



DUBLIN CITY UNIVERSITY

SEMESTER ONE 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
Dr. Martin Crane Ext: 8974

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*

<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MCQ only – Do not publish on Web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>

PLEASE DO NOT TURN OVER THIS PAGE UNTIL YOU ARE INSTRUCTED TO DO SO

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 partly inspired by Andrew McAfee's original article in *Harvard Business Publishing 'Pharmacy Service Improvement at CVS(A)'*. Read the case study carefully, and answer the following questions:

1(a) [6 marks]

Identify three actors in the current fulfilment process. What results do they expect from the process?

1(b) [8 marks]

Taking the customer's perspective, detail four performance measures which can be attached to the process.

1(c) [10 marks]

What steps are there in the current fulfilment process? Detail three problems that could occur in the process.

1(d) [16 marks]

What changes do you recommend to CVS's existing pharmacy fulfillment process? What IT changes, if any, are required to implement your changes?

--[End of Question 1]--

SECTION B
Question 2

[Total marks: 30]

2(a)

[12 marks]

With regard to Business Process Re-engineering:

[4 marks]

- (i) Define Business Process Re-engineering. According to Michael Hammer, what is the relationship between BPR and Information and Communications Technology (ICT)?

[8 marks]

- (ii) Define what is by the Degree of Mediation and Degree of Collaboration. Draw a Functional Coupling framework diagram of Business Processes with Degree of Mediation on the vertical axis and Degree of Collaboration on the horizontal axis. Your diagram should illustrate, with examples, different extremes of coupling for Business Processes.

2(b)

[18 marks]

With regard to BPR in Public Sector Organizations:

[3 marks]

- (i) Describe three motivations for change in Public Sector Organizations.

[9 marks]

- (ii) Summarise the findings of Rainey with regard to the three differences between Public and Private Sector organizations.

[6 marks]

- (iii) Describe concisely the background to and results from a case study in BPR in a Public Sector Organization from your experience.

--[End of Question 2]--

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

3(a)

[14 marks]

With regard to Total Quality Management draw a carefully annotated diagram of the Joiner Triangle for specifying how quality is delivered to customers through Business Processes. Explain fully the significance of the vertices of the triangle

3(b)

[16 marks]

How does TQM differ from BPR under the following headings (i) timescale, (ii) risk and (iii) culture? Briefly describe a business process that you are familiar with and describe two areas in which the process might benefit from a TQM approach to process improvement.

--[End of Question 3]—

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

4(a)

[10 marks]

Explain concisely what is meant by Business Process Execution Language (BPEL)? Distinguish clearly between Orchestration and Choreography in the context of BPEL. Draw a labelled diagram of the Web Services Stack, showing where BPEL is placed.

4(b)

[20 marks]

A University wants to re-engineer its exam appeals process. The as-is process is as follows: the marks are released after the exam board meets; on receiving the exam results the student has five working days in which to submit an appeal of the exam board decision. In order to appeal the student must assemble and submit the following before the deadline: a bank draft for €100 (procured from the bank); a complete statement of examination results (from the University Registry); a signed concise statement to support their appeal (you may compress this into a collapsed sub-process 'Compile Papers').

On being notified that there are appeals on the Programme, the Chair of the relevant Degree Programme is asked to submit their comments on each appeal. The Appeals Board meets on a day (specified previously as 'Appeals Date') and considers each student's appeal and the views of the Programme Chair before making its decision. The appeal decision is sent to the student as well as a copy to Programme Chair for their information. If the appeal is successful the student needs to meet with the Programme Chair and the Chair emails the student with possible meeting dates. There is no appeal of the process.

[2 marks]

- (i) To show what is in and out of scope, draw an overall process map.

[12 marks]

- (ii) Draw a BPMN diagram for the as-is appeals process showing the actors in their various swimlanes. Identify the different categories of BPMN elements in your diagram. State any assumptions you have made in the drawing of the BPMN diagram.

[6 marks]

- (iii) Suggest two possible problems or inefficiencies in the as-is process and incorporate these into a revised BPMN diagram of the to-be process.

--[End of Question 4]--

APPENDIX A

CVS Case Study

Customers drop off their prescriptions either in the drive-through counter or in the front counter of the pharmacy. Customers can request that their prescription be filled immediately. In this case, they have to wait between 15 minutes and one hour depending on the current workload. Most customers are not willing to wait that long, so they opt to nominate a pickup time at a later point during the day. Generally, customers drop their prescriptions in the morning before going to work (or at lunchtime) and they come back to pick up the drugs after work, typically between 5pm and 6pm. When dropping their prescription, a technician asks the customer for the pick-up time and puts the prescription in a box labelled with the hour preceding the pick-up time. For example, if the customer asks to have the prescription be ready at 5pm, the technician will drop it in the box with the label 4pm (there is one box for each hour of the day).

Every hour, one of the pharmacy technicians picks up the prescriptions due to be filled in the current hour. The technician then enters the details of each prescription (e.g. doctor details, patient details and medication details) into the pharmacy system. As soon as the details of a prescription are entered, the pharmacy system performs an automated check called Drug Utilization Review (DUR). This check is meant to determine if the prescription contains any drugs that may be incompatible with other drugs that had been dispensed to the same customer in the past, or drugs that may be inappropriate for the customer taking into account the customer data maintained in the system (e.g. age).

Any alarms raised during the automated DUR are reviewed by a pharmacist who performs a more thorough check. In some cases, the pharmacist even has to call the doctor who issued the prescription in order to confirm it.

After the DUR, the system performs an insurance check in order to determine whether the customer's insurance policy will pay for part or for the whole cost of the drugs. In most cases, the output of this check is that the insurance company would pay for a certain percentage of the costs, while the customer has to pay for the remaining part (also called the co-payment). The rules for determining how much the insurance company will pay and how much the customer has to pay are very complicated. Every insurance company has different rules. In some cases, the insurance policy does not cover one or several drugs in a prescription, but the drug in question can be replaced by another drug that is covered by the insurance policy. When such cases are detected, the pharmacist generally calls the doctor and/or the patient to determine if it is possible to perform the drug replacement.

Once the prescription passes the insurance check, it is assigned to a technician who collects the drugs from the shelves and puts them in a bag with the prescription stapled to it. After the technician has filled a given prescription, the bag is passed to the pharmacist who double-checks that the prescription has been filled correctly. After this quality check, the pharmacist seals the bag and puts it in the pick-up area. When a customer arrives to pick up a prescription, a technician retrieves the prescription and asks the customer for payment in case the drugs in the prescription are not (fully) covered by the customer's insurance.