



<b>FACULTY/COLLEGE</b>	College of Business and Economics
<b>SCHOOL</b>	School of Economics
<b>DEPARTMENT</b>	Transport and Supply Chain Management
<b>CAMPUS(ES)</b>	APK
<b>MODULE NAME</b>	Supply Chain Process Management and Performance Measurement
<b>MODULE CODE</b>	BML9X04
<b>SEMESTER</b>	First
<b>ASSESSMENT OPPORTUNITY, MONTH AND YEAR</b>	Final Summative Assessment Opportunity June 2019

<b>ASSESSMENT DATE</b>	3 June 2019	<b>SESSION</b>	08:30 – 12:30
<b>ASSESSOR(S)</b>	Mr A Jacobs		
<b>MODERATOR(S)</b>	Prof Badenhorst-Weiss		
<b>DURATION</b>	4 hours (240 min)	<b>TOTAL MARKS</b>	180

<b>NUMBER OF PAGES OF QUESTION PAPER (Including cover page)</b>	4
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**INFORMATION/INSTRUCTIONS:**

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- This is an open-book assessment.
  - There are five (5) questions. Please answer all the questions.
  - Question papers must be handed in together with your answer books.
  - Read the question carefully and answer only what is asked.
  - Write neatly and legibly on both sides of the paper in the answer book, starting on the first page.
  - Structure your answers by using appropriate headings and subheadings.
  - The general University of Johannesburg policies, procedures and rules pertaining to written assessments apply to this assessment.
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**Question 1**

**30 MARKS**

Formulate the different approaches provided by the Global Supply Chain Forum (GSCF) Framework and SCOR to supply chain understanding and improvement. In what way do these approaches complement each other?

**Question 2**

**10 MARKS**

Debate how a focus on delivering reliable and responsive customer service will drive the competitiveness of most companies. Explain how such competitiveness may be achieved?

**Question 3**

**10 MARKS**

Motivate how outsourcing some or all logistics and supply chain activities can help to accomplish a company's financial objectives? Provide an example to justify your argument.

**Question 4**

**20 MARKS**

Justify which model / framework you regard is best suited to measure supply chain performance – the Balanced Scorecard, Global Supply Chain Framework or SCOR.

**Question 5**

**110 MARKS**

Read the Skill Corporation case enclosed and answer the questions below.

- 5.1 Motivate (through broad outlines) how the management team should address the customer service, production, sales channel, and supply chain issues identified in the case. (30 Marks)
- 5.2 Propose which strategy the company should follow in future: pull or push? And, what changes should they make to their supply chain to improve execution of the preferred strategy? (30 Marks)
- 5.3 Compile a set of metrics they should implement to measure the performance of the newly designed supply chain? (50 Marks)

## SKIL CORPORATION

Skil Corporation was founded in 1935 by Leonard Becker, a highly skilled and entrepreneurial mechanical engineer, who wanted to produce electrical and mechanized hand tools for the professional and amateur tradesmen in the USA. The Corporation started production of circular saws and power drills in Hebrew Springs, Arkansas and by the 1990's Skil was the fifth biggest company in the power tool industry worldwide.

During the seventies and most of the eighties Skil established 13 plants around the USA where its wide range of power tools were made. Skil marketed more than 238 different products to the industry. Each plant was capable of manufacturing all the Skil products.

The engineering and design personnel continued to develop innovative products over the years and were encouraged to keep thinking about new products. By 2010 Skil boasted sales of R2.12 billion of which R1.566 million was sold in the USA. Most of these sales occurred in the hardware stores, lumber suppliers and home centres although Skil was under pressure from the mass merchandisers, namely KMart, Walmart, Home Depot etc. to provide more volume at lesser price. By 2010, when Emerson Electric purchased Skil Corporation, sales volume per channel was as follows:

- Home centres, hardware stores: R 846.4 million
- Mass merchandisers: R 360.0 million
- Lumber suppliers: R 273.2 million
- Electrical shops: R 86.4 million

### **Total USA sales: R1 566.0 million**

Skil also faced severe competition from their arch competitor, Black & Decker, who offered larger discounts to the mass merchandisers and turned over more than R2.5 billion in the USA alone, sixty five percent through mass merchandisers. Skil had 7% share of the world market and 18% of the USA market at the time. During the nineties the market was also attacked by newcomers, such as Makita from Japan, Rockwell and other European competitors, who were steadily grabbing market share.

Skil's Vice President: Engineering and Manufacturing, John Travis, expressed concern at the time about the obsolescence of the plants, the high cost of production as a result of lack of new technology and the high logistics cost involved in export sales.

The plants also experienced long delays in setup times to change over to different products. An organization and work study consultancy, called in to analyse the production problems and the excessive bottlenecks created by lack of work in progress inventory, despite the large in-plant warehouses, concluded that Skil plants were too labour intensive, not adequately mechanized and had to be reorganized to deal with the huge amount of product parts and model setup periods.

Skil used a decentralized ordering and logistics operation, controlled by the Skil Supply Chain department to dispatch products to its customers. Orders received from each plant warehouse were sent to the central services centre that consolidated orders and allocated them to either Skil's owned transport fleet or various outsourced transport operators. Export sales were managed by the Export Sales division that processed orders and arranged shipments on a country-specific basis to various sales agents.

Skil underperformed in supply chain reliability by 34% and in responsiveness by 18% compared to B&D and Makita in the USA and supply chain lead times in export sales were more than 24 days longer than these competitors. Bill Davis, the Marketing Executive at

Emerson, felt that production costs were too high and that Skil's strategy of pushing products through the small stores left a lot to be desired. He was also concerned that Skil had not developed a strong brand image like Black & Decker or Makita over the years, owing to a meagre marketing budget, some 6.2% of total cost.

Henry Galdwell, Vice President: Finance, pointed out that profitability had dropped for 23.6% in 2008 to 11.5% in 2010. Given Skil's aging plants and the need to increase marketing effort, he exclaimed concern about Skil's medium-term competitive position. It was clear to him that Skil did not have the retained cash required to revamp production and invest in aggressive marketing. He also pointed out that sales per product line had changed dramatically over the last seven years, and attributed this worrying fact to the inability of Skil engineers to come up with the "creative" products that could stand up to the cheaper Makita or B&D competition. Sales per major product line was the following:

**Product Line 2008 (RM) 2010 (RM)**

- Circular Saws 389,7 457,0
- Power Drills 643,1 577,2
- Power Planes 393,5 342,8
- General Tools 534,0 743,0

The President of Skil, in consultation with Emerson, called his top management team together in February 2011 to discuss what had to be done.

Examples of Skil tools:

Skil Power Drill



Skil Circular Saw



Skil Power Plane

