

CRITICAL INFORMATION ASSETS DISASTER MANAGEMENT AUDIT
MODEL FOR UTM STUDENT INFORMATION SYSTEM

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ABSTRACT

In any modern universities like UTM, e-learning is an important technology that can improve the quality of teaching and learning. Information is constantly processed and combined to form new information assets that are critical to any business processes. The critical information assets perceived by UTM e-learning as the owner or stakeholders (such as Centre for Teaching & Learning (CTL), Centre for Information and communication Technology (CICT), students and lecturers) will suffer an adverse impact if the information assets are lost, interrupted or destroyed. Therefore, it becomes necessary for the owners of UTM e-learning to identify their critical information assets. This research is conducted on UTM e-learning system in identifying the critical information assets and type in which are being stored or held as well as identifying the potential threats (disasters) that might affect the information assets. The researcher adopted the use of Critical Threat, Asset, and Vulnerability Evaluation (OCTAVE) methodology, OCTAVE Allegro in identifying the critical asset and some models of information management. The research identifies the real information needs in UTM e-learning system by identifying who needs the information by putting together a good plan and auditing it regularly that can go a long way towards preventing a disaster. Eventually, a disaster audit model for the system was proposed that reflects the concept of critical information asset disaster control.

ABSTRAK

Dalam setiap universiti moden seperti UTM, e-learning adalah satu teknologi penting yang boleh meningkatkan lagi kualiti mengajar dan belajar. Maklumat sentiasa diproses dan digabungkan untuk membentuk maklumat baru yang sangat penting kepada sebarang proses perniagaan. Aset maklumat kritikal yang dipercayai oleh e-learning UTM sebagai pemilik atau stakeholder (seperti Centre for Teaching & Learning (CTL), Centre for Information and communication Technology (CICT), mahasiswa dan pensyarah) akan merasai kesan yang merugikan jika aset maklumat hilang, terputus atau musal. Disebabkan perkara itu, adalah penting bagi pemilik e-learning UTM untuk mengenalpasti aset maklumat kritikal mereka. Kajian ini dilakukan pada sistem e-learning UTM bagi mengenalpasti aset maklumat kritikal yang sedang disimpan atau dipegang serta mengenalpasti potensi ancaman (bencana) yang mungkin menjejaskan aset maklumat. Penyelidik menggunakan methodologi Critical Threat, Asset, and Vulnerability Evaluation (OCTAVE), OCTAVE Allegro dalam mengenalpasti aset kritikal dan beberapa model pengurusan maklumat. Bencana, samada semulajadi dan buatan manusia, boleh berlaku pada bila-bila masa atau di mana saja. Penyelidikan mengenalpasti keperluan maklumat sebenar di sistem e-learning UTM dengan mengenalpasti siapa yang memerlukan maklumat dengan menyusun perancangan yang baik dan diaudit secara teratur yang boleh pergi jauh ke arah mencegah bencana. Akhirnya, satu audit bencana model untuk sistem itu adalah dicadangkan yang mencerminkan konsep maklumat kritikal itu bencana aset kawalan.

TABLE OF CONTENTS

CHAPTER	TITLE	PAGE
	TITLE PAGE	I
	DECLARATION	II
	DEDICATION	III
	ACKNOWLEDGEMENT	IV
	ABSTRACT	VI
	ABSTRAK	VII
	TABLE OF CONTENTS	VIII
	LIST OF TABLES	XII
	LIST OF FIGURES	XIII
	LIST OF APPENDICES	XIV
1.	PROJECT OVERVIEW	1
1.1.	Introduction	1
1.1.1.	Disaster approach	3
1.1.2	Audit Approach	4
1.2.	Background of Problem	5
1.3.	Statement of the Problem	7
1.4.	Project Objective	7
1.5.	Scope of the project	7
1.6.	Importance of the Project	8
1.7.	Chapter Summary	8

2. LITERATURE REVIEW	
2.1. Introduction	9
2.2 Overview of an Information Asset	11
2.2.1 Definition Of Information Asset	12
2.2.2 Identification and Classification of Information Asset	13
2.2.3 Critical Information asset	13
2.2.4 Risk Analysis / Assessment	15
2.2.3.1 Risk Analysis Models	17
2.3.2.2 Threat & Vulnerabilities	19
2.2.4 Identifying Critical Information Asset	21
2.2.4.1 OCTAVE Allegro Method	23
2.2.4.2 Managing Critical Information Asset	26
2.3 E-Learning System	30
2.3.1 The Introduction of E-Learning at UTM	29
2.3.2 E-Learning Stakeholders	31
2.4 Disaster Management	34
2.4.1 Definition of Disaster Recovery	34
2.4.2 IT Disaster Recovery Management	35
2.4.2.1 IT plan for Disaster Management	36
2.5 Information Audit	36
2.5.1 Definition of Information Audit	37
2.6 Auditing a Disaster Plan	38
2.6.1 Audit of an Existing Emergency Business Plan	39
2.6.2 Frequency of Audits	41
2.7 Chapter Summary	42
3. RESEARCH METHODOLOGY	
3.1 Introduction	43
3.2 Research Design	43
3.2.1 Defining the Research Questions	44
3.2.2 Determining the Research Approach	45
3.2.2.1 Deductive versus Inductive Research	45
3.3 Justification of Method	47

3.4	Project Methodology	49
3.4.1	Explore, generation of ideas	50
3.4.2	Identify data sources and sampling techniques	51
3.4.3	Validity and Reliability Assessment	52
3.4.4	Data Collection and Gathering	53
3.4.4.1	The questionnaire	53
3.4.5	Data Processing and Analysis	54
3.4.6	Data interpretation (synthesis)	55
3.5	Chapter Summary	56
4.	DATA COLLECTION	
4.1	Introduction	58
4.2	Organizational Analysis	59
4.2.1	Introduction to Universiti Teknologi Malaysia	59
4.2.2	UTM Organizational Structure	60
4.3	Data Collection	60
4.3.1	Survey Sampling	61
4.3.2	Questionnaire Design	64
4.3.2.1	Questionnaire Summary	64
4.4	Data Analysis Tools	66
4.5	Chapter Summary	66
5.	DATA ANALYSIS AND FINDINGS	
5.1	Introduction	67
5.2	Questionnaire Analysis	68
5.2.1	Questionnaire Findings	68
5.2.1.1	Questionnaire First Findings	68
5.2.1.2	Questionnaire Second Findings	77
5.2.1.3	Questionnaire Third Findings	80
5.3	Chapter Summary	82
6.	DISCUSSION ON THE FINDINGS	
6.1	UTM E-Learning Critical Information Asset	84

6.1.1	Assigning Values for Information Assets	84
6.2	UTM e-Learning Information Assets Storage Form	86
6.3	Potential Disaster (Threats) in UTM E-Learning System	87
6.4	Preparation for Information Asset Disaster and Auditing	90
6.5	Proposed Disaster Audit Model for UTM E-Learning	92
6.6	Information Assets Management Principles	95
6.7	Chapter Summary	96
7.	RECOMMENDATION AND CONCLUSION	
7.1	Introduction	97
7.2	Achievements	98
7.3	Constraints and Challenges	99
7.4	The Future Enhancements	100
7.5	Chapter Summary	100
	REFERENCE	101
	Appendix A – F	104 – 127

LIST OF TABLES

TABLE NO.	TITLE	PAGE
4.1	Target Respondent II (Instructors) Ten Most Active Lecturers and Challenges	62
4.2	Target Respondent III (Students from the Faculties)	63
6.1	UTM e-Learning Critical Information Assets	85
6.2	UTM e-learning Potential Threats (disasters)	88
6.3	Possible Vulnerabilities to the Identified Threats	89
6.4	Summary of the Proposed Model Components	94

LIST OF FIGURES

FIGURE NO.	TITLE	PAGE
2.1	Literature Review Framework	10
2.2	Flow of risk analysis	17
2.3	The Relationship between Information Assets, Threats, Vulnerabilities and Existing Defences	21
2.4	OCTAVE Allegro Roadmap (Richard et' al 2007)	24
2.5	Comparism between OCTAVE Allegro and Adopted Steps	25
2.6	Information Management of an Organization (Gartner 2008)	27
3.1	Research Method	50
5.1	Most Frequent used Information Asset	70
5.2	Information Assets that have significant disrupt	71
5.3	Common Name for Critical Information Asset	72
5.4	Forms in Which Information Asset is Held	73
5.5	Information Asset Storage in Physical Form	73
5.6	Primary Responsibility for Critical Information Asset	74
5.7	Threats that Represents Serious Danger to Information Assets	76
5.8	Instructors' Information Asset Storage Form	78
6.1	Proposed Disaster Audit Model	93

LIST OF APPENDICES

APPENDIX	TITLE	PAGE
A	E-Learning Survey Questionnaire Set 1	104
B	E-Learning Survey Questionnaire Set 2	110
C	E-Learning Survey Questionnaire Set 3	114
D	Questionnaire Analysis Tables	118
E	UTM Organizational Structure	126
F	Gantt Chart	127

eLearning system, with the identification of the critical information assets. Furthermore, it will also highlight the potential disasters that might cause temporary or extended loss to one or more of critical information assets. Priority attention would be paid to identifying the critical information assets owner. This is done by for ensuring that information is classified and authorized by the information owner and also to establish and maintain a register/inventory to record the security classification of each critical information asset. This will be achieved by examining all the critical information assets and identifying those which are essential to UTM student eLearning system in the event of a disaster.

1.2 Problem Background

University Computer-based Information Assets are any information relating to the business or interests of the University. Examples of these assets include planning documents, reports on the activities of the University, letters, memos, research papers, course material, and results from experiments. The loss of these assets would represent a loss to the University and may in some circumstance damage the University in some way (including damaging its reputation). The prospects of e-learning are immense. It continues to grow at a tremendous rate both in education and training.

Electronic exchange of information takes place within individual organisations as well as between them, typically reducing communication delays. For example, separate business units within a company use email to transfer documents almost instantly, whereas in the past they had to rely on a comparatively slow internal mail system. Highly efficient intra-organisational workflows are now possible through electronic communication.

However, these new forms of communication and commerce also present new dangers since they make an organisation's information assets subject to new threats. Access to vital assets may no longer be restricted to those who have a key for the lock of the door that protects a building. Electronic communication may make the whole world your market place; but there is a danger that it will also make the whole world your premises.

The disaster audit concept will start by identifying the critical information asset in the university computer-based information assets of the student information service; eLearning system. It is quite possible that the systems that receive, host, manipulate and transmit the organisation's information assets could be tampered. However, it is seldom to conduct a risk management which could identify the potential disasters that may cause temporary or extended loss to one or more of the critical information assets as well as developing and implementing cost-effective countermeasures to cope with these disasters.

1.3 Problem Statements:

As describe in the problem background section, the current issue need to be addressed in this project are as below:

- How to identify the critical information assets for UTM e-learning system?
- How are the critical information assets stored and retrieved?
- How the eLearning information assets are held?

1.4 Objectives of the Project

- To identify the critical information asset for UTM
- To identify the forms of which the Information Asset (records) are held.
- Identifying potential disasters that may cause temporary or extended loss to one or more of UTM students' eLearning systems.
- To develop and proposed a critical information asset disaster management audit model

1.5 Scope of the Project

The scope which identifies the boundaries of this project is:

- To study the Computer-Based Information system that support core business in UTM administrative services that is student Information System (E-learning)
- The study will only focus on the key and high level characteristics identified by means of the research methodology and approach followed.

1.6 Importance of the Project

This project is important for Universiti Teknologi Malaysia (UTM) e-learning system in terms of:

- Controlling, protecting, delivering, and enhancing the value of data and information assets within the department.
- Recognising the dependence of most business upon Information and Communication Technology (ICT) infrastructure and the quantity, quality and availability on the information.
- Minimising the likelihood and impact (risk) of interruptions
- Ensuring the e-learning stakeholders know that every action they perform against the database can be audited.

1.7 Chapter Summary

The critical information asset (CIA) is basically the circulatory and nervous system of the organization. Instead of focusing on technology as a cost or expense, organizations can really begin to change this focus by understanding and utilizing the value of their data information asset. There is a huge opportunity to collect, store, transform and present information and knowledge to users to increase the effectiveness of reporting and decision making across the organization and at all levels.

Research regarding critical information asset will be explored to determine the systematic steps that can be applied in the event of disaster recovery using disaster audit approach in UTM e-learning system. Appropriate questions will be created based on the core processes to identify the critical information asset in the eLearning system. The management audit model will be developed to help in managing information after conducting CIA disaster audit, based on the information provided by the UTM, students' e-learning stakeholders, which e-learning service administrators, instructors and students.

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