



DUBLIN CITY UNIVERSITY

SEMESTER ONE RESIT EXAMINATIONS 2014

MODULE: CA441/F Business Process Management
(Code & Title)

QUAL: BSc. in Enterprise Computing (EC),
ECSA(X)

YEAR OF STUDY: 4

EXAMINERS: Dr. Declan O'Sullivan
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TIME ALLOWED: 2 Hours

INSTRUCTIONS:

Please answer Section A and 2 other questions from Section B

*Requirements for this paper
Please mark (X) as appropriate*

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|--------------------------|-----------------------------------------|
| <input type="checkbox"/> | <i>Log Tables</i> |
| <input type="checkbox"/> | <i>Graph Paper</i> |
| <input type="checkbox"/> | <i>Dictionaries</i> |
| <input type="checkbox"/> | <i>Statistical Tables</i> |
| <input type="checkbox"/> | <i>Thermodynamic Tables</i> |
| <input type="checkbox"/> | <i>Actuarial Tables</i> |
| <input type="checkbox"/> | <i>MCQ only – Do not publish on Web</i> |

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The use of programmable or text storing calculators is expressly forbidden.
Please note that where a candidate answers more than the required number of questions, the examiner will mark all questions attempted and then select the highest scoring ones.

SECTION A

Question 1 Case Study

**[Total marks: 40]
Compulsory**

The attached Case Study (Appendix A) is taken from the BPTrends web site (<http://www.bptrends.com/>). Read the case study carefully, and answer the following questions:

1(a) [6 marks]

What lessons in Business Process Redesign can one learn from this case study?

1(b) [8 marks]

How has Nestlé's corporate culture changed as a result of the implementation project? Comment particularly on the advantages and disadvantages of centralisation in such a company.

1(c) [8 marks]

Nestle appear to have used the SAP ERP package in planning the implementation of their (Enterprise Resource Planning) ERP? Suggest a formal (BPR) methodology instead that might have led to fewer problems, outlining at each stage in the methodology how it would be used in this case.

1(d) [18 marks]

Using this formal methodology (from 1(c). above) identify 2 problems that occurred in the ERP approach and say how they might have been overcome.

--[End of Question 1]--

SECTION B
Question 2

[Total marks: 30]

2(a)

[16 marks]

In a study by Lucas (1975), the failure of most Information Systems has been attributed to System Designers subscribing, implicitly or explicitly, to “Theory X”.

[6 marks]

- (i) Outline the principal tenets of “Theory X” and the contrasting “Theory Y”.

[4 marks]

- (ii) A second reason for the failure has been found to be due to the concept of responsibility for change that is held by System Designers (i.e. who is responsible for the change effort?). Describe the concept of responsibility common among System Designers that subscribe to “Theory X”.

[6 marks]

- (iii) How does a knowledge of these findings feed into the principles of Socio-Technical Systems (STS)?

2(b)

[14 marks]

Compare and contrast Business Process Reengineering and Total Quality Management to the Socio-Technical Systems approach. According to the literature, what have been the major criticisms of Socio-Technical Systems (STS)?

--[End of Question 2]--

Question 3**[Total marks: 30]**

3(a)

[15 marks]

Davenport and Short, in their paper "The New Industrial Engineering", define a Business Process as "a set of logically related tasks performed to achieve a defined business outcome." Explain what is meant by this, and give a more complete description, with two examples from your experience, of what you understand by a business process. The two examples of processes that you provide should identify the stakeholders and organisational parameters from your definition.

3(b)

[15 marks]

In the same paper, the authors define a five-step approach to redesigning business processes. Describe and justify the five steps. For each of the process examples in 3(a) above, provide an indicative redesign methodology of the process.

--[End of Question 3]--

Question 4**[Total marks: 30]**

4(a)

[14 marks]

Distinguish between Workflow Modelling and Business Process Modelling. How does Business Process Modelling relate to the conventional modelling of Workflow using, for instance, Petri Nets? Give four reasons why a 21st Century organisation would want to use Business Process Modelling.

4(b)

[16 marks]

A company would like to examine its flight booking process. The process is as follows: the employee who would like to travel plans their trip and submits the order to the travel agent. The travel agent receives the order and checks for availability. If there is a problem with availability, the agent returns the order to the employee who resubmits the order. If there is availability, the travel agent will order the ticket from the airline. The airline takes the order, reserves the seat, charges the company credit card and confirms the flight to the travel agent. The travel agent takes the confirmation and issues an itinerary to the employee. The employee takes the itinerary and waits for the e-ticket to arrive from the airline.

Draw a BPMN Diagram for this process, adding detail where you consider it necessary. Identify the different categories of BPMN elements in your diagram.

--[End of Question 4]--

APPENDIX A

Note: The SAP ERP application is an integrated enterprise resource planning (ERP) software manufactured by SAP AG that targets business software requirements of midsize and large organizations in all industries and sectors. It allows for open communication within and between all company functions. SAP ERP consists of several modules including: utilities for marketing and sales, field service, product design and development, production and inventory control, human resources, finance and accounting. SAP ERP collects and combines data from the separate modules to provide the company or organization with enterprise resource planning. (wikipedia)

A good example of a company that has used ERP packages to reorganize their business processes is provided by the U.S. subsidiary of Nestle SA, a Swiss food conglomerate. Nestle USA was created in the late Eighties and early Nineties via acquisitions. In 2002 it included seven divisions which collectively sold such popular brands as Alpo, Baby Ruth, Carnation Instant Breakfast, Coffee-Mate, Nescafe, Nestle Toll House, PowerBar, Stouffer's Lean Cuisine, SweeTarts and Taster's Choice. The company employs some 16,000 employees and earned about \$8 billion in revenues. In the mid-Nineties the various companies that make up Nestle SA were all operating as independent units. In 1997 a team studying the various company systems concluded that, collectively, the companies were paying 29 different prices for vanilla – which they all purchased from the same vendor. The study wasn't easy, since each company had a different number or name for vanilla, and purchased it via completely different processes. Just isolating vanilla and then determining a common unit price required a considerable effort.

In 1997, Nestle USA decided that it would standardize all of the major software systems in all of its divisions. A key stakeholder team was set up to manage the entire process. By March 1998, the team had its plan. It decided it would standardize on five SAP modules – purchasing, financials, sales and distribution, accounts payable and accounts receivable. In addition, the stakeholder team decided to implement Manugistics' supply chain module. The team considered SAP's supply chaining module, Advance Planner and Optimizer or APO, but it was brand new in 1997, and decided to go with the better known Manugistic's module that was specifically designed to work with SAP modules.

Before even beginning to implement SAP modules, people from the divisions were gathered and spent 18 months examining data names and agreeing on a common set of names. *Vanilla*, for example, would henceforth be *code 1234* in every division.

Somewhere along the line, the project to install SAP modules also became a Y2K program. By moving to standard software that was guaranteed to be free of bugs associated with date problems that might occur when applications started dealing with dates subsequent to December 31, 1999, the company hoped to avoid any Y2K problems. Unfortunately, this placed a deadline on the entire implementation effort – it had to be done before January 1, 2000.

As the various SAP applications began to roll out to the divisions, the stakeholder team managing the entire effort began to get lots of unpleasant feedback. Jeri Dunn, the VP and CIO of Nestle USA, explained that in hindsight, they had completely underestimated the problems involved in changing division cultures or modifying established business processes. By the beginning of 2000, the rollout was in serious trouble. The workers didn't understand the new SAP modules and they didn't understand how the outputs they were now getting would help them do their jobs or manage the processes for which they were responsible.

It was at a major meeting in early 2000 that Dunn was given responsibility for the project. Among the other conclusions reached by this executive committee meeting, was the Y2K deadline would be ignored. Hence forth, they would figure out the implementation requirements for each SAP module and then let that specification guide their schedule. They decided that it was relatively easy to install SAP modules, but that it was very hard to change business processes and to win the acceptance of the people responsible for assuring those processes operated correctly. They also decided that much more care needed to be taken to determine just how the SAP modules would interact with the processes and applications that would remain in place.

At the same time that Dunn took over, a new director of Process Change has been hired and a process manager (VP) for the supply chain was promoted to help Dunn on the remainder of the project. In most cases, the team now began to focus on modeling processes and defining process requirements and then creating a plan to install the SAP modules. Several installations were delayed for months or years to accommodate groups that were not prepared for the process changes required. As we go to press, the Nestle transition is coming to an end. The company spent approximately \$200 million on the transition. Dunn claims that the project has already paid for itself. The new planning processes, for example, make it possible to project Nestle USA-wide demand more accurately and to save significant inventory and redistribution costs. The VP for Nestle USA's supply chain, Dick Ramage estimates that supply chain improvements have accounted for a major portion of the \$325 million that Nestle has already saved as a result of the SAP installation.

Dunn says she's happy with the SAP applications and very happy that all of the companies are now using the same basic processes. Still, in an article on the transition in CIO magazine in May of 2002, Dunn claimed that if she had it to do over again, she'd "focus first on changing business processes and achieving universal buy-in, and then and only then on installing the software."

Nestle USA's use of ERP applications, and their problems are typical of most large companies that have elected to rely on ERP applications to drive major changes. The company embraces the ERP applications in hopes that they can organize and standardize their software applications and databases across departments and divisions. Most large companies have started on this path and found that it takes much longer and is more painful than they had hoped. Few have completed their ERP transitions. The problem lies in the fact that the ERP

applications aren't a solution. They are a tool to use in changing business processes. This isn't something that IT can do by itself. The transition must be conceptualized as a business process transition and guided by business managers. The ERP applications must be installed as part of the overall business process redesign effort, not as an independent activity. Used in an appropriate manner, ERP applications offer a powerful tool to aid in business process redesign.