



General Certificate of Education
Advanced Level Examination
January 2013

Information and Communication Technology

INFO3/PM

Unit 3 The Use of ICT in the Digital World

Candidate Booklet for the January 2013 examination

To be given to candidates on or after 1 November 2012

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Information and Guidance

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Interviewer: Good morning listeners and welcome to this week's edition of Business Matters. We have an interesting programme for you today, starting with an interview with Louisa Tait, the Chief Information Officer of Aggregate Bank. Louisa, it's been two years since the bank's problems first came to light. Can you remind listeners of the events that led to those problems?

Louisa: Aggregate's on-line banking facility was out of action for two weeks and unreliable for some time after; customers were sent statements meant for other customers; and the account details of 40,000 customers - including those of various celebrities, three MPs and a minor royal - were hacked into and loaded onto the Internet. All this was tremendously damaging to Aggregate.

Interviewer: And wasn't Aggregate found to be in breach of the Data Protection Act and other legislation?

Louisa: Yes, you're right. Also, what appeared to be a joke mailshot was sent to customers to advertise a loan product. Unfortunately, the wording of the mailshot started with the words: "Dear mug customer, you have been specially selected as an important customer. Our records show that you are likely to buy this high-priced and non-competitive personal loan at an interest rate which is twice that of any other bank. But don't worry, it will make Aggregate very rich."

Interviewer: Needless to say, Aggregate Bank stories filled the front pages of our newspapers for several weeks, with some renaming the bank 'the Aggravate Bank'. And many employees were said to be critical of the ICT management. Is that true?

Louisa: Absolutely. They described the casual working atmosphere at the bank, the lack of ICT policies or procedures and ICT staff who were more interested in using the bank's facilities for social networking than concentrating on providing new systems.

Interviewer: Well, here we are, two years later. The resignations and sackings have taken place, a new ICT team has been created, customers have been compensated and Aggregate has survived. A new on-line banking system has been developed and is working well. Louisa, would you agree that you're the one person responsible for Aggregate's changed fortunes?

Louisa: Not really. It was all down to the team. Yes, I agree I was leader of that team, but I couldn't have developed and implemented the new system on my own. Part of my job was to make sure all the key factors that contribute to a successful development process were in place. For example, I strongly believe that effective ICT teamwork is a key factor.

Interviewer: But everyone sees you as a figurehead. And you do seem to add to that impression with your occasional, may I say, outrageous statements. Didn't you once say that ICT developments are really very easy? How can you say that, when there are so many high profile failures?

Louisa: I stand by what I say. ICT developments *are* easy. You just make the organisation follow established development methods and procedures. You don't take short cuts or try to change them in any way.

Interviewer: Could you just expand on that?

Louisa: Well, for instance, we now always use formal linear development methods for any system that updates data. The problem with Aggregate was that the ICT management developed their own development methods, which, apart from the design and construction stages, didn't follow the established stages of the systems development life cycle. This introduced scope for errors and misunderstandings. Remember that, although commercial ICT development projects have only a fifty-year history, methodologies, standards and procedures have been carefully developed in that time and should be used. After all, you wouldn't expect an engineer to build a bridge without reference to established standards. Thinking about it, there are many similarities between engineering and ICT.

Interviewer: So are you saying that use of standards and procedures would have avoided the letter and hacking incidents?

Louisa: Yes, that's what I'm saying. The letter wasn't ever intended to be sent out to customers. The programmer who extracted the customer list for the mailshot needed some text to test the production of the letter and, for a bit of light relief, he devised the joke letter. Because of a lack of procedures, that text ended up being used for the live mailshot. The situation just wouldn't have happened if procedures had been in place. The hacking incident was avoidable, too. Our systems had hardly any protection from outside access.

Interviewer: Coming back to your comment about ICT developments being easy, surely a banking business is very complicated?

Louisa: Yes, it can be made complicated, but the basic data structures are quite simple. The bank's customers can have different account types and different types of insurance products, such as house or travel insurance. Aggregate's previous systems were simply too complicated. There's a lot to be said for keeping it simple. At the very least, keep the first releases of any ICT product simple.

Interviewer: OK, we'll leave that now. Tell me about the breaches of the Data Protection Act.

Louisa: You're very direct, aren't you? Yes, one of our customers, an MP, was concerned about the amount and quality of data held against her name and complained to the Information Commissioner. It was found that Aggregate was holding data that was both inaccurate and excessive, therefore breaching two of the data protection principles. Our ICT strategy now includes 'legislation' as a factor that must be considered. In fact we're about to train all of our customer-facing staff - and there are around 350 of them - so that they understand the main principles of the Data Protection Act.

Interviewer: Just one last question. I'm sure there are many potential Chief Information Officers listening today. What's the one piece of advice you'd give anyone striving to be a CIO - in other words, the most important lesson you've learnt?

Louisa: I've already spoken about the use of procedures and the need to keep initial developments simple. I think, though, that I'd always advise a phased approach when installing systems. This reduces risk, gives time for developers to correct any errors and enables the users to become familiar with the new system over a period of time.

Interviewer: Well, thank you Louisa. I'm afraid that's all we have time for today.

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