



UNIVERSITI KUALA LUMPUR BUSINESS SCHOOL

FINAL EXAMINATION

JANUARY 2016 SEMESTER

SUBJECT CODE : EIB20603
SUBJECT TITLE : SUPPLY CHAIN MANAGEMENT
LEVEL : BACHELOR
TIME / DURATION : 9.00 AM - 12.00 P.M / 3 HOURS
DATE : 30th MAY 2016

INSTRUCTIONS TO CANDIDATES

1. Please read the instructions given in the question paper **CAREFULLY**.
2. This question paper is printed on both sides of the paper.
3. This question paper consists of **TWO (2)** sections: **Section A and Section B**.
4. Please answer **ALL** questions.
5. Please write your answers on the answer booklet provided.
6. All questions must be answered in English (any other language is not allowed).
7. This question paper must not be removed from the examination hall

THERE ARE SEVEN (7) PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A (Total: 40 marks)

INSTRUCTION: Answer All questions

Please use the answer booklet provided

Question 1

Explain how supply chain management seeks to incorporate Lean elements?

(10 marks)

Question 2

What does the bullwhip effect refer to, and what causes it? How then would you try to reduce the bullwhip effect?

(10 marks)

Question 3

Explain the meaning of each of the following concepts: segmenting customers, target marketing efforts, and cross selling, crossdocking and reverse logistics?

(10 marks)

Question 4

Explain what is meant by chase production and level level strategies?

(5 marks)

Question 5

List four of the ethical policies of sustainable sourcing?

(5 marks)

SECTION B: (Total: 60 marks)

INSTRUCTION: Answer ALL questions

Please use the answer booklet provided

Case 1

Today, RFID technology is revolutionizing the supply chain. Lower prices, new tags and the convergence of RFID technology with GPS, WiFi, satellite and sensor technology that monitor more than just the location of goods and driving up adoption rates. Here are the examples of how RFID is solving problems beyond tracking pallets and cartons.

In the intermodal shipping business, the goal is to have just the right number of containers to maximize the turn time. Without visibility into the location of containers and how they're moving through the supply chain, however, shippers can spend a lot of money to have assets to meet its ends. That is why Horizon Lines, the largest domestic ocean carrier with 21 vessels servicing trade lanes in Alaska, Hawaii, Guam and Puerto Rico, invested in RFID technology to tag and track its fleet of more than 6000 intermodal containers across the supply chain. The system uses long-range active RFID tags that can be read on a truck travelling at 70 miles per hour from as far away as 500 meter. The first route is in Alaska where there is just one north/south highway and the state department of transportation allowed Horizon to install RFID readers along the highway.

Horizon begins tracking its assets in Tacoma and Seattle, Washington, where cargo containers bound for Alaska are loaded. Each container has an active RFID tag, with a unique identification number. The empty container is read at the DC gate, when the container is loaded, and finally when the container is loaded on a ship. As it travels to Fairbanks or Seward, readers installed in the key locations along the highway read the long-range RFID tags and alert Horizon's customers that the container is in route. Meanwhile, Horizon customers are able to prepare their DC staffs to unload the trailers soon after it arrives and get it back on the road. Horizon reads the container on its return trip back so that it can quickly be put back into service when it arrives in Anchorage.

A commercial aircraft is one of the most complicated and sophisticated machines ever built. Getting the right parts to the right place, at the right time and even on the right side of the aircraft is imperative. That is why Airbus is developing solutions that will use RFID to error-proof its operations. On the final assembly line for the A380 aircraft in Hamburg, Germany, RFID tags are placed on the containers that deliver items required to finish the cabin of the aircraft as they travel from the warehouse to the assembly line. In this application, parts are placed inside RFID-enabled containers that can be delivered to one of six docks. Each dock has two elevators and four floors. RFID readers are located at each entrance and exit on each floor. If the materials handler is going to the correct area, he gets a green light confirmation. If he tries to get to the wrong elevator or get on the wrong elevator or get off on the wrong floor, he gets the red light. With as many as 750 parts containers per airplane, this helps avoid disruption later on. Airbus is also using RFID to track the transportation of subassemblies, such as fuselage sections, wings and tailpieces, from a subassembly site to production facilities. The subassemblies are tagged and read by readers installed on special cargo-loading devices that load jigs onto cargo planes. As with the containers on the elevators, a materials handler will be notified by lights if he tries to load the wrong jigs onto the cargo plane.

Answer the following questions.

- 1.1 Briefly describe how Horizon and Airbus use RFID in managing the inventory. (5 marks)
- 1.2 How do Horizon and its customers benefit from the RFID system? (5 marks)
- 1.3 What makes Airbus to decide to develop their production system that uses RFID technology? (5 marks)

Case 2

When Frank Mars realized he needed to expand his operations in the early 1920s, he opted to relocate from Minneapolis to Chicago, purchasing 26 acres of a former golf course. Completed in 1929, the factory opened its doors at the very time the country was grappling with the beginnings of the Great Depression. The 'showplace of the candy world' not only impressed visitors with its outer beauty but eventually showcased Mars' ongoing drive to improve efficiency through automation.

The front lawn also remains scrupulously attended to, attempting would-be duffers to practice their putting. No such doing, asserts Bill Tumpene, plant director of the facility. Tradition matters. So does Frank Mars' vision. He cites the phenomenal improvements made during the past two years: a 40% boost in output – a result of Kaizen-directed suggestions from employees – as well as various investments in infrastructure improvements, everything from processing equipments investment to parking lot repaving.

What operators and managers want these days at the Chicago facility are more efficient, problem-free product runs. And thanks to Mars Snackfood's lean manufacturing and Kaizen – centered philosophy, it is happening. Kaizen focuses on small but continual improvements by involving everyone from plant managers to production workers. Typically, the plant will have five involving Kaizen events during the course of the year; all conducted during off-peak production cycles, explained Jim McDermott, operation manager. "Just recently, we held Kaizen event for our line 3 wrapping rooms," he says. "The associate gets together for a week for a week and literally attack the line 3 wrappers, looking for issues such as where downtime happens, where waste happens. They then come up with ideas to eliminate those problems. After implementing the suggestions, we saw a 20% improvement in efficiencies." Multiply those events several times across the production floor and the numbers add up. As McDermott points out, output per shift improved from 48 tons to 60 ton on one line over the course of three years.

Such involvement partly stems from the empowerment employees have regarding both quality and output. "Every associate has the authority to stop a line if they see a serious safety or

quality issue," Tumpane says. "There is an escalation protocol we use, but it is an issue, we shut it down." Such involvement also applies to quality control.

"Operators own it," says shift manager Dave Spehek. "The expectations are for the operator to conduct a variety of tests during production." Those tests, which occur hourly, range from weight checks to package inspections. In general, quality control inspections take up to 25% of an operator's time. The company quality control department then takes the data and analyzes it, compiling a track record of each line's performance on quality.

Answer the following questions.

2.1 How does Mars execute Kiezen in its organization?

(5 Marks)

2.2 What are the benefits enjoyed by Mars by adopting Kiezen in their production?

(5 marks)

2.3 In your own words, elaborate the meaning of Kaizen as small but continual improvements by involving everyone from plant managers to production workers.

(10 marks)

Case 3

After first creating online support forums where experts engaged with customers who had questions or issues about Dell products, in 2006 Dell started getting engaged with outreach. The company was listening to customers' conversations spanning the web and was able to build a small team to reach out directly to those customers to connect, engage and converse with them. In doing so, Dell was able to attract participation on its site, where a community took root – in fact, several communities. There's one for general consumers, for small businesses, for customers in the education market and for its largest enterprise customers. Dell claim to have made 3.5 million connections across the Web so far.

In 2007, Dell launched the Salesforce.com – powered IdeaStorm as a “way to talk directly with our customers, according to the website. The community was created to give customers a place to conduct online brainstorming sessions, to share ideas and to collaborate with Dell. The company says its goal through IdeaStorm is “to hear what new product or services you would like to see Dell develop. We hope this site fosters a candid and robust conversation about your ideas.”

On IdeaStorm, members are allowed to view and post suggestions to Dell. They are allowed to vote up or vote down what they like or dislike. In its three years, IdeaStorm has had more than 10,000 ideas posted and has, more impressively, implemented nearly 400 ideas. One example, “There was feedback from the Linux community for us to have an offering in that space”, says Manish Mehta, Dell Online’s Vice President of global online. “We made changes in keyboard design and layout as well.”

In addition to IdeaStorm, Dell introduced Storm Sessions in December 2009. Unlike IdeaStorm, which allows users to comment on anything, Storm Session is more targeted. Dell posts a topic and asked customers for feedback. If Dell has a particular area it is interested in getting suggestions about, it will send out a Storm Session to a particular segment of the community – the segment to which that Session is most likely to be relevant. Mehta calls the new feature “a really nice way to marry what the community wants to tell us with what we want to know”.

Dell claims its community outclasses many others because customers feel no restrictions on their input. But any successful community also offers a sense of belonging. Mehta recalls a meeting Dell had with some of its community VIP’s, “We flew in people who have been on our online community forums for more than a decade.” he says. “There are some people there who have helped 35,000 customers, and you can only imagine how many they have impacted by their solutions. We asked them why they do this. Now, some of them are still Dell customers, some have moved on (to other products), but (what we have found is that) they are still helping because there’s still this underlying culture that sits within communities that’s all about helpfulness and sharing.”

Answer the following questions.

4.1 Why does Dell establish online support forum and several other platforms?

(5 marks)

4.2 What do you understand from, "a really nice way to marry what the community wants to tell us with what we want to know".

(10 marks)

4.3 One of the key tools and components of CRM is segmenting customers. Can you highlight how Dell segments its customers?

(5 marks)