Strathmore UNIVERSITY

STRATHMORE UNIVERSITY BUSINESS SCHOOL

BACHELOR OF SCIENCE IN SUPPLY CHAIN & OPERATIONS MANAGEMENT
END OF SEMESTER EXAMINATION
BBT 2204: BUSINESS INFORMATION SYSTEMS IN THE SUPPLY CHAIN

DATE: 14th December 2023 **Time: 15:30-17:30 hours**

Instructions:

1. This examination consists of **FIVE** questions.
2. Answer **Question ONE (COMPULSORY)** and any other **TWO** questions.

Carefully read through **Case Q.1** below. You will use it to answer various questions in this exam.

Elimu University is an institution of higher learning in one of the countries in the African continent. The university offers various competitive programs and is one of the highly ranked in its country. Elimu University has a student population of over 4,000 students and over 400 lectures. The institution not only prides itself in offering competitive programs but also in producing high quality, responsible and well-balanced graduates. Among the many activities that the institution offers is a right to representation of students by a students' council that is elected by the students. To ensure fair representation Elimu runs a poll annually to allow the student body to elect their preferred candidates. Currently, the voting is done through their Learning Management System (LMS). The LMS interface lists various positions and the candidates who have been cleared to vie for those positions. Despite having a portal for voting, the voting process has faced some challenges as the student population has increased over the years. These challenges include; (1). The LMS 'crashing' after a number of students have cast their vote locking out those students who wish to vote (2). The LMS taking too long to authenticate the voters (3). The LMS taking too long to display the list of candidates (4). Occasional poor internet connection leading to loss of access to the LMS even on voting day. These and many other challenges have led to feelings of frustration by those wishing to vote and candidates who hoped to emerge winners of their respective elective positions.

You are in a small team that has been tasked to help Elimu University find a solution to the address the challenges of the voting system.

Case Q.1

Question One [30 marks]

a) Refer to **Case Q.1**. In order to acquire a software for the voting process requirements must be collected and be clear. If the requirements are not clear, then the end product (software/system) will not meet the user's expectations and hence the project will have failed

   i. In the context of software development, define the term: 'requirement' **[1 mark]**

ii. There are various requirements that should be collected before a system is acquired. These include: user requirements, business requirements and systems requirements. Differentiate between a user requirement and a system requirement **[2 marks]**

iii. Based on your understanding of **Case Q.1**, give ONE example of user requirement and ONE example of a system requirement. *You may make assumptions since the information provided in the case is scanty*. **[2 marks]**

iv. Based on **Case Q.1**, discuss any TWO methods/techniques you would use to collect user requirements in order to construct the proposed solution. *Your answer should identify each method, briefly describe it and provide FOUR benefits and FOUR drawbacks of the identified method*. **[11 marks]**

b) During software project identification and selection various criteria can be used to rank projects and then finally select the most viable.

i. Identify and briefly describe any FIVE criteria that could be used to classify and rank information system/software project ideas. **[5 marks]**

ii. Identify and briefly describe any THREE outcomes of the software project selection process. **[3 marks]**

c) Refer to **Case Q.1.** You and your team have been tasked to investigate and report back on various ways of acquiring a new voting software for Elimu university 's scenario represented in **Case Q.1** above. Briefly discuss ONE way in which Elimu university could acquire the voting software for the student council. *Your answer should identify the method, briefly describe it and provide TWO benefits and TWO drawbacks of the method*. **[6 marks]**

Question Two [15 marks]

a) There are various types of information systems found in business. These include: management information systems (MIS), Transaction Processing Systems (TPS), Decision Support Systems (DSS), etc. Briefly discuss Transaction Processing Systems (TPS). *Your answer should include a description of the system and one example.* **[5 marks]**

b) "Becoming data-driven goes beyond installing the suitable applications and tools, hiring a dedicated team of data professionals, committing to a significant data infrastructure investment, or running a one-off data literacy program — *it's more about making data and analytics a fundamental part of your business strategy, organizational culture, processes, and throughout all echelons"*- Abraham Enyo-one Musa

i. What are '*data driven organisations*? **[1 mark]**

ii. In the context of today's world of business, to what extent do you agree or disagree with Abraham Enyo-one Musa's statement above? Discuss. *You may include examples if you wish to help you illustrate.* **[3 marks]**

c) If successfully implemented data warehousing can result in various benefits to an organisation. However, some drawbacks can also emerge. Discuss any THREE advantages and THREE drawbacks of data warehousing to an organisation. **[6 marks]**

Question Three [15 marks]

a) In the planning phase of the Software Development Life Cycle (SDLC), a feasibility study of the proposed solution must be conducted.
   i. In the context of SDLC, what is a feasibility study? **[1 mark]**
   ii. Differentiate between operational feasibility and schedule feasibility **[2 marks]**
   iii. Briefly identify and describe any TWO risks that should be considered when assessing technical feasibility. **[4 marks]**

b) In assessing economic feasibility, a cost benefit analysis of the proposed solution is conducted. Some of the costs assessed can be categorised as tangible or intangible, fixed or variable, one-time or recurring while the benefits can be categorised as tangible and intangible.
   i. Differentiate between tangible benefits and intangible benefits. Include ONE example of each in the context of the SDLC **[3 marks]**
   ii. Differentiate between fixed and variable costs. Include ONE example of each in the context of the SDLC. **[3 marks]**

c) In your own words, explain how the content you have learnt in this unit relates to supply chain and operations management**. [2 marks]**

Question Four [15 marks]

Refer to the scenario in **Case Q.1**.

a) Assume that you and your team have been tasked to investigate and provide a pictorial presentation of the prospective system's user requirements
   i. Identify any TWO actors of the proposed system. *Be careful to name them correctly based on user role.* **[1 mark]**
   ii. Identify the actions (use cases) of each actor identified in (a)i. above. **[3 marks]**
   iii. Using the information in **Case Q.1**, and your answers in (a)i and ii. above provide a use case diagram of the proposed system. *Ensure to follow the required diagramming rules*. **[4 marks]**

b) Explain any FIVE interface design principles that you would follow when creating the new voting system for Elimu University**. [5 marks]**

c) Regardless of the design, Elimu University's proposed system should provide 'good information'. Explain any TWO characteristics of 'good information' **[2 marks]**

Question Five [15 marks]

a) Once an information system has been implemented, post implementation evaluation is expected to take place
   i. Explain the goal of post implementation evaluation **[1 mark]**
   ii. Giving TWO reasons, explain why this phase is often ignored. **[2 marks]**

b) Describe the following software maintenance strategies. *Your answer should include the description and one example per strategy.*
   i. Adaptive [**2 marks]**

ii. Preventive [**2 marks]**
iii. Perfective [**2 marks]**
iv. Corrective [**2 marks]**

c) Giving FOUR reasons explain why a company may choose to dispose-off an existing system or software. **[4 marks]**