

UNIVERSITY OF SWAZILAND

DEPARTMENT OF BUSINESS ADMINISTRATION

MAIN EXAMINATION PAPER

MAY, 2017

TITLE OF PAPER : STRATEGIC INFORMATION SYSTEMS

COURSE CODE : BA 402 FULL TIME

TIME ALLOWED : THREE (3) HOURS

- INSTRUCTIONS:**
- 1. THE NUMBER OF QUESTIONS IN THIS PAPER FOUR (4)**
 - 2. SECTION A IS COMPULSORY.**
 - 3. ANSWER ANY TWO (2) QUESTIONS IN SECTION B**
 - 4. THE MARKS TO BE AWARDED FOR EACH QUESTION ARE INDICATED ALONGSIDE THE QUESTION.**

NOTE: MARKS WILL BE AWARDED FOR GOOD COMMUNICATION IN ENGLISH, AS WELL AS FOR ORDERLY AND NEAT PRESENTATION OF WORK. FURTHER MARKS WILL BE AWARDED FOR USE OF RELEVANT EXAMPLES.

SPECIAL REQUIREMENTS: NONE

THIS PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR.

SECTION A

Case study

Cemex Turns a Commodity into Global Brand

Cemex, based in Monterrey, Mexico, is a century-old company that sells cement and ready-mix concrete products. It has 53 plants around the globe in more than 30 countries. Through acquisitions and organic growth it has been transformed from a local Mexican cement producer into the world's third-largest cement and concrete manufacturer. It is also an industry leader in innovating with information systems.

The concrete business is an asset-intensive, low-efficiency business with unpredictable demand, Cemex dispatchers used to take orders for 8,000 grades of mixed concrete and forward them to six regional mixing plants, each with its own fleet of trucks. Customers routinely changed half of their orders, sometimes only hours before delivery, and these orders might have to be rerouted because of weather changes, traffic jams, or problems with building permits. Cemex's phone lines were often jammed as customers, truckers, and dispatchers tried to get orders straight. Many orders were lost.

Lorenzo Zambrano, a grandson of the founder of the company, took over the business in 1985, Zambrano believed he could overcome the traditional view that cement was a commodity and did not need a special branding. He decided to apply information technology to these branding. He and Cemex chief information officer Gelacio Iniguez developed a series of systems that would enable Cemex to manage unforecastable demand better than its competitors.

Zambrano and Iniguez used ideas gleaned from visits to U.S. companies, such as Federal Express, Exxon, and Houston's 911 emergency dispatch system, to see how other organizations anticipated demand for their services. They built system linking Cemex delivery trucks to a global positioning system satellite to help dispatchers monitor the location, direction, and speed of every vehicle. This information helps Cemex send the right truck to deliver a specific grade of cement or redirect deliveries when prompted by last-minute changes.

The company has reduced average delivery time from three hours to 20 minutes, realizing huge savings in fuel, maintenance, and personal costs. Cemex now uses 35 percent fewer trucks to deliver the same amount of cement. Customers are willing to pay premium prices to Cemex because they do not have to keep work crews idle waiting for cement deliveries to show up.

Cemex's production facilities previously operated independently, without precise knowledge of customer demand. A satellite communications system called CemexNet now electronically links all firms' production facilities and coordinates them from a central clearing-house. Dispatchers know exact location, speed, and direction of all vehicles at all times and can quickly select the most optimal arrangement of trucks and mixing plant locations to fill an order.

Customers, distributors, and suppliers use the Internet to place orders directly, check shipment delivery times, and review payment records without having to telephone a customer service representative. Zambrano and his managers now have access to almost every detail about Cemex operations within 24 hours, whereas competitors are working with month-old data.

Zambrano built a sophisticated executive information system that enables him to monitor closely from his laptop computer operations in the 35 countries where Cemex operates. If a region is colored green, it is doing well. Yellow signals a potential problem, and red indicates a real problem. Zambrano can then systematically determine the details of any area of interest. At that level of detail, he can even read the e-mail exchanges about a production problem at an individual plant. Sometimes, Zambrano will send an e-mail about production issues to plant workers to let them know he is watching.

Cemex also designed software to make it easier for company executives and plant managers to keep tabs on power use. Managers use the software to plan each month's energy consumption, ensuring that conveyors, electric grinders, and other equipment run mainly during hours of off-peak electricity rates. As a result, Cemex cut its energy bills by 17 percent in the past four years.

Cemex's productivity has outpaced all of its major rivals in Mexico, and production output has grown sixfold since 1985. Its profit margins are higher than its bigger rivals, Zurich-based Holcim Limited and Paris-based Lafarge SA. In an industry known for tough price competition and thin profit margins, Cemex revenue has grown at a rate of 9 percent during the past decade.

Q1. What role do information systems play in Cemex's strategy and business model?

25 marks

Q2. How much do information systems help Cemex deal with its problems and compete in the industry?

25 marks

SECTION B

Question 1

Discuss the leadership function at the transition stage (turnaround, factory and strategy).

25 marks

Question 2

Discuss any of five (5) themes of IT governance.

25 marks

Question 3

Can IT enable agility and control.

25 marks