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Efficiency, Effectiveness and **Value for Money**: Insights from the UK and other countries
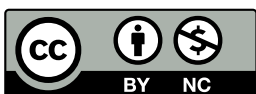
A **USTREAM** REPORT

By Thomas Estermann
and Veronika Kupriyanova

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Introduction

This first report provides a summary of the input, discussions and findings from the [first USTREAM peer learning seminar on policy frameworks for efficiency and effectiveness](#) in the higher education context, which took place on 1st and 2nd June 2017 in London. The seminar was jointly organised by Universities UK (UUK) and the European University Association (EUA) to foster the exchange of good practices and strategies pursued by higher education institutions across Europe to address efficiency-driven policy priorities and tackle the related challenges, opportunities and pitfalls.

Inspired by the UK experience, the report features selected examples of the key drivers pushing UK policy makers to design efficiency agendas and the sector's response. The UK higher education system was chosen as the case for study in view of its focused debate and consistent search for good practices in efficiency, effectiveness and value for money over the last decade. At least two distinct features make the UK sector a highly relevant and inspiring case for study:

- The scale and **scope** of comprehensive efficiency measures and programmes, which encompass all areas and levels, and proven success reflected in significant savings and value. (The Higher Education Funding Council for England (HEFCE) estimates that efficiency and value for money activities in the UK were worth at least £1 billion in the years 2011/12 to 2013/14.)

- A **constructive dialogue** pursued by the UK higher education sector with national funders and the government (HEFCE and Business, Innovation and Skills – BIS) to identify appropriate 'challenges' and make these funding priorities. This process is based on universities' recognised autonomy, but gives a clear steer to the sector that efficiency continues to be a government priority aiming to ensure public accountability and achieve value for money in the public interest.

This report sets out an overview of the policy context and of the latest trends in the UK higher education sector affecting the efficiency and effectiveness agenda. It continues with an analysis of activities in the field of governance, strategy and reporting as well as shared services, infrastructure and procurement. The UK case study is complemented by examples of other countries' initiatives reported by participants at the peer learning seminar or under the USTREAM project[1]. This report concludes with a few recommendations for institutions and policy makers.

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1   The [USTREAM project](#) (Universities for Strategic, Efficient and Autonomous Management) is a three-year project pursued by the European University Association, Universities UK, the Irish Universities Association and Central European University. This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Efficiency, effectiveness and value for money in the UK higher education sector[2]

Universities play a critical role in the UK. The sector delivers great value for society and the economy, performing 75% of publicly funded research and development (R&D) and serving as the second top destination for international students worldwide[3]. UK institutions educate people who drive productivity and promote economic growth, produce research, support innovation, and engage in global and local collaboration.[2]

Despite their significant economic and social **impact**, UK universities face multiple challenges that risk undermining their long-term sustainability. Financial pressure on the sector is growing due to increasing teaching costs, significant cuts in capital funding (investment in infrastructure, such as libraries, IT networks, rooms, spaces and teaching equipment, and maintenance spending), the real term decline in public research funding, and uncertainty around tuition fees and international student enrolments.

According to Universities UK (UUK), staff costs increased by 21% in real terms between 2004–2005 and 2015–2016 due to an increase in the total number of staff employed to accommodate the increase in student numbers and earnings growth in the higher education sector. Similarly, property expenditure has gone up significantly in recent years.

These developments have strongly encouraged the UK universities to not only consolidate and advance their efficiency programmes and activities, but also to better communicate to the government and other stakeholders on how they deliver a margin for sustainable investment in teaching and research quality through sound, robust management of the resources available.

The basic efficiency drivers and potential sector responses that can be derived from the UK experience are briefly summarised in Fig. 1.

Systems factors
- Changes in public funding environment (i.e. public investment and allocation models)
- Evolving regulatory framework (e.g. university autonomy, fiscal environment, labour law)
- Shift in global and domestic student enrolment
- Competitive global and domestic environment
- Changes in technology incentives and automated processes in the sector

Sector's response
- Stakeholder dialogue and communication (e.g. value for money reports)
- Institutional strategic and operational activities, targeting professional services, academic matters or strategic governance
- Cross-instituional collaborative measures aimed at synergies and economies of scale

Institutional factors
- Decreasing financial resources (public or private)
- Shift in institutional mission
- Changing student body (number and demographics)
- Evolving needs of students and staff
- Changing expectations and accountability vis-à-vis stakeholders and funders
- New institutional approaches or organisational changes

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2   Based on the presentation made by Ian Diamond, Principal and Vice-Chancellor, University of Aberdeen and Chair, Universities UK Efficiency Task Group.
3   Efficiency, effectiveness and value for money (2015). Universities UK. URL: www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2015/efficiency-effectiveness-value-for-money.pdf

Since 2011, UUK has published a series of reports, demonstrating the steps already taken across the sector and defining an ambitious path to respond to the changing policy context in the future. As a consequence of the 2011 report, UUK and Jisc[4] (with funding from HEFCE and the Leadership Foundation for Higher Education) set up the Efficiency Exchange – an online platform that highlights and disseminates good practice in efficiency and value for money. This platform has subsequently been used to promote the efficiency agenda and support activity related to the 2013 and 2015 reports[5].

The first UUK efficiency report was published in 2011 and focused on four broad processes - **simplification**, **standardisation**, **shared services**, and **outsourcing** - which are used in all parts of the UK higher education sector. The report suggested approaching the topic of efficiency "as part of a wider strategic objective to enhance the effectiveness of institutions and ensure they continue to deliver high quality teaching and research"[6]. It stressed that savings can be made by simplifying processes and ensuring their consistency across the university by using IT and data and by sharing services to achieve non-cash savings. Furthermore, the 2011 review set a challenging agenda for **procurement**, calling for strategic leadership, better coordination among consortia, increased use of collaborative purchasing, and support for enhancing institutional effectiveness through procurement.

By the time of the 2015 review, the UK sector had achieved significant progress in delivering and showcasing efficiencies in various university contexts. The following indicators indicate some of these achievements:

- HEFCE estimated efficiency and value for money activity to be worth at least £1 billion in the 2011/12 to 2013/14 period.

- Overall levels of **satisfaction** with UK higher education measured by the National Student Survey (NSSW) increased from 80% in 2005 to 86% in 2014. These findings were confirmed by other surveys.

- Improvements in **retention and completion rates** resulted in over 23,000 additional graduates over the 2008/09 to 2012/13 period, delivering efficiency savings estimated at around £180 million in this time.

- Universities delivered a total of £194 million savings (against a research council funding target of £187 million) through **efficiency in research**. They achieved a 9% real-term reduction in the indirect costs reported for research between 2008/09 and 2012/13.

- Better use of space delivered efficiencies estimated at £886 million over the 2003/04 to 2012/13 period.

- More effective procurement delivered savings of £135 million in 2011/12, £153 million in 2012/13 and £169 million in 2013/14 - a total of £457 million in the last three years.

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4   Jisc is a not-for-profit British company that supports post-16 and higher education and research, providing advice, digital resources and network and technology services, while researching and developing new technologies and ways of working. URL: www.jisc.ac.uk
5   Based on the presentation made by Ian Powling, Digital Programmes Lead, Universities UK.
6   Efficiency and effectiveness in higher education (2011). A report by the Universities UK Efficiency and Modernisation Task Group. URL: www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2011/report-by-efficiency-and-modernisation-task-group.pdf

Despite this progress, the 2015 report[7], published in the second phase of UUK's work, detected continuing challenges facing the sector with regard to long-term sustainability. (NB: According to the formal definition used in the Transparent Approach to Costing (TRAC), "an institution is being managed on a sustainable basis if, taking one year with another, it is recovering its full economic cost across its activities as a whole, and is investing in its infrastructure (physical, human and intellectual) at a rate adequate to maintain its future productive capacity appropriate to the needs of its strategic plan and students, sponsors and other customers' requirements"[8]).

While needing to invest in human resources, research and resource efficient estates, universities also have to balance the costs of attracting world-leading staff, supporting greater energy efficiency and delivering research targets. This activity is often subsidised by third-stream income (from, for example, business and commercial activity, partnerships and investment) and non-publicly-funded teaching (for example, executive education and international student fees).

The removal of student number controls and the introduction of more market-orientated higher education systems, especially in England, means that institutions must take a more considered and strategic approach to student recruitment, often including reassessment of the institution's teaching and research portfolio.

BOX 1. "Value for money"

Economy + Efficiency + Effectiveness = Value for Money

While the relaxation of student number controls and tuition fee increase to a maximum of £9,000 (now £9,250 in England) led to an injection of resource and created opportunities for growth, it does increase competition and create new risks. Governing bodies are required to play a more engaged and significant role in managing and mitigating this risk, especially as it relates to reputation, sustainability and quality assurance.

To bring a student perspective into the discussion, the emphasis of the efficiency debate in the UK has shifted towards the idea of **value for money**. It is focused on how the university acquires and uses its resources to meet its objectives, particularly in terms of delivering value for money for students, government and the wider public. Value for money therefore combines the achievement of **economy** (reducing the costs of inputs), **efficiency** (getting more output for the same or less input) and **effectiveness** (getting better at what universities set out to do). Considered from this broader angle, the topic of efficiency has acquired special importance not only in the context of administration, but also for **strategic development, governance and leadership**.

7   Efficiency, effectiveness and value for money (2015). Universities UK. URL: www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2015/efficiency-effectiveness-value-for-money.pdf
8   TRAC - A guide for Senior Managers and Governing Body members. June 2015. URL: www.hefce.ac.uk/media/TRAC%20A%20guide%20for%20Senior%20Managers%20and%20Governing%20Body%20members.pdf

Governance, strategy and reporting[9]

The university has a responsibility to its stakeholders, including students, staff, external customers and partners, to ensure the use of resources in the best way possible for achieving its objectives. This responsibility extends beyond the use of public funds and encompasses all sources of funding.

In the evolving context, governors acquire an important role in promoting a strategic approach to efficiency and value for money, while fostering a culture where innovation and improvement is encouraged, and efficiency embedded into decision-making. In this context, governing bodies need to be assured that the following issues are addressed:

BOX 2. THE COMPOSITION OF UK GOVERNING BODIES

Universities in England, Wales and Northern Ireland can freely decide on their governance structures. Governance models and governing bodies are guided by the Higher Education Code of Governance published by the Committee of University Chairs. Universities typically have a dual governance structure, with a board/council-type body responsible for all strategic institutional matters and a senate-type body responsible for academic governance.

The Code includes provisions on the composition of the governing body, where external members must have a majority. Institutions are expected to include staff and student representatives. The university is to establish a nominations committee to advise on the appointment of internal and external members.

Source: EUA Autonomy Scorecard 2017

- What does value for money mean in the context of the institution and its activities?

- Who is responsible for promoting the economic, efficient and effective use of resources?

- How do the institution's governance and management structures and processes help promote value for money?

- How does the institution seek to ensure that its activities represent value for money?

- How does the institution seek assurance that its arrangements for securing value for money are operating effectively?

- How does the institution report on the economic, efficient and effective use of its resources?

In future, governors will have a greater oversight of the issues of efficiency and value for money. They therefore need to be prepared to test the reliability and sustainability of institutional strategies, influence new regulatory systems, and place students at the heart of the board.

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9   Based on the presentations made by Alison Johns, CEO of the Leadership Foundation and Bob Rabone, CFO of the University of Sheffield.

The interpretation of efficiency and approaches to the assessment of its outcomes can differ greatly across the various actors and stakeholders. Therefore, communication and dialogue are highly critical to ensure conceptual and methodological consistency at all levels. In this context, the UK sector's practice of value for money reporting, focused on how strategy, governance, performance and prospects lead to the creation of value for university stakeholders over the short, medium and long term, has helped improve structure, streamlined the efficiency effort in institutions, and established communication channels that stimulate dialogue on efficiency and value for money between both internal actors and external stakeholders.

The key elements of successful value for money activities include an integrated and strategic approach focused on achievements and outcomes in processes based on clear responsibilities, wide engagement and communication, as well as reflective and evolving reporting of both past practice and future opportunities.

Shared services, infrastructure and procurement

Sector networks

Across the UK, higher education has a long tradition of collaboration and developing innovative solutions to address the needs of multiple institutions. Various sector **networks** were created to collect and exchange data, find solutions to common problems, share resources and perform institutional benchmarking.

As a case in point, Janet (the Joint Academic Network)[10] has served the UK sector for over 25 years. This distinctive network allows network infrastructure to be controlled and adapted in response to the high-end needs of the research community. Janet is widely acknowledged as a highly effective and efficient shared service. Other sector-owned shared services (e.g. Jisc, UCAS[11]), and numerous local and regional collaborations show the potential for shared

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10   Janet is a high-speed network for the UK research and education community. URL: www.jisc.ac.uk/janet
11   The Universities and Colleges Admissions Service (UCAS) is a UK-based organisation whose main role is to operate the undergraduate application process for British universities. URL: www.ucas.com/

services to play a critical role in improving quality, distributing and lowering costs in the UK.[12]

Shared services[13]

The tradition of collaborative networks provides a solid base for **asset utilisation and sharing** where both considerable cost savings and non-monetary benefits and changes can be achieved by the sector. In recent years, the shared service agenda has significantly developed in the UK with more sizeable initiatives and a clear focus on tackling collaborative projects that can demonstrate a tangible benefit across all aspects of a university's business.

BOX 7. SHARED SERVICES FOCUS

- Academic research

- Procurement

- Knowledge transfer

- ICT

- Widening participation

- Learning delivery

- Transnational activity

- Board member and staff training

- Student welfare, support and advice

- Finance

- Human resources

Source: Shared Services in Scotland's Higher Education

Lessons learned in the UK context point to the fact that shared services should be driven by a real need (for example, some services can only be shared locally, with the local authority, hospital, local schools, or council) and be economically viable. Partnerships that involve unequal financial relations (for example, subsidising) have to decide whether to run services at a loss or reorientate work to the customer-supplier relationship. Shared services must be pursued with care, thinking through the following:

- Is there a clear strategic reason to do this?

- Is the business plan sound?

- Does the business plan rely on one component?

- Does it involve cash or non-cash?

- Is there built-in optimism bias?

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12   Efficiency, effectiveness and value for money (2015). Universities UK. URL: www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2015/efficiency-effectiveness-value-for-money.pdf
13   Based on the presentation made by Chris Cobb, Pro Vice-Chancellor and Chief Operating Officer, University of London.

The member institutions of the University of London currently share the following services: student accommodation, joint halls facilities management and development, treasury management, student occupational health, university press, student services, legal and compliance services, project co-ordination. The members also share career services based on joint infrastructure (e.g. common career service interface, shared IT, job vacancy list, promotion, and internship scheme). Some levels of expertise are shared around skills training – one of the University's most popular MOOCs is dedicated to skills development.

In the past, three separate departments within the University of London offered various support services under different brands and operating models. In 2015, CoSector, a private limited company wholly owned by the University of London, was created as a single point of contact for the University's professional and student support services in three areas: Digital & IT Solutions; Professional Development & Recruitment; Housing & Support Services. Commercially spirited in service and support solutions, all CoSector profits go back into education and the University of London's academic endeavours.

Moving toward CoSector involved a series of actions: full evaluation of product profitability, cost and performance; cost transparency of internal subsidies; separate internal and external customer base; closure and wind down of loss making or non-growth areas; market propensity and price increase testing; research and development of key growth areas; organisational development and digital transformation; KPI driven culture; transition to cloud based services, upskilling staff, and web and digital platform development.

Shared research assets and teaching[14]

UK higher education sector has invested significantly in academic and research infrastructure at the institutional, national and international level. With the growth in both regional (estates) and thematic infrastructure (for example, supercomputing and library management systems), there is a real opportunity to support the continued advancement of collaborative academic research and commercialisation.[15] In addition, institutions can share faculty members (as can, for example, universities and the National Health Service). Some universities in Scotland share teaching staff with unique expertise.

BOX 9. RESEARCH ASSETS

A research asset enables, supports or otherwise facilitates research, for example, equipment, facilities, data, people, expertise, technical support, and any enabling and support infrastructure. Research assets can be publicly owned, jointly funded or exist solely in the private sector.

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14   Based on the presentation made by Ian Diamond, Principal and Vice-Chancellor, University of Aberdeen and Chair, Universities UK Efficiency Task Group.
15   Share Services in Scotland's Higher Education (2013). EY. URL: www.universities-scotland.ac.uk/uploads/UniversitiesScotland%20shared%20services%20analysis%20FINAL.pdf

Research challenges are now becoming truly global and multidisciplinary, and the skills, expertise and equipment needed are effectively getting more expensive or difficult for a single institution to bear. As a result, collaboration and sharing are becoming imperative to deliver value for money from public investments and produce world-class research. In this context, the community of researchers and research organisations must make every effort to deliver maximum value from the research assets that they possess. Facilitating greater collaboration, sharing and utilisation of research assets creates opportunities to deliver new science and, therefore, maximises the potential benefits of public investment in science and research.

BOX 10. KIT-CATALOGUE

Kit-Catalogue is an online system that can help any organisation effectively catalogue, record and locate their kit. This might be lab equipment, workshop machines, ICT and specialist tools – any physical asset that requires descriptive information to be recorded, the item located and then used to its full potential. Kit-Catalogue can contain a wealth of data on each item (specification, custodian, location, handbook, access requirements, usage data and photos). The aim is to reduce the costly duplication and double purchasing of equipment at HE institutions and promote equipment reuse across the organisation.

Source: www.kit-catalogue.com

→ The first stage of asset sharing is associated with **information** gathering at the institutional level (for example, through KitCatalogue). The simple act of cataloguing brings about benefits, for example, identifying common parts that can benefit from shared maintenance, helping save on future investments.

→ The next phase involves **sharing information** between institutions. In the UK, collaborations like the N8 research partnership agreed on a common taxonomy and compiled a joint database.

→ National portals, such as Equipment.data – a database of databases, enable researchers to see what equipment might be available and where.

BOX 11. THE AUSTRIAN RESEARCH INFRASTRUCTURE DATABASE

The Austrian Research Infrastructure (RI) Database (Forschungsinfrastruktur - Datenbank) is a data management system and a cooperation platform. It was created in 2015 to boost cooperation between research institutions and companies by sharing infrastructure. It collects some basic data (description, hosting organisation, type of RI, field of science, RI category, keywords/tags); as well as internal (initial cost, depreciation, operational cost, type of use, degree of utilisation, reinvestment cost, research focus) and public data (short description, research services, terms of use, methods & expertise, contact details, location, research partner, reference projects). Around 2,200 RIs run by 45 research organisations, including 22 universities and 17 universities of applied sciences, are registered in the database.

Source: https://forschungsinfrastruktur.bmwfw.gv.at

Collaborative procurement[16]

Procurement is at the heart of strategies to deliver efficiencies and better value for money in higher education, both at institutional and sector levels. Procurement refers to the activities and processes used to acquire goods and services and involves sourcing, market research, vendor evaluation, contract negotiation and collaboration. Purchasing, ordering and receiving goods and services is only a subset of the wider procurement process.[17]

In the UK, more effective procurement delivered estimated cost and value savings of £135 million in 2011/12, £153 million in 2012/13, and £169 million in 2013/14 – a total of £457 million over the three-year period. Through a combination of better and more complete data collection and more effective and consistent use of collaborative procurement frameworks, the total value of identified collaborative spend increased by 60%, between 2010/11 and 2013/14 – from a little over £1 billion, to £1.6 billion in 2013/14.

BOX 12. SOCIAL IMPACT OF PROCUREMENT

Procurement can be used to improve student experience and enhance social impact. The evaluation criteria for supplier contract awards cover quality, cost, delivery, innovation, service and social impact. A 5% Social Impact weighting is assigned as part of the evaluation process. Social impact is agreed within contract negotiations and communicated clearly from the outset as part of the evaluation criteria. Social levy funds are negotiated outside contract negotiations and are only discussed after the contract award.

According to HEFCE data, approximately 25% of all UK university expenditure can be influenced by the institutional procurement function. Universities in England have been working towards a target of 30% collaborative spend by 2016, and achieved 29.15% collaborative spend in the 2015/16 reporting cycle. Goods and services are purchased at regional and national levels. IT equipment, office supplies, lab gases, library books, furniture, photocopiers, etc. are purchased jointly through regional or national purchasing consortia, united in Procurement England Ltd, a private not-for-profit company.

By 2016/17, 97 English universities had undertaken an independent Procurement Maturity Assessment (PMA)[18], offering participating universities a bespoke action plan for improvement, a baseline for measuring improvements, and benchmark scores against similar institutions. The process was designed to help institutions understand and improve the efficiency and effectiveness of their procurement functions to achieve significant efficiency savings.

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16   Based on the presentation made by Prof. Nick Petford, Vice-Chancellor, University of Northampton and Chair, Procurement UK.
17   Public procurement in the UK, particularly pre-qualification and tender procedures, was influenced by the Public Services (Social Value) Act 2012.
18   Up from only eight in 2011/12.

The major trend over the last five years combines a more focused strategic approach to procurement with the more traditional procurement priorities of cost-saving and efficiency. A comparison of the PMA results for 2010-11 and 2015-16, distinguishing between four levels of procurement maturity (varying from superior (high level) to developing (low level)[19], shows that the share of institutions with **planned procurement** increased 30% and the share of institutions pursuing tactical procurement reduced 33%. Average PMA scores increased 12% (half a level) over one PMA cycle and each improvement level has been estimated to deliver a 1% recurrent saving through better governance, compliance and best practice.

Higher education estate[20]

The UK sector has been collecting and refining estates management data for 20 years. The UK estate sector currently measures 21,000,000 m2 GIA non-residential and 6,000,000 m2 GIA of wholly owned residential property.[21]

Estates and facilities management has been key to demonstrating sector efficiencies, savings and value. The overall efficiency and effectiveness of the university estate depends on a range of measures and the effective use of space is an important area of action for the sector.[22]

Estate quality is an important factor in student choice and expectations. Surveys show that students expect high quality facilities and services as part of their university experience. In total, 77% of UK students say facilities play a role in their university choice, with the course being the only factor reported as marginally more important.[23]

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19   Definitions are available in Annexe B to the "Procurement Maturity Assessment Programme: Outcomes and Sector Overview" report for Procurement UK, December 2015. URL: www.supc. ac.uk/pma?task=callelement&format=raw&item_id=44&element=0d9ce651-bcbd-48f3-92db-9daa217a8655&method=download

20   Based on the presentations made by Sue Holmes, Director of Estates and Facilities, Oxford Brookes University, and by Ian Diamond, Principal and Vice-Chancellor, University of Aberdeen and Chair, Universities UK Efficiency Task Group.

21   Gross Internal Area (GIA), the floor area contained within the building measured to the internal face of the external walls.

22   Efficiency, effectiveness and value for money (2015). Universities UK. URL: www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2015/efficiency-effectiveness-value-for-money.pdf

23   AUDE Estates Management Report 2014. Association of University Directors of Estates. URL: www.aude. ac.uk/ViewDocument.aspx?t=1&ID=3597&GUID=a829de8c-b5c1-404c-b412-1ec48cd86ba1

Estates generate cash and require ongoing investment, particularly in view of rapidly changing academic and other needs. For example, students expect to have better and more flexible access to buildings and facilities, such as longer opening hours, so making delivery is challenging. Universities also adapt their estates to their missions with different shares of research and teaching.

Furthermore, it is important to drive and deliver a sustainable estate, as every building has a life and greener and smarter spaces are proving valuable. New key performance indicators were set for efficient estate use and sustainability in the UK. While the absolute level of carbon emissions is affected by expansion of research activity, investment in more sustainable estates has allowed the sector to avoid emissions of nearly 1.2 billion kg of carbon between 2001/02 and 2012/13.[24]

Estate is the biggest cost after staffing and the cost of infrastructure is going up. Total estate costs per square metre increased by more than 25%, while total estate costs per student increased by 15% between 2003 and 2012, indicating more efficient use of the university estate. Some 75% of the rise in property costs was due to increased spending on energy and maintenance alone. Over the same period, non-residential space per student was down 8%; teaching space per student down 17%; support space per member of support staff down 11%; and academic space per member of academic staff down 0.5%. This improved use of space delivered efficiencies (cumulative savings on recurrent property costs) estimated at

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24   Efficiency, effectiveness and value for money (2015). Universities UK. URL: www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2015/efficiency-effectiveness-value-for-money.pdf

£886 million over ten years. Considering the costs involved, investment decisions must be made on the basis of prioritisation and a thorough use of quality, efficiency and value benchmarks such as, for example, AUDE metrics (Box 16).

BOX 16. AUDE ASSESSMENT OF ESTATE PERFORMANCE

The Association of University Directors of Estates (AUDE) designed 8 KPIs in 4 categories: Efficiency, Quality, Value and Sustainability to help institutions understand how their estate performance compares to others.

Efficiency

- Total property costs per m²
- Changes in property costs as a % of total property costs
- Space (GIA m²) per FTE (staff and student)
- Research space (not offices) per research student
- Staff numbers and office space area
- Office space per academic and administrative staff FTE

Quality

- AUDE KPI Percentage of GIA in Condition A and B
- Cost to upgrade to B as % of income
- AUDE KPI Percentage of GIA in functional suitability grades 1 and 2
- Age

Sustainability

- AUDE KPI maintenance and capex as % of IRV
- Capital and maintenance expenditure as a % of income, all institutions
- AUDE KPI Carbon emissions scope 1 and 2 per m².
- Energy cost per type
- Energy cost per unit
- Cost and consumption per m²
- Emissions per FTE

Value

- AUDE KPI Income per m² (GIA and NIA)
- Income per m² for all institutions
- Teaching and research income per m²
- AUDE KPI IRV as proportion of academic income

Source: AUDE Estates Management Report 2016.

The way in which the local community is able to use the estate or in which developments partner with the community have been a real feature in the evolution of the higher education estate in recent years, often driving jobs and growth in the region and beyond.[25]

BOX 17. SHARED CAMPUS

Falmouth University and the **University of Exeter** created Falmouth Exeter Plus on the Penryn Campus in Cornwall to share library and academic skills, IT and student support, estates, accommodation and all retail services. Jointly owned by the two universities, the entity has its own senior management team and staff.

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25   AUDE Estates Management Report 2016. Association of University Directors of Estates. URL: www.aude. ac.uk/ViewDocument.aspx?t=1&ID=3597&GUID=a829de8c-b5c1-404c-b412-1ec48cd86ba1

The total average desk occupancy at the **University of London** was estimated at 43% compared to the perceived figure of 71%. The University launched the Beveridge programme in 2015 to provide an effective workplace for staff and encourage collaborative work by breaking down physical barriers, increasing the amount of space for academic and commercial events, and providing efficient and effective storage facilities. The programme triggered an institution-wide debate on the nature of academic work and activity-based working methods. The outcomes included a 45% increase in workspaces, 450 m2 increase in social spaces, 25% increase in capacity for academic events, and £800,000 increase in annual lease/hire revenue. Key factors for this success included commitment by leaders who started implementing the open plan (no desk – no office) and "smart working training" for staff.

Similarly, the **University of Northampton** removed senior management offices and introduced open-plan office space and "hot-desking" to allow the leadership team to use office space more efficiently – and to spend more time talking to each other.

Data as a strategic asset[26]

Data can play an important role in driving both efficiency and effectiveness at universities, and also in the wider sector. Data can help universities be strategic in **what they do** and **how they do it**. Data can help identify a challenge and design a solution. It is important to follow a few basic steps to ensure the added value of data:

- Use common language / vocabulary;

- Ensure a clear data collection purpose;

- Develop robust frameworks for analysing and interpreting data;

- Design an action plan defining the investment in skills, technology and people that may be needed and plan interventions based on an analysis of these outcomes;

- Engage all parties and make sure they understand and agree on the objectives and actions planned.

Public/government
- National statistics
- Macroeconomic data
- Demographic trends

data

HE sector data
- Students
- Finances
- Staff
- Estates

Institutional data
- Assets and research
- Purchases
- Staff
- Students
- Estates
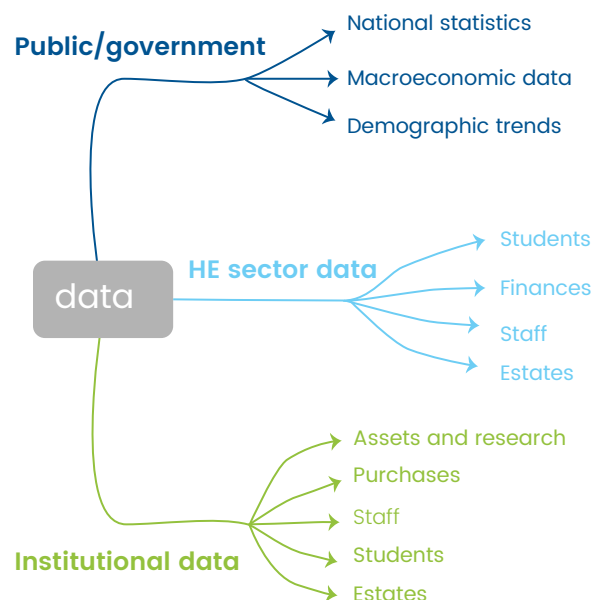
Data can be used as a strategic asset for internal and external benchmarking, performance review, improving student experience and learning analytics. Benchmarking is a valuable tool for universities and colleges to identify efficiencies, control costs and learn from good practice. It allows them to focus on priorities and make better use of scarce resources.

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26   Based on the presentation made by Paul Johnstone, Head of Analytics, University of Warwick.

BOX 19. USING THE DATA SYSTEM FOR PERFORMANCE REVIEWS

The **University of Warwick** has been developing its analytics capability since 2006 to facilitate data-driven performance management for academics using top commercial software tools. Several internal datasets (Applications & Awards, Student Records, Publications and HR) were linked into one reporting model to establish a review process for research performance, teaching quality and educational analytics. This model also incorporated HESA data for external benchmarking. Access to the system was restricted to Heads of Department and nominees.

Warwick's research performance is subject to annual review based on the output metric. An Institutional Teaching and Learning Review is run across all academic departments every five years (37 reviews run over 2 weeks covering 786 courses and programmes). The Teaching Quality team is responsible for the periodic review of courses and departments based on Quality Assurance Agency requirements and compliance with Professional, Statutory and Regulatory Bodies Educational. Analytics reporting is embedded into the review process and includes both internal and external benchmarking. Recommendations are fed back to university committees and faculties to implement and share best practice.

The key factors for success in designing and implementing institutional data systems that drive efficiency at different stages include:

• Senior management support for adoption;

• Embedding analytics into business processes to drive performance;

• Monitoring use to validate engagement;

• Increased emphasis on evidence-based rather than committee-based decision-making;

• Collaboration between strategic planning and IT units;

• Investment in highly skilled staff paid at competitive market rates.

BOX 20. RESEARCH PERFORMANCE ASSESSMENT

At the **University of Amsterdam**, research performance is assessed by measuring the university's relative presence in the top 10% publications per discipline, and the ability to acquire national and EU research funding. This approach has triggered an institution-wide debate on research impact and value for society, which are not grasped by performance-based indicators.

University College Dublin faculties are consulted on how they would like to be assessed. There is an ongoing discussion on the proper metrics to be used.

BOX 21. LEARNING ANALYTICS

At **Nottingham Trent University**, drop out was reduced 50% using data on student engagement with university. Smart cards provide tutor with information about students who stop using the library to identify those at risk of dropping out.

The **Open University** (OU) has been using analytics to support students for a long time. The OU model means that all students are distance learners, so analytics allow tutors to 'observe' their students and to determine the timing and nature of appropriate interventions. First piloted in 2014, the project aimed to identify students at risk of dropping out to target interventions early enough to help them get back on track. It uses predictive analytics based on behaviour and demographic patterns of previous student cohorts.

BOX 22. FINANCIAL DATA FOR DECISION-MAKING

The **University of Amsterdam** approached efficiency from a financial angle, while implementing a full cost accounting system for the EU's Seventh Framework Programme for Research and Development (FP7). Almost all university budgets are handed over to the faculty deans. All university support is concentrated in Shared Service Departments, which receive payment for their services from the faculties under internal service level agreements. Teaching and research are included in the financial records system as key cost drivers. All information systems are united in the same management system with dashboards for the main topics used for reporting. Various graphs are sent regularly to project leaders and course managers to give them information to act on. The system offers three functions: monitor, analyse, and drill into detail. The system is not judgemental, as it shows how things are done by communicating the content to the faculties.

Conclusions

1. Enabling efficiency through system-level frameworks

The ability of universities to act strategically and efficiently can be facilitated by appropriate government policies. It is very important for universities to be autonomous to make decisions, to be agile and faster. The high degree of university autonomy in the UK demonstrates how important this is for universities to be able to act efficiently. Greater financial **autonomy** can allow universities to be more flexible in their financial management and create efficiencies and savings, for example, through more flexible infrastructure management. A higher degree of organisational and staffing autonomy also allows universities to better engage in cooperations (such as shared services) and hire the staff needed to implement strategic efficiency and institutional development programmes.

The UK experience shows that changes to government **funding** policy can trigger efficiency at both sector and institutional levels. A sustainable funding environment is needed to allow universities to invest in human resources and tools that promote not only economy and efficiency, but also effectiveness, quality and value for money.

2. Engaging in sector-level efficiency and shaping the policy debate

Significant gains and positive outcomes can be achieved through the joint efforts of university groups or networks driven by a common interest in optimising organisational processes and delivering value for money. Sharing tangible and intangible resources, varying from the shared use of infrastructure on a mutually beneficial and economically viable basis to exchanging good practice and lessons learned, can promote generate efficiencies and savings by individual institutions and foster a broader social and economic impact by the university sector as a whole.

Furthermore, developing a common approach and taking a pro-active stance on efficiency and value for money can help the university sector **steer public debate** and engage in public funding priority setting and policy reforms. Organisations that represent the higher education sector like UUK can play an important role in this process.

3. Steering efficiency through strategic vision, leadership and governance

A comprehensive strategic approach to efficiency and effectiveness should encompass all university settings. In addition to various actions in the operational context, attention needs to be paid to academic matters, for example, through the improvement of teaching and learning practices as well as research activities. Good practices show that both short and long-term benefits can be gained from sharing research assets, reviewing the academic offer, or engaging students in course design.

Efficiency strategies should be based on clear responsibilities and foresee specific actions that ensure the proper implementation and reporting of past practice and future opportunities. They should also be supported by sufficient investment in skilled staff capable of steering institutional transformation programmes.

Leadership is essential at all stages. Support from senior management, who act as efficiency role models, can be critical to the development of an efficient institutional efficiency culture that rewards individual performance and achievement. Leaders can promote a more strategic approach to efficiency and value for money by engaging governing bodies in addressing relevant matters and making them part of the institutional decision-making process.

4. Data and measures to support efficiency and effectiveness

Comprehensive **data collection and analysis** is key for internal decision-making. It can give leaders clear direction on what needs to be done and show whether targets have been met or need to be reviewed. Integrating various data flows from a range of institutional contexts at various levels can provide evidence to support efficiency and effectiveness at all levels.

Technology comes at a price, requiring considerable investment for the purchase, adoption and maintenance of new capabilities, as well as staff training. Data analysis capabilities should be available to a broad range of relevant institutional actors to ensure a greater payoff. As not all processes and outcomes can be measured in the higher education context, institutional data systems should be accompanied by multiple feedback loops that allow qualitative feedback to be collected and engage in **open dialogue** on efficiency and effectiveness issues.

5. Fostering internal and external communication

Engaging all staff and students in the design and implementation of efficiency and effectiveness measures is key to continuous improvement. This requires the establishment of an **internal efficiency culture** and effective communication channels to cascade information in a systematic and transparent way. The UK experience shows that various efficiency measures like space optimisation can promote internal communication between staff, stimulate cross-disciplinary contact and collaboration between researchers, and reduce the need for regular management meetings.

As government, student and tax payer pay increasing attention to efficiency, universities are prompted to engage more actively in **externally communicating** their institutional development programmes, including planned and ongoing actions focused on quality improvement and efficiency gains. Universities need to discuss and demonstrate efficiency and value for money more actively to be able to convert their accountability into concrete opportunities to shape government funding priorities and the efficiency agenda. The articulation of efficiency in conjunction with effectiveness and value for money is particularly important in this context.

Recommendations for policy makers and institutions

- Policy makers should consider making, organisational, financial, and staff autonomy provisions for higher education institutions more flexible.

- Policy makers should provide balanced funding that incentivises efficiency and supports effectiveness, enabling universities to invest in the qualitative improvement of all institutional processes.

- The university sector needs to elaborate a common approach to efficiency, effectiveness and value for money, articulating their vision of objectives, policy priorities and system-level enablers, as well as specific ways to achieve gains through appropriate and economically viable inter-institutional cooperation based on peer learning and the exchange of good practices.

- Universities should pursue a comprehensive approach to efficiency and effectiveness and explore all opportunities arising in operational, teaching and learning, research and strategic governance settings.

- Universities should fully embed efficiency and effectiveness objectives and actions into strategic planning processes and define clear responsibilities and resources to support the implementation and reporting.

- University leaders should provide a clear vision on efficiency and engage all relevant actors, including staff, students and members of governing bodies in the development of an efficiency culture.

- Universities should actively use the data they generate for strategic governance and decision making as well as for benchmarking and learning analytics, giving all of the relevant actors access to the relevant information and systems. Internal information systems should be supported by multiple loops that allow qualitative feedback about efficiency processes.

- Universities need to pursue a coherent external communication strategy targeting funders, government, and the rest of society, for example, in the form of annual value for money or intellectual capital reports, which can also be used to shape government funding priorities.

- Internal and external efficiency communications should cover how universities create value for their students, the local community, the economy and society, while maintaining quality, supporting employment and reinvesting in the institution.

Appendix

Further reading

1. [Efficiency and effectiveness in higher education](#) ('the Diamond review') (2011). UUK report.

2. [Working smarter for a smarter, stronger sector](#) ('Diamond 1' progress report) (2013). UUK report

3. [Efficiency, effectiveness and value for money](#) ('Diamond 2' report) (2015). UUK report

4. 2015 report on [research asset sharing](#), commissioned by UUK (and more material [here](#))

5. Report on [efficiency in estates](#), commissioned by UUK, and [case studies](#), produced by the Association of University Directors of Estates (AUDE)

6. HEFCE material on [shared services](#), [procurement](#) and [benchmarking](#)

7. A joint Research Councils UK (RCUK) and UUK report on [efficiency in research](#) ('the Wakeham review') and subsequent RCUK reports on efficiency and sustainability in research ([various years](#))

List of participating institutions

1.   Central European University, Hungary

2.   European University Association

3.   Free University of Berlin, Germany

4.   ITMO University, Russia

5.   Irish Universities Association

6.   Jerzy Kukuczka Academy of Physical Education, Poland

7.   Karlstad University, Sweden

8.   Leadership Foundation for Higher Education, United Kingdom

9.   Ministry of Higher Education, Research and Innovation, France

10.   Ovidius University of Constanta, Romania

11.   Oxford Brookes University, United Kingdom

12.   Riga Technical University, Latvia

13.   South East European University, Macedonia

14.   University College Dublin, Ireland

15.   Polytechnic University of Catalonia, Spain

16.   University of Murcia, Spain

17.   Rovira I Virgili University, Spain

18.   Universities UK, UUK

19.   University of Aberdeen, United Kingdom

20.   University of Amsterdam, The Netherlands

21.   University of Graz, Austria

22.   University of Latvia, Latvia

23.   University of London, United Kingdom

24.   Victor Babes University of Medicine and Pharmacy, Romania

25.   University of Northampton, United Kingdom

26.   University of Sheffield, United Kingdom

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28.   University Politehnica of Bucharest, Romania

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