# Security of An Organization's Information in the Digital Age

by

## Nurehan Azwana Khairu Din (2000497697)

In partial fulfillment of the requirements for the degree of Master of Science in Information Management

Faculty of Information Studies University Technology MARA

SMM 850 Independent Study

7 Disember 2001

### **Table of Content**

Table	of Content i	į
Acknowledgement		iii
Abstra	ict	V
Keywo	ords	iv
List of Figures		V
1.0	<ul> <li>1.1 Scope of the Paper</li> <li>1.2 Methodology</li> <li>1.3 Definition of Digital Information Security</li> <li>1.3.1 Definition by Authors of Books/Monographs on Information Security</li> <li>1.3.2 Definition by a Consultants of an Information Security Programme</li> </ul>	1 2 3 3 3
		6 7
2.0	<ul> <li>2.1 Protection of Confidential Information</li> <li>2.2 Prevention of Computer Misuse</li> <li>2.3 Maintaining Data Integrity and Authenticity</li> </ul>	8 9 11
3.0	<ul> <li>3.1 Information Life Cycle</li> <li>3.2 Electronic Records Life Cycle</li> <li>3.3 Cycle of Valued Information</li> <li>1</li> </ul>	12 13 15 16 17
4.0	4.1 Physical Access Control 4.1.1 Control on Sensitive Areas 4.1.2 Access Rights for each specified controlled area for each type of employee  1	8 8
	4.2 Logical Control 2 4.2.1 Software Control 2	92020

#### **Acknowledgement**

It would be impossible to complete this independent study without the assistance of many individuals who so generously volunteered their time and attention. Special thanks for the advisor Assoc. Prof. Ms. Fuziah Mohd Nadzar for her guidance throughout the completion of this paper. Her helpful comments and suggestions are very much appreciated. Thanks also to the librarians of various libraries around Kuala Lumpur namely; PTAR 1 and 2, National Library of Malaysia, National Archive, UM, UKM and UIAM libraries. Lastly, I would like to express my appreciation to those who helped me one way or another contributing to the completion of this paper especially the colleagues of IS 770 programme. Thank you.

#### **Abstract**

Information is the focus in today's world. It is regarded as a resource, power and commodity. With the advancement of technology, information is able to be stored in digital form. This technology brings both positive and negative implications to the users. Among the highlighted issues regarding digital technology is the security of the information. Thus, this paper will discuss the security of digital information in an organisation which will cover the background of digital information security, its importance, security measures and relevant issues. The discussions are from the non-technical perspective and the methodology adopted is library research.

#### Keywords

Digital information, computer security, information security, information security measures

#### 1.0 INTRODUCTION

The problem of information security has changed in the digital era. Society and business organizations are becoming dependent on computer and data resources in their daily transactions. Thus, dependency on computer for its functions may affect human life when the computer systems fail or experience serious destruction.

Moreover, in today's world, business organisations cannot avoid themselves from permitting organisational information systems to be connected to the Internet because it has moved from being the communication tools of the experts to the primary route of information exchange for everyone. The Net consists of a large number of computers connected by wires that carry data. Permitting organisational computer networks to access the Internet opens the door for an attack from a huge number of people on the Internet, which extend throughout the world.

A computer system that has no access to the outside world is the safest because it is under the control of local users. Connecting the organisation's computer or Intranet means that this control is lost as the number of people gaining access is tremendously increased.

In 1993, a survey of 246 companies in the US was conducted which revealed that the monthly rate of incidents involving the theft of proprietary information rose 260 percent from 1985 to 1993. In another survey carried out in the same year, 98.5 percent of the respondents indicated that their businesses had been victimized by computer criminals, with 43.3 percent reporting that they had been victimized more than twenty-five times.

Furthermore, it was reported that in 1991, computer crimes cost an estimated 2.5 billion pounds annually in the UK. While the losses in the US was now estimated at \$10 billion.