STRATHMORE BUSINESS SCHOOL

BACHELOR OF SCIENCE IN SUPPLY CHAIN AND OPERATIONS MANAGEMENT

SPECIAL EXAMINATION

SCM 4206: TEXTILE, APPAREL AND FOOTWEAR SUPPLY CHAIN

DATE: Thursday, 7th May 2026 **TIME:** 10:00 – 12:00

Instructions

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

QUESTION ONE

Michael Kiplangat stared at the WhatsApp message from one of his largest Nairobi retailers: *"We're returning 120 pairs. Customers are complaining about delayed restocks and inconsistent sizes. If this continues, we'll reduce your shelf space next month."*It was 9:15 a.m., and the weekly distribution review call was about to begin. On his laptop screen were two dashboards that refused to agree with each other. One showed rising demand for Nguorefu's African-inspired footwear across both Nairobi and Mombasa. The other showed growing fulfillment gaps—late deliveries, stock imbalances, and an increasing number of returns. Growth, once a sign of momentum, was now exposing cracks across the supply chain.

Nguorefu had started as a small distribution business connecting local footwear manufacturers in Mombasa County with urban retailers. The model was simple: source handcrafted and semi-industrial African-inspired shoes from multiple small manufacturers, aggregate them, and distribute to retailers in Mombasa and Nairobi. Over time, Nguorefu built a reputation for unique designs, competitive pricing, and supporting local producers. Retailers appreciated the variety; customers responded to the cultural authenticity.But beneath the surface, the system had always been loosely coordinated. Most manufacturers operated independently, producing in small batches with varying quality standards, lead times, and sizing consistency. Nguorefu's role had been to bridge these gaps through aggregation and distribution. As demand grew, that role became more complex.

The first signs of strain had appeared three months earlier. A promotion in Nairobi drove a surge in demand for a popular sandal line. Nguorefu quickly ran out of stock and rushed to place replenishment orders. However, the original manufacturer could not scale production immediately. Another supplier attempted to replicate the design, but the sizing differed slightly, leading to customer complaints and returns. What began as a stockout problem turned into a quality and brand issue. At the same time, logistics costs were rising. Transporting mixed batches of shoes from multiple small workshops in Mombasa to a central warehouse, then onward to Nairobi, created inefficiencies. Trucks were often underutilized on outbound trips and returned empty. Fuel price increases further squeezed margins. To cope, Nguorefu began consolidating shipments less frequently, but this led to longer lead times and more frequent stockouts at the retail level.

During the call, the operations assistant reported that over 30% of SKUs were either overstocked or understocked. Some designs were sitting in the warehouse for weeks, tying up cash, while fast-moving items were consistently unavailable. The finance officer added that working capital was tightening due to increased inventory holding and rising transport costs. Meanwhile, two manufacturers had complained about delayed payments, threatening to prioritize other buyers. Michael leaned back, recalling a recent conversation with a potential investor who had asked a simple question: *"Are you a distributor, or are you trying to control the supply chain?"* At the time, the question had seemed abstract. Now it felt urgent.

Several strategic options had emerged, each with implications across the supply chain. One option was to formalize relationships with a smaller number of manufacturers through contracts, standardizing production, quality, and lead times. This could improve consistency but risked excluding smaller artisans who contributed to the diversity of Nguorefu's offerings. Another option was to invest in centralized warehousing and inventory management systems, possibly including a Nairobi-based distribution hub. This could reduce delivery times and improve service levels for key retailers but would require significant capital and operational discipline.

A third option involved shifting toward demand-driven production, sharing real-time sales data with manufacturers to align output with market needs. However, most suppliers lacked the systems or capabilities to respond quickly to such signals. Implementing this approach would require training, coordination, and possibly financial support. There was also the possibility of narrowing the product range—focusing on fewer, high-performing designs to simplify inventory management and forecasting. Yet this risked undermining the brand's appeal, which was built on variety and cultural expression.

As the discussion continued, the Nairobi retailer rejoined the call. "We need reliability," she said. "If you can't guarantee consistent supply and sizing, we'll have to reduce your footprint. Customers are moving on to other brands. "Michael glanced at his production schedule, inventory reports, and pending orders. Each option addressed part of the problem but introduced new risks. Tightening control over suppliers could improve efficiency but reduce flexibility. Expanding infrastructure could enhance service levels but strain finances. Maintaining the current model preserved diversity but risked continued inefficiencies and lost market share.

The pressure was no longer theoretical. Retailers were signaling potential disengagement, suppliers were becoming uncertain, and internal costs were rising. With the next procurement cycle approaching and key contracts under review, a decision could not be postponed.

Michael unmuted his microphone."We need to decide how we're going to run this supply chain going forward," he said. "Because what we have right now isn't holding."

Footwear Market Overview • Kenya's footwear market is valued at approximately **Ksh 30–40 billion annually** • Over **70% of footwear demand is met through imports**, primarily from Asia • Local production is dominated by SMEs and informal sector artisans
Manufacturing Structure • Majority of local manufacturers operate at **small scale with limited standardization** • Production lead times vary from **3 days to 3 weeks**, depending on design and materials • Quality and sizing inconsistencies are common across suppliers
Inventory Challenges • SMEs often experience: **Overstocking of slow-moving designs** and **Frequent stockouts of popular items** • Limited use of data analytics in demand forecasting

a) State **four** supply chain problems facing Nguorefu **[8 marks]**

b) Explain **three** main ways Nguorefu can align demand forecasting with capacity planning to improve overall supply chain performance **[9 marks]**

c) Discuss **three** strategies for Nguorefu to redesign its inventory and distribution strategy **[9 marks]**

d) What decision should Michael make now in the short run (0 to 3 months) **[4 marks]**

QUESTION TWO

a) Demand for the Wakali footwear at Naivas Supermarket is 1,000 units per month. Naivas Supermarket incurs a fixed order placement, transportation, and receiving cost of 2000 each time an order is placed. Each Wakali pair costs Naivas 1200 kes and the retailer has a holding cost of 20 percent **[8 marks]**
   i) Evaluate the number of Wakali pairs that the store manager should order in each replenishment lot
   ii) Number of orders per year
   iii) Annual ordering and holding cost

b) The store manager at Naivas supermarket would like to reduce the optimal lot size to 200. How much should the store manager reduce the ordering cost per lot **[4 marks]**

c) Packaging and labeling is a cost they would like to reduce for Wakali footwear. They have reached out to you as a footwear supply chain expert to advise them on scenarios this might take place. Discuss **[8 marks]**

QUESTION THREE

a) Discuss how demand uncertainty affects the textile and apparel supply chain, particularly in fast fashion. Propose strategies firms can use to remain responsive **[10 marks]**

b) Identify key risks in textile and apparel supply chains and evaluate strategies firms can use to build resilience**.** **[10 marks]**

QUESTION FOUR

a) Kariokor is known as big hub for leather shoes in Nairobi. Material sourcing is big aspect to it. What should the artisans consider as they source for material? **[8 marks]**

b) Analyse **three** roles of sustainability in the textile and apparel supply chain. Explain **four** challenges firms face, and how can they address them. **[12 marks]**

QUESTION FIVE

a) Design and Prototype is becoming more important in the garment manufacturing stage in the textile and apparel supply chain (TASC). Discuss **five** main strategies that can be applied by garment manufacturers in Kenya based on the Emerging Design Strategies research article discussed in class. **[10 marks]**

b) Adoption of technology enhances supply chain performance in footwear supply chain. Discuss. **[10 marks]**