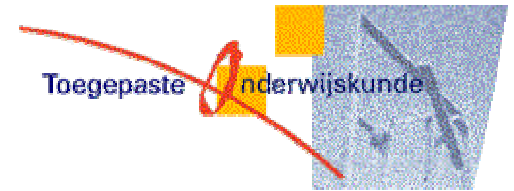


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Models of Technology and Change In Higher Education

**An international comparative survey on the current and
future use of ICT in Higher Education**

Edited by

Betty Collis & Marijk van der Wende

Report

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1. Research Design

The development and implementation of information and communication technology (ICT) forces today's universities and colleges to respond to societal trends that point to a transformation of our society into a so-called 'knowledge economy' (Manuel Castells, 1996).

Globalisation and ICT applications place new demands on higher education establishments and hold important implications for their teaching and research functions, especially in light of the growing importance placed upon lifelong learning and upon more flexible forms of higher education delivery." (CHEPS Research Program, 2000).

1.1 Introduction

Building on previous joint research in this area¹, CHEPS (the Centre for Higher Education Policy Studies) and the Faculty of Educational Science and Technology² of the University of Twente in the Netherlands decided in 2001 to launch an international comparative study on Models of Technology and Change in Higher Education.

The project was co-funded by [SURF](#) (the support agency for technology in higher education in the Netherlands), the [Bertelsmann Foundation](#), Germany and the [Norwegian Ministry of Education](#).

The research team consisted of Prof. Dr. Marijk van der Wende (project coordinator) and Prof. Dr. Betty Collis, drs. Petra Boezeroy, drs. Wim de Boer, and Gerard Gervedink Nijhuis MSc. Assistance in data-analysis was provided by Anneke Lub and Rien Steen.

The outcomes of this study are meant to be relevant for higher education leaders, managers policy makers at institutional and national level, national agencies, technical and pedagogical support units, and HRM managers.

1.2 Rationales

From our own and also from many external studies, it has become clear that:

- Due to their changing environment (growing and diversifying demand for higher education, increasing competition and globalisation) higher education institutions have to define clear and comprehensive strategies for ICT and have to make

¹ Collis, B. & M.C. van der Wende (eds). 1999. *The Use of Information and communication Technology in Higher Education. An International Orientation on Trends and Issues*. Enschede: University of Twente.

Boezeroy, P., E. Beerkens, B. Collis, J. Huisman & J. Moonen (2001). *Impact of the Internet Project: The Netherlands and Finland* (Study of the HEFCE-UK).

Fisser, P. (2001). *Using Information and Communication Technology. A Process of Change in Higher Education*. Dissertation. Twente University Press.

² Since October 2002, the Faculty of Behavioural Sciences

considered choices about the markets they can and wish to serve and by which type of technology use.

- The actual influence of these external conditions, however, is determined by the way in which the internal actors perceive the changes in their environment and by their ideas about the future.
- Moreover, there is a gap between vision and reality. Or that the "Virtual University" works in theory but not in practice (Pollock & Cornford, 2002). Many institutions are still struggling to overcome the "pioneer" or the "1000 flowers blooming" phase, while trying to move into a phase of more mainstream engagement.
- In order to be successful, indeed, the commitment of some dedicated individuals will not suffice; the institution itself must make a commitment (i.e. for support, resources and personnel) and has to develop a targeted implementation strategy.
- Finally, in order to progress both internally (involving more staff) and externally (better serving current and new students), we need to know more about the implications of technology use.

Building on these insights, the purpose of this international comparative project is to study factors that influence current models relating to technology use in higher education and which predict how institutions are likely to evolve, given their current conditions. Consequently, it explores the way in which higher education institutions perceive their changing environment in relation to their ICT strategies - i.e., which external factors are actually influencing the strategic decision-making of institutions in this area - and how they respond to these challenges. Furthermore, the study reviews how strategic responses translate into internal policies and implementation plans and what effect they are perceived to have on teaching and learning practices.

1.3 Objectives

The objectives of the study are to:

- Gain a further *insight* in and understanding of the institutional, policy-based responses and initiatives with respect to the use of ICT in higher education.
- Further develop and *test* four scenarios on strategic choices of HE institutions with respect to the use of ICT in their education functions.
- *Predict* the different strategic pathways that higher education institutions may choose with respect to the use of ICT in higher education and the critical conditions and implications at various levels that are related to them.

1.4 Research Questions

The central question for this study is: *Which scenarios are emerging with respect to the use of ICT in higher education and how can future developments be predicted and strategic choices be based on these scenarios?*

Sub-questions are:

1. What strategic choices do institutions make with respect to the use of ICT in response to these external conditions and developments and how do they view their future missions, profiles and market positions (e.g. changing demand and target groups)?
2. Which external conditions and developments (changing environment, e.g. increasing competition) influence the choice of higher education institutions (HEIs) with respect to the use of ICT and how are these perceived and analysed by key different actors?
3. What role does external collaboration play in achieving the strategic objectives (esp. links with business and industry and international links)?
4. Which internal conditions and measures are being taken in order to achieve the strategic targets (implementation strategy, role of central and de-central support units, staffing policy, etc.)?
5. What are the implications of the various strategic choices / models for:
 - Technology use, including course management systems
 - View(s) on teaching & learning (knowledge production and dissemination) and specific pedagogical models and dimensions
 - Time, workload and satisfaction of staff?