Strategic Issues in University Management
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1 Scope
In this paper we will discuss developments in the field of scientific information with the aim to determine and analyse some of the pertinent strategic issues related to higher education (HE) as seen from the stakeholder perspective of the university and its management.

2 Overall developments
Starting point for the analysis is this vision:

“The research and HE information market will in future be based on a federated network of repositories of information relating to research and education that conform to open standards, and an accommodating architecture that allows users the easiest and fastest possible access to information in all of these repositories.

The information available by such a network will not only comprise of information material for research and HE, but also of management information relating to this information.

The market is the research and HE community. This federated network will be an open and global network.”

This universal vision has for centuries driven the market for research and higher education information and, as a consequence, therefore the value chain of this market. Engines for change supporting to better fulfil this vision have always triggered and will trigger changes in the value chain.

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In HE, a universal engine for change is the desire of students to choose their own teachers and of teachers to select their students. These desires lead to demand-driven HE coupled with a high mobility of students. E-education allows and furthers such a mobility of students, albeit a virtual mobility and this development in turn spurs a segmentation of student and teacher needs. This mobility is expected to show up in particular for master students and will lead and has already lead to the introduction of international masters. Wider applications of distance learning and life-long learning will provide extra impetus to these developments.

Students will be able to programme their course from course elements offered by different institutions. This will develop academic teaching at HE institutions from a local supply-oriented service to an international demand-oriented service. As a result there will be more intense competition between institutions, a.o. for student enrolment. The consequence is a demand for higher quality.

The implementation of the vision will affect the research and higher education institution in many aspects: in research and the research process, in teaching and the teaching process, in its overall organisation, and in its technical competencies. It may well have legal consequences for intellectual property; it may well change the role of the institution in the entire information landscape and its proprietary roles in both research and education, in organisation and technology.

3 HE institutions
The above means that the strategic position of the HE institutions as important stakeholders in the scientific information and education market will change. The competitive position of the HE institutions may even change to the extent that they may lose their monopoly in HE.

The leading vision for the institution is the integration of its entire information provision. Information provision is already or will soon be a major strategic activity of the institution at the service of research and teaching.

3.1 External developments
This integration of the information provision is a key strategic issue for the future competitive position of the institution. It is relevant for both research and teaching as to attract prospective researchers, to attract prospective students (in particular master students competing at course level) and to attract prospective teachers, both for the creation of teaching material and for the coaching of students. The degree of integration of information into the primary processes will determine to a large extent the competitive and economic strength of the institution.

The introduction of ICT means that teaching will change from a labour intensive activity to a capital intensive activity. As this will change the economy of the institution this development will, in the end, lead to a transformation of the institution. The

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2 The Bologna Declaration of 19 June 1999: Joint declaration of the European Ministers of Education.
societal role and position of the institution may well change because of the increasing demand for continuing professional development at the academic level. To fulfil this demand new roles and functions have to be considered leading to new curricula. Last but not least, the HE institutions may well lose their monopoly in teaching.

Competition in teaching between suppliers of higher education will in future be based:

- on the creation of teaching material. The trend will be to utilise internationally refereed material. This requires the existence of certification and refereeing services for federated teaching material;
- on the intensity and professionalism in coaching the students;
- on the ability of sharing teaching material with other institutions in teaching alliances allowing the institution to offer highly specialised courses that they would not be able to afford in isolation;
- on teaching as an important instrument for profiling of the institution and its teachers. In this way it will become an important instrument for the acquisition of revenues.

3.2 Internal developments

The developments in HE may well lead to a new division of labour at our research and HE institutions. We will see teachers who are primarily involved in the creation of teaching material. This will be in teaching areas in which the institution will be internationally leading in research, as this research is a condition for profound insight in teaching material. This may not be too different from the present day practice of only a few teachers writing textbooks, but the creation of digital teaching material requires additional competencies in the integration of teaching material and didactic methods. Most teachers will need to restrict themselves on the coaching of students using course material obtained from external sources. This leads to a new division of labour between the creation of teaching material and coaching of students using this teaching material.

The exchange of locally produced teaching material with other institutions could generate revenues, financial or other, and these could be used to acquire other required teaching material. In this way, research-intensive institutions will be able to offer qualitatively invaluable teaching material also in those subject areas that are not being researched directly by these institutions. This creates a new market, possibly with new currencies of exchange, for the exchange of teaching material. This teaching material is now defined as a combination of digital content with appropriate didactic methods and allowing new interactive teaching methods.

The institution is interested to hire the best teachers possible. This will require that teachers will be evaluated separately for their teaching activities and not only by their research activities as is now often the case. This will require new management instruments, such as a new remuneration system based on personal results in either research or teaching or a combination thereof.

3 See e.g. the development at and strategy papers of the University of Twente
The above has some intriguing consequences for the relation between research and teaching at an institution. Institutions are nowadays practically forced to make a choice between being a research institution or a broad educational institution. In many cases this may well lead to a separation in the organisation of research and teaching. However, as we have seen, in order to create high quality teaching products, and this applies in particular to high level master courses, a tight coupling of research and teaching is required. Where we seemed to have lost the close coupling of research and teaching in the organisation, we need this close coupling to create high quality teaching content. Thus the organisational segregation of research and teaching leads to a stronger need for integration in terms of subject and content.

A further consequence is a change in the relation between the institution’s primary processes and the information provision for these processes. It seems desirable that this information provision will have to integrate more closely with the primary processes to deliver the services they need. This requires a delicate integration strategy at the institution top management level.

3.3 Summarising conclusions
For the strategic position of the HE institutions the above described development means:
– possible loss of monopoly of HE institutions in academic teaching;
– tenser competition and potential alliances between institutions, both international and national, and other suppliers of higher education. Institutions must and will be in the position to compete. This needs the motivation of the collaborators, researchers and teachers.

Internally the strategic consequences are:
– tenser competition between research and teaching;
– a new division of labour in research, such as collaboration schemes in research;
– a new division of labour in teaching, such as a personal division in time and space in the creation of teaching material and coaching of students.

For the institution’s information management the following strategic changes are envisioned:
– consequent organisation of the information management at the institution;
– integrated management systems for research and teaching.

This will ensure a high value information provision as a major strategic asset of every institution. In order to grasp the benefits of e-education HE institutions must be able to cope in a productive way with the strategic issues discussed in this paper. For most HE institutions this means a strategic transformation.