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INSEAD’s Centre for Advanced Learning Technologies (CALT) was officially launched in the 1995/96 academic year with the aim of studying new media and technologies, better understanding their specific impact on management and learning, and stimulating research and innovative developments in this direction.

Our objective is to better understand new media and technologies as enablers of new forms of learning (individual and organizational learning processes) and experiment with them in order to contribute both conceptually and with innovative approaches to the state-of-the-art of the emerging learning technologies field.

The CALT Research Agenda included in the next section has progressed over the last few years thanks to a large number of CALT Projects studying the impact of new media and technologies on the business environment in general (e.g. projects on Internet-related business transformations) and on management learning at the individual, team, organizational and community level (e.g. projects related to the design of multimedia-based cases, advanced simulations and the dynamics of Internet-based learning communities).

Over the last 2 years, Corporate Sponsors such as the Reuters Foundation and a number of academic and corporate R&D partners have provided funds for CALT research and opportunities to exchange experiences and to mutually extend our knowledge of the theory and the practice of technology-enhanced learning. The CALT Research Agenda is described in more detail in Section 2, and a complete list of CALT Projects is included in Section 3.

During the last few years, a CALT Team has been formed, whose role is to conduct research on CALT Projects and to disseminate and share the knowledge generated by the Centre with INSEAD colleagues, research partners, and with the academic and business community. The CALT Team has profited from cooperation and support from a large number of INSEAD Faculty Members, involved in different CALT Projects. You can learn more about the members of the CALT Team and the contributing Faculty members in Section 4.

Over the last year, CALT has generated a large amount of learning for all those involved directly in the Centre’s activities, and extensive output accessible through articles in academic journals and the business press, a series of working papers and technical reports, conference presentations, knowledge dissemination events and workshops, as well as conceptual and methodological contributions and innovative learning systems which have already started to be adopted by researchers and schools world-wide. A complete list of CALT Output is included in Section 5.

At the current growth rate, the Centre is likely to achieve its objectives by the end of year 3, the 1997/1998 academic year, establishing a solid basis for developing further its research agenda, becoming totally financially self-sustaining, and providing its innovation-oriented contribution to both INSEAD and the academic and business community at large.

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The CALT Research Agenda provides an overview of the R&D fields which CALT Projects are contributing to in the form of studies, experiments with emerging technologies (and their impact on business and learning), and innovative learning systems and methodologies.

A first group of CALT Projects aims at studying the impact of new media and technologies on the business environment in general. Over the last few years, the rapid spread of the Internet and the emergence of Electronic Commerce have enabled significant transformations in sectors such as publishing, entertainment, financial services and education, and provided managers with new ways to improve their company’s performance (“internal” perspective) or competitiveness (“external” perspective). CALT research in this area has led to and is conceptually based on the “ICDT Model” and on the technical expertise the CALT Team has gathered over the last few years in the analysis, design, and implementation of advanced information and communication technologies such as the World Wide Web. These CALT Projects are starting to generate a number of publications and reports, to provide a sound basis for teaching modules such as the “Cyberentrepreneurship” course or the “Competing in the Information Age” executive programme and the “World Class Internet Presence” Workshop, and to contribute in establishing and extending CALT’s expertise in this new, relevant knowledge domain.

The same technologies which are transforming the business environment and management in general are also changing our understanding of learning processes in organizations, providing new opportunities to design more efficient and effective learning systems and solution. A second group of CALT Projects, the majority of which are conceptually based on the “Business Navigator” Model, focus directly on the emergence of new forms of learning at the individual, team and organizational level, and the analysis of their effectiveness compared to traditional management development approaches. Technologies such as multimedia, groupware, the Internet, virtual reality and 3D interfaces, object-oriented modeling and electronic agents are explored in these CALT Projects aiming at analyzing and experimenting with their impact on learning systems and methodologies. The first CD-ROM multimedia cases were developed within a CALT Project, and the Centre has been innovating since in domains such as the theory and practice of advanced management simulations, and the design of groupware or Internet-based learning environments for groups or communities of distributed managers. Also this second group of CALT Projects has started to produce extensive output in the form of articles, prototypes, learning modules and environments, conference presentations, tutorials, and workshops based on CALT’s expertise in the field of advanced learning offered in other institutions and international events.
CALT Research Agenda

Impact on Management & Business Environment

- Internet & Electronic Commerce Studies
  - (4.1) Internet Strategies & ICDT Model
  - (4.2) Intranets & Organizational Change
  - (4.3) Best Practices Analysis
  - (4.4) Future Developments Studies

- Industry/Sector Transformation Studies
  - (5.1) Banking
  - (5.2) Entertainment
  - (5.3) Retailing
  - (5.4) Healthcare

- Research-related Workshops
  - (6.1) World-Class Internet Presence Workshop

Impact on Learning Processes & Knowledge Management

- Advanced Learning Methods & Techniques
  - (1.1) Business Navigator Method
  - (1.2) Interactive MM Case Studies
  - (1.3) Agent-based Simulations
  - (1.4) Multimedia Learning Modules
  - (1.5) Internet Authoring Systems

- Learning & Knowledge Mgmt Communities
  - (2.1) Groupware-based Learning
  - (2.2) Internet Knowledge Platforms
  - (2.3) Virtual Learning Spaces (3D/VR)
  - (2.4) Internet-based Virtual Learning Communities

- Research-related Workshops
  - (3.1) Simulation-based Change Management Workshop
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Complete Project List (by categories listed in the CALT Research Agenda)

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3.1 Advanced Learning Methods & Techniques

3.1.1 Business Navigator

The research conducted within this project aims at developing and validating a conceptual basis for new approaches to management development, and in particular to methods and tools extending and enriching traditional pedagogical methods such as case studies and simulations. The Business Navigator Model described in the article "Business Navigator: The Next Generation of Management Development Tools" has provided the basis for a number of articles, conference presentations, and the conceptual basis for a number of CALT Projects (Multimedia Cases, EIS Simulation, etc.) exploring separately different dimensions of the Business Navigator Model. Current research includes refining and further developing the Business Navigator Method and exploring its implementation (i.e. the design of advanced Virtual Interactive Business Environments (VIBES)) in different learning contexts.

Project-related Output:

Publications:


Working Papers and Technical Reports:


Conferences Presentations:

EFMD Case Development Workshop, Barcelona, Spain. 18/ 09/ 95
EFMD Case Development Workshop, Amsterdam, The Netherlands. 12/ 01/ 96
Lilis Conference, Genova, Italy. 25/ 03/ 96
IT & Management Education: The Learning & Knowledge Platform, IT & Healthcare, 30 January 97

Press Articles:

‘Multimedia comes to the Business school’, Financial Times, 21/12/94.


3.1.2 Interactive Multimedia Case Studies

OTP3: INSEAD Multimedia Platform

The objective of this project is to develop an infrastructure enabling the flexible and fast development of multimedia systems at INSEAD. Multimedia systems are computer-based systems in which sound, pictures and animations (movie sequences) can be integrated with more traditional text- and graphics-based information. The cost- and time-efficient development of multimedia systems is possible today thanks to a new generation of software development tools running on microcomputers (PC and Apple Macintosh). This new generation of software allows the fast development of easy-to-use, high-impact systems which could be developed at INSEAD both in the teaching and administration domain. Examples of such systems include information systems for MBA or EDP participants ("kiosk" systems), multimedia courseware (e.g. language courses), multimedia systems substituting or complementing brochures used for the promotion of INSEAD, multimedia presentations used for presenting the school in public events, multimedia databases of INSEAD alumni, of companies recruiting on campus, etc. This project will generate the documentation, guidelines and the technical basis (hardware and software) necessary to enable the efficient development of multimedia systems at INSEAD, extending the skills of the INSEAD audio-visual and software development teams to this new domain. The project is completed and has been the basis for Jean-Jacques Bernard for developing his skills in the domain of digitalization of multimedia sources. Since the end of the project, INSEAD - through Jean-Jacques - had acquired the skills and infrastructure needed to support internal multimedia projects (both of administrative and pedagogical nature). Internal Reports/ Audiovisual Department Multimedia Software and Databases (sound, pictures, videos).

Media Test

The objective of this project was to develop understanding into how, in the context of the MBA learning environment, the level of recall and understanding of a small body of well-defined content is affected by the type of medium (text, sound, video, ...) used to deliver that content. A small multimedia module was developed, that enabled the content of a 40 second video of John Sculley (then chairman of Apple Computer) to be delivered in one of 4 forms: TEXT, SOUND, VIDEO, VIDEO & TEXT. 60 MBA students were split into 4 groups of 15; each group corresponded to one of the 4 media types, and each student was given 40 seconds to "consume" the content and 2 min 30 seconds to answer a short quiz. The project was carried out in conjunction with a small team of INSEAD MBA's in Christian Pinson's Théories et Pratique de la Communication elective. Multimedia Module - "Media Test".

Multimedia Cases Studies

The aim of this project is to develop our understanding of how "multimedia" technology can be used to innovate the case study method. The approach was to:

(i) Choose, design and produce a set of six multimedia case studies
(ii) Develop a methodology for multimedia case development
(iii) Run experiments (in the context of actual MBA courses) in which the case studies were used by MBA students & Executives instead of traditional paper-based cases
(iii) Obtain detailed feedback from participants in order to evaluate the approach.

Six multimedia cases were developed, published on CD-ROM and tested in their respective courses.

Project-related Output:

Publications


Working Papers and Technical Reports

Learning Systems

Swatch Multimedia Case Study
Location: CD-ROM

Gauloises Blondes Multimedia Case Study
Location: CD-ROM

Fidji Multimedia Case Study
Location: CD-ROM

Gist-brocades Multimedia Case Study
Location: CD-ROM

Capital Multimedia Case Study
Location: CD-ROM

Minitel Multimedia Case Study
Location: CD-ROM

Internet Challenge Interactive Case Study
This interactive case (included in the IVC environment) provides an interactive introduction to Internet navigation for managers.
Location: http://www.insead.fr/calt/IVC/CAses/Challenge/t1.htm

Conferences Presentations

FNEGE, 07/ 12/ 95
Bocconi University, 21/ 10/ 96

Press Articles

‘Multimedia comes to the Business school’, Financial Times, 21/12/94.


3.1.3 Agent-based Simulations

APEX Situation-based Case Study

The aim of this project is to complement the "Multimedia Case" project (ref. x97) by exploring how multimedia technology can not only change the DELIVERY MEDIUM by which case studies are delivered (while retaining the pedagogical model of a case narrative with attached exhibits) but can also change the LEARNING STYLE. The process was to develop and test a prototype learning module based on the "Apex" mini-case written by Todd Jick and relating to the topic of change management. The new learning style was based on the logic of presenting the case material as part of a simple "situation" in which the student needed to carry out a TASK. "Apex" situation-based case

EIS Simulation

This project aims at exploring the combined use of multimedia and advanced modeling techniques (object-oriented programming and autonomous agents) to design business simulations addressing complex pedagogical domains such as change management, negotiation, etc. Based on the Business Navigator Model, the "EIS Simulation" has been designed to explore the impact of advanced simulations on learning processes in the change management domain. The simulation has been developed and incrementally improved since the beginning of the project, and exists today in 3 languages. It has been used extensively at INSEAD (in the MBA Programme, as well as in a number of Executive Programmes and Company specific Programmes), in other schools (e.g. LBS, Wharton). It has helped involving a number of INSEAD Faculty members as well as colleagues from other Schools in CALT-related projects, and has led to a number of publications and projects aiming at extending the underlying concepts to other management learning domains. For each language, there is a Macintosh-based change management simulation tool, User Manual, Trainer Manual and other miscellaneous teaching materials:

Simulation & Multimedia (SAM)

The purpose of the SAM project is to specify and develop a modeling and authoring framework based on state of the art software tools for authoring, modeling and interface developments. The framework will be completed with specific tools supporting the learner, the author and the modeler. The framework will support a modular approach, that allows the latest and best tools to be incorporated as these are developed. The framework will allow existing and newly developed tools to communicate using standardized Dynamic Data Exchange. The SAM project will define a framework for simulations for learning. This framework will be implemented and evaluated in the context of two demonstrators. The project will concentrate on the monitoring and controlling of aspects of a simulation, thus facilitating the creation of an instructional overlay simulation. The SAM project will be carried out in three partly overlapping phases. In the first phase the instructional simulation framework will be defined and developed. The second phase consists of an evaluation of the first version of SAM. Both the modeling and authoring environment and the learning environment will be evaluated by constructing and using simulations in two different domains. Two hardware platforms will be used: Personal Computers and Macintosches. Evaluations will be carried out within the context of a postgraduate course in Interactive Training Systems. In the third phase the results emerging from the work on the Common Training Architecture and the experience of using two different hardware platforms will be used to focus on standards and portability. SAM will be enhanced by elaborating on results from the evaluation and recommendations for further work will be made.

Project-related Output:

Publications

Albert A. Angehrn and Jean-François Manzoni, 'A High-Tech Spin on Organizational Learning', Chief Executive, April 96, pp. 66-67.

Working Papers and Technical Reports


Albert A. Angehrn, "EIS Simulation User & Trainer Manual (German Version)," INSEAD, 1996.


Learning Systems

Apex Situation-Based Multimedia Case
Location: CD-ROM

EIS Simulation - Change Management Learning Tool
EIS Simulation (available in English, French and German) for Macintosh.
Location: CD-ROM

MicroWorlds
Microwork is a software architecture in Smalltalk, useful to model systems as microworlds with highly cognitive representation.
Location: Web-site "http://www.insead.fr/CALT/Project/Projects/MicroWorlds/

SocialNetworks
Tool for modeling and visualizing social networks.
Location: Web-site "http://www.insead.fr/CALT/Project/Projects/MicroWorlds/SocialNetworks/"

BSG
Tool for modeling and visualizing organizations.
Location: Web-site "http://www.insead.fr/CALT/Project/Projects/MicroWorlds/BSG/"

Workshops & Events


Conferences Presentations

Hernstein Management Centre, Vienna, 13/11/95.
Lilis Conference, Genova, Italy, 25/03/96
5e Forum des Innovations Pédagogiques dans les Formations au Management, LYON, France 28 March 1996
Thirtieth Annual Hawaii International Conference on Systems Sciences, January 1997

Press Articles

‘Knowledge assisted by computer’, Translation of article from L'Express, 25 may 1995.

Simulations for Managers, Translation of article from 'Il Sole 24 Ore' (N. 206, 29.07.96).
3.1.4 Multimedia Learning Modules

**Accounting Module**
The objective of this project is to explore how the "InteractKit" learning methodology can be used to increase the effectiveness with which students (in particular MBA participants) build an understanding of a well-defined body of knowledge, in this case basic financial accounting. The learning module aims to develop an understanding of basic concepts of financial accounting by engaging the student in an interactive experience that simulates the student being hired by a new company and being presented with a stream of questions, each of which relates to a new concept, that the student responds to, invoking hints and extra information if necessary or appropriate. A pilot web-based learning module (that covers the balance sheet), that will help determine the feasibility and likely cost of a project to develop and test a learning tool that covers the remainder of the basic curriculum.

**Decision Biases Multimedia System**
Managers - as well as human beings generally - have the tendency to deviate from what might be called "rational decision making behavior" for different reasons including information processing limitations, judgment fallacies, poor mastering of probabilistic thinking, pressure and stress and other psychological factors. These fallacies and limitations - especially if operating at the unconscious level - can seriously compromise the quality of management decisions (e.g. personnel, investment, acquisition, marketing, project management, career or product-related decisions). Managers who are not aware of these biases are more likely to be misled by others, become too overconfident in their judgment, seek only for confirming information when they gather intelligence for their decisions, use intuition or simple rules-of-thumb even when not appropriate, fool themselves about feedback, and many other examples. This project aims at developing an interactive, computer-based training (CBT) system which helps MBA students and Executives improve the quality of their decision making processes. The primary objective of the project is to expose managers to the results of recent research in the field of behavioral decision theory [Hogarth 1987; Edwards 1961; Tversky and Kahneman 1981] and decision support systems [Angehrn 1992]. The focus on biases has two aims: (1) To emphasize where decision making breaks down and as a result develop mechanisms for improving decision quality, and (2) to better understand the nature of decision making processes through an examination of how they break down.

**Easy Computer**
The aim of this project was to explore how an interactive learning module could be used to both explain to incoming MBA's unfamiliar with the world of computers, groupware and the Internet how these tools are playing an increasingly important role in business, and motivate them to use these tools actively during their year at INSEAD. An external programmer worked with a group of 3 MBA students to design and develop a multimedia learning tool in which the student navigated through a series of "day-to-day" scenarios in which one person played the role of the manager ignorant of IT and another played the role of a colleague who was an expert and was able to both explain why tools such as the Internet are useful and show them how to use "Easy Computer" Learning Module. First stage of learning tool developed. Awaiting go ahead for further budget from MBA office.

**Information Biases in complex decision making (IMS)**
The project is to develop a set of multimedia cases based on IMS data. The idea is to elaborate case studies that illustrate traps and pitfalls that might alter the management decision-making process. We suggest to prepare two multimedia case scenarios; one based on the process of evaluating an existing drug in a mature market, the other one based on the process of selecting chemical components for further research and development. In both cases, the decision making process will be mainly based on data gathering and analysis. Other influencing factors - such as experts' opinion and public information published in the press - that in real situations affect the decision making process will also be integrated in the model. The cases will be presented in a CD-Rom form, to be used either for guided teaching (class/ seminar) or for self-development (stand alone). Case A: Modeling and design are completed. Programming and multimedia development in process. Case B is awaiting IMS agreement and financing.

**International Finance - Corporate Risk Management**
The objective of this project is to design and develop Multimedia Case Studies on CD-Rom in international financial management based on the business game FORAD. The characteristics of the simulation are described in one of the following sections. The FORAD simulation requires participants to consider a number of specific issues facing corporations in global financial markets:

1. Choice and proper use of suitable instruments to hedge currency and interest rate risk: Forward contracts, futures, money markets, options or combinations of these. A special feature of FORAD is a built-in graphics package to help understand the risk/return characteristics of complex hedging strategies under different foreign exchange and interest rate scenarios.

2. Management of a company's assets and liabilities so as to improve profitability and reduce risk: FORAD participants must choose a debt-equity structure, decide whether debt should be short term or long term, at floating or fixed interest rates, in domestic or foreign currency. Then they have to determine a suitable dividend policy.

3. Minimizing corporate taxes using transfer prices on goods and capital or other means to determine the location of profits and costs, or by taking advantage of bilateral tax treaties and subsidies that are available to multinational companies.

Project-related Output:

Learning Systems

**Accounting Foundation Module**
Multimedia, Web-based module for learning accounting basics.
Location: CD-ROM

**Web-based Interactive Learning Tools**
Set of HyperMedia (HTML + video + director). Interactive learning tools in the domain of accounting. Three systems now: AccountANT, Deal Tracker and FXHistory.
Location: Website "http://www.insead.fr/CALT/Project/InteractiveLearning/" (password protected).

**Decision Biases Prototype**
Multimedia-based experiential learning system for management training in the domain of decision making. Location: CD-ROM

**Easy Computer Learning Module**
The aim of this multimedia learning module is to explain to incoming MBA's unfamiliar with the world of computers, groupware and the Internet how these tools are playing an increasingly important role in business, and motivate them to use these tools actively during their year at INSEAD.
Location: CD-ROM

**Information Biases Learning Module**
Multimedia learning module based on InteractKit (i.e. Web-based) illustrating traps and pitfalls that might alter the management information gathering and decision-making process in complex product-related decisions in the pharma industry.
Location: CD-ROM

**FORAD Xmatic-business game**
Simulation-based learning experience designed to help corporate executives and bankers to better understand what it takes to manage the financial position of a multinational industrial corporation.
Location: CD-ROM

**Coca-Cola case study**
This web-based learning module aims to be used as class materials at INSEAD (MBA participants). This interactive learning tool includes Java calculation applets (try your hand).
Location: http://inside.insead.fr/mba/courses/weiss/coca-cola/
3.1.5 Internet Authoring Systems

InteractKit: A Web-based Authoring System

The aim of this project is to develop and refine on an ongoing basis an authoring toolkit that enables the testing of a pedagogical methodology which is based on the logic of viewing learning experiences as a path through a series of individual "learning units", each of which has a number of "standard components" such as problems, hints, extra information, other responses, solutions and so on. The toolkit is currently built on standard HTML templates, but will be constantly updated in order to take advantage of the latest technologies, such as Java.

Reuters Web-based Learning Modules

The aim of this project is to explore how the "InteractKit" methodology can be used to innovate internal training material and courses, in this case with the objective of training internal Help Desk and Sales personnel on a new Reuters software product, "DealTracker". Prototype Web-based DealTracker learning module. Project report In progress

Project-related Output:

Learning Systems

"DealTracker" Learning Module
Multimedia Learning module based on InteractKit.
Location: CD-ROM
3.2 Learning & Knowledge Management Communities

3.2.1 Groupware-based Learning

Groupware in Education

Groupware can be successfully applied to support distributed teams of managers (as well as students on-campus) to engage in learning activities beyond readings and class sessions. This project aims at experimenting with groupware platforms used in different contexts and different types of learners, exploring the opportunities and limitations of groupware technology in the learning context. The platforms developed in the context of this project have been extensively used in INSEAD Programmes.

CALT Report - "Groupware in Education 1995"

New Enterprise

The objective of this project in collaboration with Lotus Institute (Boston) and Theseus Institute (Sophia Antipolis) is (1) to understand the different impacts of modern media and groupware on organizations, (2) to design a model/guide for designing and managing technology-enabled processes in organizations, and (3) to develop a curriculum for a seminar or workshop to leverage the results of the above mentioned (1/2) research activities.

Project-related Output:

Publication

Albert A. Angehnr and Jean-François Manzoni, 'A High-Tech Spin on Organizational Learning', Chief Executive, April 96, pp. 66-67.

Working Papers and Technical Reports


Albert Angehrn and Pauline Wagenaar, "Groupware in Education", CALT Report, February 95.


Press Articles

‘What’s behind all this marketing?’, The Times, Monday 16 October 1995.


‘Research Centers Hit the Market’, International Herald Tribune, 30/5/95.

Conferences Presentations

EURO Bruges, Belgium, 24/3/97
Round Table of the German Fair & Exhibition Industry, hosted by the Chamber of Commerce at Mannheim, 10/4/96.
First German Internet Conference, Karlsruhe 6/7/96.
Learning Systems

**LEAPNet Knowledge & Learning Platform**

This Notes-based platform documented in a separate report has been designed to support a group of distributed Danish managers attending a modular programme at INSEAD. The Platform supports learning, knowledge sharing, and project management.

Location: CD-ROM

**ITP Knowledge & Learning Platform**

This is the first Notes-based platform which has been designed at INSEAD to support the group of faculty members from international business schools attending the International Teachers Programme (ITP) at INSEAD.

Location: CD-ROM

**The CaseKit Groupware Platform**

CaseKit is a groupware-based pedagogical tool for case-based learning in a management development context. The tool, implemented in Notes, gives the possibility to create, publish and use so-called Team-based Multimedia Cases (TMC). Technically, team-based multimedia cases are Notes databases with the structure and functions illustrated in Part 1 and 2. They can be accessed by distributed teams of users divided into two categories: Authors (typically one), and Readers. Authors have access to a number of authoring, viewing and administrative features to which readers don't.

Location: CD-ROM

**CIIA, CIIA 97, Remy Cointreau Websites**

CIIA (Competing In the Information Age) is a series of INSEAD executive programmes. The web is used to support this programme by providing information and communication means for the participants (Notes: CIIA uses Notes & Domino technologies).

Location: Web-site "http://www.insead.fr/CALT/Programmes/Executives/CIIA97/"

**LeapNet Website**

Leap net is the follow-up of the Teledanmark electronic programme. The web is used to support this programme by providing information (description, schedules, etc.), and communication means for the participants. (leapNet uses the Webforum technology).

Location: Web-site "http://www.insead.fr/CALT/Programmes/Executives/LEAP/"

**LGMB & Cyber Entrepreneurship**

LGMB & Cyber Entrepreneurship are MBA Programmes. The web is used to support these programmes by providing information, communication means for the participants, and Internet experiences (authoring web pages, setting virtual shops). LGMB & Cyber Entrepreneurship use notes and webforum technologies.

Location: Web-site "http://www.insead.fr/CALT/Programmes/MBA/Cyber/"
Location: Web-site "http://www.insead.fr/CALT/Programmes/MBA/LGMB/"

**Experiments with Groupware servers**

Majordomo mailing list server and Web gateway.

Location: Web-site "http://calt.insead.fr/"

**Notes Domino Environment**

Technology to access Notes in the Web.

Location: Web-site "http://domino.insead.fr/" (used in executive programmes).

**Muma**

Object-oriented environment for modeling and visualizing networks of alliances between companies operating in the multimedia sector.

Location: Web-site "http://www.insead.fr/CALT/Project/Projects/MicroWorlds/Alliances/"
3.2.2 Internet Knowledge Platforms

CALT Knowledge Base

The aim of this project is to explore how a combination of Lotus Notes and Web-based technologies can be used to build a Knowledge Base that, beyond serving as a repository of easily retrievable information about projects, organizations, documents and tools etc. also allows us to experiment with new ways of structuring knowledge. The CALT Knowledge Base, an integrated database that runs on a Notes Domino platform, is accessible via the Web, the level of access depending on whether the user is a member of CALT, member of INSEAD, CALT Partner, or external observer.

Inside INSEAD Intranet

The aim of this project is to support INSEAD Faculty and administration in the design and implementation of an Intranet, with modules for every MBA course and group, and an introductory ‘the day at INSEAD’ screen. The Intranet will support the access to course-related information such as the professor’s CV, outline, his or her handouts, registration, exams, grading, ongoing evaluation etc. The project includes training the Faculty and administration to use the Intranet.

Internet Virtual Centre

This project aimed at establishing Web presence for INSEAD and CALT. Its objective was to design a Web-based Internet Virtual Centre (IVC) providing an interactive introduction to the concept, current use and future development of Internet suited to managers. This pedagogical tool illustrates how to "surf" on Internet and how to efficiently find business-related information on the network. An interactive case stimulating managers to discover the Web is included together with an extensible, commented list of Internet addresses providing information on companies, stock market, electronic publishing and retailing sites, etc. has been included. Instructions for self-exploration of the network will be provided. IVC also includes the technical tools for launching additional services, such as forum discussions, a database of company information, and an online survey tool.

Project-related Output:

Learning Systems

The Encyclopedia: The CALT WEB Knowledge base

The CALT Encyclopedia consists in a structured set of pages that reference all the Web resources related to research projects conducted within CALT or at INSEAD in general. Location: http://www.insead.fr/calt/Encyclopedia

INSEAD Intranet Prototype

An Intranet prototype aiming at supporting INSEAD MBA students, Faculty and administration. The Intranet promises to fundamentally change the way employees communicate. Internet technology used within secure bounds as an Intranet offers many advantages, most notably ease-of-use and communication to any hardware platform that supports a Web browser at INSEAD and from outside. The output is to give teams at INSEAD autonomy in making their work more productive. Location: http://inside.insead.fr/mba

Internet Challenge Interactive Case Study

This interactive case (included in the IVC environment) provides an interactive introduction to Internet navigation for managers. Location: http://www.insead.fr/calt/IVC/CAses/Challenge/t1.htm

Discover Internet Learning Module
This interactive, Web-based module introduces managers to Internet and to a variety of business applications.
Location: http://www.insead.fr/calt/IVC/Guide/index.html

**CALT Web Site**
Presentation of CALT (objectives, people, summary of projects, etc).
Location: Web-Site "http://www.insead.fr/CALT/"

**Internet Virtual Centre**
INSEAD Internet Virtual Centre (IVC) is an extended manager's Guide to the Internet. It consists in a set of integrated pedagogical tools (Readings, references, cases, etc.) that cover the different facet of Internet useful for the manager.
Location: Web-site "http://www.insead.fr/CALT/IVC/"
3.2.3 Virtual Learning Spaces

3D-based, virtual environments accessible worldwide via Internet provide a new, attractive extension of traditional approaches to employees’ training and management development (set-up of Virtual Corporate Training & Development Centres). In addition to this specific function, such Virtual Centres can be gradually used as virtual extensions of company facilities, providing new, globally accessible, attractive Communication Spaces used for meetings, discussions, conferences and events involving employees as well as company partners and customers. First experiences with 3d-based virtual environments have led to the design of a "Virtual INSEAD" and indicate that the set-up of such Virtual Centres, tailored to the specific needs of a corporation, can help companies to rapidly achieve tangible benefits in the form of cost reductions and quality improvements, exploiting the advantages of state-of-the-art distributed virtual reality (VR) accessible in user-friendly form via the Internet. The project aims now at developing a structured methodology for the set up, operation and evaluation of such Virtual Learning Centres.

Project-related Outputs:

Publication


Working Papers and Technical Reports


Virtual INSEAD

This is a 3D, internet-based, distributed environment representing a Virtual Campus in which students, represented by avatars, can meet, attend courses, engage in teamwork, and visit virtual offices.
Location: http://www.insead.fr/CALT/Project/VirtualCentre/

CALT Forum

The CALT Forum, is an electronic bulletin board, for general exchange of ideas.
Location: Web-site "http://www.insead.fr/CALT/Forum/

CALT Virtual Bar

A virtual environment for informal exchanges among Internet users interested in Learning Technologies.
Location: Web-site "http://www.insead.fr/CALT/Bar/

Virtual Learning Communities Website

Website developed in collaboration with the Swedish Trade Council (STC), related to the exploration of virtual communities in the context of SME.

CALT in Alpha World Environment

Set of virtual 3D buildings (virtual laboratory, amphi, classrooms, agora, etc.).
Location: Web-site "http://www.insead.fr/CALT/Encyclopedia/ComputerSciences/VR/Worlds/Alpha/
Located 0 North, 2100 West in Alpha World.

Conferences Presentations
Swedish Trade Council, Stockholm, 9 June 96
European Conference of Information Systems (ECIS 96), Lisbon, Portugal, 4th July 96.
AACSB/EFMD Workshop in Boston, from 29 to 31 May 97.

Press Articles

‘What’s behind all this marketing?’, The Times, Monday 16 October 1995.

‘IT - an inexpensive way to new markets’, Translation of article from ’Strategi’ (N. 3, 1996).


3.2.4 Internet-Based Virtual Learning Communities

Fontainebleau 2000

The Fontainebleau 2000 Project aims at providing a rigorously researched and tangible model for an education-driven, rapid penetration of Internet in European towns. It will proceed by establishing and testing a new model to:

1) Rapidly foster Internet awareness and adoption at the community level in order to extend and enhance communication, social and business activities, and stimulate local, Internet-related entrepreneurship.

2) Enhance learning, knowledge creation, and knowledge sharing processes within the community through the introduction of Virtual Learning Spaces which extend the traditional educational system.

The model developed and tested in Fontainebleau integrates state-of-the-art research and developments in the domain of Internet-based systems, including the Wired for Learning software piloted and tested until now exclusively in the U.S., and intelligent agents technology. The data gathered by implementing the project in the Fontainebleau community will further provide a basis for comparative studies on an international scale (U.S. pilot projects vs. European Fontainebleau pilot). The projects key partners are INSEAD, the European Institute of Business Administration, IBM Europe, and Telemedia International (TMI/Telecom Italia). The key partners provide the resources required to implement the project. Local French authorities, the local Telecom provider, the Ecole des Mines of Fontainebleau and the European Commission are planned to complement the resources made available by the 3 key partners.

MediNet

The aim of the project (under preparation in collaboration with Bocconi University) is to develop an Internet-based virtual centre that provides a meeting area for professionals in the healthcare sector. The centre will not only be a meeting point, but also a basis for providing continuous management learning modules. The centre establishes a virtual link between medical doctors, whether community based or hospital based, other healthcare professionals such as dentists or nurses, hospitals, research centres, universities, health authorities, pharmaceutical and health related companies and other healthcare institutions. Patients associations will also be involved at a later stage either as users or as active partners. The centre will provide easy access to a wide variety of healthcare information and offer on-line services that will facilitate communication and knowledge sharing. Communication will be a mix of interactive, user-driven information gathering, and organized events such as forums, on-line conferences or case discussions.

Memphis
The objective of MEMPhIS is to experiment with Web-based Knowledge & Learning Platforms addressing a community of professionals. In the context of an EC Project, CALT supports the project consortium with its expertise in (1) evaluating the needs of physiotherapists related to management knowledge and management of new media (multimedia, internet, etc.), (2) designing a learning and knowledge platform (VIBE) to support the knowledge acquisition and learning process with respect to the above mentioned domains, and (3) test and evaluate the MEMPhIS VIBE (ELVIS - Education & Learning Virtual Interaction System) for further development. The MEMPhIS Project is funded by the European Community and a regional Italian government.

**Project-related Outputs**

**Learning Systems**

**ELVIS - A Learning Platform for Memphis**
Web site supporting project management functions within the Memphis consortium and experimentation with Web-based learning.
Location: [http://www.insead.fr/CALT/Project/memphis/](http://www.insead.fr/CALT/Project/memphis/)

**Press Article**

‘Alternative education? Newspapers, computers and television’, translation of article from 'La Gazzetta del Mezzogiorno'.
[3.3] Learning Technologies Research Workshops

3.3.1 Simulation-based Change Management Workshop

The purpose of this research project is to explore in a very practical manner the opportunities for combining a multimedia team-based learning tool, the EIS Simulation, with a classroom based discussion, in order to test a learning methodology that stimulates learning through a combination of first presenting a well-defined challenge to a learning team and second trying to make sense of what happened.

Project-related Outputs

Learning Systems

CMW Website & Forum
The CMW Website and Forum supports exchanges between participants of the CMW Workshop before and after the actual Workshop at INSEAD. The Forum aims at collecting participants' experiences with complex change management projects.
Location: http://www.insead.fr/CALT/Workshops/CMW/

Workshops and Events

(see section 5.4)
3.4.1 Internet Strategies and ICDT Model

The aim of this project is to provide a conceptual framework for studying the impact of new technologies such as the Internet on companies' performance and competitiveness. The ICDT Model developed in the context of this project has been used as a basis for analyzing the maturity of Internet and Electronic Commerce strategies in different sectors as well as the impact of new interactive media on functions such as marketing and distribution. Current research aims at extending the ICDT Model into a systematic methodology for identifying business opportunities and threats generated by the emergence of the Internet.

Project-related Outputs

Publications


Working Papers and Technical Reports


Conferences Presentations

Aemd Conference, 28/05/97, conference held in Barcelona, Spain.

Press Articles

‘Technology development faster than adoption by customers’, Translation of article from 'Adfo Direct' (May - June 96).
3.4.2 Intranets and Organizational Change

Corporate Intranets

This project, performed in collaboration with IBM Europe and the Wall Street Journal, aims at contributing to a better understanding of the factors driving the adoption of corporate Intranets (particularly in European companies) and of the impact of such Internet-based, internal information and communication systems on management and organizational performance. In the context of this project, a conceptual framework derived from the ICDT Model and a set of 10 cases of Intranet implementation within European companies have been produced. They provide a basis for further research on the measurement of the impact of Intranets on organizational performance, and for structured collection of data on implementation experiences in different European countries.

Project-related Outputs

Publications


Working Papers and Technical Reports


Conferences Presentations

International Conference on Human-Computer Interaction, San Francisco, August 1997

3.4.3 Future Developments Studies

Business implications of Multimedia: Spain Case

The aim of this study is to analyze the Multimedia phenomenon in order to provide up-to-date information and insights on its current impact on companies and on the development of European industry in general. This report focuses particularly on Spain, contributing to a better understanding of (1) The current state and the development of the Multimedia industry in Spain, (2) The key factors affecting this development, (3) The dynamics of market acceptance of current and future Multimedia products and services generated by this development, and (4) The major transformation affecting industry in general derived from the spread of such products. The report provides recent data on key players, regulations, strategies of telecommunication companies, experiences with market reaction to multimedia products and services, and multimedia-enabled transformations which are underway in Spain. Comparisons with other European countries and the US are provided, allowing a better understanding of the situation in Spain. The special characteristics of the Spanish market in terms of regulation, infrastructure, management style, consumers, and their specific attitude towards the adoption of new technologies are also examined. Future developments and key success factors in the new environment are also analyzed, as well as the remaining obstacles for the development of Multimedia in Spain.

New Media in the Old World
This project, performed in collaboration with the Multimedia Group of Ernst & Young, aims at extrapolating current trends in the commercial application of technologies such as the Internet, virtual reality, and intelligent agents, to develop scenarios for industry transformations and for the emergence of new products and services in sectors such as publishing, financial services, retailing and education. It consists first in the identification and analysis of technological factors and sector-specific trends, and second, in the development of scenarios illustrating potentially significant business transformations induced by such trends.

**Project-related Outputs**

**Working Papers and Technical Reports**


**Conferences Presentations**

- Direct Marketing Conference, Maastrich, 11/10/96.
[3.5] Industry/Sector Transformation Studies

3.5.1 Transformation Studies/Banking

Internet in Banking

The objective of this project is to (1) demonstrate the application of the ICDT model in an industry context, (2) analyze and benchmark current Internet strategies adopted by international banks, and (3) extrapolate trends in the domain of Internet strategies.

Project-related Outputs

Publications


Conferences Presentations

FEFSI - Annual Conference, Brussels, Belgium, 5 December 1996

3.5.2 Transformation Studies/Entertainment

Interactive Movies

The aim of this project is to continue the series of transformation studies by looking at the entertainment industry, and draw parallels with changes in the “education” industry.

Project-related Outputs

Working Papers and Technical Reports


3.5.3 Transformation Studies/Retailing

Virtual Retailing Spaces

This project aims at experimenting with the new generation of VR-based shops. Based on the experiences gathered in the Virtual Learning Spaces project in designing education-oriented virtual 3D environments accessible via the Internet, this project explores the differences between “traditional” Web-based shops and VR-based shopping experiences.

Project-related Outputs:

Learning Systems

Microsoft Merchant Server
This environment supports experimentation with Electronic Commerce on the Web.
Location: Web-site “http://caltnt.insead.fr/”

Java Applet Demo

The objective of this project is to (1) demonstrate the application of the ICDT model in an industry context, (2) analyze and benchmark current Internet strategies adopted by international banks, and (3) extrapolate trends in the domain of Internet strategies.
Assessment of Internet application in the HealthCare Industry

The objective of this project is to identify and illustrate the most advanced internet-based applications that have been implemented in the healthcare industry. Based on the ICDT model (Information, Communication, Distribution, Transaction) and looking at both Internet and Intranet applications, we have identified 8 types of applications. Each type will be illustrated in a short case with, whenever it is possible, a direct on-line access to the site. The cases will be used as a basis for class discussion on potential Internet/Intranet applications addressing (a) their impact on the industry and (b) the implications for the company's strategy. Eight short case-studies have so far been completed.

Telemedicine

Telemedicine is a new multimedia-based application of healthcare services that enables to provide physicians' expertise at remote sites. In other words, it provides remote hospitals with specialist advice on complex cases via Internet transmission of multimedia data such as text, sound, digital imaging and video-conferencing. Such systems support knowledge management and cooperative, distributed problem solving, enabling expertise to be accessed from where it is required, without the need to move people (in this particular case, experts or patients). A pilot project carried-out at the Assistance Publique - Hôpitaux de Paris in the specific case of neurosurgical emergency revealed the system to be promising. The success of the initial implementation raised a number of issues and challenges; Is Telemedicine a service that could be traded as such? Could the existing system be opened to other hospitals who would become customers of the AP-HP? Could the concept be spread to other medical specialties and under which conditions? What are the implications of introducing cooperative information systems on shared decision-making? This project aims at the development of a case study on the transformation of the neurosurgery network in the Paris region by the implementation of telemedicine. The case will illustrate the impact of telemedicine on the healthcare service industry and the extent to which it has transformed the industry itself.

Change Management in Hospitals

This project aims at designing a multimedia simulation based on the structure of the EIS Simulation to address the subject of change management in organizations. While the EIS Simulation was intended to focus on generic innovation and organizational change processes, the new simulation to be developed in this project addresses the process of introducing quality programs in a complex organization. The specific focus on quality programs is motivated by (1) the relevance of the subject, (2) the data we have collected up to now on success and failures of QI (Quality Improvement) initiatives in general, and (3) the specific data and knowledge on innovation processes in hospital environments gathered by Dr. Joe Tabet over the last years. We further decided to concentrate on hospitals as a representative prototype of complex organizations in which innovations have to gain the acceptance and break the resistance of very distinct employee categories (in general: professionals - represented in this particular case by doctors - management - represented in this case by hospital administrators - and support staff - represented in this case by nurses) with different interests and influence patterns within the organization. This specific scenario (which can be found in many other types of organization, as for instance business schools or consulting firms, or at the department level in the majority of organizations) is particularly interesting as it affects the dynamics of innovation processes and the effectiveness of Organizational Development tactics (see the EIS Simulation) used in general to introduce major organizational changes, and in particular in the Health Care Industry.

Project-related Outputs:
Working Papers and Technical Reports


Learning Systems

**Hospital Simulation Prototype**
This prototype is a variation of the EIS Simulation focusing on the implementation of Quality initiatives in a hospital environment.
Location: CD-ROM
[3.6] Business Technologies Research Workshops

3.6.1 World-Class Internet Presence Workshop

As part of the "WCSN" project, the aim of this project is to experiment with a new form of learning set-up - the "Virtual Study Mission". The virtual study mission is a two-day event, in which 20 to 30 participants travel to one location in order to understand through a series of 3 virtual study visits (each relating to 1 host corporation) how these 3 corporations, judged to be "world-class" in a particular business process, actually manage that process. Each module consists of an introduction by a business school professor, an individual study period based on reading a recent case study on the corporation and having access to other relevant corporation material such as company videos and annual reports, a group discussion facilitated by the professor, a video conference to the key players at the corporation, and a final wrap-up. The visit is accompanied by some cultural events/ aspects such as serving food and drinks from the country being 'visited'. The objective of the mission is the same as that of a traditional study mission which involves participants traveling to the corporation itself. The "virtual" prefix implies simply that this objective is achieved without physical travel.

Project-related Outputs:

Learning Systems

WCIP Workshop Website
The World-Class-Internet-Presence is a two-day workshop based on the idea of proposing a 'virtual study mission' presenting 3 companies (around the world), through the use of lectures and video-conferencing.
Location: Web-site "http://www.insead.fr/CALT/Programmes/WCIP/"

Workshop and Events

WCIP Workshop, INSEAD Euro-Asia Centre, 19/06/97
(see section 5.4)
[3.7] External Project Partners and Sponsors

Andersen Consulting    Lotus Corporation
Apple Computers Europe McKinsey & Co
Arthur Andersen Programme Microsoft France
Bocconi University, Milan Pfizer Europe
CEDEP                   Remy Cointreau
Daimler Benz            Reuters
Ericsson                St Gallen University
Ernst & Young           Storz
European Commission     Sun Microsystems
Gec Alsthom             Telecom Italia
IAF & INSEAD Alumni     Teledanmark
IBM Canada              Telemedia International
IBM Europe              Theseus Institute
ICEDR                   Volvo
IESE, Barcelona          Wall Street Journal
IMS Europe

A special thank-you goes to Stephen Somerville, Director of the Reuters Foundation, for the extensive support provided to the Centre.
[4] CALT Team & Contributing Faculty

[4.1] The CALT Team

The CALT Team is constituted of a group of researchers and experts who collaborate with INSEAD faculty members and external partners in advancing CALT’s Research Agenda through different CALT projects.

Alastair Giffin is the Centre's Administrative Manager. He has contributed from day one to the overall development of CALT through his active participation in research projects (multimedia cases, the EIS simulation, Web authoring and the Reuters project, among others) and in guaranteeing the development and growth of CALT through his general management fund-raising and organizational skills.

Thierry Nabeth is the member of the CALT Team responsible for guaranteeing that the Centre maintains its state-of-the-art knowledge in the domain of information and communication technologies (in particular, Internet & Agents technologies, Virtual Reality and Artificial Intelligence techniques). He has been involved in a large number of CALT projects, has managed personally European projects such as WCSN, and has been a driving force behind INSEAD’s and CALT’s presence on the Internet.

Jens Meyer’s competencies are centered on the business and education-oriented applications of the Internet. He has conducted different studies and European projects in this area and is coordinating CALT projects on the design of groupware- and Web-based platforms used by “virtual learning communities” of distributed managers. Jens has worked extensively on the design, customization, and integration of such platforms in a number of INSEAD programmes.

Max Grauert’s expertise is in the design of multimedia and Internet-based learning tools and simulations, an area in which he has developed his own authoring system: XMatic. Besides contributing to different CALT projects in this area, Max is involved in the design of the INSEAD Intranet.

Jean-Jacques Bernard is the member of the Audiovisual group at INSEAD who has collaborated with the CALT Team on several projects. Jean-Jacques has thus developed advanced skills in the domains of digital photography, video and sound handling, as well as multimedia authoring. Jean-Jacques is today a member of the INSEAD development team.

Joe Tabet’s recent contribution to the Centre has been in projects related to the impact of new technologies such as the Internet on the health-care sector and on management learning in this particular field.

Anne Gosset and Rachel Royer have greatly supported the CALT Team by taking over administrative, logistics and editing tasks such as the production of this report.

The CALT Team has received the support and cooperation of different INSEAD groups, and in particular of the Computer Development Group directed by Paule Villain, the Audiovisual Group including Frédéric Chabaud, Frédéric Ligault, and Anders Hall, the Communication Group directed by Kenneth Smith, the Development Group directed by Donna Lawrence, and the Executive Education Department directed by Martine Van den Poel.
Several faculty members of INSEAD have contributed to the development and growth of CALT up to now. Professor Albert A. Angehrn, as the Centre’s Director, has been involved in the majority of CALT’s research projects and Centre’s development activities, but a large number of Faculty members from all the INSEAD Areas have been collaborating with the CALT Team on research projects, on the development of new pedagogical tools, on INSEAD Web-related initiatives, or on helping CALT to increase its visibility and identify R&D partners and sponsors.

Professor Yves Doz (Strategy) co-authored the “Business Navigator” article which still provides a key conceptual foundation for CALT. Professor Soumitra Dutta and Professor Tawfik Jelassi (TM/ IS), Professor Arnoud De Meyer (TM/ POM), Professor Christian Pinson and Professor Reinhard Angelmar (Marketing) have all contributed to making CALT the first institution in which multimedia business cases have been designed and evaluated.

Visiting Professor Todd Jick (OB) contributed to the APEX multimedia case project, and to research on the design of advanced simulations in the change management field. Professor Jean-François Manzoni (Acc. & Control) has contributed extensively to CALT projects aimed at designing new forms of groupware-based learning and understanding and improving the impact of business simulations in general and the EIS simulation in particular. His expertise in the field of learning has contributed to significantly enhancing CALT’s Research Agenda.

Professor Lee Remmers (Finance), Professor Enver Yücesan (TM/ POM), Professor Larry Weiss and Garry Marchant (Acc. & Control) and Professor Antonio Fatas (Econ.) have contributed to CALT’s growth by collaborating on projects aimed at the development of new pedagogical material based on advanced learning technologies. Professor David Weinstein (Marketing), Professor Joe Bissada (Entrepreneurship), Professor Luk Van Wassenhove (TM/ POM), Professor Ben Bensaou (ABA & TM) and Professor Heinz Thanheiser (Strategy) have supported our experimentation with groupware-based learning environments and their application in the INSEAD programmes they have directed.

Several other faculty members, and in particular the former co-Dean, Professor Ludo Van der Heyden, the current Dean, Professor Antonio Borges, and former and current Associate Deans, Professor Arnoud De Meyer (Exec. Ed.), Professor Dan Muzyka (MBA), Professor Gareth Dyas (Corp. Dev.), Professor Landis Gabel (R&D) and Professor Yves Doz (R&D) have contributed in the identification of project partners, donors and corporate partners interested in supporting CALT’s Research Agenda.
CALT Output

Over their first few years, CALT Projects have been focused mainly on establishing a conceptual and technical basis for the Centre’s Research Agenda. Nevertheless, CALT Projects have led to academic publications (section 5.1), a CALT Working Paper Series and a number of Technical Reports (section 5.2), several prototypes and fully operational Learning Systems (section 5.3), which have been extensively tested and integrated in programmes at INSEAD and in other schools internationally, a number of Workshops & Events the CALT Team has organized or contributed in organizing (section 5.4), and several presentations of CALT-related work in academic Conferences (section 5.5). In addition, an extensive number of articles mentioning or describing CALT research have appeared in the international press (section 5.6).

[5.1] Academic Publications


Executive Information Systems (EIS), groupware and other types of computer-based information and communication systems are increasingly used in companies to support major change processes leading to the redesign of work processes, information flows, responsibilities for resource allocation, and decision making. However, the high failure rate in implementing such systems is an indication of the resistance to change normally encountered in organizations and the limited skills of IS managers in the domain of change management. The “EIS Simulation”, a multimedia business simulation, has been successfully used to increase managerial awareness of the dynamics and the problems arising when implementing information systems which have important implications for work processes and power redistribution within companies. This paper illustrates the innovative design of this multimedia simulation and the broader pedagogical value of such an experiential learning approach.


The exponential growth of world-wide Internet adoption and the rapidly increasing use of the World Wide Web as a platform for electronic commerce are forcing companies to reconsider and redesign their IT strategies. As documented widely in the academic and business press, the Internet represents a new source of opportunities as well as threats for companies of every size operating and competing in every sector of the world economy. In order to better understand emerging Internet strategies, identifying which companies are trying to take advantage of the Web, and how they are proceeding in implementing their strategies, it is particularly insightful to focus on the banking sector. Banking plays a central role in the world economy and indirectly determines developments in other sectors. In addition, banking is a sector in which IT has traditionally played a key role as a factor for cost cutting, business expansion, and gaining competitive advantage, for instance through new or qualitatively improved services to corporate or retail customers. Hence it would be natural to expect a leading edge approach to the Internet in this particular sector, which has recently been transformed so radically by information and networking technology that by 1995 more than half of all the banking transactions with customers took place outside the bank, i.e. were already electronically mediated. The analysis presented in this paper demonstrates that such an expectation is not matched in practice, and that banks are still struggling to develop mature Internet strategies.

Education is one of the most relevant domains in which the integration of emerging technologies such as multimedia, groupware, and the Internet, is enabling significant innovations. A prerequisite for this development are appropriate frameworks to guide education professionals in exploiting advanced information and communication technologies to significantly enhance the quality and efficiency of traditional management learning and training methods. This paper describes how such a conceptual framework, the Business Navigator method, can be adopted as a basis for integrating advanced multimedia telecommunication, object-oriented simulation, intelligent agents and virtual reality technology to design “flight simulator”-like learning experiences with high pedagogical value. Technological and pedagogical implications of designing such state-of-the-art management learning approaches are illustrated and discussed.


For all that has been written about the Internet, most managers and researchers remain confused regarding its likely strategic impact on how companies operate (internal perspective) and on competition in general (external perspective). The aim of this paper is to use a generic framework (the ICDT model) to classify and illustrate (1) significant business opportunities and threats generated by the Internet, and (2) research projects aiming at better understanding current Internet-related developments and trends.


This paper illustrates a systematic approach to the analysis and classification of business-related Internet strategies as well as a framework to guide the strategy-building process of companies aiming at redesigning or innovating their products and services in the light of the new opportunities and competitive pressures generated by the spread of the Internet. First, the paper shows that current strategies adopted by large and small companies world-wide have been generally based on a narrow, unidimensional interpretation of the Internet, as either an Information, a Communication, a Distribution or a Transaction channel (ICDT Model). The model is then used as a systematic framework guiding (1) the analysis of how traditional products and services are redesigned in the light of the Internet, and (2) the identification of organizational adjustments companies need to undergo in order to fully exploit the business opportunities created by the Internet.


This paper introduces and discusses a framework for the analysis of organizational initiatives aimed at improving internal efficiency and effectiveness through the creation of groupware-based, cooperative workspaces. Starting from the assumption that organizations can be seen as networks of cooperating agents (individuals, teams, task forces, organizational units such as departments, etc.), the framework views groupware platforms as efficient information, communication, distribution and transaction channels used by agents to (1) increase their visibility within the organizational network, (2) improve communication and cooperation potential, (3) support efficient exchange and
distribution of internal services, and (4) provide a platform for formal, workflow-related transactions among agents.

Other Publications


This article proposes a model for the next generation of learning tools - the Business Navigator Method - which projects managers into a virtual business environment. This is a highly interactive and realistic environment in which he/she will experience the difficulties of thinking, moving, understanding and acting in the diverse, socially complex, information and knowledge-intensive, competitive and cooperative reality of today's businesses.


Quelles sont les conditions et les limites de l'utilisation des nouvelles technologies multimédia pour l'enseignement de la gestion? Albert A. Angehrn, dans un exposé concret et alerte, s'appuie sur l'expérience de l'INSEAD et plonge aux racines de l'apprentissage.


The Internet will have a huge impact on the way business is done - especially for small and emerging companies. Albert A. Angehrn and Jean-Louis Barsoux explain the ramifications.


Companies and Internet growth, make use of the Net. Make use of the Net, say Albert Angehrn and Jean-Louis Barsoux. For many companies, engaging with customers has always meant ‘telling them’. The idea of interacting with customers via the Internet is something new, as the notion that back-office functions, such as accounts or distribution, might bypass the marketing department altogether and relate directly to customers.


Groupware Therapy? New multimedia technologies are helping managers explore how to overcome internal barriers and drive organizational change. And they're having fun while they're at it.

Today's management education methods were developed in response to the stable and predictable business environment of the 1960's, 1970's and early 1980's. The new model of the business world is turbulent and characterized by unpredictability, uncertainty, flexible structures and information overload. It is not only the business environment that has changed during the last decade. Our perception of what makes learning effective has evolved too and the new information and communication technologies such as multimedia and virtual reality provide us with new opportunities for pedagogical development. Given these two enabling factors, what is the next step? A new generation of pedagogical tools combining a richer form of learning with the potential of modern technology to better prepare managers for the challenges of today's and tomorrow's business environment. In this paper we propose a model for the next generation of learning tools - the Business Navigator Method. This model projects managers into a virtual business environment. A highly interactive and realistic environment in which he/she will experience the difficulties of thinking, moving, understanding and acting in the diverse, socially complex, information and knowledge-intensive, competitive and cooperative reality of today's businesses. This paper provides insights into the pedagogical objectives underlying the Business Navigator Method, the evolutionary approach we are taking to implement this vision and the lessons learned from our experiences to date.


The aim of this study is to analyze the "Multimedia phenomenon" in order to provide up-to-date information and insights on its current impact on companies and on the development of European industry in general. This report focuses particularly on Spain, contributing to a better understanding of:

1. The current state and the development of the Multimedia industry in Spain.
2. The key factors affecting this development.
3. The dynamics of market acceptance of current and future Multimedia products and services generated by this development.
4. The major transformation affecting industry in general derived from the spread of such products.

The report provides recent data on key players, regulations, strategies of telecommunication companies, experiences with market reaction to multimedia products and services, and multimedia-enabled transformations which are underway in Spain. Comparisons with other European countries and the US are provided, allowing a better understanding of the situation in Spain. The special characteristics of the Spanish market in terms of regulation, infrastructure, management style, consumers, and their specific attitude towards the adoption of new technologies are also examined. Future developments and key success factors in the new environment are also analyzed, as well as the remaining obstacles for the development of Multimedia in Spain.

Education is one of the most relevant domains in which the integration of emerging computer and telecommunication technologies is enabling significant innovations. A prerequisite for this development are appropriate frameworks to guide education professionals in exploiting advanced information and communication technologies to significantly enhance the quality and efficiency of traditional management learning and training methods. This paper describes how such a conceptual framework, the Business Navigator method, can be adopted as a basis for integrating advanced multimedia telecommunication, object-oriented simulation, intelligent agents and virtual reality technology to design "flight simulator"-like learning experiences with high pedagogical value. Technological and pedagogical implications of designing state-of-the-art learning systems based on the Business Navigator method are illustrated and discussed.


Executive Information Systems (EIS), groupware and other types of computer-based information and communication systems are increasingly used in companies to support major change processes leading to the redesign of work processes, information flows, responsibilities for resource allocation, and decision making. However, the high failure rate in implementing such systems is an indication of the resistance to change normally encountered in organizations and the limited skills of IS managers on the domain of change management. The "EIS Simulation", a multimedia business simulation, has been successfully used to increase managerial awareness of the dynamics and the problem arising when implementing information systems which have important implications for work processes and power redistribution within companies. This paper illustrate the innovative design of this multimedia simulation and the broader pedagogical value of such an experiential learning approach.


The ICDT Model described in this paper is a framework for categorizing and analyzing Internet-related business strategies. The model provides the basis for a systematic approach (1) to the analysis of how traditional products and services are redesigned in the light of the new opportunities and competitive pressures resulting from the rapid penetration of the Internet, and (2) to identify specific competencies companies need to acquire and organizational adjustments companies need to undergo in order to fully exploit the business opportunities created by the Internet.


Albert A. Angehrn, "EIS Simulation User & Trainer Manual (German Version)," INSEAD, 1996.


This report reviews the literature on how Groupware is being used in different types of educational settings.


Ce rapport se propose de faire une présentation globale de l'ensemble des tenants et des aboutissants d'Internet pour le monde économique. Son objectif est de fournir au décideur du monde de l'entreprise les éléments d'information qui lui permettront de se faire une première idée de l'usage qu'il pourra faire de cette technologie pour son entreprise, mais aussi de mesurer le volume des efforts qu'il lui faudra consacrer pour bâtir et mettre en œuvre une solution opérationnelle.


This document reports on an experience with groupware in management education conducted over one and a half year by INSEAD and TeleDanmark. The project included the selection, design, set-up and running of a groupware platform used to support and enhance a modular management development programme for Teledanmark managers ("LEAP"). This groupware platform will be called in the following "LeapNet3" (to reflect its association with the LEAP Programme), or more generally "LEN" (Learning Executives Network).


This reports illustrates in detail the rationale and the application of an Internet-based platform used by a team of distributed managers during and after an INSEAD Programme.


The performance of modern organizations is determined by their efficiency in generating value by matching market demand, predicting it accurately, and contributing to its development through innovation. The key resources that companies use to achieve their goals are people - their skills, knowledge and imagination. Companies also depend on their people's capability to extend and apply all these qualities in working together to create and implement the corporate vision and objectives.

Alastair Giffin and Albert A. Angehrn, “Interactive Digital Entertainment: Interactive Movies and beyond... " , CALT Report, January 97.


Albert A. Angehrn and Jean-François Manzoni, “Teaching & researching change management: a multimedia simulation approach” to be presented at the 17th Annual Strategic Management Society International Conference, October 7, 1997, Barcelona (Spain)

The EIS Simulation is a computer-based multimedia business simulation which has been used extensively over the last 2 years with groups of management students and executives. The simulation was initially created as a pedagogical tool to support the discussion and learning of "change management skills", particularly when such change is driven, enabled or accompanied by Information Technology. It has proven very useful in this context. The simulation has also started to be used in research projects, primarily as a data gathering mechanism. Our paper illustrates the innovative design of this simulation, discusses the pedagogical value of such an experiential learning approach, and explores how the EIS simulation can be used to gather data to investigate a number of research questions.
[5.3] Learning Systems

Swatch Multimedia Case Study
Location: CD-ROM

Gauloises Blondes Multimedia Case Study
Location: CD-ROM

Fidji Multimedia Case Study
Location: CD-ROM

Gist-brocades Multimedia Case Study
Location: CD-ROM

Capital Multimedia Case Study
Location: CD-ROM

Minitel Multimedia Case Study
Location: CD-ROM

Apex Situation-Based Multimedia Case
Location: CD-ROM

Internet Challenge Interactive Case Study
This interactive case (included in the IVC environment) provides an interactive introduction to Internet navigation for managers.
Location: http://www.insead.fr/calt/IVC/CAses/Challenge/t1.htm

Discover Internet Learning Module
This interactive, Web-based module introduces managers to Internet and to a variety of business applications.
Location: http://www.insead.fr/calt/IVC/Guide/index.html

Hospital Simulation Prototype
This prototype is a variation of the EIS Simulation focusing on the implementation of Quality initiatives in a hospital environment.
Location: CD-ROM

FORAD Xmatic-business game
Simulation-based learning experience designed to help corporate executives and bankers to better understand what it takes to manage the financial position of a multinational industrial corporation
Location: CD-ROM

The Encyclopedia: The CALT WEB Knowledge base
The CALT Encyclopedia consists in a structured set of pages that reference all the Web resources related to research projects conducted within CALT or at INSEAD in general.
Location: http://www.insead.fr/calt/Encyclopedia

CMW Website & Forum
The CMW Website and Forum supports exchanges between participants of the CMW Workshop before and after the actual Workshop at INSEAD. The Forum aims at collecting participants' experiences with complex change management projects.
Location: http://www.insead.fr/CALT/Workshops/CMW/
Coca-Cola case study
This web-based learning module aims to be used as class materials at INSEAD (MBA participants). This interactive learning tool includes Java calculation applets (try your hand).
Location: http://inside.insead.fr/mba/courses/weiss/coca-cola/

INSEAD Intranet Prototype
An Intranet prototype aiming at supporting INSEAD MBA students, Faculty and administration. The Intranet promises to fundamentally change the way employees communicate. Internet technology used within secure bounds as an Intranet offers many advantages, most notably ease-of-use and communication to any hardware platform that supports a Web browser at INSEAD and from outside. The output is to give teams at INSEAD autonomy in making their work more productive.
Location: http://inside.insead.fr/mba

ITP Knowledge & Learning Platform
This is the first Notes-based platform which has been designed at INSEAD to support the group of faculty members from international business schools attending the International Teachers Programme (ITP) at INSEAD.
Location: CD-ROM

ELVIS - A Learning Platform for Memphis
Web site supporting project management functions within the Memphis consortium and experimentation with Web-based learning.
Location: http://www.insead.fr/CALT/Project/memphis/

"DealTracker" Learning Module
Multimedia Learning module based on InteractKit.
Location: CD-ROM

Information Biases Learning Module
Multimedia learning module based on InteractKit (i.e. Web-based) illustrating traps and pitfalls that might alter the management information gathering and decision-making process in complex product-related decisions in the pharma industry.
Location: CD-ROM

EIS Simulation - Change Management Learning Tool
EIS Simulation (available in English, French and German) for Macintosh.
Location: CD-ROM

Easy Computer Learning Module
The aim of this multimedia learning module is to explain to incoming MBA’s unfamiliar with the world of computers, groupware and the Internet how these tools are playing an increasingly important role in business, and motivate them to use these tools actively during their year at INSEAD.
Location: CD-ROM

Accounting Foundation Module
Multimedia, Web-based module for learning accounting basics.
Location: CD-ROM

Virtual INSEAD
This is a 3D, internet-based, distributed environment representing a Virtual Campus in which students, represented by avatars, can meet, attend courses, engage in teamwork, and visit virtual offices.
Location: http://www.insead.fr/CALT/Project/VirtualCentre/
**Decision Biases Prototype**  
Multimedia-based experiential learning system for management training in the domain of decision making.  
Location: CD-ROM

**LEAPNet Knowledge & Learning Platform**  
This Notes-based platform documented in a separate report has been designed to support a group of distributed Danish managers attending a modular programme at INSEAD. The Platform supports learning, knowledge sharing, and project management.  
Location: CD-ROM

**The CaseKit Groupware Platform**  
CaseKit is a groupware-based pedagogical tool for case-based learning in a management development context. The tool, implemented in Notes, gives the possibility to create, publish and use so-called Team-based Multimedia Cases (TMC). Technically, team-based multimedia cases are Notes databases with the structure and functions illustrated in Part 1 and 2. They can be accessed by distributed teams of users divided into two categories: Authors (typically one), and Readers. Authors have access to a number of authoring, viewing and administrative features to which readers don't.  
Location: CD-ROM

**Muma**  
Object-oriented environment for modeling and visualizing networks of alliances between companies operating in the multimedia sector.  
Location: Website "http://www.insead.fr/CALT/Project/Projects/Microworlds/Alliances/

**CALT Web Site**  
Presentation of CALT (objectives, people, summary of projects, etc).  
Location: Website "http://www.insead.fr/CALT/

**CALT Forum**  
The CALT Forum, is an electronic bulletin board, for general exchange of ideas.  
Location: Website "http://www.insead.fr/CALT/Forum/

**CALT Virtual Bar**  
A virtual environment for informal exchanges among Internet users interested in Learning Technologies.  
Location: Website "http://www.insead.fr/CALT/Bar/

**WCSN Project Management Server**  
This Web area is used to manage the exchange and the archiving of the information of the WCSN project.  
Location: Website "http://www.insead.fr/CALT/WCSN/" (password protected).

**Internet Virtual Centre**  
INSEAD Internet Virtual Centre (IVC) is an extended manager's Guide to the Internet. It consists in a set of integrated pedagogical tools (Readings, references, cases, etc.) that cover the different facet of Internet useful for the manager.  
Location: Website "http://www.insead.fr/CALT/IVC/

**Virtual Learning Communities Website**  
Website developed in collaboration with the Swedish Trade Council (STC), related to the exploration of virtual communities in the context of SME.  
Location: Website "http://www.insead.fr/CALT/STC/" (password protected).
CALT in Alpha World Environment
Set of virtual 3D buildings (virtual laboratory, amphi, classrooms, agora, etc.).
Location: Web-site "http://www.insead.fr/CALT/Encyclopedia/ComputerSciences/VR/Worlds/Alpha/
Located 0 North, 2100 West in Alpha World.

Web-based Interactive Learning Tools
Set of HyperMedia (HTML + video + director). Interactive learning tools in the domain of accounting. Three systems now: AccountANT, Deal Tracker and FXHistory.
Location: Web-site "http://www.insead.fr/CALT/Project/InteractiveLearning/" (password protected).

WCIP Workshop Website
The World-Class-Internet-Presence is a two-day workshop based on the idea of proposing a 'virtual study mission' presenting 3 companies (around the world), through the use of lectures and video-conferencing.
Location: Web-site "http://www.insead.fr/CALT/Programmes/WCIP/

CIIA, CIIA 97, Remy Cointreau Websites
CIIA (Competing In the Information Age) is a series of INSEAD executive programmes. The web is used to support this programme by providing information and communication means for the participants (Notes: CIIA uses Notes & Domino technologies).
Location: Web-site "http://www.insead.fr/CALT/Programmes/Executives/CIIA97/

LeapNet Website
Leap net is the follow-up of the Teledanmark electronic programme. The web is used to support this programme by providing information (description, schedules, etc.), and communication means for the participants. (leapNet uses the Webforum technology).
Location: Web-site "http://www.insead.fr/CALT/Programmes/Executives/LEAP/

LGMB & Cyber Entrepreneurship
LGMB & Cyber Entrepreneurship are MBA Programmes. The web is used to support these programmes by providing information, communication means for the participants, and Internet experiences (authoring web pages, setting virtual shops). LGMB & Cyber Entrepreneurship use notes and webforum technologies.
Location: Web-site "http://www.insead.fr/CALT/Programmes/MBA/Cyber/
Location: Web-site "http://www.insead.fr/CALT/Programmes/MBA/LGMB/

Experiments with Groupware servers
Majordomo mailing list server and Web gateway.
Location: Web-site "http://calt.insead.fr/

Notes Domino Environment
Technology to access Notes in the Web.
Location: Web-site "http://domino.insead.fr/" (used in executive programmes).

Microsoft Merchant Server
This environment supports experimentation with Electronic Commerce on the Web.
Location: Web-site "http://caltnt.insead.fr/

MicroWorlds
Microwork is a software architecture in Smalltalk, useful to model systems as microworlds with highly cognitive representation.
Location: Web-site "http://www.insead.fr/CALT/Project/Projects/MicroWorlds/"
SocialNetworks
Tool for modeling and visualizing social networks.
Location: Web-site "http://www.insead.fr/CALT/Project/Projects/MicroWorlds/SocialNetworks/

BSG
Tool for modeling and visualizing organizations.
Location: Web-site "http://www.insead.fr/CALT/Project/Projects/MicroWorlds/BSG/

Java Applet Demo
Environment including a set of examples for understanding the application of Java technology.
Location: Web-site "http://www.insead.fr/CALT/Project/Simulator/gamelife.html"
[5.4] Workshops and Events

Change Management Workshop

The Change Management Workshop is a one-day hands-on learning experience designed by INSEAD’s Centre for Advanced Learning Technologies to give managers insight and skills in how to successfully develop and implement an organizational change strategy. CMW addressed two key subjects:

(1) **The need to Manage Change**: In today’s complex business environment, organizations need to change constantly to compete, and implementing change has become one of the key tasks of managers.

(2) **An Innovative Learning approach**: The CMW combines a group discussion led by an INSEAD Professor with an innovative multimedia simulation exercise: the ‘EIS Simulation’. This simulation is a powerful learning tool that requires users (organized in teams) to implement an organizational change in a risk-free simulated environment.

The World-Class Internet Presence Workshop

WCIP is an innovative two-day learning event designed by IESE International Graduate School of Management and INSEAD’s Centre for Advanced Learning Technologies to give managers insight and skills in how to strategically design and successfully manage the development and implementation of a World-Class presence on the World Wide Web. The WCIP Workshop is based on a 'virtual study mission' to discover how three companies (one American, one European and one Asian) have achieved a World-Class standard presence on the World Wide Web, and combines classroom discussion based on case studies on those three companies with a 'virtual study visit' (through video conferencing and Web links) to all three companies during the course of the two-day Workshop.
Les Autoroutes et Services de l'Information,
7 December 1994, CNIT Paris La Défense.

EFMD Case Development Workshop,
18 September 1995, Barcelona, Spain.

Workshop of ALT Presentation,
13 November 1995, at the Hernstein Management Centre.

EFMD Case Development Workshop,

Lilis Conference,
25 March 1996, Genova, Italy.

5e Forum des Innovations Pédagogiques dans les Formations au Management,
28-29th March 1996, Lyon, France.

Edma Conference,
11 April 1996, Brussels, Belgium.

ITiMA Conference,

Ecis Conference,

First German Internet Conference,
6 July 1996, Karlsruhe, Germany.

2. Formed, Bari. 25/09/96

Direct Marketing Conference
11 October 1996, Maastricht.

FEFSI
5 December 1996, Brussels, Belgium.

International Conference on Human-Computer Interaction
August 1997, San Francisco, US.

5th European Conference on Information Systems
July 1997, Cork, Ireland.

Thirtieth Annual Hawaii International Conference on Systems Sciences
January 1997, Hawaii, United-States.

17th Annual Strategic Management Society International Conference
7 October 1997, Barcelona, Spain.
‘Multimedia comes to the Business school’, Financial Times, 21/12/94.

Interactive teaching methods are about to revolutionize executive education, says George Bickerstaffe. Like everything else, management teaching is about to be invaded by the information superhighway, multimedia and CD-Rom. Many business schools, including Harvard, are now working on the application of these technologies to case studies and business simulations.


ECCH was represented by Ira Blake at last September’s European Foundation for Management Education Case Workshop hosted by Sheffield Hallam University. On her return she reported that the otherwise conventional academic proceedings had been over-shadowed by INSEAD’s Professor Albert Angehrn who had described a new hypermedia package, ’Business Navigator’, being produced at INSEAD. This explained on the approach to case pedagogy created by multimedia cases, its key being the development of the Virtual Business Environment (VIBE).


The ’Business Navigator’ hypermedia package expands on the approach to case pedagogy created by multimedia cases. The key to Business Navigator is the development of a Virtual Interactive Business Environment (VIBE). This is a realistic simulated business context (e.g. a company) which the learner is invited to discover step by step in the course of a ‘virtual visit’. With a VIBE, case reading is transformed into a real experience in which one can wander through buildings, enter offices, look for information, meet people and interact with them.


A decade ago, it was said that having an expensively paid academic spend an hour or so in lecturing a single class of students about basic economics or accounting was a remarkable expenditure of resources in an age of information technology. Yet the management development industry has been, in some eyes, remarkably slow to take advantage itself of IT at a time when this technology has had such sweeping implications within business. That situation is now changing rapidly.

‘Knowledge assisted by computer’, Translation of article from L’Express, 25 may 1995.

A new generation of educational software is arising. With CD-ROM technology, images, sounds and knowledge are brought together and allow the individual to learn at his/ her rhythm and at a distance. But can we really do without professors?

‘Research Centers Hit the Market’, International Herald Tribune, 30/5/95.
Business schools are investing in research. As schools jockey for position, the ability to deliver on research is becoming a key competitive factor. The benefits of success can feed into many areas of the school’s life - providing course materials, raising the institution’s profile and attracting vital corporate sponsorship, for instance.


Business schools and academics are not slow to promote the latest management thinking or to lead business into new areas - the financial innovations of options and derivatives, for example, were largely created by research carried out at business schools.


Business schools turn to CD-Rom. Some leading business schools, such as Harvard in America at INSEAD in France, are taking up the technological challenges by putting case studies (a way of teaching business by exposing students to real life business issues) on to CD-Rom, computer-based compact disks that combine data, sounds, still pictures and video.

‘What’s behind all this marketing?’, The Times, Monday 16 October 1995.

The market to attract MBA students is among the most competitive in the world. Though applications are up significantly on recent years, most business schools are fishing in the same pool to attract the best students.


Top MBAs for Europe. MBA programs are reaching out to the world. As they try to demonstrate that they are truly global in reach, Europe’s top business schools are following different and varied cross-frontier highways. Stepping up efforts to peddle distance-learning packages, exploiting the Internet and the World Wide Web, launching joint projects and appealing to the emerging markets of Asia and Eastern Europe figure prominently in these moves.

‘IT - an inexpensive way to new markets’, Translation of article from 'Strategi' (N. 3, 1996).

Small exporters challenge via Internet. The export giants’ conservative attitude towards the Internet way have disastrous consequences. New information technology opens up the way for small companies to enter and compete in markets without high costs. The export giants’ conservative attitude towards the Internet way have disastrous consequences. New information technology opens up the way for small companies to enter and compete in markets without high costs.


Business Education in France. The Net allows schools to run joint projects. When it comes to using the Internet for business teaching, France has lagged behind countries such as the United States and Britain. But now the idea has suddenly caught the imagination of schools across the country, and French business educators are rushing to hook up and switch on. How this will affect the basics remain to be seen.

‘Alternative education? Newspapers, computers and television’, translation of article from 'La Gazzetta del Mezzogiorno'.
Emerging approaches to education require more flexibility. Growing diffusion and application of technologies is also affecting education, facilitating also distance education, via information systems. This is the thesis investigated in the third day of study, during a week about the information society, held in Tecnopolis. The pace of change is faster and faster, often faster than the life cycle itself. In other words, some life cycles of a learned technological job are shorter than the technology itself, and this requires a great deal of flexibility and faster and faster learning systems. This is a new reality which is breaking the traditional units of place, time and action (from school and from classroom to house, via computer), as explained by Doct. Giovanni Ingravallo, Director of Corporate Relations for Tecnopolis.

‘Technology development faster than adoption by customers’, Translation of article from 'Adfo Direct' (May - June 96).

Does today's information age really involve a greater revolution for society than all recent technological revolutions in modern history put together? And what will be the consequences for direct marketers? If anyone can answer these questions, it is Professor Albert Angehrn of CALT at INSEAD. Angehrn, as keynote speaker, recently gave the most inspiring contribution to the latest Edma Forum in Brussels. The dynamic professor briefly gave an overview of a number of outstanding new media developments and changes in the communication infrastructure. He took his audience on a search through cyberspace in which - according to him - INSEAD and Harvard Business School regularly have conferences together.

‘Simulations for Managers’, Translation of article from 'Il Sole 24 Ore' (N.206, 29.07.96).

Multimedia software from SDA Bocconi Universtiy teaches how to manage organizational changes. The EIS software will be the subject of an intensive seminar in October 96. Organizational changes? New strategy to be implemented? better to verify in advance the possible outcomes in a simulated - yet very flexible and articulated - software assisted environment. This possibility is currently provided by a multimedia simulation software named EIS (Executive Information System) Simulation.