

Table of Contents

1 IT Auditing: An Overview and Approach	1
1.1 Evolution in Managements' Perceptions.....	1
1.2 Evolution in Information Processing Capabilities	2
1.3 Exposure to Loss	3
1.4 Objectives of IT Auditing.....	5
1.5 Internal Controls and IT Audit	5
1.5.1 Various Internal Controls.....	7
1.6 Growth and Genesis of IT Auditing	7
1.7 IT Audit Approach.....	9
1.7.1 Nature of IT Controls	9
1.7.2 Controls and Loss.....	11
1.7.3 Internal Controls and Auditing Approach	12
1.8 Steps in an IT Audit.....	12
1.9 Audit Decisions	15
2 Auditing and Complex Business Information Systems	21
2.1 Complex Integrated Accounting Systems.....	22
2.2 Distributed Data and its Effects on Organisations	24
2.2.1 Networks	25
2.2.2 Portability and Systems.....	31
2.2.3 Integration of Applications	32
2.3 Productivity Aspect of the Technology	32
2.4 Business Process Re-engineering	33
2.5 Intelligent Systems	34
2.6 Auditors and Changing Technology	36
2.7 Strategic Use of Technology and Audit Implications.....	37
2.8 Internal Controls and Auditing	40
3 Generation-X Technologies and IT Auditing.....	45
3.1 Generation-X Enterprise Technologies	46
3.2 Information Systems Integration: A Challenge	48
3.3 Assured Information Emanates from Assured Systems.....	51
3.4 Information Assurance: A Function of Strategic Importance	53
3.5 Various Information Assurance and Control Measures	56
3.5.1 Web-Level Assurance Measures	57
3.6 Control Objectives and System Assurance	58

3.6.1 British Standards: BS7799 and BS 7799-2:2002	60
3.6.2 System Security Engineering Capability Maturity Model: SSE-CMM	60
4 Complex Information Systems, Auditing Standards and IT Auditors	63
4.1 The Approach and Objectives	63
4.1.1 The Scenario	65
4.2 Impact of Technology Complexity on the Auditor	65
4.2.1 Complex Information Technologies and Audit Risks	67
4.2.2 SAS-94 and its Effect on the Audit Process	70
5 ERP and Information Integration Issues: Perspective for Auditors	75
5.1 What is Enterprise Resource Planning?	77
5.2 Implementation Cycle	79
5.3 Conceptual Models	80
5.3.1 Successes and Disasters	81
5.4 Types of Implementation	82
5.5 Social Integration	83
5.6 Resistance in Social Integration	84
5.7 Process Integration	84
5.7.1 Communications in Process Integration	85
5.7.2 Alignment of Culture in Process Integration	86
5.7.3 Knowledge Integration	86
5.7.4 Workflow Integration	89
5.7.5 Best Practices in Functional Integration	90
5.7.6 Virtual Integration	91
5.8 Auditor and ERP	92
5.8.1 ERP Internal Control Procedures	92
6 Technology, Auditing and Cyber-Commerce	95
6.1 Technology and Auditing	96
6.2 Risk Understanding in e-Commerce for IT Auditor	99
6.3 Information at Risk	101
6.4 Controls and Audit Evidences	105
7 IT Auditing and Security of Information Systems	107
7.1 Information Security	108
7.1.1 Computer Assets	109
7.2 Security Controls	110
7.3 Security Evaluation and Certification Criteria	112
7.3.1 Networks Security	113
7.3.2 OSI Architecture	115
7.3.3 Security Mechanisms	118
7.3.4 Integrity	120
7.3.5 Security Mechanisms Location	122
7.4 Future Trends	123

7.5 Exemplary Case Laws Related to Security Needs and Breaches in USA	124
7.5.1 Case Laws Related to Data Preservation.....	124
7.5.2 Case Laws Pertaining to the Scope of Discovery.....	125
7.5.3 Case Laws Related to the Records Management	131
7.5.4 Case Laws Pertaining to the Use of Experts	133
7.5.5 Case Laws Related to the Costs and Allocation.....	134
7.5.6 Case Laws Related to the Spoliation and Sanctions.....	136
7.5.7 Case Laws Pertaining to Inadvertent Disclosure.....	139
7.5.8 Case Laws Related to the Method of Litigation.....	140
7.5.9 Case Laws Related to Criminal Issues of Security.....	142
7.5.10 Case Laws Related to the Reliability	142
7.5.11 E-Sign Statute and Case Laws	143
7.5.12 Case Laws on Privacy.....	144
7.6 Kind of Audits Called Security Audits	145
7.6.1 Internet/Perimeter Audit.....	145
7.6.2 Website Audit	145
7.6.3 Penetration Audit (Ethical Hacking)	145
7.6.4 Wireless Audit.....	146
7.6.5 Network Audit.....	146
7.6.6 Security Policies and Procedures Audit	146
7.6.7 Facilities Audit (Physical).....	146
7.6.8 Business Continuity Plan (BCP) and Disaster Recovery (DR)	147
7.6.9 Regulatory Compliance Audits	147
7.7 How Can Security Audit Help the Enterprises?	148
7.7.1 Protecting the Physical Safety of Your Employees, Vendors, and Visitors	148
8 Information Technology Governance and COBIT®	151
8.1 Why Do we Need IT Governance?.....	152
8.2 Introduction to COBIT®	153
8.2.1 COBIT and the Reality.....	154
9 Database Management Systems and Auditing.....	157
9.1 Concepts of Database Technology for Auditors	157
9.1.1 Data Independence	158
9.1.2 Database Management Systems and its Functions.....	158
9.1.3 Relational Database Management Systems (RDMS).....	162
9.1.4 Database Security.....	167
9.1.5 Distributed Database Systems.....	174
9.1.6 Object Data Management Systems	175
9.1.7 Relation and Object: A Comparison	175
9.1.8 Data Warehouses.....	177
9.2 Operational Systems Compared to Informational Systems	178

10 EAI: Auditors Should Know Potential Risks to Enterprise	181
10.1 The Promise of EAI.....	184
10.2 Improvement in Productivity.....	184
10.2.1 Data Flow Streamlined.....	185
10.3 EAI Reaches Beyond Your Borders.....	185
10.3.1 Lowered Costs	186
Bibliography and Further References.....	189
Glossary of IT Auditing Terms.....	209



<http://www.springer.com/978-3-540-22155-5>

Information Technology Auditing

An Evolving Agenda

Pathak, J.

2005, XIV, 238 p., Hardcover

ISBN: 978-3-540-22155-5