Management Information Systems – ASSIGNMENT TWO

FEEDBACK LETTER
In general most students did well in this assignment. A few had difficulties here and there especially on questions that were in two parts e.g question 2. In case of 2 part questions to attain full marks students should learn to meet the demands of the questions.

FEED BACK LETTER – ASSIGNMENT TWO

ASSIGNMENT 02
This assignment covered the following units/modules/topics

2. eCommerce
3. Developing and implementing information systems
4. Security and information systems auditing
5. Ethical, social and privacy issues in information systems

1. Why is data mining an important business tool? [3 marks]

Data mining provides insights into corporate data that cannot be obtained with OLAP by finding hidden patterns and relationships in large databases and inferring rules from them to predict future behaviour. The patterns and rules are used to guide decision making and forecast the effect of those decisions. The types of information obtained
from data mining include associations, sequences, classifications, clusters, and forecasts.

2. What types of information does data mining produce? In what type of circumstance would you advise a company to use data mining? [5 marks]

Data mining finds information such as:

• Associations or occurrences that are linked to a single event.

• Sequences, events that are linked over time.

• Classification, patterns that describe the group to which an item belongs, found by examining existing items that have been classified and by inferring a set of rules.

• Clusters, unclassified but related groups.

I would advise a company to use data mining when they are looking for new products and services, or when they are looking for new marketing techniques or new markets. Data mining might also be helpful when trying to analyze unanticipated problems with sales whose causes are difficult to identify.

Data mining is one of the data analysis tools that helps users make better business decisions and is one of the key tools of business intelligence. Data mining allows users to analyze large amounts of data and find hidden relationships between data that otherwise would not be discovered. For example, data mining might find that a customer that buys product X is ten times more likely to buy product Y than other customers.
3. Describe the three capabilities of database management systems:
   a. data definition,
   b. data dictionary,
   c. data manipulation language. [9 marks]

A DBMS includes capabilities and tools for organizing, managing, and accessing the data in the database. The principal capabilities of a DBMS include data definition language, data dictionary, and data manipulation language.

- The data definition language specifies the structure and content of the database.
  Specifies structure of database content, used to create tables and define characteristics of fields

- The data dictionary is an automated or manual file that stores information about the data in the database, including names, definitions, formats, and descriptions of data elements.

- The data manipulation language, such as SQL, is a specialized language for accessing and manipulating the data in the database.

4. Discuss six features of e-commerce that makes it different from traditional retailing.
• E-commerce technology is **ubiquitous**, meaning that it is available just about everywhere a computer can connect to the Internet.

• It has **global reach**, permitting commercial transactions to cross cultural and national boundaries far more conveniently and cost effectively than is true in traditional commerce.

• It operates according to **universal standards** shared by all nations around the world, whereas most traditional commerce technologies differ from one nation to the next.

• It provides information **richness**, enabling an online merchant to deliver to an audience of millions complex and rich marketing messages with text, video, and audio in a way not possible with traditional commerce technologies, such as radio, television, or magazines.

• It is **interactive**, meaning it allows for two-way communication between merchant and consumer and enables the merchant to engage a consumer in ways similar to a face-to-face experience but on a much more massive, global scale.

• It increases **information density** (the total amount and quality of information available to all market participants).

• It permits **personalization and customization**—merchants can target their marketing messages to specific individuals by adjusting the message to a person’s name, interests, and past purchases.
5. **Discuss why wireless networks are more susceptible to security problems and how businesses can protect them.**

   Radio frequency bands are easy to scan.

   Signals are spread over a wide range of frequencies.

   Service set identifiers (SSID) are broadcast multiple times and are easily picked up.

   Rogue access points can be established on different radio channels and divert signals from authentic points.

   Wired equivalent privacy (WEP) isn’t very effective because it relies on user input.

   Stronger encryption and authentications systems for Wi-Fi than the original Wired Equivalent Privacy (WEP) are included in newer computer models. Wi-Fi Protected Access (WPA) improves security on wireless networks but individual users still carry the responsibility to make sure passwords are changed from the original and encryption systems are used to help protect data.

6. **Discuss the security issues associated with cloud computing and what cloud users should do about them.**

   Cloud users are still responsible for their data, how it’s processed and stored, and how it’s transmitted. Most cloud providers will not assume security risks for user data. Some of the ways cloud users can address these issues is to develop a service level agreement that includes documentation addressing security issues and make sure they understand what they will be responsible for versus what the cloud provider will do.
7. Why is it important to pay close attention to mobile application development and why is it better to use responsive Web design for mobile apps? [4 marks]

- Because mobile devices have a much smaller screen size, it’s easier to use fingers and multi-touch gestures rather than a keyboard to maneuver through websites and applications.

- Mobile apps must be optimized for specific tasks but not too many. Saving resources like bandwidth, screen space, memory, processing, data entry, and user gestures is a top priority.

Website designers must design the sites specifically for mobile interfaces and create multiple mobile sites to meet the needs of smartphones, tablets, and desktop browsers. Responsive web design enables websites to automatically change layouts according to the visitor’s screen resolution, whether on a desktop, tablet or smartphone. A mix of flexible grids and layouts, flexible images, and media queries that optimize the design for different viewing contexts is necessary. Users across a broad range of devices and browsers will have access to a single source of content, laid out to be easy to read and navigate with a minimum of resizing, panning, and

8. How do you think our government should handle the political issue of Internet decency and access limitations? Should our government monitor our internet usage? [4 marks]

This was an opinion question. Answers would vary. Some would feel that privacy of citizens is important. However some felt that measures should be put in place to monitor
internet usage by citizens. Given that there are now so many terror acts governments use surveillance programs to weed out would be offenders.

9. Read the case below and answer questions that follow

CASE STUDY
Hackers violate The Namibian's website over rhino licence
News - Namibia | 2014-01-08

SHINOVENE IMMANUEL and NDAPEWOSHALI SHAPWANALE
NAMIBIAN websites are under threat from hackers disgruntled with government's decision to allow an American safari club to kill rhinos in the country.

The Ministry of Environment and Tourism announced at the end of last year that they had obtained a five-year approval from Cabinet to sell five black rhinos yearly for trophy hunting. Among the targeted websites by an international group called Anonymous is The Namibian newspaper's which has been mistakenly linked to the government.

The group Anonymous has carried out a series of well-publicised stunts where they attacked governments, religious, and multinational companies' websites in the past.

By yesterday, the group had accessed The Namibian newspaper's website, extracted sensitive information, which they pasted on other internet sites for other hackers to use in further defacing and interrupting the flow of information. Another website that was hacked belongs to Just Holidays Namibia which was violated on Monday but had, by yesterday afternoon, been restored. The website ends with .na.

Siska Murgatroyd, who co-owns Just Holidays Namibia yesterday said they were waiting for advice from their website developers on how to protect themselves from hacking in the future.

In a tweet which it sent out yesterday, the group threatened to attack all websites that end with gov.na, .na, co.na, na.org. Among those under threat is the Office of The President and several government ministries.

“This is just a warning to Namibia, Release our beloved Rhino now!” the group warned in the tweet.

In a video posted on its website - www.freeronnie.operationfunkill.org - the group said it was “cruel punishment” to kill rhinos on the pretext of conservation.

“We have been watching you, and we do not agree with the cruel punishment you're allowing to happen inside of your country. The fact that you allow five black rhinos to be
hunted each year as part of a conservation programme is preposterous, not to mention you believe your own lie that it'll boost the long-term survival of the species,” the group said in the video.

Namibian newspaper online editor Johnathan Beukes said it is unfortunate that this group does not know the difference between a government and an iconic independent newspaper.

“So far they’ve not done much damage. There are clear signs that they’ve managed to gain access to our data, some of which is sensitive, and pasted it online,” Beukes said.

Deputy Minister of Environment and Tourism Pohamba Shifeta yesterday the hackers should understand that government was not violating any laws.

He also said government would stick to its programme because it is being done in a sustainable manner, which brings money for future conservation initiatives.

“Rhinos are our resources and we not violating any laws. They must just understand that we will continue doing what we are doing and they should also know that with our rhino population, harvesting is part of our programme,” he said.

The black rhino is scheduled to be auctioned during the Dallas Safari Club Annual Convention, which takes place from tomorrow until the 12th of this month to raise US$1 million for endangered black rhinos.

Questions

a) Which site or sites were attacked by the Hackers? [2 marks]
   Just Holidays Namibia and the Namibian

b) The actions of these Hackers may be considered ethical by some, what is your opinion? [2 marks]
   An opinion question, some consider Ethical Hackers doing good to community whilst some border on the fact that unauthorised hacking is unethical

c) Describe the security breach that occurred in short and the likely effects of this breach? [3 marks]
   This was a data breach an unauthorised access to a system. This data breach exposed information that is sensitive and confidential. It affects the website owners as well as stakeholders.
d) What technical advice would you give in the above scenario to prevent future attacks? [4 marks]

Websites have to have to be kept secure from such attacks. When information is stored it must be encrypted and kept safe. Anti-intrusion and detector systems can be installed so that should a breach occur they immediately know about it. Intrusion detection systems can be an early alert in case an intrusion happens.

[THE END]