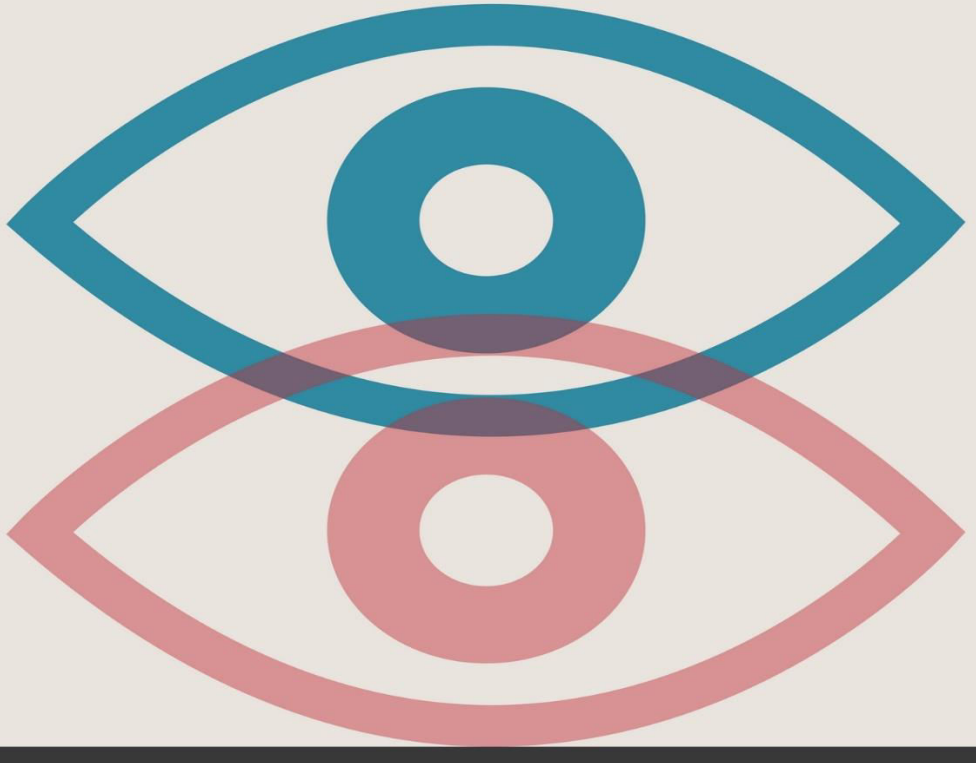
Auditing Your Information Systems and IT Infrastructure

BY NWABUEZE OHIA



Practical Audit Programs/Checklists for Internal Auditors

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By

Nwabueze Ohia

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Editor: Nwabueze Ohia
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Notices

Knowledge and best practices in the field of information and technology security are constantly evolving. As new risk and vulnerabilities emerge, changes in research methods and broader experiences are required to contain the threats to system and human security. It is therefore expedient for professional practices to rise to the challenges and threats pose by information security risk and vulnerabilities.

Practitioners and researchers in this industry must always rely on strong personal judgment and experience in evaluating and applying information and methods being acquired from this book while also exercising professional due care and caution to ensure their safety and those of others, as well as parties for whom their owe professional responsibility.

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About the Author

A Certified Information Systems Auditor (CISA), Certified Lead Auditor for ISO 27001 (Information Security Management System), ISO 22301 (Business Continuity Management System), ISO 20000 (IT Service Management System) and ISO 27032 (Lead Cyber Security Manager), Nwabueze Ohia is a seasoned information risk assurance and cybersecurity expert with over 13 years' industry experience in IT consulting, IT audit, internal control/audit and information risk assurance. With bulk of his experience in the banking and financial institution space, Nwabueze have performed roles such as IS/IT Auditor, Information Security Analyst, IT Forensics/Fraud Investigator, IT Risk Analyst, System Control Analyst, among others, in the course of his professional life. His core strength/competences are in Information systems & technical Infrastructure auditing, IT risk assessment, cyber threat intelligence & analysis, security architecture & engineering (networks and operating systems), electronic fraud & forensic investigation, software engineering & web application development, data analytics and revenue assurance, among others.

Given his strong auditing and information risk assurance background, he has developed series of audit work programs, checklists, risk assessment templates and information security programs, which professionals have recognized as valuable resources for information risk and security assurance. This is due to their conformance to standards/frameworks issued by professional bodies such as institute of Internal Auditors (IIA), Information Systems & Control Association (ISACA), International Information System Security Certification Consortium (ISC^2), National Institute for Standards & Technology (NIST Risk Management & Cybersecurity framework) and Center for Internet Security (CIS). His Books, articles, best practice guides and web content are hands-on (do-it-yourself guide) and have assisted practitioners within Nigeria, Sub-Sahara Africa and beyond in addressing information risk and security concerns in the ever changing and dynamic IT environment. Beyond the financial services sector, practitioners in other sectors such as insurance, telecommunication, web hosting, Internet service providers, SaaS, cloud service provider, distribution & supply chain management, shipping, oil & gas, have leveraged content produced by Nwabueze to excel in their endeavors.

Nwabueze Ohia is a seasoned trainer and public speaker and operate the website (http://oxleyconsults.com.ng) where all his books and materials are published. He has published four books to his credit, which are available on Amazon Kindle Book store as well as other major eBook reading and distribution platforms worldwide. He holds a Higher National Diploma (HND) in Electrical/Electronics Engineering (Telecommunications) from Federal Polytechnic Nekede Owerri, a Bachelor of Technology (B. Tech) degree in Information Management Technology (IMT) and recently completed Master of Science Degree (MSc) in Information Management Technology (IMT) from Federal University of Technology Owerri, Imo State.

Nwabueze Ohia is passionate about giving back to the society and the knowledgebase of his chosen profession, having greatly been enriched by same. He has demonstrated this passion through several writeups, articles, best practice guides and professional papers published via his website and other outlets. He finds joy and fulfillment in extending helping hands to the needy and the downtrodden of our society. His hobbies are traveling round the world, soccer, tennis and web application development/programming. Born in 1983 to Nigerian parents from the Eastern part of the country, he is happily married with two children.

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Preface
By Nwabueze Ohia

Assuring the Security of Your Information Systems and IT Infrastructures (IT Audit and Internal Audit)

This edition has been updated to cover virtually all areas of information systems and IT infrastructure. "*Auditing Your Information Systems and IT Infrastructure: Practical Audit Programs/Checklists for Internal Auditors",* serves as a reference handbook for IT Auditors and other IT assurance professionals on how to use latest IT auditing techniques and programs to provide assurance on the security of enterprise information systems and IT infrastructure. New chapters on perimeter network security, database security and virtualized infrastructure are included. The book describes leading practices in internal audit and how the internal audit/IT audit function can effectively meet stakeholders' expectations and add value the business while maintaining its independence. Details on how to conduct specific audits of IT processes, services, systems or infrastructures were provided with hands-on checklists and audit test procedures. The following areas of information systems, processes and IT infrastructures are covered.

- Leading practices in internal audit function
- Data center
- Business continuity management and disaster recovery management
- Business process re-engineering (BPR) and automation function
- IT governance and strategic planning
- Physical and environmental security
- Windows infrastructure, intranet and internet security
- Financial Technology (Fintech) and Electronic Payment Applications
- UNIX operating system infrastructure (IBM AIX & Oracle UNIX)
- Core banking application (Finacle, Flexcube and Phoenix)
- Payment card (debit, credit & prepaid) processes, systems and applications – PCIDSS Compliance
- Employee (Human Resources) Information Systems
- Perimeter Network Security
- Database security (Oracle and Microsoft SQL Server Database)
- Virtualized infrastructure

Intended for IT Auditors and other Assurance professionals that are desirous of improving their auditing skills or organizations that are performing risk and control self-assessment (RCSA) exercise from the ground up.

What You Will Learn and Benefit:

- Build or improve your auditing and control testing techniques/skills by knowing what to look out for and how to verify the existence and adequacy of controls.
- Acquire hands-on audit programs/checklists to be used for auditing your core IT systems and infrastructure, which can easily be applied in your environment.
- Prepare for and pass management system certification audits such as PCI-DSS, ISO 27001, ISO 2230, ISO 20000 and ISO 90001.
- Audit programs/checklists from this book can easily be integrated into standard audit software such as Teammates or MKInsight as they share similar templates.
- Expand the scope of your audit testing to cover more areas of concerns or risk exposures.
- Strengthen your organization's internal audit process and control testing, a benefit from an expanded risk/vulnerability register.
- Rejuvenate the risk management effective and information security program of your organization, having an improved perspective of inherent risk/vulnerabilities of your IT infrastructure as well as a robust and realistic vulnerability/risk register.
- Risk mitigate and treatment plan.

Who This Book Is For:

IT professionals moving into auditing field; new IT Audit Managers, Directors, Vice Presidents, and would-be Chief Audit Executives (CAEs) and Chief Information Security Officers (CISOs); Security Specialists from other disciplines moving into information risk and security assurance (e.g., former military security professionals, law enforcement professionals, physical security professionals); and information risk and security specialists (e.g. IT Security Managers, IT Risk Managers, IT Control Analyst, Security Engineers/Directors, CIOs, CTOs, COO).

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PART 1

AUDIT OVERVIEW

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