

# Auditing and Security of ERP Systems

## *Professional Development Symposium Proposal*

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## **Symposium Overview**

Professors teaching ERP systems may consider including content about the auditing and security of these systems, which is very important for reliability and integrity of data and the IT infrastructure and provides assurance of IT controls that support the financial statement audit. This workshop includes materials that focus on teaching both general controls (i.e. logical access, program change and computer operations) and application controls (controls either configured or programmed into the ERP system), which are two categories of controls that must be in place for an IT audit. In particular, this workshop focuses on logical access in PeopleSoft, specifically, role based access controls. Then, we will learn about how program change control is accomplished in an SAP environment through the SAP transport, followed by discussing necessary controls in a data center, using a Big-4 provided template. Finally, we will discuss the ERP-specific content in the CISA, Certified Information Systems Auditor exam. This session includes a series of exercises that are relevant to instructors and practitioners alike.

## **Session Plan**

**IT general controls (ITGCs) are internal controls that work to both secure and validate the data contained in the ERP systems.** The objectives of ITGCs are to ensure control over logical access to the ERP system; proper development of and changes to the ERP system; and controls in and surrounding the data center.

Thus, the first part of the workshop will entail an introduction to logical access (in particular role based access controls (RBAC)) in a Tier 1 ERP vendor package, PeopleSoft. Workshop attendees will learn about:

- The PeopleSoft Security Model, including:
  - Permission lists, Roles, User Profiles, and Row Level Security.

Then, workshop attendees will work through an exercise in the form of multiple choice and challenge questions to put these building blocks together.

Next, attendees will learn about the SAP transport, which controls program changes in an SAP environment. Attendees will also work through an exercise on how the transport works,

including the t-codes in SAP that move changes (including configuration and customization changes) from the DEV environment to QA and then to PRD.

The remaining category of ITGCs, data center controls, are then discussed. Attendees will examine an audit program from a Big 4 accounting firm on the types of data center controls that are audited in companies.

Finally, we will access the CISA practice exam and take a “test” on ERP-related content in the CISA exam. All of my materials are ready to be used in the classroom to help teach Auditing and Security of ERP systems.

### **PDS Presenters**

Dr. Marianne Bradford is a Full Professor in the Poole College of Management at NC State where she has taught ERP systems in the graduate and undergraduate programs since 2003. She is the author of Modern ERP: Select, Implement and Use Today's Advanced Business Systems, now in its 3<sup>rd</sup> edition. She holds a Ph.D. in Business Administration from University of Tennessee and her professional background includes IT Risk Assurance for Ernst and Young and Auditing with KPMG.

Dr. Bradford's research interests include ERP implementation issues, ERP security, and auditing of ERP systems. She has published in numerous journals including *Journal of Information Systems*, *Accounting Horizons*, *International Journal of Accounting Information Systems*, *Management Accounting Quarterly*, and *Issues in Accounting Education*.