Electronic case studies: a problem-based learning approach to management development

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Abstract: Electronic case studies (e-Cases) are hypertext documents that focus on a single company or business theme. An e-Case differs from a traditional case study in that it is a dynamic account of a business situation. The hypertext links point to data that are automatically updated, such as company websites and secondary data in areas such as financial accounts or market overviews. The approach encourages participants to develop problem based strategies centred on the concept of jigsaw learning. The ideas and concepts have been applied over a period of over ten years in various courses such as specialist Masters, MBA, executive and company-based courses in Europe, the USA and South Africa. A range of e-Case examples has been developed and this paper serves as a note for instructors on how best to exploit their use on management courses. Feedback based on the experiences of other instructors is welcome.

Keywords: electronic case studies; e-Cases; business strategy; information systems; jigsaw learning; problem-based learning.


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1 Part I: Teaching case

1.1 Summary instructions

You will be assigned to a group and each group will be given its own case. Using electronic resources and any additional research materials, each group is required to research an organisation, prepare a presentation and present back to the whole class. The presentation will explore information systems and technologies and their relationship in supporting and shaping the organisation’s strategy. A web site has been set up that provides information to the session, together with links to resources for each of the organisations.

You can access your case at www.personal.mbs.ac.uk/pdrinkwater/e-Cases/e-cases.htm

Additional resources are available at www.personal.mbs.ac.uk/pdrinkwater/my_e-Business_Portal/my_e-business_portal.htm

1.2 Presentation

You should use PowerPoint to prepare a presentation, with handouts. The slides should present the key ideas succinctly. We are not looking for your ability to copy a company’s logo from the web and to make a multimedia set of slides. Rather, we are looking for your ability to research the issues, capture the key points and present them clearly. You should use the ‘Notes’ feature of PowerPoint to summarise the background thinking. The notes should also reference the source of your material clearly.

1.3 Research

As previously stated most of the research on identifying sources of information has already been done, and you should therefore concentrate your efforts on the analysis of your case.
2 Part II: Teaching note

Electronic case studies or ‘e-Cases’ is an innovative approach to management development that exploits the capabilities of internet technology and combines elements of traditional case study teaching and learning with problem based learning strategies centred on the concept of jigsaw learning and case analysis. While traditional case studies describe an actual situation and involve a decision or a problem (Erskine et al., 1998), e-Cases encourage participants to formulate the decision problem themselves. The approach stimulates active participation and enhances collaboration among the participants who engage in the learning process.

The format of e-Cases is different from a traditional case study because the information is organised in a network of links that approximates a hierarchical structure. Students are presented with a summary page with links to internal information resources and external commentary on a company or phenomenon from journals, newspapers, business press and industry commentators. This is supplemented with material prepared by the lecturers in the form of journal papers, consultancy and video material. The participants are encouraged to act as consultants in a problem-based learning environment and apply theoretical frameworks to support their analysis. One or more instructors facilitate and guide the case learning process.

The development of e-Cases in teaching has evolved over the past five years at Manchester Business School with a wide range of graduate and executive courses. The feedback has been both positive and encouraging.

2.1 Procedure

The participants of e-Cases are divided into groups of four or five. Depending on class size, it is possible to form smaller or larger groups. Self-selective groups can also be formed for those participants that have an interest in a particular sector. It should be noted however, that the emphasis of e-Cases is on applying theory and skills learned in the classroom and not the analysis of a sector.

Each group of ‘consultants’ investigates an organisation and prepares a presentation. The groups apply theoretical frameworks to analyse the business strategy of the organisation they examine. A web resource has been set up for each case (Part I: Appendix A) to help participants collect data. Additional electronic resources as well as other research material (e.g., links to magazines, academic journals and search tools) are provided (Part I: Appendix C).

Each group presents its findings back to the class. The presentation includes the key points of their analysis as well as any recommendations. The ‘clients’ (i.e., the other participants as well as the instructor) can question the findings and give their comments. The implications of the recommendations can also be discussed.

2.2 Jigsaw learning

The design of e-Cases is based on the principles of ‘jigsaw learning’ or ‘peer teaching’ (Silberman, 1996). One of the assumptions of jigsaw learning is that the teaching material can be broken down into parts. These parts or ‘chunks’ when taken together form a body of knowledge or skill.
The participants of e-Cases are expected to teach each other different parts of the case study and share their experiences. They interact, exchange ideas, learn from one-another and role-play at two levels:

- **Group level.** As described above, each group of ‘consultants’ is assigned to investigate an organisation and reports its findings back to the rest of the groups. The groups explore models for aligning information systems technology and structures with business objectives. They prepare group presentations and discuss their cases in front of the class. ‘Clients’ i.e., participants from other groups, as well as the course instructors, can ask questions.

- **Individual level.** Each member of the group assumes a role and examines a particular aspect of the organisation under investigation (e.g., background, competitors, information system resources, business strategy). Even though two or more participants could work together on some parts of the study, each group member is encouraged to focus on a specific aspect of the analysis. All the members of the group are expected to participate in the presentation of the case and collectively answer any questions. Our experience has shown that ideas, perspectives, and invaluable insights are often brought out by comments and questions made during the presentations.

### 2.3 Data analysis

In order to add depth to the data analysis, the instructor may choose to vary the procedure described above. This idea is based on Eisenhardt’s (1989) work on case study research. Each e-Case is broken down into parts, taking into account a number of dimensions such as leadership structures, organisation of information systems and performance. If $k$ is the number of e-Cases and $n$ is the number of dimensions or topics under consideration, then there are $k \times n$ ‘chunks of analysis’ to perform. Participants are divided into $k \times n$ groups. Each group explores an e-Case chunk, analyses it and becomes familiar with it. Then the groups reconvene and report their findings back in a specific order (first, $n$ presentations on e-Case 1, second, $n$ presentations on e-Case 2 and so on). At the end of the presentations, the participants under the guidance of the instructor search for cross-case patterns and discuss similarities or differences across e-Cases (i.e., industry sectors).

### 2.4 Programmes and background of participants

e-Cases can be offered to MBA and Master’s Degree programmes, as well as executive education programmes. They can be used as the last part or one of the last parts of a course in ‘management information systems’ or ‘e-business strategy’ to allow participants to apply theory and skills learned during the course.

e-Cases can be (and have been) offered in other courses including ‘Strategy’, ‘Marketing’, and ‘Financial services’. When used in other courses, the design of e-Cases remains the same. The content however, might need to be modified to include interesting cases that highlight these aspects. The list of electronic resources (e.g., web links to magazines, academic journals and catalogues) may also need updating, as well as the questions that guide the presentations and discussions.

The participants of e-Cases should be aware of current IT trends, have an understanding of basic concepts of strategy such as industry analysis and competitive
advantage and a basic knowledge of management topics including leadership and corporate culture.

We have offered e-Cases to a wide range of students. Participants are typically in their late 20s, 30s or early 40s and have work experience. They include:

- MBA students on a full-time programme
- professionals taking an executive MBA programme (part-time option)
- experienced managers attending specialist courses
- other postgraduate students.

2.5 Teaching objectives

The teaching objectives of e-Cases are to help participants:

- to become aware of the role and importance of Information Systems technologies in supporting business strategies
- to understand the relationship between information systems technology and business strategy in implementing effective e-business strategies
- to develop or apply existing skills and knowledge in formulating and implementing an e-business strategy
- to evaluate the different models that have been proposed to explain and assist strategic thinking.

2.6 Questions

While investigating an organisation and collecting data, the students attempt to answer a number of questions related to the case study. Typical questions that may be asked are as follows:

- Discuss the relationship between the company’s business strategy and its IT strategy.
- Identify the elements in the company’s overall strategy that give it competitive advantage.
- Which elements of the company’s overall strategy are visible to competitors, and which elements can be copied?
- What threats and opportunities does the company face? Is there any potential for growth?
- Discuss the organisation’s relationship strategy with its customers.
- Describe the systems that enable the company to connect effectively with its business partners.

These questions can be included in the general instructions part (Part I of the case study). Alternatively, the instructor may ask similar questions during or after the group presentations to guide the discussions.
2.7 Theoretical frameworks

In order to analyse an e-Case and answer the questions, the participants can use a number of theoretical frameworks, including value chain analysis, the McKinsey 7-S model, theories of competitive advantage (Porter, 1985) and Keen’s Reach Range model (Keen, 1991). Depending on the background of the participants, these theoretical frameworks may be taught in the classroom prior to the presentations.

2.8 Assessment

Assessment is based on group presentations as well as the notes the groups provide to support their arguments. Presentations are prepared in PowerPoint and participants have to use the ‘Notes’ facility of PowerPoint to explain the points of each slide and cite any resources used. Assessment criteria include thoroughness of study and preparation, quality of recommendations and development of arguments and critical analysis.

2.9 The e-Cases learning process

Several learning theories have been suggested in the literature over the years (Merriam and Caffarella, 1999). In order to facilitate and guide the e-Cases learning process, it is important for the instructor to understand the way that learning takes place. Rather than merely an internal process, learning is interactive and may result in nonlearning responses (Jarvis, 1987). To achieve ‘higher forms of learning’ e-Cases, participants are encouraged to engage with the learning material, reflect on their learning through discussions with their peers and adopt a problem-oriented approach to learning.

According to Gestalt learning theorists, the solution to a problem often comes as a ‘flash of insight’ (Hergenhahn, 1988). Learners think of the elements that are necessary in order to solve a problem and cognitively (and repeatedly) rearrange them until they gain insight into a problem. Learning is therefore a mental process that allows individuals to reorganise experiences.

Adults learn through their own or each other’s experiences and seek autonomy and self-direction in learning (Jones, 1995). This assumption underlies our understanding of how learning takes place when engaging with the learning material of e-Cases. Their format encourages participants to adopt a task-oriented or problem-oriented approach to learning.

A problem-oriented approach to teaching cases studies is the ‘Seven Steps approach’ (Easton, 1992). Its main principle is that participants can develop a solution to a case study by following a number of steps:

Step 1: Understanding the situation.
Step 2: Diagnosing problem areas.
Step 3: Generating alternative solutions.
Step 4: Predicting outcomes.
Step 5: Evaluating alternatives.
Step 6: Rounding out the analysis.
Step 7: Communicating the results.
There are some similarities between e-Cases and the Seven Steps approach. For example, in both approaches, participants explore the case problem and provide a diagnosis of the situation. The Seven Steps methodology, however, is a rational approach to problem solving and does not necessarily reflect the way that most people solve problems. The format of e-Cases does not direct participants into a particular way of thinking; rather, it encourages them to explore learning pathways to arrive at a solution at their own pace and depending on their own learning style and capabilities.

E-Cases participants adopt an incremental approach to learning and continually build upon what they have already learned. The ‘jigsaw learning’ format breaks down the problem into smaller parts and facilitates learning through peer-to-peer teaching and group-to-group exchange. Participants learn to download and interpret information, assess the relevance of data, collaborate in a group as well as process, discuss and present back the results.

The instructor participates in the learning process and can use the output to enhance the content of e-Cases. As part of the assessment participants are required to provide data, URLs and sources used, thus adding to the teaching material of e-Cases.

2.10 Discussion

In order to develop a traditional case study, a researcher may choose to visit an organisation and collect primary and secondary data. However thoroughly the organisation may be investigated, the collected data are limited, static and might contain errors which constrains the readers. The e-Cases approach, however, provides easy access to data as well as links to dynamic data sources and allows participants to actively seek more information. Once the e-Cases have been set-up, there is only a need to ensure that the links are ‘live’. The content of e-Cases is then further enhanced by the contributions of the participants.

Traditional case studies capture events and replicate what actually happened. The views of different stakeholders are often given to enhance the participants’ understanding of the situation. E-Cases better resemble real-life situations in which decision makers are faced with a fuzzy decision problem and try to establish causes and implications by obtaining data and seeking the advice of colleagues or experts. Participants are encouraged to assemble flows of knowledge from different sources, as well as appreciate the relevance and significance of information to the task at hand. Therefore, they gain a deeper understanding of the case and improve their decision-making skills.

Unlike other electronic books and case studies (including web-based case studies) that impose a linear approach to learning, the locus of control with e-Cases lies with the learner. The cases are used as a vehicle to illustrate theoretical frameworks and encourage reflective thinking and practice. Participants construct their own understanding of concepts and explore a problem to arrive at a solution. The jigsaw learning approach allows them to learn through each other’s experiences. Collaborative computing tools or blogs can be used to facilitate the exchange of ideas. The learning process is continuous and cyclical and may circle back on itself in the form of feedback loops that carry collective knowledge and support information flows.
As Drinkwater et al. (2004) point out, the information content (i.e., linear presentation vs. hypertext document) is an apparent difference between traditional case studies and e-Cases. With e-Cases, the learning process appears to be more intuitive and also encourages team work because the members of a small group are expected to explore a problem, devise their own information search approaches, share the findings and debate the significance of the search results. The learning context, i.e., the particular environment and purpose of the case study, is also of particular importance. Students may either choose face-to-face meetings or access to an online collaborative environment that allows them to share ideas electronically. The purpose of e-Cases is twofold: to produce high-quality output (i.e., propose an information systems strategy) and also to develop knowledge generation capabilities.

Interest and satisfaction levels appear to be higher when using e-Cases as opposed to traditional case studies. e-Cases are adaptable, flexible and provide easy and timely access to data. Participants have a higher level of autonomy and feel in control. Rather than being distracted by ‘chunks of reality’, they focus on concepts, models and analytical tools. They gain insight into a problem by bringing together and making sense of ‘chunks of analysis’. Based on our own experience, their output is up-to-date and of higher quality.

References


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Appendix A: Electronic case studies

Source: www.personal.mbs.ac.uk/pdrinkwater/e-Cases/e-cases.htm

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Electronic Case Studies

- Egg
- GE
- Motorola
- Nordea AB
- Rosettanet
- Smile
- Tesco
- thebigword
- United Technologies Corporation
- Wells Fargo

In addition the following are useful `places` to start searching for company information:

- Business Week (Students at The University of Manchester can view full articles from Business Week, and many other useful resources, via John Rylands University Library www.library.manchester.ac.uk/eresources/electronicjournals/)
- e-Business websites
- Hoovers
- Google

Author: Please check the formatting style of Appendix A, B, C is ok.
Appendix B: An example of an electronic case study

Source: www.personal.mbs.ac.uk/pdrinkwater/e-Cases/Tesco/tesco.htm
Appendix C: Additional resources

Electronic case studies: a problem-based learning approach

Source: www.personal.mbs.ac.uk/pdrinkwater/my_e-Business_Portal/my_e-business_portal.htm