



**PAN AFRICA CHRISTIAN UNIVERSITY  
END TERM EXAMINATION  
MASTERS ONLINE EXAM**

**DEPARTMENT: BUSINESS  
COURSE CODE: MBA 510  
COURSE TITLE: MANAGEMENT INFORMATION SYSTEMS  
TIME: 2HRS**

**SECTION A: COMPULSORY QUESTION**

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**CASE STUDY**

Tchibo is a German coffee roaster and seller that also sells an ever-changing array of about 3,000 products, including clothing, furniture, household goods and electronics. The company is at risk of encountering logistics challenges in managing supply and demand of the various products it handles, according to a recent case study conducted by the company. In response, Tchibo decided to work with Google Cloud to use its AI capabilities to build an on-demand forecasting system. Using Google's Vertex AI, Tchibo built a system called Tech-Donkey which it can feed with more than three years' worth of product, marketing, sales and logistics data. The system used a temporal fusion transformer model, like the transformer architectures responsible for large language models (LLMs), to predict online demand for its products up to 84 days in advance. The system helped the company manage its warehouse, reduce the time employees spend on logistics and see which products might be popular enough to bring back. "We have been using our developments to deliver reliable and rapidly scalable data and AI services at enterprise level for some time now," says Marcel Knust, head of data science and AI, Tchibo.

*This Case Study is an excerpt from: AI Case Studies by Neil Savage*

**REQUIRED** Based on the case study above

- a) Discuss how the benefits Tchibo realized by developing the Tech-Donkey System were able to address the logistic challenges experienced by the company. **(5 marks)**
- b) Referring to what you learnt about systems in this course, explain what features of the system could have been included in the Tech-Donkey System to bring about each benefit identified in question (a). **(5 marks)**

**SECTION B: [ANSWER ANY THREE QUESTIONS FROM THIS SECTION]**

**QUESTION TWO**

- a) Discuss at least **five (5)** characteristics of valuable information. **(5 marks)**
  
- b) Computer networks are essential for data communication to take place inside and outside the organization. Explain that the function of any **five (5)** necessary components of a network. **(5 marks)**

**QUESTION THREE**

- a) The evolution of E-Commerce has drastically changed how business operate and how customers consume goods and services. Outline the benefits and the challenges of e-commerce to both the perspective of the business and as well as the customer. **(5 marks)**
  
- b) Those who spend several hours a day for many years in front of a computer may suffer many negative consequences. Expose at least **five (5)** negative consequences of extensive computer usage and further offer practical solutions for each. **(5 marks)**

**QUESTION FOUR**

Data management has become necessary for survival in business.

- a) Differentiate between the File System and Database System in data management. **(2 marks)**
  
- b) Highlight the preferred way of managing data revealing the advantages of this system of data management. **(3 marks)**
  
- c) Discuss the stages of the System Development Life Cycle. **(5 marks)**

**QUESTION FIVE**

- a) Reveal the levels of decision making and their environmental characteristics. **(5 marks)**
  
- b) Describe how the Management Information System (MIS) can aid in decision making in each decision making level. **(5marks)**

**QUESTION SIX**

- a) Explain what is an Enterprise Resource System (ERP) and further bring out any five (5) types advantages and disadvantages of the ERP. **(5 marks)**
  
- b) Distinguish between characteristics of information needs at Operational Level versus information needs at Strategic Level systems. In each case give examples of systems that can be used to support these informational needs. **(5 marks)**

**THE END**