



STRATHMORE BUSINESS SCHOOL

BACHELOR OF SUPPLY CHAIN AND OPERATIONS MANAGEMENT

END OF SEMESTER EXAMINATION

**SCM 3201: BUILDING MINING CONSTRUCTION METALS AND AUTOMOTIVE
SUPPLY CHAINS**

DATE: Thursday, 19th December 2024

TIME: 13:00 – 15:00

INSTRUCTIONS

- 1) Answer **QUESTION ONE** and any other **TWO QUESTIONS**
- 2) Question one is compulsory and carries **30 marks**
- 3) All other questions carry **15 marks each**

Question One

(30 marks)

- a) Mason (n.d.) argues that the construction sector can benefit from adopting certain practices in the value chain to enhance its success. The following are some of the areas that some new practices can be adopted and current ones enhanced.

Required:

- i). Identify two areas at the company level as brought out by Mason et al and explain how they could be adopted and utilised for a construction supply chain that you are familiar with. **(4 marks)**
 - ii). Identify one area at the sector/industry level OR at government level as brought out by Mason et al and explain how it could be adopted and utilised for a construction supply chain that you are familiar with. **(2 marks)**
- b) Sustainability and greening of the supply chain is now the mainstream topic in global discussions. All industries have made efforts to incorporate sustainability in their strategies and operations.

Required:

Explain two sustainability practices and how they have been applied in the following supply chains.

- i). Mining **(5 marks)**
- ii). Building and Construction. **(4 Marks)**

Note: If you have the same technology/practice, bring out only those implemented differently in the supply chain of each and show how that difference is manifested.

- c) Building and construction Supply chains may have characteristics that are unique.

Required:

- i). Explain **two** differences between Building and Construction supply chains and other supply chains such as manufacturing supply chains. **(4 marks)**
 - ii). For the **two** differences described above, explain how the management of the supply chain would need to be adjusted so that optimal performance is attained for the supply chain of building and construction. Justify your answer. **(5 marks)**
- d) The adoption of technology has really enhanced the performance of virtually all the supply chains regardless of sector. The mining, automotive and building and construction supply chains have as well adopted many technologies that result in data being collected in large quantities among other information system related outcomes. The data and other technology adoption consequences have created some ethical concerns on technology adoption.

Required:

With reference to the three sectors and giving examples drawn from the three sectors,

- i). Explain any **three** ethical concerns arising from technology adoption. **(3 marks)**
- ii). Suggest solutions or ways of avoiding negative results from the three concerns raised in part (i) above. **(3 marks)**

Question Two

(15 marks)

We are said to be living in Industry 4.0 which encompasses many technologies. The Automotive sector has not been left behind and has adopted many of the technologies at various stages of the supply chain.

Required;

Take at least five stages of the supply chain and explain how the Industry 4.0 technologies have been incorporated and their respective contributions to the mining industry. **(15 marks)**

Question Three

(15 marks)

- a) The building and construction Sector environment has recently been dogged with a number of internal challenges.

Required:

- i). Explain **three** of the most prevalent internal challenges within the industry. **(6 marks)**
- ii). Explain how each of these internal challenges can be overcome **(5 marks)**

- b) Rarely would you get all the materials needed in construction being available in the country, this means that the building and construction sector is by nature global. Outline three challenges that arise from a global supply chain in the context of the building and construction sector. **(4 marks)**

Question Four

(15 marks)

There are 4 distinct phases of the mineral value chain, each with their own typical procurement and supply chain requirements.

- These include:
 1. Exploration
 2. Development
 3. Operations
 4. Closure

Required:

Using a mineral of your choice explain the similarities and differences that exist in the supply chains at the different phases of the supply chain bringing out what you would consider the areas that should be held in focus for each of the phases. **(15 marks)**

Question Five

(15 marks)

- a) Technology has been adopted in the automotive supply chain in a big way. Some of the technologies include electric powered vehicles and driverless vehicles. In some countries the driverless vehicles are already in operation.

Required:

- i). Discuss any **two** opportunities in the supply chain occasioned by the use of driverless and or electric vehicles. **(5 marks)**
 - ii). Discuss any **two** challenges you envision to the supply chain of an organisation in a developing country occasioned by the use of driverless and or electric vehicles. **(5 marks)**
- b) Risk management is an integral part of management of any supply chain. It is said that many supply chains exhibit the domino effect hence the need to take care of risk in any supply chain especially issues that are industry wide.

Required:

Explain how the domino effect may manifest in the automotive supply chain using an example of your choice. Outline ways of minimising preventing the effects from being so pervasive. **(5 marks)**