

IN THE SPOTLIGHT 焦点

ACADEMIC LEADERSHIP AND DIGITAL TRANSFORMATION

学术领导力与数字化转型



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For more than 20 years Lucas Zinner is dedicated to research and research policy and is currently Head of the Research Services and Career Development Department of the University of Vienna. After conducting research in Mathematics and working in the Austrian Science Foundation, he returned to the University of Vienna in 2004 and helped establish the Research Services and Technology Transfer Department. Since 2007 he has been in charge of setting up the university-wide Centre for Doctoral Studies. Lucas is involved in many international projects related to the Research – Education – Innovation triangle such as the EUCHINADOC project. He is actively participating in international conferences and was invited as a speaker, e.g. at the University Business Forum 2013, the 2013 Meeting of the Council of Deans and Directors of Graduate Research in Australia, at EUA-CDE and UKCGE in 2015 or PraxisUnico in 2016. Moreover, Lucas was delegated by the Austrian Ministry to the ERA Working Group on Innovative Doctoral Training of the European Commission, and he has experience in acting as a facilitator and trainer in workshops for PhD supervisors. As coordinator of the EU funded LLP Project PRIDE dealing with the professionalization of staff supporting doctoral education at higher education institutions, Lucas prepared the basis to establish the international PRIDE Network Association for Professionals in Doctoral Education and is currently acting as its president.

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20多年来, Lucas Zinner致力于科研和研究政策, 目前是维也纳大学研究服务和职业发展部的负责人。在从事数学研究并在奥地利科学基金会工作后, 他于2004年回到维也纳大学, 帮助建立了研究服务和技术转让部。自2007年起, 他负责建立全校的博士研究中心。Lucas参与了许多与研究-教育-创新相关的国际项目, 如中欧博士项目。他积极参加国际会议, 并被邀请作为演讲者, 例如在2013年大学商业论坛、2013年澳大利亚研究生研究院长和主任理事会会议、2015年的EUA-CDE和UKCGE或2016年的PraxisUnico。此外, Lucas受奥地利政府委托参加了欧盟委员会欧洲研究区创新博士培训工作组, 他在担任博士生导师研讨会的协调人和培训师方面有丰富的经验。作为欧盟资助的LLP项目PRIDE的协调员, Lucas为建立国际博士教育专业人员PRIDE网络协会奠定了基础, 目前他担任该协会主席。

In your opinion, what is digital transformation?

Digital transformation mainly concerns the use of new technologies to improve traditionally manual or analogue processes and much more. We are all experiencing how the digital transformation has changed large parts of society. Digital media and communications have transformed our institutions, working environments, service and production processes and everyday life to such an extent that the terms "analogue" and "digital" have often become inadequate as descriptive categories. Instead, they are almost inseparably interwoven in many areas of life and activities. This also applies to most core tasks and processes at universities as those institutions that generate knowledge and disseminate knowledge. I don't see digital transformation as a threat but primarily an opportunity that we as universities should take critically, reflectively with reference to our value system.

在您看来, 什么是数字化转型?

数字化转型主要是指使用新技术来改善传统的手工或模拟流程, 以及更多的内容。我们都在经历数字化转型是如何改变社会的大部分运作。数字媒体和通信已经改变了我们的机构、工作环境、服务和生产流程以及日常生活, 以至于"模拟"和"数字"这两个词往往已经不足以作为描述分类。相反, 它们在许多生活和活动领域几乎是不可分割地交织在一起的。这也适用于大学的大多数核心任务和流程, 因为这些机构产生知识并传播知识。我不认为数字化转型是一种威胁, 而主要是一种机会, 作为大学, 我们应该参照我们的价值体系, 批判性地加以反思。

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What is the impact of digital transformation on universities?

Digital transformation at universities enabled us to function relatively well as universities during the COVID-19 pandemic and, in particular, to maintain teaching. However, digital transformation is not just about being able to respond to the recent and perhaps future crises. In research, the use of digital technologies is already part of everyday life. For example, the use of digital technologies ranges already from digital archives to explorative research using big data. Digital communication and data handling have led to improvements in administrative processes. Digital media and communications are putting the exchange of knowledge with society on a new footing.

Generally speaking, digital transformation can help universities to become more efficient, innovative and creative. It leads, for example, to new forms of collaboration and communication, and also to new formats for the co-production of knowledge. This is because the Internet enables new active forms of shared knowledge creation. Platforms such as Wikipedia and Twitter, offerings such as Google Drive, and academic networks such as ResearchGate show how digital media have changed the generation of new knowledge, its consolidation and dissemination.

As you can see from these examples, digital transformation is not something that a university can avoid. Rather, the university should shape the transformation.

In addition, the university is not isolated from its environment. Outside our own institution, we are seeing the continued development of powerful new communications technologies, the exploration of Big Data and its opportunities and risks, including its ethically questionable uses, the role of for-profit digital giants, and the new relationship of citizens to information and knowledge. The rapid pace at which technology is impacting practices and organizations is also creating uncertainty and needs to be considered and taken seriously, especially by leaders.

数字化转型对大学的影响是什么？

大学的数字化转型使大学在COVID-19疫情期间能够相对良好地运作，特别是在维持教学这一方面。然而，数字化转型不仅仅是为了能够应对最近和可能未来的危机。在研究中，数字技术的使用已经是日常生活的一部分。例如，数字技术的使用范围已经从数字档案到使用大数据的探索性研究。数字通信和数据处理已经导致了行政程序的改进。数字媒体和通信也正在把为社会的知识交流建立一个新的基础。

一般来说，数字化转型可以帮助大学变得更加高效、创新和更有创造力。例如，它推动了新的合作和交流形式，催生了共同生产知识的新形式。互联网使新的积极形式的知识共享创造成为可能。维基百科和推特等平台，谷歌硬盘等产品，以及ResearchGate等学术网络，都表现了数字媒体如何改变新知识的产生、巩固和传播。

从这些例子中可以看出，数字化转型不是大学可以避免的事情。相反，大学应该塑造这种转型。

此外，大学并不是与环境隔绝的。在我们自己的机构之外，我们看到了强大的新通信技术的持续发展，对大数据及其机会和风险的探索，包括其在伦理上有问题的使用，营利性数字巨头的作用，以及公民与信息和新知识的关系。技术对实践和组织的快速影响也造成了不确定性，需要考虑和认真对待，尤其是领导者。

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Can you offer some concrete examples of how digital transformation affects different areas of the university?

In research, the availability of big data has led to a growing interest in methods for data mining, processing and analyzing, recognizing patterns, and visualizing information. The size of the data volumes, the speed with which data can be generated and processed, their diversity in type and format, and analyzing, recognizing patterns, and visualizing information. The size of the data volumes, the speed with which data can be generated and processed, their diversity in type and format, and the quality and added value of the data provide researchers with entirely new opportunities and challenges. This requires new competencies as well as technical infrastructures. Topics in this context include data management, FAIRData, Open Data, Data Science etc.

In connection with the teaching area, there are tools such as a centralised student lifecycle management system, which are based on new technologies and enhance the user interface and allow students to individualize their learning paths. Learning analytics and predictive analytics are also being used to better understand and continuously improve the teaching and learning experience. Interactive project spaces will be needed to foster collaboration between students supplemented with digital media.

您能否提供一些具体的例子，说明数字化转型如何影响大学的不同领域？

在研究方面，大数据的可用性使得人们对数据挖掘、处理和分析、识别模式和信息可视化的方法越来越感兴趣。数据量的大小，数据产生和处理的速度，数据类型和格式的多样性，以及数据的质量和附加值为研究人员提供了全新的机会和挑战。这需要新的能力和技术基础设施。这方面主题包括数据管理、公平数据、开放数据、数据科学等。

在教学领域，有一些工具，如集中的学生学习生命周期管理系统，这些工具基于新技术，增强了用户界面，使学生能够个性化学习路径。学习分析和预测分析也被用来更好地了解 and 不断改善教学和学习体验。未来将需要创立互动项目空间并辅以数字媒体，来促进学生之间的合作。

How can universities embrace digital transformation in practice?

In administration, it is a matter of offering user-friendly processes and self-service tools, digitizing analogue processes, increasing the level of automation, having data available that can be used anytime and anywhere and offering cross-departmental and cross-process applications.

When students carry factual knowledge in their pockets with them on their smartphones, the importance of traditional knowledge transfer diminishes and new understandings of roles enter teaching. More than ever before, teachers are taking

on the role of facilitator of individualized learning processes rather than that of imparter of knowledge. Students, on the other hand, assume greater personal responsibility for their learning process.

In addition, the traditional tasks of a teacher are now divided among several people with different competencies and functions who jointly design the teaching. So-called instructional designers support the pedagogical and didactical design of teaching with their background in media didactics, programmers provide the technical infrastructure, teaching assistants can supervise groups of students, and through guided peer reviews students themselves can take over part of the performance review of their fellow students. Embracing the opportunities of digitization while minimizing the risks is a central governance and leadership task overall. The changes are radical and need professional change management.

大学如何在实践中拥抱数字化转型？

在行政管理方面，这是一个关于提供用户友好型流程和自助服务工具的问题，将模拟流程数字化，提高自动化水平，拥有可随时随地使用的数据库，并提供跨部门和跨流程的应用。

如今，学生口袋里的智能手机携带事实性知识已成事实，传统知识传授的重要性会降低，对角色的新理解会进入教学。教师比以往任何时候都更多地扮演个性化学习促进者的角色，而不是知识的传授者。另一方面，学生对他们的学习过程要承担更大的个人责任。

此外，教师的传统任务现在被分给具有不同能力和职能的几个人，他们共同设计教学。所谓的教学设计师以他们在媒体教学方面的背景支持教学和教学设计，程序员提供技术基础设施，教学助理可以负责学生小组，通过有指导的同行评审，学生自己可以部分接管他们同学作业的检查。

拥抱数字化的机遇，同时将风险降到最低，这是一项核心的治理和领导任务。变化是激进的，需要专业的变革管理。

What is the role of leadership in the process of digital transformation? And what are the potential challenges they have to face?

The changes in structures, procedures and rules for core processes require the creation of commitment and acceptance for new, changed values and everyday practices on the part of teachers and students, researchers and support staff, in fact, all stakeholders. If leadership is understood on the one hand as a relationship process and on the other hand as a targeted exertion of influence that serves to achieve specific (organizational) goals, then the role of and mandate for action on the part of leaders in the context of digital transformation becomes completely clear.

What is challenging for leaders is that the field of digital transformation is a new field for universities and it is not possible to draw on experience. I believe that most of those responsible for university governance have the appropriate soft skills to drive digitization forward. Still, there are new challenges that can't be easily overcome: When you're planning a new building project or a new degree program, you know who to ask, who to bring along, how to moderate the process. But when you want to advance digitization, you often underestimate it. The challenge is that while digitization also has to do with technologies and infrastructure issues, it actually and above all represents a change in organizational culture. And shaping that is the main task.

Leadership in the age of digitization requires courage, a passion for innovation, and a willingness to try out new things. You need change management skills and it takes a lot of communication. You have to be able to bring people together. You also have to be able to moderate processes. But above all, you have to take into account that the existing governance structures of a university are ones that come out of a centuries-old tradition, and that, for example, the educational products we develop under the heading of digitization are sometimes radically different and have upset colleagues.

So it's no surprise when, for example, universities like the Open University UK set up their own company "FutureLearn" to market their online learning offerings, such as MOOCs. Traditional parent institutions often cannot afford this radical innovation process because they do not have the governance structures to do so.

As a leader, you have to ask yourself from the very beginning: what products do we want to have in the future? Which target groups do we want to serve in the future? What decision-making structures do we want to establish for this? Communication and participation are very important here if you want to take such a traditional organization along with you in change management. Even if it sounds basal, How can we actually manage to get digitization on the agenda in a structured and regular way in decision-making bodies - and not just leave the conversation, planning and thinking about digital transformation to chance? And that brings us to what I consider to be the most important issue in the digital transformation of universities today: How do we create a governance structure for digital transformation?

领导者在数字化转型过程中的作用是什么？他们必须面对的潜在挑战又是什么？

核心流程的结构、程序和规则的改变，需要教师和学生、研究人员和辅助人员，实际上是所有利益相关者，对新的、改变了的价值观和日常实践付出努力和接受。如果领导力一方面被理解成一种关系过程，另一方面被理解为有针对性地施加影响，以实现特定的（组织）目标，那么在数字化转型的背景下，领导者的作用和行动任务就变得非常清晰。

对领导者来说，具有挑战性的是，数字化转型对大学来说是一个新领域，没有办法借鉴经验。我相信，大多数负责大学管理的人都有适当的软技能来推动数字化的发展。不过，还是有一些新的挑战不能轻易克服。当你计划一个新的建筑项目或一个新的学位项目时，你要知道该问谁，该带谁，如何调节这个过程。但当你想推进数字化时，你往往会低估它。挑战在于，虽然数字化也与技术和基础设施问题有关，但它实际上首先代表了组织文化的变化。而塑造这种文化是主要的任务。

"Leadership in the age of digitization requires courage, a passion for innovation, and a willingness to try out new things."

数字化时代的领导力需要勇气，对创新的热情，以及尝试新事物的意愿。你需要变革管理技能，需要大量的沟通。你必须能够把人们聚集在一起。你还必须能够调节流程。但最重要的是，你必须考虑到大学现有的治理结构是来自一个世纪的传统，而且，例如，我们在数字化背景下开发的教育产品有时是完全不同的，并会使同事们感到不安。

因此，当像英国开放大学这样的大学成立自己的公司“FutureLearn”来推销他们的在线学习产品（如MOOCs）时，这并不奇怪。传统的母体机构往往无法承担这种激进的创新过程，因为他们没有这样的治理结构。

作为一个领导者，你必须从一开始就问自己：我们在未来想拥有什么产品？我们未来想为哪些目标群体服务？我们想为此建立什么样的决策结构？如果你想带着这样一个传统的组织一起进行变革管理，沟通和参与在这里是非常重要的。即使这听起来很基础，我们如何才能真正设法让数字化在决策机构中以结构化和定期的方式列入议程--而不是仅仅把对话、规划和思考数字化转型的问题留给机会？这就把我们带到了我认为是当今大学数字化转型中一个最重要的问题。我们如何创建一个数字化转型的治理结构？

Which leadership style seems more suitable for dealing with digital transformation in your opinion?

Supporting digital transformation goes best with transformational leadership styles. This enables and supports all our stakeholders, students, researcher, teacher and professionals, in shaping the digital transformation within their environments.

Following Bernard Bass and Bruce Avolio [1], we can assign the behaviours of a transformational leader to four categories (so-called “four I’s”).

The first one is idealized influence, which is about becoming a role model of digitalization. The leader not only has integrity and credibility but he/she also lives digitization, is open to new innovations and thus becomes a role model for employees to follow. The second one is inspirational motivation, which is about increasing the intrinsic motivation of their employees, highlighting the opportunities without being uncritical of concerns and risks, and conveying the meaning and significance of digital transformation, making it clear what is worth investing time and energy in. The third point is intellectual stimulation which is about stimulating the creative and innovative abilities of his/her employees, in particular by consciously supporting grass-roots initiatives and encouraging colleagues to challenge the status quo.

And finally, we have individualized consideration, which is about responding to the individual needs of employees and different disciplinary cultures, accepting plurality and strengthening learning from one another.

[1] Bass, B. M., & Avolio, B. J. (1990). Developing transformational leadership: 1992 and beyond. Journal of European industrial training

“数字化时代的领导力需要勇气，对创新的热情，以及尝试新事物的意愿。”

在您看来，哪种领导风格更适合处理数字化转型带来的问题？

支持数字化转型最好采用变革型领导风格。这使得我们所有的利益相关者，学生、研究人员、教师和专业人士，都能在他们的环境中塑造数字化转型。

根据Bernard Bass和Bruce Avolio[1]的观点，我们可以将变革型领导者的行为归为四类（所谓的“四个I”）。

第一类是理想化的影响 (Idealized influence)，也就是成为数字化的榜样。领导者不仅有诚信和信誉，而且他/她还生活在数字化中，对新的创新持开放态度，从而成为员工学习的榜样。第二点是鼓舞人心的激励 (Inspirational motivation)，就是要提高员工的内在动力，突出机会并适时审查相关关切和风险，并传达数字化转型的意义和重要性，让大家清楚什么是值得投入时间和精力。第三点是智力激励 (Intellectual stimulation)，就是要激发其员工的创意和创新能力，特别是要有意识地支持基层的举措，鼓励同事挑战现状。

最后，我们还有个性化的考虑 (Individualized consideration)，这就是要对员工的个人需求和不同的学科文化做出回应，接受多元化，加强相互学习。

Do you have other comments on digital transformation at universities?

We know that university processes can take a very long time, such as setting up a new degree program. However, we can't afford that with digitalization issues. The topic is too “fast” for that. In fact, all leaders must become “digital leaders” within the scope of their areas of responsibility and help initiate the cultural change necessary for the digital transformation in their respective positions. This includes study program directors as well as deans and heads of departments.

And the digital transformation at universities will continue to change teaching and learning as well as the experiences of students and teachers in the coming years, necessitating new teaching offerings that in any case also reflect ethical dealings, opening up new fields of research and practices, putting the exchange of knowledge with society on a new footing, and of course further modernizing administration, also because we will know more about ourselves and our core processes. Thus, digital transformation truly affects all areas of the university.

您对大学的数字化转型有什么其他想法吗？

我们知道，大学流程可能需要很长的时间，比如设立一个新的学位课程。然而，在数字化问题上，我们无法承受这种情况。这个话题太“快”了。事实上，所有领导者都必须在其职责范围内成为“数字化领导者”，并在各自的岗位上帮助启动数字化转型所需的文化变革。这包括研究项目主任以及院长和部门主管。

在未来几年，大学的数字化转型将继续改变教学和学习，以及学生和教师的经验。它将需要新的可以反馈道德层面的教学内容，开辟新的研究和实践领域，为社会知识交流创建一个新的基础，同时也会使行政管理进一步现代化。这也是因为我们将更加了解自己和我们核心流程。因此，数字化转型真正影响到了大学的所有领域。