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Eastern University, Sri Lanka
Faculty of Commerce and Management
First Year - First Semester Examination in Master of Business
Administration - 2018/2019 (August 2019) (Proper/Repeat)
MBA 1033 Managing Information and Technology

Answer All Questions

Time: 03 Hours

Q1. Read the following Case Study and answer the questions given below.

Organisations can improve their efficiency by using computer technology. Government institutions handling especially a large volume of data can use technology effectively to make things easy for people. However, bureaucracy, inefficiency and corruption coupled with lack of IT skilled top officials make things worse and the institutions lose valuable data within a few seconds creating serious issues in government service.

The Department of Motor Traffic (DMT) faced a similar crisis recently and the computer system in the department was paralysed for nearly one week bringing all work in the department to a standstill. Fortunately the data in the database had not been deleted as reported by some media, sources said.

After the crisis officers accused one another in the media and this demonstrated the lack of coordination and bureaucracy that prevailed in the department. According to media reports the IT personnel in the department attempted to blame the Commissioner and the Assistant Commissioner (IT) for it. The Sunday Observer learns that this was a result of many issues by various officials including IT personnel.

The DMT case is an example how poorly the government institutions use computer technology and the associated risk therein. The DMT is one of the main institutions that brings a large amount of revenue to the government and its data base is very important in many aspects including national security.

After the computer system failed, the DMT called for assistance from the Sri Lanka Computer Emergency Response Team (SLCERT) of the ICTA. The SLCERT report said that the DMT was very fortunate to survive a major catastrophe, due to the early detection of the problem.

The report highlighted key issues in the DMT computer system. The report said that the system doesn't have a firewall system or up-to-date antivirus protection between the client and the server. The antivirus application was last updated in December 2004. There are no policies with regard to information security such as password policy, shared access policy, backup policy and disaster recovery policy in the system.

The client machines can access the shared folders in the application server without any authentication. The report also highlighted the bureaucracy in the administration and said that there is a distinct lack of cooperation between the IT team and the management, making coordination of recovery activities difficult. There is resistance to change within the team, which impedes the introduction of a solution, the report said.

The report said that the viability of Windows NT use in the system needs to be re-examined by the DMT. Windows NT is an outdated platform and it has limited security features. Currently the vendor Microsoft does not support the Windows NT platform, it said.

The SLCERT team detected that the victim machine was infected by a Worm (CME) which attacks security applications and attempts to disable antivirus applications. CME activates and overwrites files with the extensions on the third of every month at a time scheduled via a command.

Since the worm contains a backdoor to the infected system it may not be removed by an antivirus application or a removal tool. It spreads through file sharing over the network and utilises aliases to confuse victims about its identity. It writes system registry keys so that any deleted files will be reactivated when the system is restarted, the report said.

Though the IT personnel of the department said that the virus infection came from the internet, the report said that the network is isolated and has no internet or email connection. The possible infection media could be USB drive, floppy disk or a CD.

The SLCERT has made the following recommendations to be implemented immediately:

- * Remove all machines from the network, including the server. Install and run up-to-date antivirus software on the server and clients before connecting them to the network. The worm has built-in backdoors and other components that will not be detected by current applications and highly recommended total system backup of the application server is necessary.

- * Long and medium term recommendations of the SLCERT are important for government institutions handling a similar network. It recommends to replace the Windows NT server with a current server platform such as Windows 2003 server. The report also recommends the installation of firewall and limits access between the clients and the server.

It also recommends obtaining genuine, licensed versions of Microsoft Windows for all machines and to formulate and enforce regular update policy. It is learnt that all machines used by DMT are assembled machines with no brand and the software running on them are copied.

- * For virus protection, it recommended to formulate a software update policy and keep virus definition files up to date.

The DMT is a key government agency and if it maintains the computer system in a proper manner we wonder how other institutions perform. The government is planning a central governance that computerizes all departments and connects them to one network. This case shows how poorly these already computerized institutions maintain their systems. DMT lapse also stresses the need for close monitoring by independent government institutions such as the ICTA (Source: Sundayobserver.lk).

Case Study Questions:

- (a) Develop a mind map for the above actual incident happened in DMT, Sri Lanka.

- (d) Read the following abstract and discuss your views on the findings of the study.

Abstract

This paper examines the existence of diversity between public-and private-sector establishments in Green Information Technology (GIT) adoption using the 'Technology Acceptance Model' (TAM). In this study, GIT simply refers to using IT in ways that help to reduce environmental impacts, which include using energy more efficiently and reducing waste. The model is extended to include the external variables as subjective norm and the level of GIT awareness. For this purpose, a survey was conducted among professionals from public-and private-sector establishments. The findings suggest the following: (1) Diversity exists among establishments from public- and private-sectors in the influence of the Perceived Ease-of-Use (PEU) on Perceived Usefulness (PU) and on the Attitude Towards Use (ATU); (2) Most of the public-sector professionals have concerns for environmental sustainability in using IT; (3) TAM is an important tool for investigating the specific barriers and facilitators of environmental behaviour at work; (4) TAM has a have significant predictive power in public -sector establishments; and (5) TAM is significant for private-sector establishments except the relations between the PEU and PU, and PEU and ATU.

(05 Marks)

(Total 20 Marks)

Q5.

- (a) "The major ethical, social, and political issues raised by Information Systems include the several moral dimensions". **List out** at least **five** such dimensions. (05 Marks)
- (b) **Identify** one Social or Ethical Issue related with Information Systems in Sri Lankan context and **explain** that issue by using above mentioned (a) dimensions. (05 Marks)
- (c) What is cybersecurity? Briefly explain cybersecurity framework? And Identify its key elements. (05 Marks)
- (d) **Explain** the actual steps in starting e-commerce or e-business or digital business in Sri Lanka. (05 Marks)

(Total 20 Marks)