UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
(TAKE HOME)
SEMESTER II
SESSION 2019/2020

COURSE NAME	:	SUPPLY CHAIN MANAGEMENT
COURSE CODE	:	BPB 32303
PROGRAMME CODE	:	BPA/BPP
EXAMINATION DATE	:	JULY 2020
DURATION	:	24 HOURS
INSTRUCTION	:	ANSWER **ALL** QUESTIONS **TAKE HOME EXAMINATION**

THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

Q1 On March 11, 2020, the World Health Organization designated "coronavirus disease 2019" (Covid-19) a global pandemic. As the number of cases in the United States continues to grow, political leaders are encouraging physical (or "social") distancing to slow the rate of transmission. The goal of this practice is to flatten the curve of new infection, thereby avoiding a surge of demand on the health care system, but the effects of physical distancing may take weeks to appear. U.S. hospitals are already reporting shortages of key equipment needed to care for critically ill patients, including ventilators and personal protective equipment (PPE) for medical staff. Adequate production and distribution of both types of equipment are crucial to caring for patients during the pandemic.

There is a broad range of estimates of the number of ventilators we will need to care for U.S. patients with Covid-19, from several hundred thousand to as many as a million. The estimates vary depending on the number, speed, and severity of infections, of course, but even the availability of testing affects the number of ventilators needed: without adequate testing, the number increases because patients who are traditionally treated with noninvasive positive-pressure ventilation (NIPPV) for conditions such as chronic obstructive pulmonary disease exacerbations may need to instead be presumptively intubated while awaiting Covid-19 testing results (using NIPPV is contraindicated for patients with Covid-19 because of aerosolization of the virus under positive pressure). Current estimates of the number of ventilators in the United States range from 60,000 to 160,000, depending on whether those that have only partial functionality are included. The national strategic reserve of ventilators is small and far from sufficient for the projected gap. No matter which estimate we use, there are not enough ventilators for patients with Covid-19 in the upcoming months.

Equally worrisome is the lack of adequate PPE for frontline health care workers, including respirators, gloves, face shields, gowns, and hand sanitizer. In Italy, health care workers experienced high rates of infection and death partly because of inadequate access to PPE. And recent estimates here in the United States suggest that we will need far more respirators and surgical masks than are currently available.

The U.S. shortage has multiple causes, including problems with the global supply chain. Before this pandemic, for instance, China produced approximately half the world's facemasks. As the infection spread across China, their exports came to a halt. Now, as the infection spreads globally and transmission in China slows, China is shipping masks to other countries as part of goodwill packages. The United States has not been a major recipient.

The shortages have led to pleas from individual U.S. health care providers trying to secure adequate supplies of PPE. The situation has become so dire that some providers are using social media (with tag like #GetMePPE) and have even set up websites to obtain PPE directly. The Centers for Disease Control and Prevention (CDC) recommends that during crisis situations, N95 respirator masks be used only during aerosol-generating procedures, but that means risking exposure of health care workers using less protective surgical masks around patients with confirmed or suspected Covid-19 infection. Additional guidelines from the CDC include reusing masks and respirators intended for one-time use

and, if stocks are fully depleted, using scarves or bandanas. The evidence to support these recommendations is thin.

(Source: Journal of Medicine, 2020)

(a)   Analyze disruptions facing the global supply chain and justify why it happened based on the practical situation of the above case.

(10 marks)

(b)   The shortage of adequate PPE for frontline health care workers, including respirators, gloves, face shields, gowns, and hand sanitizer are also reported in Malaysia

Propose specific mechanisms of coordination in supply chain to overcome the shortage in Malaysia with relevant justification and examples.

(15 marks)

Q2   Adidas, H&M and Ikea lead a group of 77 firms for their sustainable cotton sourcing efforts in the latest Sustainable Cotton Ranking, released by the World Wildlife Fund, Pesticide Action Network and Solidaridad. Most companies with public commitments to more sustainable cotton sourcing are progressing toward their targets, according to the report, with Adidas, Gap and Levi Strauss among the most improved from 2017 to 2020. Of the companies that responded to the ranking's survey, Amazon and VF Corporation were the only ones that showed no progress between 2017 and 2020.

The Sustainable Cotton Ranking report focuses on transparency above any one specific sourcing standard, bringing public disclosure as a force for improvement to the fore. The definition of sustainable cotton used for the report's assessment of the strength of sustainable cotton supply includes Organic cotton, Fairtrade cotton, Cotton Made in Africa (a formal standard covering agricultural and social impact) and cotton certified by the Better Cotton Initiative (BCI). BCI works with farmers to promote a cotton production method "that cares for the environment, minimising the negative effects of fertilisers and pesticides, and caring for water, soil health and natural habitats."

However, the companies listed in the Sustainable Cotton Ranking were evaluated for company policies that firmly direct more sustainable cotton sourcing — without stipulating by what standards — along with actual follow through on these policies and the internal traceability available to benchmark sustainability improvements in their cotton supply. The evaluation does not specify a definition of sustainable cotton because administering organizations see transparency and public reporting as a key enabler of accountability. Evaluation questions are 'yes or no' regarding the existence of company policies around pesticides, water reduction, biodiversity, cotton recycling, labor and human rights and time-bound sourcing targets.

To support setting these kinds of policies the report suggests purchasing organizations quantify and publicize the amount of cotton they use, map their supply chains at least to

3

the country of origin level, participate in organizations like BCI and work closely with suppliers to educate and incentivize change.

Conventional cotton presents many environmental and socio-economic challenges, which sustainable cotton helps to address. Environmental challenges in conventional cotton production include: (1) Overuse and misuse of pesticides, which has significant impacts on ecosystems, as well as the health of farmers and their communities; (2) Overuse and misuse of synthetic fertilisers, which causes loss of soil fertility and soil acidification, as well as water quality impacts; and (3) Overuse of water, especially in water scarce areas the global average water footprint of seed cotton is nearly 1.5 Olympic swimming pools per tonne of cotton. Accordingly, conventional cotton production can drain water aquifers and river systems and limit water for people and nature.

(Source: WWF and Supply Chain Dive, 2020)

(a) Recommend **TWO (2)** sourcing strategies that can be implemented by **ONE (1)** company that ranked lower in the Sustainable Cotton Ranking to improve its performance to be competitive with a company at the top of the ranking (i.e. either Adidas, H&M or IKEA). Provide relevant justifications and reference for your answers.

(10 marks)

(b) Compare and contrast how **THREE (3)** supply chain drivers (other than sourcing) can help cotton farmers improve the sustainability of their supply chains with examples. Provide reference for your answers.

(15 marks)

-END OF QUESTIONS-

CONFIDENTIAL

TERBUKA