit and site inspection activities at life cycle product stages, starting from the production planning to goods receipt. Audit follow-through is conducted to assess the conformity of design, product specification, raw material, production process, quality control, testing, handling, packaging, and warehousing. By follow-through audit, it is expected that the goods received by the company have specifications and quality according to requirements and are delivered in a specified time (on-time delivery).

A Follow-through audit can be considered a risk control activity. Any discrepancy arising during the production of goods that can cause non-conformity in quality, specifications, costs, and delivery requirements can be detected early. Correction and corrective action are taken as soon as possible so that the final product received by the company complies with the established criteria and requirements.

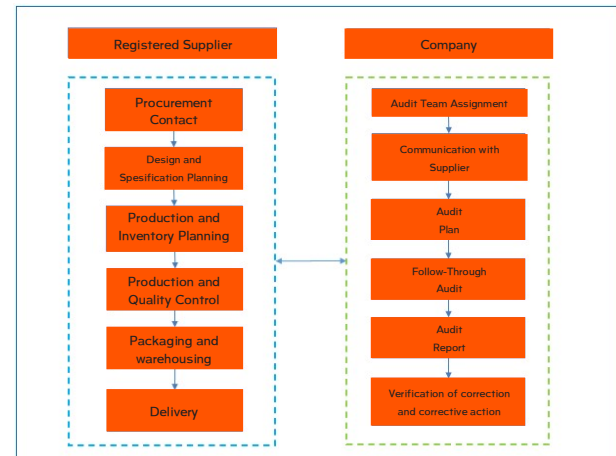


Fig. 3. Follow-through Audit Flow Process

Follow-through audit team conducts audit and inspection during material production: (1) design and specification control; (2) production planning control; (3) inventory control; (4) purchasing process; (5) raw material control; (6) production process; (7) quality control process; and (8) packaging and warehousing.

The follow-through audit is a risk-based basis and sampling. The auditor should take into account: (1) supplier capability level from capability audit result, (2) criticality of material supplied (high-risk product), (3) material quantity, (4) contract value, and (5) previous audit result.

### D. Improvement Program

An improvement program is a collaborative activity between the company and its registered suppliers to improve the processes or products supplied. This activity is part of supplier development and collaboration. Ideas for improvement and innovation can come from standard requirements, product development, process development, product or process nonconformities found during audits, and failures found during product use.

Suppliers and companies collaborate to develop improvement plans, execute, verify, validate, and implement improvements in products, processes, or management systems through change management.

## E. Performance Evaluation

Performance evaluation is the supplier reevaluation stage. At the end of the certification period, registered suppliers will be assessed for their performance while supplying goods or materials to the company. Evaluation criteria are performance related to (1) specifications conformity, (2) product quality delivered, (3) delivery time, (4) costs, (5) flexibility and responsiveness to change requests, (6) follow-through audit results, (7) participation and involvement in improvement programs, etc.

The assessment results determine whether the supplier is still eligible to extend the certification program and remain as a registered supplier.

## V. CONCLUSION

This study gives insight and discussion about supplier certification scheme for non-private companies to manage their manufacturer-type supplier. The proposed scheme is developed at all supplier life cycle stages and based on supplier assessment in capability and performance to build long-term strategic relationships according to (Coleman, 2018; Prajogo et al., 2012; Weele, 2018; Park et al., 1996).

A supplier's capability, as a part of supplier selection, is assessed through a capability audit to ensure that the potential supplier has a level of capability that meets company requirements. A follow-through audit, as supplier monitoring, was conducted to assess supplier performance when supplying goods or materials to the company. As part of supplier development, an improvement program is a collaboration activity to make improvements or innovations in products or processes.

Supplier certification schemes require resources (personnel, time, and money). For optimal benefits and effectiveness, the management of non-private companies should consider the following: (1) alignment and conformity with procurement rules and regulations; (2) develop formal procedures for implementing supplier certification schemes so the scheme becomes part of the company's operational strategy; (3) Management needs to review the categories of materials included in the supplier certification scheme by taking into account material and final product or service criticality, the final products or services impact on the conformity of customer requirements and satisfaction, and material defect level.

This study has limitations because the proposed scheme is limited to non-profit companies with manufacturer-type suppliers. Further research can examine what type or category of material should be included in the scheme so that the supplier certification program can give value and

benefit to a company. The implementation of the supplier certification scheme to other types of companies can also be studied.

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