



## COLLEGE OF BUSINESS AND ECONOMICS EXAMINATION JUNE 2018

### DEPARTMENT OF BUSINESS MANAGEMENT

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<b><u>MODULE</u></b>	:	<b>STRATEGIC SOURCING: A SUPPLY CHAIN PERSPECTIVE</b>
<b><u>CODE</u></b>	:	<b>BML9X02</b>
<b><u>DATE</u></b>	:	<b>08 JUNE 2018 FINAL EXAMINATION</b>
<b><u>DURATION</u></b>	:	<b>3 HOURS</b>
<b><u>TIME</u></b>	:	<b>8:30 – 11:30</b>
<b><u>TOTAL MARKS</u></b>	:	<b>100</b>

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**EXAMINER(S)** : **Dr Dinesh Kumar**

**(EXTERNAL) MODERATOR:** **Prof G Horn**

**NUMBER OF PAGES** : **4 PAGES**

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#### **INSTRUCTIONS TO CANDIDATES:**

- Read the following case study
- 30 min is allowed for reading the case.
- Please answer all the 5 questions.
- Question papers must be handed in.
- This is an open book assessment.
- Read the questions carefully and answer only what is asked.
- Number your answers clearly.
- Write neatly and legibly.
- Structure your answers by using appropriate headings and sub-headings.
- The general University of Johannesburg policies, procedures and rules pertaining to written assessments apply to this assessment.

## **Case Study: Supreme Paints**

Supreme Paints has been the leader in manufacturing and selling paints in South Africa for the last decade. This company has outpaced its competitors in sales, market size and profitability. Forbes Africa placed the company's CEO as one of the pioneer in the field of manufacturing and growth.

Supreme Paints has a central manufacturing plant in Midrand, producing 250 million litres of paints per year. They has sales and procurement offices in three different cities in the country, Johannesburg, Durban and Cape Town in the country and has an overseas office in Dubai for international buying. Centralised procurement policy design led to a standardised culture of procurement within the company, though the implementation of such policy was delegated to the individual offices.

In order to maintain their leading status in the industry, Supreme Paints embarked on a cost-cutting journey throughout the business, including procurement. Such cost-cutting initiatives focused not only on their internal costs reductions, but also considered the initiatives their competitors were deploying.

Some of the packaging material were sourced by all the three local offices, from different suppliers. There were a few new suppliers emerging in the Gauteng region, producing good quality packaging products and were reliable to meet delivery schedules. Supreme Paints further on used its own machines to label the packaging material to adhere to the local regulations.

Supreme paints has regularly purchased the key raw material, pigments, of 800 kgs per week from a Joburg supplier who charges R100 per kg. The sourcing manager identified an overseas supplier, based in Midrand, that could supply the same quality raw material, but at R 98 per kg.

Before making his decision, the purchasing manager based in the Joburg office, evaluated the performance of the two suppliers. The local supplier has an average lead time of three weeks and has agreed to deliver the raw material in batches of 2000 kg. Based on past on-time performance, the purchasing manager estimates that the lead time has a standard deviation of one week. The new source has an average lead time of five weeks with a standard deviation of three weeks. The new source requires a minimum batch size of 7000 kg. The cost of disposal for old supplier is R3, while for the new supplier it is R2.

Supreme paints has holding cost of 25 percent. It currently uses continuous review policy of managing inventory and aims for a cycle service level of 95 percent. Weekly demand has a mean of 800 and a standard deviation of 250. About 15% of used raw material has to be disposed of.

Formulae:

1. Average inventory = max inventory / 2
2. Demand during lead time =  $\text{sqrt}(\text{lead time} \times \text{std dev}(\text{mean demand})^2 + \text{mean demand}^2 \times \text{std dev}(\text{leadtime})^2)$
3. Inventory holding for 95% service level = 1.645 x demand during lead time

**QUESTION 1**

In your own words, state the possible industry issues of this case.

[10]

**QUESTION 2**

- a. Describe the different types of procurement organisation structures.  
[15]
- b. What type of procurement organisation structure is this case using?  
[5]
- c. Recommend and explain a suitable organisation structure for this case. [10]

[30]

**QUESTION 3**

- a. Recommend and describe a suitable measurement framework for this case.  
[10]
- b. What key performance indicators would you recommend for this supply chain? [10]

[20]

**QUESTION 4**

- a. Explain the different approaches for sourcing you may suggest for this case.[10]
- b. Which type of items are suitable for outsourcing? [10]

[20]

**QUESTION 5**

- a. Calculate the TCO for the two suppliers.
- b. What other factors would you use to choose a supplier?

[20]

**Total: [100]**

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