



## STANDARD

Procurement professionals should identify and implement technology that aides the procurement process and supports the overall strategy of the organization. The technology should create measureable results (linked to Return on Investment) including, reduced transaction costs, improved process efficiency, a reduction or elimination in “maverick spending”, increased contract compliance, improved transparency, reduced cycle times and improved inventory costs. Technology can also increase supplier access to bid opportunities which can result in increased competition, diversity and inclusion of suppliers.<sup>1</sup>

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### Definition

**Procurement Technology** helps accelerate business improvements.<sup>2</sup> It allows for the making, modification, usage, and knowledge of tools, machines, techniques, crafts, systems, or methods of organization, to solve a problem, improve a pre-existing solution, achieve a goal, or perform a specific function in relation to procurement and the procurement process.

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### Element 1.1: Types of Procurement Technologies

Technology in procurement is a broad topic. Technologies that are currently available include, but are not limited to:<sup>3</sup>

- E-commerce; more specifically– e-sourcing, e-procurement, e-purchasing, e-auctions, e-tender, electronic payment solutions
- Marketplaces/business exchanges
- Contract registers/databases
- Knowledge portals/supplier databases
- Business intelligence
- E-invoicing/e-payables
- ERP (Enterprise Resource Planning) systems
- MRP (Materials Resource Planning)/Inventory systems
- EPOS (Electronic Point of Sale)
- Bar coding/RFID (Radio Frequency Identification)
- Intranets
- Extranets

### Element 1.2: Benefits of Technology

Technology in procurement can offer many benefits, especially if they are implemented as part of an overall strategic plan (See also: Practice: Strategic Planning). Some of these benefits include but are not limited to:

- **Reduction** of time and costs associated with the process (e.g. reduction of the number of invoices submitted and therefore a reduction in the level of time and effort to match and pay the invoice).
- **Collaboration** with suppliers that can improve performance, product and costs.
- **Accurate and Instant Information Flows** provide information on the organization's total spend, suppliers, and inventory that can be retrieved and analyzed to improve procurement decisions. This helps to reduce stock levels, create savings, and further improve communication with the suppliers who will no longer have to rely solely on forecasts.
- **Improved Management** of existing contracts, suppliers, and improved work flow managements (e.g., approval and release of orders, etc. in real time).
- **Risk Reduction** in terms of the organization's exposure to financial risks and other types of risks (e.g., using the technology to decrease the amount of late payments to suppliers).
- **Increased Competition, Diversity, and Inclusion.** The use of technology can increase potential suppliers' knowledge of, and access to open solicitations, thereby increasing competition, diversity, and inclusion.
- **Transparency.** Technology allows greater access to the procurement process for procurement professionals, suppliers, and the public, thereby increasing transparency (See Practice: Transparency in Public Procurement).
- **Improved Audit Capabilities.** Technology contributes to improved information flow and data collection resulting in improved auditing capability.

### Element 1.3: Considerations Before Implementing New Technology

There are many benefits to introducing any of the technologies stated in Element 1.1. However, at a minimum, the following should be considered prior to implementing new technologies:<sup>4</sup>

- **Decide the objective before choosing a technology.** Before selecting a technology tool, consider the organization's objectives, and then select the appropriate tool based on those objectives to maximize the return on investment.
- **Early process reengineering.** Business processes must be examined and "fixed" before applying technological solutions.
- **Strong focus on user adoption.** Train all stakeholders in the change management process that will be necessary to achieve the benefits of technology implementation.
- **Involvement of all affected stakeholders in system implementation.** Gather input from all internal groups and affected stakeholders. This will contribute to a smooth implementation of the new technical challenges.
- **Consider the risks.** Depending on the type of technology chosen for implementation, there may be risks associated with that technology (e.g. data security, failure of the supplier, internet access and security, and the amount of expertise/ experience the organization has available to implement the new technologies). These risks should be analyzed and assessed prior to implementing the technology so that a plan to eliminate or mitigate such risks can be formulated.
- **Define and reinforce metrics.** Metrics to measure costs, process efficiency, and performance of the technologies and processes should be clearly defined. Where possible, link the incentives for both the organization and stakeholders to these metrics. (See also: Practice: Performance Metrics).
- **Return on Investment.** A cost-benefit analysis should be performed to determine whether or not the technology will be able to produce a quantifiable return on investment.
- **Availability of Training.** Training on any new technology should be provided to employees in order to obtain the maximum return on investment and full implementation.



### Element 1.4 Best Practice Uses For Technology

The following is a checklist of best practices to implement the use of technology in procurement:<sup>5</sup>

- Integration of financial system with procurement system to allow for verification of funds prior to the order release.
- Automated process flows for approvals.
- Enable the organization to receive electronic requisitions.
- Preparation of solicitations from requisition information.
- Utilization of “push technology” to notify potential bidders/ offerors of available opportunities.
- Preparation of bid tabulations and bid analysis reports.
- Preparation of proposal evaluation reports.
- Preparation and distribution of notices of award.
- Use of a commodity/ service code structure to group and track purchases.
- Automated production of purchase orders for standard inventory items.
- Accumulation of usage data for contract items.
- Track orders released against contracts.
- Implementation of supplier performance reports that reflect customer satisfaction/dissatisfaction, etc.
- Automate recording and updates to the purchase history.
- Track the status of requisitions and purchase orders.
- Production of essential management reports and summaries.
- Inclusion of contract administration functionality within the technology.
- Use of e-commerce to source and order goods and services online.
- Acceptance of electronic informal quotes.
- Acceptance of formal competitive sealed bids.
- Provide electronic catalogues to the user departments.
- Use of reverse auction processes for high-volume, standardized commodities.
- Use of online surplus auction services.
- Use of solicitation development software with process flow, templates, library of clauses, approval process, etc.
- Online posting of purchasing, award, and contract information for transparency purposes.

### Background

As the procurement function of many organizations is becoming more strategic, procurement technology allows for a process re-design that makes the procurement process open with improved accountability, transparency and reporting capabilities; thereby speeding up the procurement cycle and providing greater access to more opportunities for suppliers.

Whatever the technology, consider integration between solutions, obtaining accurate information to create accurate reports, project planning and looking at the end-to-end process. It is important to remember within the procurement function that savings come from the goods and services that are bought and how the goods and services are paid for. Technology is a tool that can facilitate this process in a more efficient and effective way.

The use of technologies is not a substitute for the development of comprehensive and robust strategies. Technology only facilitates the development and delivery of a good strategy.<sup>6</sup>

<sup>1</sup> Adapted from Aberdeen. (2005). Best practices in e-procurement: Reducing costs and increasing value through online buying. Boston, MA: Aberdeen Group.

<sup>2</sup> Purch Tips – Edition #164. 2008. Procurement Technology Success Secrets. Charles Dominick, SPSM. Retrieved from <http://www.nextlevelpurchasing.com/articles/procurement-technology.html>.

<sup>3</sup> CIPS. (n.d.). Technology in purchasing. United Kingdom: CIPS.

<sup>4</sup> Adapted from Op. cit. CIPS. (n.d.), and Op. cit. Aberdeen. (2005).

<sup>5</sup> Adapted from NIGP's Outstanding Agency Accreditation Award criteria (2009).

<sup>6</sup> Adapted from Op. cit. CIPS. (n.d.).