

Managing the university campus: Exploring models for the future and supporting today's decisions



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Managing contemporary campuses and taking decisions that will impact on those of tomorrow is a complex task for universities worldwide. It involves strategic, financial, functional and physical aspects as well as multiple stakeholders. This article summarises the conclusions of a comprehensive PhD research project which was enriched with lessons learned in the aftermath of a fire which destroyed the author's workplace. The replacement building allowed her to put her theories and concepts into practice.

INTRODUCTION

Over time, managing a university campus has become increasingly complex and challenging; it also involves many more stakeholders, opportunities and pitfalls than before. Recent moves to diminish public involvement and funding for universities have put pressure on the internal allocation of resources and institutional leaders are having to weigh investments in property and other facilities against investments in human resources at the university and faculty levels. They are also comparing the added value of decisions relating to campus infrastructure with the that of investing in more faculty members, more students or new research programmes. As a result, there is an ever-greater need for evidence-based information to support decision making.

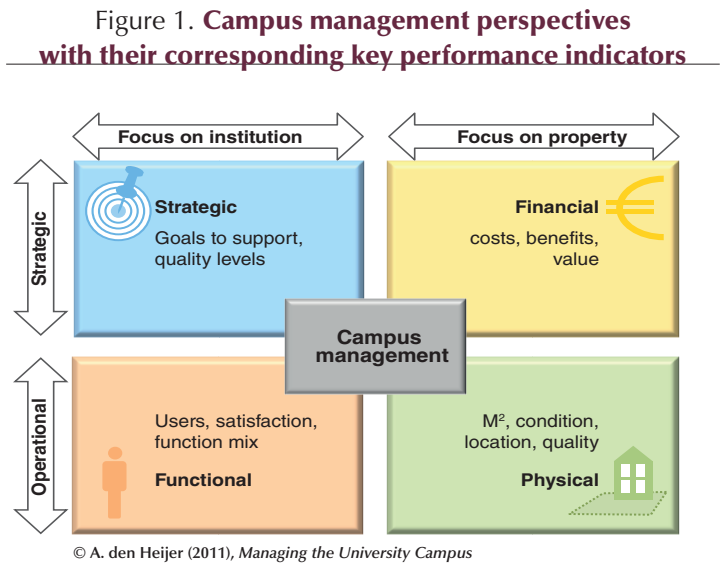
Furthermore, while university buildings are aging – both from a technical and functional point of view – and many need to be renovated, certain developments are causing uncertainty in relation to future space demand. On top of that, students and academic staff increasingly expect state-of-the-art facilities and optimal support for education and research. Policy makers want the campus to support their institutional goals – such as attracting and retaining talent, stimulating innovation and building a community.

Consequently, campus managers claim that they need better information systems and tools to support their management tasks and to inform and engage stakeholders, i.e. policy makers, users, controllers, technical managers and designers. These groups have vested interests in the strategic goals, resources and physical aspects of the campus. The information and tools described below, which are the fruit of a PhD research topic, support an integrated approach to managing the campus of today and preparing the university of the future.



CAMPUS MANAGEMENT: LOOKING FORWARD

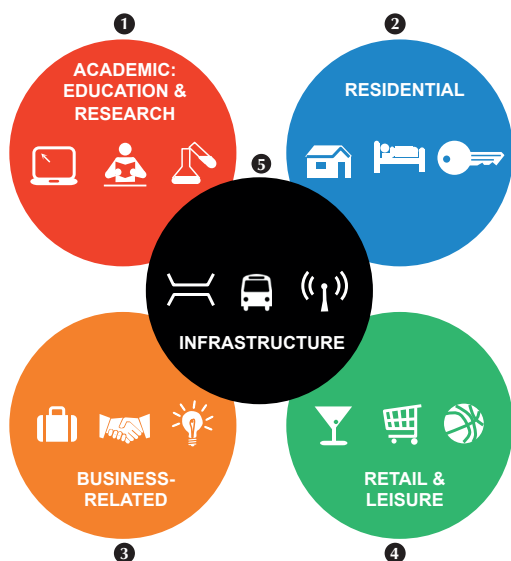
The following framework (Figure 1) distinguishes four stakeholder perspectives that are relevant to every campus decision: these are strategic, financial, functional and physical. They relate to the campus stakeholders as well as the key performance indicators against which these actors assess all university-related decisions.



This framework was applied to 14 campuses and 40 campus projects. Informants were asked to describe these projects by answering the following questions: Why was this project chosen (goals)? Which space types are involved (education, offices, laboratories)? How many users are concerned (students and staff)? What is the investment level? As confirmed by campus managers, it is essential to assess projects on all of these aspects simultaneously, instead of just comparing costs or carbon footprints.

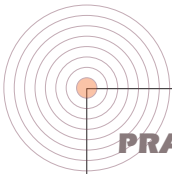
An international literature review, document analysis and benchmark studies provided me with many important lessons for the university and campus of tomorrow, whereas the trends I identified were translated into scenarios for the future of higher education and inspired physical campus models. These link the campus to its neighbouring city, while the functional campus models are based on the requisite functions for a university's processes and goals, which are illustrated in Figure 2.

Figure 2. **Space types on campus: the required mix of functions for the university of the future**



- 1 Academic functions for education and research.
- 2 Residential function: housing for students and staff, hotels.
- 3 Business-related function: space for partners linked to academic goals and supporting processes.
- 4 Retail and leisure: sports, cultural and catering facilities.
- 5 Infrastructure: ranging from accessibility to car parks.

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PRACTICE WHAT YOU PREACH

Ironically, the fire at my own work environment – Delft University of Technology's (TU Delft) Faculty of Architecture building – underscored the immense value of a university building for a faculty and university.

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The Faculty of Architecture building destroyed by fire



In 2008 a huge fire destroyed this workplace for over 3 000 students and 1 000 staff members: an entire academic community became homeless.

The faculty library was saved, but the fire destroyed individual and shared libraries as well as collections, irreplaceable artwork and work in progress.

Six months after the fire an unforgettable process got into gear and, in record-breaking time, a project team renovated a heritage building from the 1920s. It became a vibrant building with streets, squares, public bars and restaurants, connecting places where one could learn, study, work and socialise. The new academic workplaces, multi-functional spaces and the library were radically rethought and there was more use of digital media. The finished building was able to accommodate over 3 300 students and 800 staff members across a gross floor area of 36 000 m² (i.e. 15% less floor space compared to the original building).



BK City,
the new Faculty
of Architecture
building

Photo: Willem de Rooij © TU Delft

The author was a member of the project team and, as such, had a unique opportunity to implement new design concepts. BK City became the faculty building of the future, housed in a building with a past.

More information: <http://www.bk.tudelft.nl/bkcity>

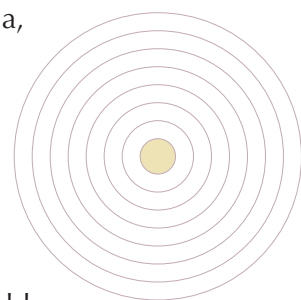
Figure 2 shows that campus management tasks are no longer limited to the academic functions of education and research, but are practically akin to managing a city. It is easy to make comparisons with urban planning and this further emphasises the complexity of the exercise. The strategic choices that universities are facing have been identified on the strength of trends observed on current campuses; they have been explored through campus strategies, simulations of future models and international literature.

The most important features/considerations that the campus of the future should incorporate/reflect are:

- Less individual territory and more shared space.
- A trade-off between quantity and quality: less floor space, more intensively used and better quality.
- Place independency: due to developments in ICT, people can work wherever is best for them.
- New life for old heritage buildings: value old premises instead of necessarily building new ones. This is also linked to sustainability goals and the trade-off between quantity and quality of space.
- Reduce the campus carbon footprint: set the example for a new generation.

- The campus has the attributes of a city:
 - strategically: it has become a knowledge marketplace;
 - financially: it should have a high level of floor productivity (more users per m², more output per m², i.e. diplomas, publications, patents);
 - physically: less private space and more shared public space;
 - functionally: more multi-functional spaces (to increase space use).
- The campus can be used to brand the university.
- Partner institutions in higher education and related businesses are interested in sharing space use, management tasks and ownership. This is also motivated by less favourable economic circumstances.
- Student housing has become vital for the university's competitive advantage.
- Related businesses are increasingly important for enhancing knowledge, innovation and employability.
- Retail and leisure activities will safeguard the quality of life – a vital pillar of a successful knowledge city.
- Infrastructure connects all functions and is increasingly important; it includes accessibility and parking.

Some of these issues involve the whole campus while some are related to specific building types or required functions. All of them have a combined effect on university performance criteria, i.e. competitive advantage, profitability, productivity and sustainable development. These four criteria align with the four stakeholder perspectives in relation to campus management: strategic (competitive advantage), financial (profitability), functional (productivity) and physical (sustainable development), as illustrated in Figure 1. In order to involve and engage stakeholders it is important to make a business plan for every campus decision, to be explicit about both the benefits and the costs and to use the key performance indicators to determine the plan's impact on the university's performance. Lastly, decision makers should collectively consider if the benefits justify the costs.



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My research in this field has led me to identify the following six recommendations for the campus of the future:

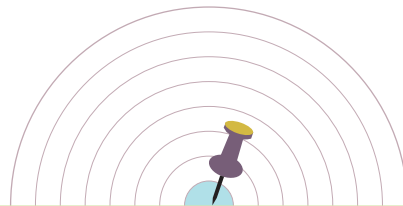
1. Conceptualise the future university model by considering the following strategic choices: competition vs. collaboration, exclusive vs. shared use, large vs. small, open vs. closed and physical vs. virtual – or a combination of these models for different parts of the university.
2. Develop and manage the campus as if it were a city, i.e. in close collaboration with urban authorities.
3. Express university values in both private and public spaces, so as to inspire and build a community.
4. Reconsider old buildings before envisaging new ones and enhance the use of existing buildings by increasing productivity (per m²) to cover costs (per m²).
5. Reduce the building's footprint in favour of quality; manage scarce resources and ensure sustainable development.
6. Consider partnerships for shared use, ownership or management of the campus in relation to the following needs:
 - academic (education and research) and their supporting activities;
 - business-related: incubators, services for the university (business and science parks);
 - residential: student housing, short-stay facilities and hotels for (international) students and professors;
 - retail and leisure: restaurants, coffee bars, sports and cultural facilities;
 - infrastructure: public transport, accessibility by car and car parks.



My research also revealed is that there are similar problems and solutions on an international level. So, building on the need to share campus knowledge, another recommendation would be to create a network of campus managers in European universities, not just to exchange management information but to discuss a collective strategy that could promote the history and diversity of European universities and the quality of life there. This could serve as a collective competitive advantage to attract talented knowledge workers to Europe. Greater inter-university collaboration in education and research – as well as the shared use of facilities with local partners and related businesses – could offer international students a wide European learning experience that, in turn, would contribute to the European knowledge economy.

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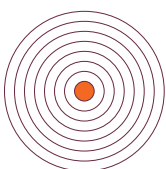
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