E-Procurement: Decentralizing the Process for Higher Education Institutions

To help principal investigators focus more on research and less on grant and expense management, institutions need to employ a tightly integrated, automated procurement process supported by advanced enterprise management systems.

Executive Summary

Supply chain management (SCM) allows organizations to automate and streamline sourcing and procurement. In most industries, procurement involves three processes: purchasing, receiving and settlement. For institutions in higher education, however, this function brings added complexities:

- Highly decentralized structures require procurement to take place at the department level.
- Professors and other staff members, including principal investigators (PIs) dealing with grants, all rely on procurement and sourcing for utilizing public funds (from grants) for a pre-defined purpose (such as conducting research or performing clinical trials).
- Grants’ terms define the conditions of procurement, as well as the total budget, for making various types of purchases.

To address these challenges, electronic procurement (e-procurement) can be coupled with other self-service components of an institution’s enterprise resource planning (ERP) system (e-settlement and e-supplier, for example) — allowing PIs to carry out their research without worrying about tracking their budgets and managing the procurement process.

In this paper, we discuss the processes involved in implementing a procure to pay (P2P) system, and detail how institutions that receive grants from various government and non-government agencies can use this model to decentralize and digitize procurement.

Higher-Education Grants at a Glance

Higher education institutions, such as universities, draw revenue from various sources. In addition to student fees, they depend on federal and state government assistance, as well as private grants, for funding research by professors and other staff members.

When it comes to grants, there are numerous terms and conditions that govern them. Depending on whether a grant is federally or privately subsidized, different levels and types of conditions/compliance may be imposed to oversee how the funds (or budgets) are expended. For example:

- Federal travelers are required by 49 U.S.C. 40118, commonly referred to as the “Fly America Act,” to use U.S. air carriers for all air travel and cargo transportation services funded by the U.S. government.
The federal government may mandate that only a specific percentage of its total budget can be made available each year for education services. Grant funding is as much about expenditures as it is about revenue, and the terms of grants specify how expenses will be allocated and accounted for. Thus, having a sound, thoughtfully developed procurement policy and process for supporting grant policies is imperative for higher education.

Decentralizing the Procurement Process

The reach of the Internet and advancements in digital platforms and technologies have enabled closer communication within business-to-business (B2B) and business-to-consumer (B2C) environments. As a result, procurement has taken a whole new dimension.

In most modern ERP systems, the procurement process focuses on improving employee productivity, increasing collaboration, advancing efficiencies and affording meaningful insights to enhance decision making and streamline processes through automated, integrated data processing. Self-service components, such as e-procurement, e-settlement and e-supplier, allow employees and suppliers to collaborate directly—improving supplier/customer relationships and experiences, and decentralizing procurement. Designated employees are given the authority to “own” expense management and control expenditures within their departments.

How Higher Education Benefits

For higher-education institutions, decentralization offers a unique advantage for principal investigators, who must manage their grants budgets as an independent department. They are also singularly responsible and accountable to the granting agency.

Not surprisingly, PIs typically prefer to spend more time on research and less on tedious procurement processes. To balance these responsibilities, they require an automated system for creating requisitions, equipped with “built-in” procurement components that streamline the approval process and improve the visibility of cost-chargeable expenses.

Using e-supplier and e-settlement modules as part of the procurement function, buyers can strengthen their supplier relationships, which can result in a more efficient process, consistently competitive pricing and dynamic, discount-based payment terms.
Purchasing can also benefit from an automated B2B platform that directly connects the ERP system to the supplier – affording real-time interaction, collaboration and data exchange with buyers.

**Establishing Business Processes**

Self-service procurement offers a unique proposition by establishing business processes for grants-based higher-education institutions.

- E-procurement provides PIs with a complete self-service platform and approval framework for punch-out, catalog management, and grants budget-checking.
- E-supplier and e-settlement functions afford direct access to the supplier of an institution’s ERP system. This allows suppliers to acknowledge and/or request purchase-order changes, send advance shipment notifications, raise invoices, review amounts due and request dynamic discounting.

These capabilities are apart from standard procurement functions, such as acknowledging the receipt of items and settling the amount due to suppliers.

Following are areas that institutions need to address when establishing a decentralized procurement process.

**Structure**

- Treat each grant as a unique project.
  - Each grants project provides a separate entity to track research-related progress and activities. It also offers an administrative and financial structure for the activities performed under a grants agreement, and establishes a grants/project budget against which expenditures can be recorded.
  - View the grant amount as a budget item against the department of the PI and the grants project.
  - Establish budgets against the grants project and multiple sub-categories identified by expense accounts. These accounts can then be used during the procurement process to book actual expenses against the budgeted amount.

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**Transactions**

- Once the structure is established, a PI or someone from their staff can proceed with creating requisitions within the e-procurement system.
- In a decentralized procurement setup, a PI is empowered to make purchases according to the research requirement (lab equipment, for example). This eliminates the need for the PI to approach the central procurement team for every purchase request, which creates more inefficiencies and more touch points within the process.
- Decentralized e-procurement is only possible with self-service modules, which not only enhance the user experience, but also make it possible for individuals, including novice users, to purchase items from the comfort of their offices.
- Based on an institution’s relationship with its suppliers, a transparent punchout or catalogue-based requisition process can be set up.
- Once a requisition is entered, it should be budget-checked to ensure that an adequate grants budget exists against the sub-category (account), department and grants project.
- A requisition can go through multiple rounds of approval, based on any or all of the following:
  - Dollar limit.
  - Supervisor relationship (PI as project manager has the final approval in this case).
  - Item type; for example, CapEx vs. OpEx purchases.
  - Grants funded vs. non-funded (for non-grants-based purchases).
  - Buyer review or approval.

An approved requisition can flow seamlessly through purchasing, and generate a purchase order that can automatically stream to suppliers. The result is an automated, optimized procurement setup that requires minimum human intervention.
Quick Take

Procurement Process Improvements

Utilizing the functionality of e-procurement, e-supplier and e-settlement components, principal investigators can manage their grants more effectively. Likewise, buyers and suppliers can build stronger relationships. These benefits can improve the procurement process in a number of areas, all of which take place in real time.

- PO acknowledgment
- Request for change orders
- Advanced shipment notifications
- Invoice settlement
- Dynamic discount
- Determine payments due
- Understand the inefficiencies in tracking budgets vs. actuals, the available balance at any given time, pain points around the approval process, and current supplier/buyer relationships.
- How decentralized is the current setup? Do PIs need to approach buyers for every purchase? What is the cycle time of procure-to-receive and receive-to-pay processes?
- How are the payment terms set up?
- How efficient is the invoicing process? What is the visibility to suppliers of their amount due?

The above will help establish design and implementation requirements and trigger critical questions, such as:

- Will punch-out suppliers need to be established?
- Will catalog management be required? How will the item master be established?
- How many levels of approval are required per the procurement policy?
- Will PIs have staff to set up as requesters, and hence add one more level to the approval process?
- How many PIs and PI staff will be requesters? An e-procurement license is generally based on the number of requesters in the supply chain system.
- Can PIs be set up as individual departments?

Implementation

Establishing a procurement process as part of an ERP-based supply chain requires careful planning and execution. Complexities arise when institutions also receive grants for conducting various types of research. In these cases, a grant is two-pronged — involving both revenue and expenditures.

- Revenue comes from funds received from a grants agency.
- These funds cover expenses for salary, lab equipment and research-related activities.
- Higher-education institutions require a one-to-one mapping of grants-based revenue and expenses, against which a grant can be utilized.

Automated, Integrated Procurement

The following actions and questions are critical to designing and implementing an automated, decentralized procurement process:

- Discuss and identify key stakeholders from the team of PIs who will take part in designing the procurement system (these could be PIs with the most authority or with the most grants).
- Understand the current process of awarding grants and establishing budgets.
- Identify the current approval process for procurement against a particular grant.
- How decentralized is the current setup? Do PIs need to approach buyers for every purchase? What is the cycle time of procure-to-receive and receive-to-pay processes?
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- Can PIs be set up as individual departments?
What is the process for distinguishing grants-based and non-grants-based requisitions for the same item and the same category?

Does the grouping of purchases align with the budgets provided by granting agencies?

How will the PIs receive and process the items they ordered in the system?

Will the supplier organization make the payment early to receive discounts?

By answering these questions, institutions can create the foundation for a secure, automated and cost-effective procurement process.

A decentralized e-procurement process can improve return on investment by making more funds available for meaningful research and providing more students with the level of education they seek.

Looking Ahead

According to APQC, a member-based nonprofit organization that studies process productivity and quality, businesses that excel at managing procurement processes spend considerably less as a percentage of revenue and employ fewer full-time equivalents to achieve the same results.¹ (Figure 2).

Apart from grants, higher-education institutions count on student fees as a main source of revenue. A decentralized, e-procurement process can improve return on investment by making more funds available for meaningful research and providing more students with the level of education they seek.

As more self-service models emerge for decentralized setups, advancements in digital platforms and technologies will expand the reach of the Internet — enabling institutions and suppliers large and small to dramatically improve their business and financial performance.

The Benefits of P2P Automation

Top performers spend $2.99 less per $1,000 in revenue on procurement activities than all other organizations.

Total cost to perform the procurement process group per $1,000 revenue

Figure 2
Source: www.apqc.org
Footnotes
1 https://www.apqc.org/blog/conquering-procurement-begins-cost-effectiveness

About the Author
Rohit Srivastava is an Associate Director within Cognizant’s Oracle Solutions Practice, with over 10 years of experience in PeopleSoft finance and supply chain implementation. Rohit also has extensive experience in defining business processes across multiple industries, including higher education, healthcare and retail. He provides process, domain and technology consulting, and has far-reaching expertise in business process analysis, solution design and implementation in areas such as finance and supply chain management. He holds an executive MBA from IIM Kolkata and is a Certified Project Manager from PMI. He can be reached at Rohit.Srivastava@cognizant.com.