A-1. Case Study Questions (30%)

Case company is the largest knitting mechanical manufacturer in Taiwan. With remarkable research and development ability, high-quality service and customization order, it has established differentiated value. While it is still a SME, it is the third largest firm in the global market. The importance of intellectual property was clearly identified and hundred more patents were processed. To act a proactive role as the spin and weave machine manufacturer, the interactions between the fabric designer and the fabric manufacturers were planned to be further enhanced. In regards to the product features, case company treats the diversified machine types and service quality improving as the differentiated way with its rival. By establishing information system and creating the collaborative design (CD) project to integrate the resources within design chain, case company could enhance the product design and development ability, shorten the time for the products to enter the market, and increase customer satisfaction by remote controlling and knowledge sharing. It had become the priority task of the case company.

The existing operation system in the case company had encountered some bottlenecks. The customer order was influenced by the agents, and the customer management and order system relied on the personal experiences. Furthermore, the product development depended on the operational people, it lacks the support of graphic information and file management systems. Since the time to deliver is short, product customization, customer communication, ordering process, research and development, materials purchasing, and the manufacturing cannot integrate in the same pace via a real time information system.

The case company implemented the collaborative design system based on the following procedures. First, the company analyzed the environment and problems it faces. Then it formulated strategies based on strategy analysis methodologies such as SWOT (strengths, weaknesses, opportunities, and threats). Third, the new business model and processes were built in order to achieve the strategies. And then, implementation of information systems was executed according to the new business model and process. Finally, the key performance indicators (KPIs) were measured automatically and traced continuously.

The KPIs achieved in the case company could be summarized as three categories: (1) The sales growth rate increases twenty percents. (2) Efficiency: it includes order confirming time (from 8 days down to 2.7days), order processing time (from 9 days down to 3.2 days) and parts purchasing time (from 2 or 3 days down to 20 minutes). (3) Service improvement: it includes experiment time of machine parameters (from 2 hours down to 20 minutes) and machine repair/shutdown time (from 3 days down to 24 hours). Besides KPIs achieved, there were also some qualitative benefits, such as improvement of customer satisfaction, enhancement of firm image and breakthrough of design techniques.

Questions: (1) What is the business value of the collaborative design system to the case company? (10%)

(2) What is the competitive strategy of the case company? Use competitive forces to shape the structure of its competition in its industry? (10%)

(3) What lessons on developing successful e-business projects for small businesses can be gained from the information in this case? (10%)

A-2. Fill in the Blank Questions (20%)

a. The early years of computing took place centralization structure. The development of minicomputers and microcomputers greatly accelerated a _____ trend, where many organizations are now thought of as having decentralized structures.

b. As a manager, you must be aware of what uses of information technology might be considered improper, irresponsible, or harmful to other individuals or to society. As a manager, this dimension of the use of information technology is referred to as your _____ responsibility.

c. One of the most well-known uses of intelligent agents are the _____ found in software packages such as Microsoft Office and other software suites that are special-purpose knowledge-based information systems that accomplish specific tasks for users.

d. Secure _____ Layer (SSL) is a security method originally developed by Netscape Communications that automatically encrypts data passing between your web browser and a merchant's server. This method is if particular importance in electronic fund transfer systems.

e. The concern for security has increased dramatically with the growth of E-business and E-commerce. _____ is described as the process of scrambling data or converting it, prior to transmission, to a secret code that masks the meaning of the data to unauthorized recipients.

本試題是否可以使用計算機：□可使用　，　☑不可使用　（請命題老師勾選）

B1. What goal of CRM systems results in understanding the customer touch points and customer intelligence to allow better recognition of desired services and needs of the customer? 5%
a. Integrate common customer viewpoint across all touch points.
b. Enable response to complex problems in real-time.　c. Derive better ROI from CRM investments.
d. Automate the sales force.　　　　　　　　　　　e. Develop data warehouses.

B2. What is a knowledge portal? 5%
a. The first KM initiative that demonstrates ROI at an organization.
b. Security and privacy measures placed on access to corporate databases.
c. A customizable common user interface for distributed knowledge resources.
d. The Web page that is the front end to an organization's e-business presence.
e. A KM technology that limits the number of employees who can work on a document simultaneously.

B3. Which of the following is one of the two main goals data mining? 5%
a. Describe what has happened.　　　　　　b. Find lost data.
c. Repair data that has errors or noise.　　　　d. Index older databases for efficiency.
e. Convert relational databases into object-oriented databases.

B.4 What is the name of the learning strategy that learns by being presented with a series of data samples and the corresponding conclusion for each sample? 5%
a. Abductive learning.　　b. Inferential learning.　　c. Inductive learning.
d. Extrapolative learning.　e. Deductive learning.

B5. Wal-Mart, the largest retailer in the world, is said to be one of the leading employers of older workers and considers seniors vital to its unique corporate culture. Store managers are encouraged to recruit from senior citizen groups, local AARP (Association for the Advancement of Retired Persons) chapters, and churches. Analyze this Wal-Mart strategy in terms of knowledge management. 10%

B6. The oil market in Taiwan is becoming very competitive nowadays than before, which is due to her recent entry into WTO and the liberalized Petroleum Management Law that allows international petroleum vendors to sell oil products in Taiwan market. For a competitor to become successful, the control of gas stations, pipelines, and storage tanks plays a key role, however, due to the space limitation and the residents' increasing awareness of environmental protection issues on the island, the construction of new storage tanks is being recognized as an issue next to impossible. Hence, any new vendors, undoubtedly, would have to rent tanks from existing oil companies for operation. Thus, tank owner must schedule tanks efficiently to satisfy the maintenance requirements, and, at the same time, meet the operation needs for itself and leaseholders.

　　In developing tank maintenance schedules, one existing company relies on both the tacit knowledge of senior engineers and the package of Integer programming (IP). However, the usefulness of IP was usually hindered by the curse of dimensionality and is poor in handling the nonlinear objective and constraint functions that characterize the scheduling problem. In addition, these methods give an optimal solution for reasonably sized problems. In the case of large scale problems, the difficulty with dimensionality could limit the applications of this mathematical optimization technique. The present competition environment thus has forced the management to pay attention to the efficiency problem, and seek better methods to improve tank facility utilization that will benefit both the owners as well as leaseholders.

　　You are asked to design two efficient strategies for the existing company toward solving the challenges in improving tank facility utilization so that both owners and leaseholders can be benefited. You should explain in detail about the design approaches, the reasons of the solutions you suggest and make a comparison between them. 20%