Shifting Horizons

coopernicus
by Our Future Foundation

Transformative Trends Reshaping the Landscape of Higher Education

EDUCATIONAL REPORT

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Introduction to the Report

The landscape of higher education is undergoing a significant transformation, fueled by technological advancements, changing socio-political environments, post-pandemic work revolution and evolving global paradigms. The innovation surge in educational technology and the digitization of campuses are introducing new pedagogical models. As the global village concept becomes a tangible reality, the interplay of diverse cultural and educational systems is giving rise to novel learning and teaching methodologies.

A key driving force behind this transformation is the globalization of higher education, requiring countries like Poland to adapt by developing internationally attractive study programs, and encouraging the participation of its most talented youth and scientists in leading academic programs worldwide to establish a global network of contacts. In Poland's case, this involves both an outward expansion, sending its brightest abroad, and an inward draw, making the country a nexus for international scholars and researchers.

As we embark on this journey to explore the critical trends in higher education, it is essential to understand that these shifts have far-reaching implications for educators, students, and policy-makers. This transformation is redrawing the academic map, presenting new routes and destinations in the pursuit of knowledge and skill acquisition. It's a shift that encompasses not only the what and how of education but also the where and who, as demographic changes and digital access break down previous barriers to learning.

The purpose of this report is to provide a comprehensive analysis of these trends, supported by data-driven insights from experts in the field, while also incorporating the valuable commentary of practitioners - individuals who are actively engaged in the process of teaching or learning at higher education institutions globally. The exchange between theory and practice, between the empirical and the anecdotal, enriches this report, making it a multifaceted document reflective of the education sector's current state.

Our exploration of these transformative trends will offer a deeper understanding of both the challenges and opportunities that lie ahead in the realm of higher education. With a lens zoomed in on the granular details of pedagogical evolution and zoomed out to capture the panoramic view of educational reform, this report stands as a testament to the dynamic nature of higher education today. As the world becomes increasingly interconnected and complex, educators, students, and policy-makers must navigate this evolving landscape with strategic insights. We are not just passive observers of this transformation; we are active participants, steering the education sector towards a future replete with innovation and inclusivity.

We aim to provide a roadmap that allows us to harness the opportunities presented by these trends and address the challenges they pose. This roadmap is not merely a set of directions but a dynamic guide equipped with the insights and foresights necessary for stakeholders to adapt continuously to the ever-changing educational topography.

Chapters – Executive summary

Chapter 1 - Global Campuses: The Rise of Internationalization in Higher Education

In an era of increasing interconnectedness, the allure of international study opportunities has magnified. Students are not just crossing borders but are also bridging the gaps between disparate educational systems, thereby contributing to a rich tapestry of academic exchange. This chapter will dissect the nuances of internationalization, looking at how it shapes policy, curriculum, and the very identity of higher education institutions.

Chapter 2 - From Lecture Halls to Laptop Screens: The Evolution towards Online and Hybrid Degrees

The bricks-and-mortar academic institutions are increasingly complemented, and at times even supplanted, by online platforms. This section will probe deeper into the pedagogical implications of this shift, examining how institutions are adapting their infrastructures and teaching methodologies to meet the demands of digital natives.

Chapter 3 - Artificial Intelligence in Academia: From Educator to Subject Matter

AI is no longer just a subject of study but has emerged as an educator in its own right. This chapter will expand on the pioneering efforts in AI education, exploring case studies of AI applications in teaching and learning, and discussing the potential ethical considerations and the future trajectory of this trend.

Chapter 4 - Diploma Deflation: The Rising Tide of Graduates and the Eroding Value of Education

There exist diminishing returns of traditional degrees in an oversaturated job market, a phenomenon exacerbated by the increasing accessibility of higher education. The chapter explores the historical prestige of degrees in law, business, and medicine, contrasting this with the current surge in demand for STEM qualifications, particularly in the tech-dominated landscapes of the USA and the innovative educational reforms in CEE. It also highlights regional responses to these shifts, from the USA's skill-specific programs and the UK's interdisciplinary and conversion courses to CEE's integration of practical skills in curricula.

Chapter 5 - The Skill Gap Conundrum: Adapting Curricula to the Needs of a Rapidly Changing Job Market

While technical prowess remains essential, there's an increasing emphasis on soft skills. This chapter will explore the integration of soft skills into the curriculum, analyzing the balance between specialized knowledge and the versatility required in the modern workforce.

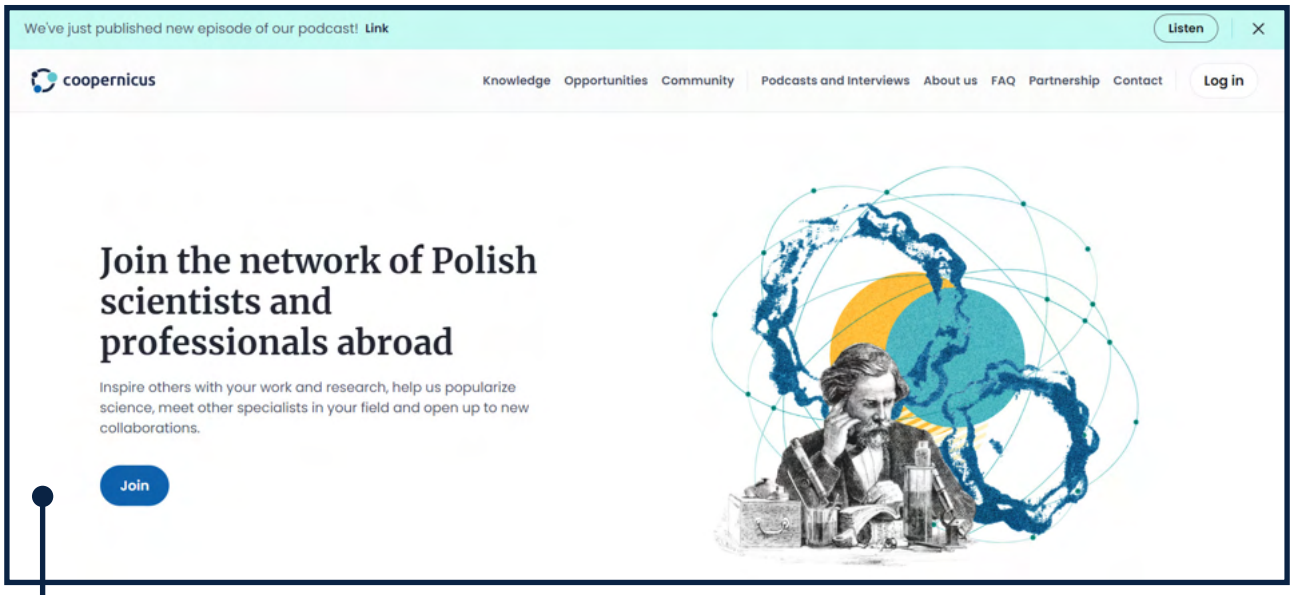
Chapter 6 - Beyond the Classroom: The Rise of Experiential Learning in Higher Education

Experiential learning means learning by doing. This chapter will delve into the practical applications of this pedagogical approach, highlighting how it is being implemented across various disciplines and its impact on student engagement and employability.

Chapter 7 - A New School for a New World - The Future of Business Schools

Business schools are changing. This chapter will offer a forward-looking perspective on the transformation of business education, with insights into how these institutions are reshaping their curricula to prepare students for the challenges of a new economic landscape.

In delving into these trends, especially from a Central and Eastern European perspective, this report seeks to bridge the gap between overarching global narratives and specific regional challenges. By coupling subject matter expertise with invaluable commentary from practitioners, this report provides a balanced and in-depth analysis. Through this, it aims to present a comprehensive view of the evolving landscape of higher education, ensuring relevance and actionable insights for its target audience. Our journey of exploration and analysis aims to illuminate the path forward in a rapidly evolving higher education landscape, empowering educators, students, and policy-makers to navigate this transformative era effectively.



www.coopernicus.pl

Coopernicus Platform

Coopernicus is an initiative of the Our Future Foundation. The main goal of our think-tank is to spread awareness of the achievements of Poles in Europe and around the world. We create a community of Polish scientists and professionals; we support recruitment and new cooperation within the community and with Polish institutions and enterprises.

Nina Wieretilo Author of the report

Graduate of BA Economics and Management and MA (Oxon) at University of Oxford. Edtech entrepreneur, consultant, and founder of EduCat, a study abroad platform. She was featured on Forbes Women '23 for 2023' and Forbes 30u30 lists.

www.kozminski.edu.pl

Kozminski University in Warsaw

Kozminski University, founded in 1993, is an institution of higher education with full academic rights. The university has obtained Polish and international accreditations, as well as excellent results in global and national educational rankings which shows the high quality of its programs and services. The university offers various Bachelor, Master's, MBA's and Ph.D. programs, available both in Polish and English.

Since 2009 the University is classified in the prestigious educational rankings provided by the 'Financial Times' – Business School Rankings, which include the best universities from around the world. Moreover, for the past years it holds first place throughout private universities in educational rankings in Poland. Kozminski University also received a special distinction from the National Accreditation Committee in regard to management, administration and law programs.

According to the Financial Times European Business School Rankings 2023, Kozminski University is the best business school in Central and Eastern Europe.

Foreword from Coopernicus
Board of Academic Adviors

Zuzanna Buszman

Academic Advisor & Co-founder | Coopernicus Platform
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Education, traditionally viewed as a gateway to potential, is in a critical state of evolution. Current standards for evaluating academic institutions and the predominant methods of education reform remain entrenched in a model conceived in the 19th century, especially in the context of the prevailing European standards. Although the Bologna Process has brought undeniable value in ensuring comparability in the standards and quality of higher-education qualifications all around Europe and beyond, it needs to resemble more grit in providing innovative solutions for ever-changing trends in the labor market. The emerging transformative trends, which encompass advancements in technology and more flexible pedagogical structures, are poised to profoundly alter our understanding of higher education, potentially representing the most significant shift in the educational landscape in many years.

The current educational model is consistently criticized for its narrow emphasis on standardized testing as the primary measure of educational quality, teacher effectiveness, and academic performance as an indicator of readiness for future success. For instance, Yong Zhao in 'Counting What Counts: Reframing Education Evaluation' contends that a global competition to raise standardized test scores in a limited range of subjects has distorted the concept of educational excellence by neglecting vital skills necessary for students' future pursuits, such as creativity and innovative thinking. Put differently, reliance on standardized tests and formulaic writing assignments will not equip students to navigate the unforeseen challenges and obstacles of the future job market, as was evident when many young professionals transitioned to an online work environment during the COVID-19 pandemic and the ensuing economic downturn.

The current industrial and technological transformation era is distinct from previous shifts; the future job landscape is ambiguous, with policymakers and educators

unable to forecast the nature of emerging employment needs. This unpredictability necessitates reevaluating both the content and methodology of our educational curricula. The value in the global economy is increasingly pinpointed not merely on knowledge acquisition but on applying that knowledge to innovate and solve complex problems.

Andreas Schleicher of the OECD echoes this sentiment, highlighting a crucial oversight in education: skills that are straightforward to teach and test are also those most susceptible to digitalization, automation, and outsourcing. The fundamental skills of mathematics, science, and language are undeniably vital, but the current labor market increasingly favors those with advanced analytical abilities and interactive skills such as coding, complex problem-solving, and advanced critical thinking, which fall outside the purview of routine cognitive functions checked at the university level.

The practical implications of this educational misalignment are starkly visible in the emergence of the 'Boomerang Generation.' This cohort of young adults, despite their formal education, finds themselves returning to live with their parents post-graduation. This phenomenon is often attributed to the discrepancy between the skills they have acquired and those demanded by the job market, further exacerbated by burdensome student loans and the high cost of living in urban centers.

Therefore, in preparation for a future marked by unknowns, it is crucial to transcend the antiquated metrics of educational success and to foster a curriculum that prizes innovation, implication of technology, critical thinking, and creativity. The mission of education must be recalibrated to support the development of a globally-minded society capable of creating opportunities and navigating the challenges of a rapidly changing world. This recalibration involves not only a shift in what is taught but also in the way of how it is communicated, ensuring that education remains a dynamic tool for personal and societal growth, which prioritizes problem-solving attitude and adaptability as foundational competencies for all learners.

So how do we educate for this unknown future? Firstly, we should be aware of this systematic educational stalemate to avoid becoming another prisoner of its relict structure. As long as one does not want to pursue an academic career, they should perceive education as a means of gaining practical skills and discovering various interests, which will be crucial in their professional path. Preparing for the unknown in shaping higher education involves both foresight and flexibility. Here are several strategies and trends - recognized along the reasoning of the comprehensive Report - that are pivotal in this endeavor:

Interdisciplinary Learning: The approach of merging insights and courses from different fields leads to innovation and supports students in applying their knowledge in diverse, real-world scenarios.

Multiregional approach: Choosing programs offering at least one semester and dual degrees in another country (or ideally in another geographical region) exposes students to various cultures, international collaboration, networking opportunities and understanding of socio-cultural differences.

Financial support and co-financing of dedicated courses: Government and industry co-financing dedicated courses and programs can bridge the skills gap and inequality by providing targeted education that meets the demands of an ever-evolving job market in the CEE region, thus fostering a competitive and dynamic economic environment.

Digital Literacy, AI, and Technology Integration: As technology and virtual reality become increasingly integral to all aspects of life, higher education institutions must not only incorporate technology into their curricula but also teach students to critically assess and effectively utilize it.

Lifelong Learning: With the rapid pace of change in job markets and technology, the concept of education as a once in a lifetime phase is outdated. Institutions should promote lifelong learning by introducing short specialization programs that provide resources for continued education and skill development at any age.

Development of Soft Skills: Employers often emphasize the need for soft skills such as communication, teamwork, and adaptability. As these skills are not easily trained and are crucial in a changing world, education systems should encourage capstone projects and other group assignments as an obligatory part of a curriculum.

Project-Based and Entrepreneurship Learning: This trend shifts the focus from rote memorization and very individual approach toward group effort of hands-on projects, analytical research and essay writing, which can help students develop critical thinking and problem-solving skills.

School counseling: Universities' mentoring programs should provide personalized guidance and support to students, empowering them to make informed decisions about their future professions that align with their interests, strengths, and evolving job market opportunities.

To equip students for future uncertainties, higher education must embrace a dynamic and multidisciplinary approach that prioritizes lifelong learning, technological proficiency, and analytical skills development. By fostering a curriculum that emphasizes adaptability, creativity, and global awareness, educational institutions can prepare graduates to meet the challenges of the evolving job market, as well as help become innovators and leaders in a world where the only constant is change. This Report not only shows the emerging trends but also underlines this need for a continuous reevaluation of educational practices to ensure they remain relevant and effective in cultivating a resilient and capable workforce for future challenges.

Michael Martin Richter, PhD

Academic Advisor & Co-founder | Coopernicus Platform
Board of Advisors | Our Future Foundation
Research Fellow & Lecturer | University of Surrey
Doctor of Philosophy | University of Bremen

The ongoing reshuffling of the global higher education landscape is emblematic of a transformative era marked by mega trends such as AI and the previously unprecedented challenges posed by the COVID-19 pandemic. As the world is undergoing these disruptions or still facing their fallout, countries are presented with a unique opportunity to redefine their positions on the map of global higher education, with Central and Eastern European (CE E) countries potentially standing at the forefront of this paradigm shift.

The intellectual capital of the people of the CEE countries, not least in the realm of information technologies, is a cornerstone of their global competitiveness. The better inclusion of these brilliant minds in a reformed, domestic higher education system sets the stage for substantial synergy effects. In the face of global shifts propelled by AI and other technological advancements, governments in the CEE region therefore find themselves at a strategic crossroads. How they choose to leverage their intellectual capital will determine their role in the unfolding disruptions of global higher education.

Notably, countries like Poland have demonstrated exceptional results in standardized testing, such as the PISA assessments. However, a noticeable gap exists when it comes to groundbreaking innovations and the seamless integration of classroom theory into business application. The outstanding performance in standardized tests suggests a strong academic foundation, yet the relative lag in practical innovation indicates untapped potential. This development is additionally increased by brain drain that encompasses a significant percentage of the smartest minds. It is imperative for these nations to bridge this divide by adopting a forward-thinking policy approach that aligns academic excellence with real-world applications.

Estonia serves as a shining example of a nation that has not merely followed global trends surrounding the spread of the internet but has actively pioneered them. By embracing change and positioning itself at the forefront of technological advancements, Estonia has successfully transformed its educational and entrepreneurial landscape. The Estonian model underscores the importance of proactive decision-making, strategic investments in technology, and a holistic approach to education that integrates theoretical, IT knowledge with practical application.

The symbiosis between theoretical understanding and hands-on experience, exemplified by Estonia, serves as a blueprint for other CEE countries seeking to capitalize on the current disruptions in higher education. This approach not only prepares students for the challenges of the real world but also fosters a culture of innovation that is essential for staying relevant in an ever-evolving global landscape.

As the world undergoes a paradigm shift in higher education, the forthcoming years are pivotal for CEE countries to assert their positions. The dichotomy between exceptional intellectual capital and a potential lag in innovation necessitates a comprehensive policy overhaul. The choice lies between being passive observers of global trends or actively shaping the trajectory of higher education. The exceptional talent pool in the region, particularly in IT, can be the driving force behind a strategic repositioning.

A forward-looking policy framework should encompass several key elements. First and foremost, there is a need to recognize the disruptions brought about by AI, online education, and other global trends as opportunities rather than threats. Embracing change and fostering an institutional environment that encourages innovation and collaboration between academia and industry are critical steps in this direction.

Furthermore, a commitment to being at the forefront of educational trends is essential. This entails continuous investments in research and development, the integration of emerging technologies into the curriculum, and a proactive stance in anticipating and adapting to future changes. The experiences of Estonia highlight the transformative potential of such an approach and serve as a testament to the importance of staying ahead of the curve rather than just following it.

Letter from the Rector of Kozminski University

Prof. Grzegorz Mazurek

Rector | Kozminski University
Board of Advisors | EFMD
Director | Centrum Badań Transformacji Cyfrowej CYBERMAN
Board Member | Stowarzyszenie Edukacji Menedżerskiej Forum

Dear Sirs,

Reflecting on the report's insights, we find it beneficial to adopt both an optimistic outlook and an awareness of the challenges facing the future of business schools. The higher education landscape, particularly in business, is undergoing significant transformation, influenced by technological advancements, global interconnectedness, and a heightened focus on social and ethical responsibilities.

The future of business schools lies in embracing the digital age, integrating technologies such as artificial intelligence and online learning platforms. This integration is not merely a reaction to changing times, but a proactive approach towards creating an educational environment that is more inclusive, flexible, and globally connected. The shift towards online and hybrid learning models is a testament to the adaptability and resilience of business schools, demonstrating their commitment to providing education that is both accessible and relevant in a digitally literate world.

Moreover, the emphasis on experiential learning represents a significant departure from traditional pedagogical methods. By promoting learning through real-world experiences, such as internships, co-ops, and study abroad programs, business schools are preparing students to be both academically and practically adept. This approach is critical in developing leaders who are knowledgeable and capable of applying their learning to complex real-world challenges.

The growing importance of ethical and sustainable business practices in corporate visibility and sustainability. Business schools are thus shaping not only skilled

professionals but also conscientious leaders who can make decisions that positively impact society and the environment.

However, the future also presents challenges, particularly in maintaining educational quality amidst rapid changes and ensuring equitable access to these evolving educational opportunities. As we navigate these challenges, business schools must continue to prioritize innovation, inclusivity, and excellence.

The future of business schools is dynamic and promising. It is our responsibility to continually evolve and adapt, preparing our students for the challenges and opportunities of an ever-changing global business landscape. By doing so, we will not only maintain the relevance of business education but also contribute to shaping a better world.

Prof. Grzegorz Mazurek
Rector of Kozminski University

Kozminski University Scholars Providing Insightful Report Comments

prof. Mariola Ciszewska-Mlinarič

Sylwia Hałas-Dej, PhD

prof. Aleksandra Przegalińska

Anna M. Górska, PhD

prof. Bartłomiej Nowak

prof. Jacek Tomkiewicz

Chapter 1

GLOBAL CAMPUSES

The Rise of Internationalization in Higher Education

Introduction

The desire to study abroad has held a special appeal for many over the centuries. However, in recent times, this desire has morphed into a substantial global movement, fueled by advancements in technology, a greater sense of global interconnectedness, and the internationalization of various professional fields. As higher education is becoming more globalized worldwide, it is imperative for countries, including Poland, to adapt by developing study programs that are attractive to international students and by encouraging their most promising students and academics to participate in top-tier global academic programs, thereby building a strong network of international contacts. This chapter will explore the multifaceted dimensions of the internationalization of higher education, examining its historical trajectory, current trends, and the challenges and considerations that come with it.

Historical Context

The concept of internationalization in higher education is not new. In ancient times, scholars traveled vast distances, often overcoming significant challenges, to study at renowned institutions or with famed scholars. For example, the ancient Nalanda University in India attracted scholars from as far as China, Korea, and Central Asia.

In the 20th century, the trend of studying abroad was influenced by several factors. Post World War II, there was a significant increase in international student mobility, driven by the growth of scholarship programs, such as the Fulbright Program initiated by the United States. The second half of the 20th century saw a surge in the number of international students, particularly in Western Europe and North America, fueled by the globalization of the economy, advancements in transportation and communication, along with the increasing importance of English as a global language.

The end of the 20th century and the beginning of the 21st century saw a further increase in international student mobility. The Bologna Process, initiated in 1999, aimed at creating a European Higher Education Area, which facilitated student and staff mobility across Europe. Additionally, the rise of emerging economies, such as China and India, led to an increase in the number of students from these countries seeking education abroad.

In recent years, trends in international student mobility have been influenced by various factors, including changes in visa policies, geopolitical tensions, and the increasing availability of quality higher education in non-traditional destination countries. Due to the much-increased mobility, owing to the relatively late accession to the EU, countries such as Poland, Slovakia, or Romania have witnessed waves of students leaving the country, often returning after graduating. Additionally, countries like China and Malaysia have become increasingly popular destinations for international students, reflecting a diversification in the global education market.

Overall, the trends in international student mobility have evolved, influenced by global events, policies, and the changing landscape of higher education. As the world becomes increasingly interconnected, understanding these dynamics is crucial for institutions, policymakers, and students, particularly for countries like Poland, which must navigate these changes proactively to ensure their place in the global education landscape.

Why Internationalization?

Diverse Learning Environments

Studying abroad allows students to immerse themselves in different cultural, social, and educational environments. This enriches their perspective and fosters global citizenship. For instance, a Polish student studying in Japan might learn the Japanese approach to group work and consensus building, which is often different from the more individualistic approach common in Western countries. Similarly, an American student studying in South Africa could learn about the country's unique history of overcoming apartheid, and its ongoing efforts to address the social and economic inequalities that persist today. These experiences provide students with a deeper understanding of the world and the diverse ways in which societies address challenges.

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Economic Drivers

In many countries, international students contribute significantly to the economy. In the U.S., international students contributed $44 billion to the economy in 2019. Additionally, in Australia, international education is the country's third largest income generator, contributing around AUD 37.6 billion to the economy in 2019. These contributions are not only from tuition fees but also from living expenses, which have a positive impact on the local economy.

Research Collaborations

International partnerships facilitate high-quality research, often leading to breakthrough innovations and findings. For example, the collaboration between the University of Cambridge in the UK and the Massachusetts Institute of Technology (MIT) in the USA has led to significant advancements in various fields, including cancer research and sustainable energy. Similarly, the partnership between the National University of Singapore (NUS) and Duke University in the USA resulted in the creation of the Duke-NUS Medical School, which has contributed to cutting-edge research in medical science and healthcare.

Poland is an example of a country whose universities engage extensively in international research collaborations. The University of Warsaw is a key player in several major international research consortia and networks. Examples include their participation in the Graphene Flagship consortium, supported by the European Commission, representing one of Europe's largest research initiatives. The university is also involved in the European Network for Baroque Cultural Heritage (ENBACH) and contributes significantly to the Large Hadron Collider project at CERN in Geneva. Their archaeological work spans twenty countries, collaborating closely with local institutions, with significant findings in Egypt, Sudan, and Peru, contributing to the understanding and protection of local heritage. Similarly,

Warsaw University of Technology (WUT) has established over 120 academic and research cooperation agreements globally, particularly with institutions in China and Japan. These partnerships involve diverse fields, from academic exchange to high-tech industrial research, showcasing WUT's global academic influence and commitment to international collaboration.

The Data: International Student Mobility

The major source countries in 2020 were China, India, Vietnam, Germany, and the USA (Migration Data Portal).

- The U.S., U.K., Australia, and Canada have consistently been top destinations for international students. In 2019, the U.S. hosted over a million international students (Institute of International Education), while the U.K. hosted more than 490,000 (ICEF Monitor).

- In 2020, official development assistance for scholarships was USD 1020 million (Migration Data Portal).

- In OECD countries, the international student population reached 4.4 million in 2020, a 70% increase over the decade (Migration Data Portal).

- About half of these students were enrolled in seven countries: the USA, the UK, Australia, Germany, Canada, France, and China. Russia, another major host in 2019, lacked data for 2020 (Migration Data Portal).

- The USA, the UK, and Australia were the top destinations in OECD countries, hosting 22%, 13%, and 10% of these students, respectively (Migration Data Portal).

- China and India were the primary source countries for OECD destinations, accounting for 22% and 10% of students (Migration Data Portal).

- Policymakers focus on international students not only for their immediate educational contributions but also for their potential as future skilled immigrants.

- In 2020, the number of international students globally rose to over 6.3 million from 2 million in 2000 (Migration Data Portal).

Challenges and Considerations

Visa Policies

Changing visa policies, particularly in countries like the U.S. and U.K., have influenced student mobility.

Socio-Political Climate

Events such as Brexit and various geopolitical tensions have had an impact on student choices.

Cost Implications

The cost of education and living in top destination countries can be prohibitive for many. Additionally, the cost of housing, especially in countries such as Netherlands, the UK or Ireland deters some students from pursuing education in these places, even if the tuition itself is moderately priced or heavily subsidized via scholarships or grants.

The Future of Internationalization

With the onset of the COVID-19 pandemic, international education faced unprecedented challenges, including travel restrictions, visa issues, and the shift to online learning. However, it also accelerated certain trends, such as virtual exchanges and short-term study abroad programs, which might hold the key to the future of internationalized education.

Despite these adaptations, there are several areas around the globe, not just Central and Eastern Europe (CEE), which could do more to tap into the trend of internationalization:

1. **Language Barrier**
   English is the global lingua franca, and most international programs are offered in English. While many countries offer programs in English, there is still room for improvement in terms of their number and variety.

2. **Recognition of Qualifications**
   Ensuring that qualifications obtained abroad are recognized at home and vice versa is crucial for facilitating international student mobility. Countries need to work on bilateral and multilateral agreements to ensure the recognition of qualifications.

3. **Attractiveness of Programs**
   Many countries offer high-quality education but often struggle to attract international students due to a lack of global recognition and branding. Countries need to invest in marketing and branding their higher education institutions and programs to attract international students.

4. **Scholarship Opportunities**
   Offering scholarships to international students can make studying abroad more accessible and attractive. While many countries offer scholarships to international students, there is still room for improvement in terms of the number and size of scholarships available.

5. **Virtual Exchange Programs**
   The pandemic has shown that virtual exchange programs can be a viable alternative to traditional study abroad programs. Countries need to invest in the infrastructure and technology required to facilitate virtual exchange programs.

By addressing these challenges, many countries around the globe, with the inclusion of those in the CEE region, can tap into the trend of internationalization and reap its offered benefits in terms of economic gains, research collaborations, and the development of a globally-minded citizenry.

Conclusion

The internationalization of higher education is a multifaceted phenomenon, influenced by a myriad of factors including global events, policies, technological advancements, and individual choices. The evolving landscape of international student mobility, marked by the rise of emerging destinations and the challenges posed by changing visa policies and geopolitical tensions, underscores the need for proactive strategies by countries worldwide, including those in the Central and Eastern Europe (CEE) region.

As the world grapples with the ongoing challenges of the COVID-19 pandemic, the acceleration of certain trends such as virtual exchanges and the diversification of the global education market highlight the importance of adaptability and innovation. Institutions, policymakers, and students should navigate these changes with a forward-looking approach, addressing challenges such as language barriers, recognition of qualifications, attractiveness of programs, scholarship opportunities, and the infrastructure for virtual exchange programs.

By embracing these challenges and capitalizing on the opportunities presented by internationalization, countries can foster economic growth, facilitate groundbreaking research collaborations, and cultivate a globally-minded citizenry, ultimately contributing to a more interconnected and prosperous world.

Scholar commentary on the chapter

Andrzej Brylak, PhD

University of Southern California,
Department of Slavic Languages & Literatures,
Postdoctoral Scholar

The chapter provides a comprehensive overview of main directions, and challenges related to international global education. Of all the elements I would say changing visa policies are the most important factor stalling the growth of global education. They are also a source of tremendous stress, anxiety, and insecurity among international students.

The authors of the report rightfully point out the fact that the international education is a source of significant contribution to the local economy. Therefore, in my opinion universities should build an appropriate coalition and lobby the local government for simplification and stabilization of visa policies.

One element important for strengthening international programs which is not included in the report is the social life of students. American universities are doing much better work in organizing social life, for example clubs of interests targeting international students, who naturally might find themselves alienated in a new country. Such a difference comes from the general difference between American and European campus experience. In Europe, unlike in the US, departments are often spread out all over the city, and there is no single campus gathering all the students in one place. Also, in the American system there is much bigger emphasis on social life facilitated by the universities in general. The system in which students have majors and take a significant percentage of classes within the general education program exposes them to a bigger number of people, on the other hand, the ties between students of the same major are weaker as they don't spend that much time together.

Second element missing from the chapter is the distinction between graduate and undergrad international students. Those two groups often have vastly different experiences, needs and play different roles in the financial/organizational structure of a university. It is common in the US that for example French graduate students study at the French Department and often teach French language. Same with other nationalities.

It would be an interesting thought experiment to think of the possibility of bringing international students to Poland to study their own culture and also to teach it to undergrads. Such strategy would be possible in case of the countries of the former Soviet

Union where the academic freedom is often severely limited. Poland could play a role of the alternative epistemological center. Such process did happen in the US after WWII where major scholars of Russia started emigrating to American Universities. Poland's close geographical location would make it only easier. It is also worth acknowledging that while many undergraduate students may have intention of returning to the country of origin, they often remain in their new country, especially when their country is politically or economically unstable.

The process of transitioning from student visa to work visa should be simplified, particularly in countries which need young, educated, labor force. Structuring administrative system of visa distribution around the unrealistic assumption that students will return to their home countries is a source of unnecessary chaos. Vast majority of students after five years of education have enough connections to easily find a job in a new country, however when they do so, they are prevented from taking a job due to visa restrictions, therefore leaving their potential employer without an employee he/she would prefer the most.

Prof. Mariola Ciszewska-Mlinarič

Kozminski University

The internationalization of higher education is a dynamic and complex phenomenon, evolving through historical milestones and influenced by contemporary global trends and policies. This sector's shifting landscape is a testament to the growing desire for global engagement, driven by technological advancements, a heightened sense of interconnectedness, and the universalization of various professional domains.

The rationale behind internationalization is multifaceted. Studying abroad enriches students' perspectives, fostering global citizenship by exposing them to diverse cultural and educational environments.

Internationalization in higher education is characterized by various approaches. A notable strategy is short-term exchanges at leading universities, allowing students to experience international environments without losing touch with their local job markets. These programs offer a balance of global insight and local relevance, enriching the academic and cultural experience.

Equally significant is the concept of double degree programs, exemplified by Kozminski University. Through global partnerships, students can earn degrees from both Kozminski and a partner institution, gaining diverse educational perspectives and enhancing their global competitiveness. Such initiatives reflect the commitment of educational institutions to provide a comprehensive, globally oriented education, essential in cultivating globally minded citizens and adapting to the evolving demands of international higher education.

chapter 2

FROM LECTURE HALLS TO LAPTOP SCREENS

The Evolution Towards Online and Hybrid Degrees

Introduction

Traditional higher education, with its campus-centered ethos, has undergone a profound transformation in the digital age. Once confined to lecture halls and seminar rooms, learning now also occurs on screens across the globe. This chapter charts the ascent of online and hybrid degree programs, reflecting on their historical roots and contemporary significance.

In the era of the digital transformation of higher education, the landscape of learning has expanded beyond the confines of physical classrooms to include online and hybrid degree programs. This transformation signifies a remarkable shift in the way knowledge is acquired and disseminated, and its impact is multi-faceted.

Historical Context

Online learning's infancy in the 1990s was characterized by limited course offerings. Yet, by the mid-2000s, as internet speeds and accessibility improved, institutions like MIT and Stanford began offering extensive course materials online, signaling the inception of a broader online learning era. This shift was not solely driven by technology; it was also influenced by several other compelling factors.

During this period, innovative pedagogical methods were being explored, such as the 'constructivist' or 'connectivist' approaches, which emphasized collaborative learning, problem-solving, and student-centered activities. These approaches found a fertile ground for experimentation in online platforms. The global reach of online education was a product of its time, breaking down geographical barriers and allowing students from diverse backgrounds to access high-quality educational materials.

Cost efficiency played a significant role in the adoption of online education. Universities found they could reach a wider audience without the need for massive physical infrastructure, thus lowering costs for both institutions and students. Moreover, the student-centered learning environment that online education offered allowed learners to take control of their educational journey, selecting courses that matched their interests and career goals while accessing a vast array of supplementary resources.

Driving Factors Behind the Shift

Technological Advancements

The 21st century witnessed an exponential growth in digital tools tailor-made for education. In 2020, platforms like Zoom saw a monumental surge in daily participants, skyrocketing from 10 million to over 300 million in just a few months. Learning Management Systems, such as Blackboard, accommodated a staggering 100 million users globally by 2019, revolutionizing the educational experience.

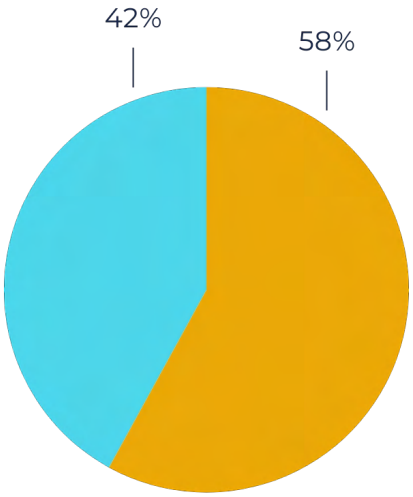
Flexibility and Accessibility

The allure of learning-from-anywhere has democratized education. In 2019, a survey by Educause highlighted that 70% of online students cited flexibility as their primary reason for their choice. This newfound accessibility has had global implications, as evidenced by Coursera's 2020 Global Impact Report, which reported that 58% of its learners hailed from outside the United States.

Changing Demographics and Learner Needs

Contemporary learners have redefined the education landscape, demanding a more adaptable system. The National Center for Education Statistics in the U.S. noted in 2019 that 58% of online students were aged 25 or older, emphasizing the need for an education system that caters to the diverse needs of adult learners. Importantly, even more universities are offering hybrid or fully online degrees specifically with the aim of catering to adult learners, who often need to compromise learning with caring for their dependents or a job.

The National Center for Education Statistics in the U.S. noted in 2019 that 58% of online students were aged 25 or older.



Hybrid Degrees: The Best of Both Worlds?

Hybrid models, which seamlessly blend face-to-face instruction with online components, have emerged as a promising approach to education. In 2018, Eduventures Research reported that 65% of academic leaders perceived blended learning as a worthwhile pedagogical approach. The University of Warsaw's annual education review in 2019 further reinforced the value of hybrid programs, reporting satisfaction rates exceeding 85%.

Challenges and Hurdles

Digital Divide

Despite the transformative potential of online education, technology access disparities persist. UNESCO reported in 2020 that around 43% of youth globally lacked basic digital equipment for e-learning, highlighting the urgent need to address this digital divide.

Quality Assurance

Ensuring the quality of online programs remains essential. In 2019, a Gallup survey revealed that 50% of employers still favored traditionally earned degrees over online ones. To bridge this gap, institutions must continually enhance the quality and rigor of their online offerings.

Social Isolation

The digital realm can sometimes lead to reduced interpersonal interactions, impacting the overall student experience. A study by the Online Learning Consortium in 2020 indicated that 46% of online students missed face-to-face social interactions, signaling the need for innovative solutions to foster a sense of community in virtual learning environments.

The Future of Online and Hybrid Learning

Post-pandemic, online and hybrid education models have been fortified and are poised for further growth. Technological advancements are expected to enhance their appeal, resulting in a more dynamic and inclusive educational landscape.

Market research firm Global Industry Analysts projects that by 2025, the global e-learning market will be worth an astonishing $325 billion, a significant increase from $187.877 billion in 2019. This remarkable growth reflects the increasing recognition of the effectiveness and flexibility of online and hybrid education.

In parallel, HolonIQ reported that EdTech investments surged to $18.66 billion in 2019, indicating a strong commitment to advancing the technology that underpins these innovative educational models.

Conclusion

The transformation from physical campuses to digital platforms underscores the evolving nature of higher education. Incorporating data-driven insights, it is abundantly clear that online and hybrid models are not transient phenomena but integral facets of contemporary education. As the sector forges ahead, successfully addressing the challenges and leveraging the potential of these models will be the cornerstone in shaping a more inclusive and dynamic educational landscape, fostering accessible, high-quality learning experiences for diverse learners worldwide.

Scholar commentary on the chapter

Tomasz Herzog, PhD

University of Maine at Presque Isle
Social Foundations of Education
and Social Studies Education

The evolving nature of higher education underscores the shift from traditional, physical campuses to digital platforms. A watershed moment in this regard was the outbreak of the pandemic, which forced colleges and universities to switch to online education overnight. This experience solidified online education's place in the university structure, and there is no indication that it will recede in educational practice in the future. Respondents' acceptance of online education and positive perceptions of the quality of online institutions have grown tremendously over the past six years, as the results of various surveys clearly show. Employers are now much more likely to accept potential employees with an online degree than they were before the pandemic. One striking trend is that the demographics of online students are changing. More and more young people are pursuing higher education in this format, often combining their studies with work to support themselves and pay their tuition. Hybrid studies, according to many researchers, seem to combine the best of both worlds. This shift represents a remarkable change in the way knowledge is acquired and disseminated, and its implications are manifold. Many of the challenges and risks associated with this process are identified and discussed in this report.

At the same time, in promoting online education, it is worth emphasizing here the need to pay special attention to first-generation students, who are often seen as potentially most vulnerable to the difficulties and likelihood of academic failure in online education. To address this, many U.S. universities have created or greatly expanded academic advising centers to provide comprehensive support for online students. The shift to online education has required, and will continue to require, faculty to continually acquire and improve skills that are different from those previously useful for teaching in traditional classrooms. To this end, teaching and learning centers have been or are being established on many campuses, large and small, public and private, with the primary mission of training faculty in the effective use of new adult learning methods for online education.

Online education has become an integral part of the higher education landscape, contributing to changes that have both educational and, very important in the United States, economic consequences. The state University of Maine System (UMS), which includes the University of Maine at Presque Isle, where I am employed, is a good example of this. According to recently released data, distance education now accounts for 37% of all

credit hours offered by UMS, up from 23% before the pandemic. Bucking national enrollment trends, the University of Maine at Presque Isle is meeting the needs of more working Mainers and their employers by rapidly developing affordable, flexible online degree programs. Enrollment at this small, rural public university has grown 67 percent over the past five years to 1,509 students, and has increased by 20 percent from the Fall of 2022. Much of this growth has been driven by UMPI's YourPace competency-based online degree program, which allows students to progress on their own schedule as they master the actual competencies covered in their courses. Students pay a flat fee per session, no matter how many courses they take, and there are six sessions per year, allowing adults to study when it's best for their busy lives. They also receive credit for prior learning and work, as well as academic and other support as they progress toward a degree.

Innovation and responsiveness to societal challenges are key to fulfilling the research and educational missions of universities and colleges and to the success of their students.

Sylwia Hałas-Dej, PhD

Kozminski University

The evolution of higher education from traditional, campus-based settings to digital platforms marks a significant transformation in knowledge acquisition and dissemination. This shift to online and hybrid degree programs is shaped by the digital age, offering a more inclusive, flexible, and accessible form of education.

This era is not just technology-driven but also pedagogically innovative, embracing collaborative and student-centered learning methods. Online education's appeal is enhanced by its cost-efficiency and global reach, breaking down geographical barriers and allowing access to quality education.

This model has been successfully implemented at institutions like Kozminski University, which effectively uses hybrid learning to cater to different student groups, including those seeking flexible educational options. Combining face-to-face instruction with online components, hybrid learning has emerged as a promising educational approach, blending the best of both worlds.

The transition to online and hybrid learning models is a defining feature of contemporary education, reflecting a shift towards a more inclusive and dynamic educational landscape. Addressing its challenges and harnessing its potential will be key to providing high-quality, accessible learning experiences for a diverse global student population.

Chapter 3

ARTIFICIAL INTELLIGENCE IN ACADEMIA

From Educator to Subject Matter

Introduction

In the evolving panorama of education, Artificial Intelligence (AI) has etched an indelible mark. From personalized learning systems to serving as a cutting-edge subject of study, the involvement of AI in higher education is multitudinous. This chapter aims to delve into the twofold function of AI in academia: as an innovative pedagogical instrument and as an academic discipline gaining immense traction.

The penetration of AI in education is akin to a seismic shift, disrupting traditional teaching and learning paradigms. It encompasses not only personalized learning but also extends into becoming a subject of study, shaping the future of academia.

The Advent of AI as an Educational Tool

Historically, technological advances have played a pivotal role in shaping educational methodologies, and AI stands as the latest and most transformative chapter in this narrative. In the digital age, AI emerged at the intersection of software engineering and cognitive science, embodying the potential to mimic human intelligence, albeit within certain boundaries. It was swiftly recognized as a game-changer for the educational sector, with its early stages featuring simple applications such as automated grading systems. However, the past decade has witnessed a rapid evolution in AI's role, with sophisticated platforms now offering tailor-made learning experiences.

This evolution is underscored by AI's capacity to adapt to individual students' learning patterns, preferences, and needs, creating a dynamic and highly personalized educational environment. AI-driven educational tools have become adept at diagnosing areas where students may struggle and providing targeted resources and support to bolster their understanding.

AI-driven Pedagogical Innovations

Automated Tutoring Systems

Recent years have seen an exponential proliferation of AI-driven tutoring systems. These platforms, leveraging deep learning and natural language processing, can meticulously monitor a student's progress and deliver content tailored to their pace and understanding. An illustrative case is the Carnegie Learning system, which reportedly boosted student performance through adaptive problem-solving exercises, fine-tuning their learning experience in real-time.

AI in Classroom Interactions

Beyond asynchronous learning, AI is now actively augmenting real-time classroom settings. A standout example is Georgia Tech's 'Jill Watson,' which serves as an AI teaching assistant. 'Jill' is capable of responding to student queries, facilitating discussions, and even aiding in grading tasks, relieving instructors of some administrative burdens and enhancing students' immediate access to educational support.

Predictive Analytics

AI is empowering institutions to predict student performances more accurately, enabling early interventions to support struggling learners. By meticulously analyzing a student's engagement, participation, and assessment results, these predictive models can proactively identify potential dropouts or those in need of academic assistance. This not only helps in improving student retention rates but also promotes a more responsive and supportive educational environment.

AI as a Subject of Study

As industries recognized AI's potential, there was an exponential surge in the demand for expertise in this domain, precipitating a transformation in academia:

Enrollments and Course Diversification

Universities worldwide observed a substantial spike in enrollments for AI and related courses. What started with basic programming and machine learning modules has now expanded to encompass advanced topics, including neural networks, robotics, and ethical considerations in AI. This diversification of AI courses caters to students with a wide range of interests and career aspirations.

Research and Innovation

Leading institutions like MIT, Stanford, and the University of Cambridge have significantly elevated their AI research endeavors. These research efforts span a myriad of applications, ranging from healthcare and finance to climate modeling. AI-driven research is reshaping entire industries, and academia plays a pivotal role in pushing the boundaries of AI's potential.

Ethics and AI

As AI systems increasingly influence decision-making processes in society, academia has been proactive in addressing the socio-cultural implications of AI. Courses centered on the ethical dimensions of AI have emerged, exploring issues such as biases in AI algorithms, privacy concerns, and the broader societal impacts of automation. These courses equip students with the knowledge and critical thinking skills necessary to navigate the complex ethical terrain of AI technology.

The Stanford arm designed by SAIL

In 1969 the Stanford Artificial Intelligence Laboratory designed the Stanford arm. **This project is the forerunner of most industrial robots in use today.**[1]

Challenges in AI-Driven Education

The integration of AI in academia is not without its challenges:

1. **Data Privacy and Security**
   As AI systems require vast amounts of data for effective operations, concerns about data misuse and privacy breaches intensify. Institutions and technology providers must continually prioritize robust data security measures to protect sensitive student information.

2. **Quality of Learning**
   While AI can personalize learning experiences, ensuring that the quality of education remains uncompromised is pivotal. Maintaining high standards in curriculum design and pedagogical approaches is essential to complement AI's role in enhancing learning.

3. **Human-AI Interactions**
   The psychological and pedagogical implications of reduced human interaction in learning processes warrant exploration. Balancing the benefits of AI-driven personalization with the need for human connection and guidance remains a significant challenge.

Looking Ahead: The Future of AI in Academia

The trajectory of AI in education points towards even deeper integration:

Expanding Roles

Beyond teaching and learning, AI systems might soon play roles in administrative tasks, admissions processes, and even in research assistance. Automation of administrative tasks can streamline operations and enhance efficiency, allowing educators and staff to focus on more complex, value-added activities.

Lifelong Learning Platforms

As professions continue to evolve in response to rapid technological advancements, AI-driven platforms are likely to become mainstream in providing continuous education for professionals. Lifelong learning becomes essential in an era of technological disruption, and AI-powered platforms can keep individuals up-to-date with the latest skills and knowledge.

Collaborative Learning with AI

The future may witness an evolution in the way students interact with AI, moving beyond AI as mere tools to collaborative partners. Students could work alongside AI systems, fostering a synergy between human creativity and computational prowess. Such partnerships can enhance problem-solving, research, and creative processes, representing an exciting frontier in the field of education.

Recent AI Regulations in the EU and US

The European Union introduced the Artificial Intelligence Act (AI Act), a comprehensive framework to regulate AI systems based on their risk level to human health, safety, and fundamental rights. The AI Act, proposed by the European Commission, categorizes AI systems into four risk categories: prohibited, high-risk, limited-risk, and minimal-risk. It aims to foster trustworthy AI development while respecting EU values and rules. **A key component is the establishment of a European AI Board for governance and enforcement, with sanctions for non-compliance including fines up to 6% of annual worldwide turnover or €30 million.**

In contrast, the US does not have comprehensive federal legislation on AI, but rather a patchwork of regulatory frameworks. There are state-specific regulations, such as New York's requirement for annual bias audits for automated employment decision tools (AEDTs). In 2023, several states including California, Connecticut, Colorado, and Virginia implemented general data privacy legislation affecting AI. These laws grant consumers opt-out rights for AI-powered decisions impacting them significantly.

At the federal level, the Federal Trade Commission (FTC) has started to play a role in AI regulation. Although there's no comprehensive AI legislation, the FTC has been developing guidelines for AI use, including ensuring AI is trained on representative data sets and outcomes are explainable. The FTC also enforces existing consumer protection laws in relation to AI. Additionally, the National Institute for Standards and Technology (NIST) is working on standards for trustworthy AI, focusing on characteristics such as reliability, safety, non-bias, explainability, and transparency.

These regulations, both in the EU and the US, will undoubtedly influence the use of AI in higher education, particularly in terms of research ethics, development of AI-based educational tools, and curriculum design to incorporate legal and ethical considerations of AI.

Conclusion

The tapestry of AI in higher education is intricate, marked by promising innovations and inherent challenges. As academia grapples with the optimal fusion of human intellect and artificial intelligence, one thing remains clear: the landscape of education is undergoing a transformation, and AI sits at its epicenter.

Embracing the full potential of AI while navigating the challenges will determine the shape of future education, where the harmonious coexistence of human and machine intelligence unlocks new horizons of knowledge acquisition and dissemination.

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GENERATIVE AI IN HIGHER EDUCATION

Recent advancements in generative artificial intelligence (AI) technology, particularly Large Language Models (LLMs), have attracted unprecedented attention with the introduction of ChatGPT 3.5 – the chatbot that became available to the general public in November 2022. The app has become the fastest-growing online application in history, reaching an estimated 100 million monthly active users in just two months after its launch. While all of that may sound like yesterday's news, the AI does not stop generating headlines. While the public discord ranges from various job displacements to AI safety concerns, Higher Education sector sees immediate challenges which require Higher Education Institutions (HEIs) to respond and adapt to changes brought forth by this technology. Early in 2023, multiple reports emerged highlighting attempts to restrict the use of generative AI in educational settings, alongside warnings about threats to academic integrity. Overall, generative AI and LLMs in particular bring a variety of challenges to HEIs and education sector as the while, it is however important that along challenges there are notable opportunities which may transform education.

MAINTAINING ACADEMIC INTEGRITY

ChatGPT's capabilities have been tested across various academic fields, and early studies reveal a spectrum of proficiency and limitations. The model has shown a notable ability to handle complex queries in law, operations management, and computing, though it encountered challenges in areas requiring deep conceptual understanding and intricate problem-solving. In standardised tests like economics and medical licensing exams, ChatGPT's performance was particularly impressive, often surpassing average students. It is worth noting that this tool could be further optimised through prompt engineering boosting its effectiveness and overcome certain limitations.

The latest version of ChatGPT 4.0 has become multimodal, has internet browsing and advanced data analytics abilities, as well extended knowledge cutoff, further enhancing its potential. What's more, there are currently no reliable detection tools available. Those that exist, despite claims of high accuracy, are prone to both false positives and false negatives, which significantly limits their practical usefulness. Therefore, the threat to academic integrity is real, albeit at this point in time there is limited empirical evidence of wide-scale cheating taking place, what may change as the 2023/24 academic year progresses. Nonetheless, observations on social media platforms indicate the lack of critical discourse related to negative aspects of using generative AI in education, meaning that systems such as ChatGPT may be used by students without much reflection and evaluation.

To mitigate the risk of plagiarism in academia, several approaches are suggested.

- HEIs should revisit their academic integrity policies to include the use of generative AI. This includes setting clear guidelines on acceptable and unacceptable uses of AI in academic work. Educating students and staff about these updated policies and promoting ethical use of AI is crucial.

- Design innovative assessment forms that prioritise demand creative and critical thinking, and analysis over mere recollection. Emphasising authentic assessments is also recommended, where students engage with tasks that mirror real-life contexts. Finally, students should be evaluated on their approach, process, and interaction with the content rather than the final product. This shift in strategy aims to make assessment more relevant, engaging, and resilient to the challenges presented by generative AI technology.

DEALING WITH INHERENT BIASES AND SEEKING POPPORTUNITIES TO PROMOTE DIVERSITY AND INCLUSION

Commentators often highlight the inherent biases present in the training data of generative AI models, which can result in problematic and skewed outputs. This raises significant ethical and operational concerns, particularly due to AI's inability to make ethical judgments and its reliance on biased datasets. Additionally, the introduction of a paywall in cases of the most advanced models, emphasises the importance of providing equitable access to AI technologies for disadvantaged groups to avoid worsening existing digital divides and educational inequalities.

However, despite the obvious challenges, generative AI offers multiple opportunities to enhance inclusivity and consequently the learning outcomes:

- Generative AI can provide customized learning material: AI can handle course queries, direct students to resources, and provide materials suited to different learning styles. This customisation is particularly beneficial for students with communication challenges. Furthermore, generative AI supports adaptive writing styles and can highlight essential information in various formats, catering to diverse learning preferences.

- Technology offers support for non-native English speakers: ChatGPT can be used for grammar feedback and as a semi-translator for complex terms, aiding in comprehension and enhancing the learning experience of non-native English speakers.

- Automated assistance for neurodivergent students: AI can assist neurodivergent students in time management, information processing, and thought organization, tailoring the learning process to their specific needs.

- Awareness of Societal Biases: The fact that AI may produce biased responses presents an opportunity to raise awareness and engage in discussions about inherent societal. This can lead to a deeper understanding and critical analysis of these biases in the educational settings.

OVERCOMING PRIVACY AND IP CHALLENGES AND THE THREAT OF MISINFORMATION

The vast amount of data processed by ChatGPT's algorithms presents a vulnerability to cyberattacks, risking unauthorised access or misuse of sensitive information. Secondly, there are concerns about how ChatGPT handles information from its interactions, with ambiguities surrounding data storage and usage. This issue is particularly pertinent for learners and educators who may not have sufficient knowledge of technology and privacy matters. Furthermore, there is a risk of young learners inadvertently sharing personal details with platforms, highlighting the need for safeguarding the privacy of vulnerable groups.

In addressing privacy issues, several strategies could be adopted:

- Informing staff and students: HEIs must ensure that both staff and students are well informed about AI-related privacy concerns. This includes emphasising the importance of not sharing personal or sensitive data.

- Fostering a secure learning environment: HEIs should focus on creating a secure learning environment that benefits from AI. Recognising the potential for privacy breaches is important, but the primary role of HEIs is to ensure a safe and beneficial use of AI in education.

Critics of generative AI models refer to the ethical challenges related to intellectual property (IP). This concern stems from the fact that models like ChatGPT are trained on large amounts of text data, including books, articles, and other written materials. Some of this training data may be copyrighted, raising questions about the legality and ethics of using such data for training AI models. The challenge is compounded by the AI development paradigm that larger training datasets yield better results. This situation presents an ethical dilemma, especially in educational context. While the issue of intellectual property (IP) infringement is still under consideration in various lawsuits, the outcomes could either help to entrench the industry as we know it or force it to undergo radical changes. However, it is important to recognise that some companies have offered to indemnify users of their AI models, providing a degree of certainty for these users.

To address intellectual property rights concerns associated with generative AI in higher education:

- Raising awareness: It's crucial to raise awareness among students and faculty about potential copyright violations when using generative AI tools. Understanding the legal implications of using AI-generated content is vital for responsible use.

- Aligning with legitimate providers: Institutions should seek to align with AI providers who can verify the copyright legitimacy of their training data. This helps ensure that the AI tools used in educational settings are compliant with intellectual property laws.

There's a significant concern that AI, such as ChatGPT, might inadvertently propagate misinformation as technology could be used to mass-produce and amplify questionable content and misinformation. In extreme cases fake content created using generative AI could sway elections, ruin reputations, and disrupt stock markets. This risk is compounded by the possibility of even well-intentioned users unknowingly spreading fake news. The issue is further exacerbated as many users fall victim to misinformation due to cognitive biases, reliance on headlines, and the persistence of false information. Furthermore, generative AI could be used to produce fake data set to support scientific hypothesis. Additionally, these models are prone to 'hallucinations,' generating inaccurate or false information. Given these risks, HEIs should adopt the following measures:

- Educating students on information quality: It is crucial to educate students about the quality of information about discerning credible information sources from questionable ones, including understanding the limitations of generative AI models.

- Raising awareness about AI's potential for misinformation: There is a need to raise awareness among students about AI's potential to spread misinformation. Overall, encouraging and fostering critical thinking among students is vital to prepare them for the world of information abundance and challenges posted by generative AI.

These strategies emphases the need for to balance the risks and benefits and ensuring that educational institutions stay informed and proactively address concerns while preparing their students for the future where generative AI may be presents and affect many aspects of life.

RECOGNISING THE OPPORTUNITIES

Beyond the challenges, it is pivotal to recognize the novel areas in which generative AI and LLMs can transform educational settings, including:

- Potential to transform classroom settings due to its capacity to provide personalised lessons and a tailored educational experience by adapting content and learning paths for individual students based on their needs. This personalisation can significantly enhance the teaching and learning process leading to improved outcomes.

- Emphasis should be placed on scaffolding AI skills development and incorporating this technology into curricula that can nurture creativity, promote critical thinking, and prepare students for a future where AI collaboration is common in professional life, therefore enhancing their career prospects.

- Generative AI can boost productivity due to its capabilities that extend beyond generating text. This versatility makes it a valuable resource applicable in a wide range of contexts. HEIs should take a vital and leading role in creating and defining use cases for this technology that will translate into tangible productivity gains and benefit society as a whole.

SUMMARY

HEIs need to seek efficient strategy to adopt generative AI technology. Staying up to date with technological and regulatory advancements while monitoring the impact of generative AI on education and broader society is crucial. This report stresses the availability of strategies to effectively address challenges and facilitate the successful adoption of AI in educational settings. Further, it recognizes the potential of this technology to transform and benefit higher education.

The report concludes that the complexities associated with the adoption of generative AI technology require HEIs to allocate appropriate resources to effectively manage the process. This includes ensuring staff AI readiness and creating academic or management roles dedicated to overseeing the adoption. These efforts should be supervised, coordinated, and evaluated, involving open dialogue with relevant stakeholders.

Prof. Aleksandra Przegalińska

Kozminski University

The integration of Artificial Intelligence (AI) into higher education has catalyzed a significant transformation, serving both as an innovative educational tool and an increasingly vital academic discipline. This evolution from basic automated grading systems to sophisticated platforms reflects AI's growing influence in personalizing and enhancing learning experiences.

Universities globally have expanded their curriculum to include advanced AI topics, reflecting the field's deepening complexity and its intersection with various sectors. Additionally, the burgeoning importance of AI has spurred the inclusion of ethical considerations in the curriculum, addressing the societal impacts and moral dimensions of AI technology.

Kozminski University was among the first in Poland, and in Europe, to emphasize the increasing use of digital tools and the possibilities they offer for developing students' competences and shaping a reflective attitude. The university's AI recommendations are extremely important from an ethical standpoint. They aim to ensure that the tool is used in line with best practices and to define boundaries.

AI's role in higher education is intricate, marked by innovative applications and inherent challenges. As the educational landscape evolves with AI at its core, the successful integration of this technology will shape the future of education, harmonizing machine intelligence with human intellect to broaden the horizons of knowledge and learning.

Survey about the utilization of modern technologies in education

As part of the report, Coopernicus conducted a survey to assess the utilization of modern tools and technologies in education. The objective of the study was to gather insights from students and young scholars, exploring how they integrate Large Language Models (LLMs), such as Chat GPT, into their daily academic and educational activities. These models are frequently employed for tasks such as note-taking, problem-solving, text translation and aiding in the learning process.

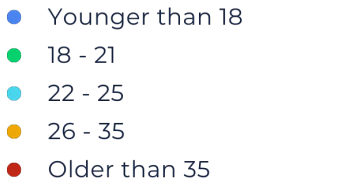
As we delve into the transformative trends in higher education, it is imperative to understand not only the theoretical and policy-driven aspects but also the practical and experiential dimensions of these changes. The comprehensive report 'Shifting Horizons: Transformative Trends Reshaping the Landscape of Higher Education' has explored various facets of this transformation, from the rise of internationalization and online education to the integration of AI and the shift towards experiential learning. To enrich this analysis and provide a ground-level perspective, a survey was conducted to explore how students are interacting with one of the key elements of this transformation: Artificial Intelligence, specifically through tools like ChatGPT.

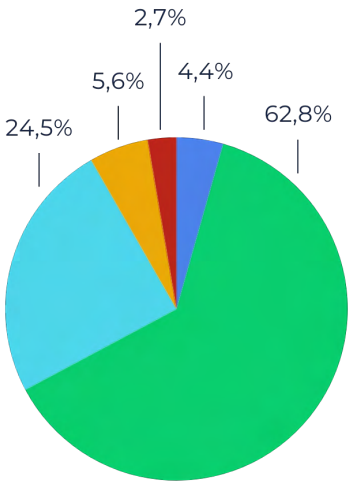
The rationale behind this survey was to gain insights into the real-world implications of AI integration in higher education, a theme consistently woven throughout the report. By understanding how students are utilizing AI tools like ChatGPT in their academic work, we can better assess the current state of AI in education, its effectiveness and the areas that require further exploration and policy development. The survey's findings offer a vital student perspective, which is essential for a holistic understanding of the trends shaping the educational landscape. They provide empirical data that complements the theoretical and expert analyses presented in the report, thereby enriching our understanding of the ongoing transformation in higher education.

As we integrate the survey findings into the report, it is important to view them as a lens through which we can examine the practical application and real-world impact of the trends discussed. The insights from the student responses not only corroborate the trends identified in the report but also highlight new areas of interest, challenges, and opportunities in the realm of higher education. This integration aims to bridge the gap between theoretical exploration and practical experience, offering a comprehensive view of the evolving landscape of higher education in the era of digital transformation and AI integration.

Survey results

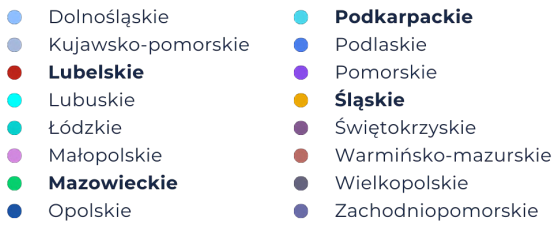
AGE OF RESPONDENTS

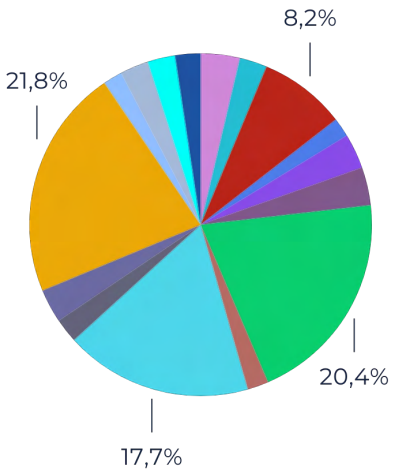




A total of 1128 respondents took part in the survey. The vast majority of them, 62.8%, were aged 18-21. The respondents came from all 16 voivodeships from all over Poland, but the largest number of answers were given by residents of Silesia, Mazovia and Podkarpacie.

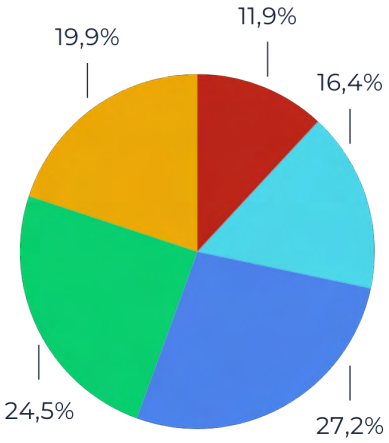
ORIGIN OF RESPONDENTS





POPULATION
OF THE HOME TOWN

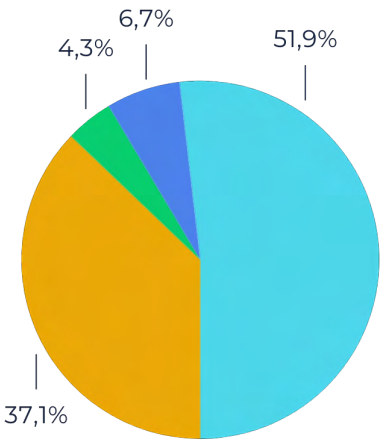
- Up to 2000 residents
- 2000 - 20 000 residents
- 20 000 - 100 000 residents
- 100 000 - 500 000 residents
- Over 500 000 residents



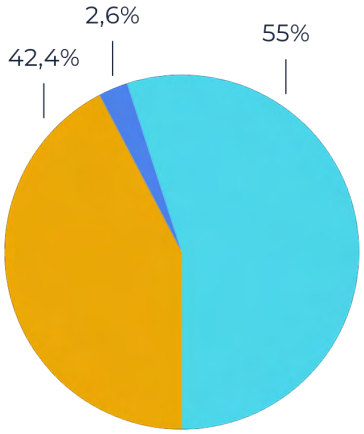
Respondents came from both Poland's largest cities with more than 500,000 residents (19.9%) and the smallest towns with fewer than 2,000 people (11.9%). Most of the respondents were pursuing a bachelor's degree (51.9%), and more than a third were pursuing a master's degree (37.1%). 55% of women and 42.4% of men participated in the survey.

CURRENT
DEGREE LEVEL

- Bachelor degree
- Master's degree
- PhD student
- Graduate



SEX OF RESPONDENTS

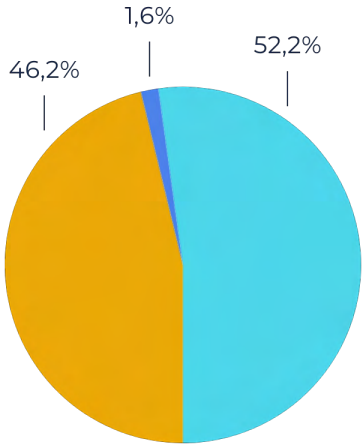


- Woman
- I prefer not to answer
- Man

ChatGPT's Role in Study Preparation and Idea Generation

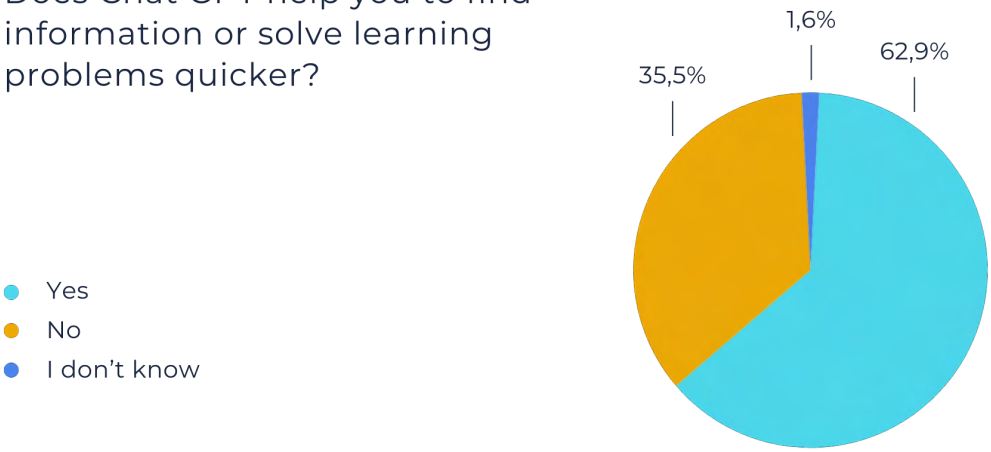
The survey, encompassing responses from 1,128 students, indicates a significant use of ChatGPT in academic endeavors. Notably, 52.2% of the respondents utilize ChatGPT for exam preparation and coursework. Furthermore, 62.9% of students use it for brainstorming ideas for written projects and homework, highlighting the tool's role in fostering creativity and aiding in academic research. This trend is reflective of the digital shift in higher education, as discussed in the report's Chapter 2, 'From Lecture Halls to Laptop Screens.' The reliance on AI tools like ChatGPT underscores the growing importance of incorporating digital literacy and AI education in higher education curricula, a theme explored in Chapter 3, 'Artificial Intelligence in Academia.'

Do you use Chat GPT when you prepare for your exams or assignments?



- Yes
- No
- I don't know

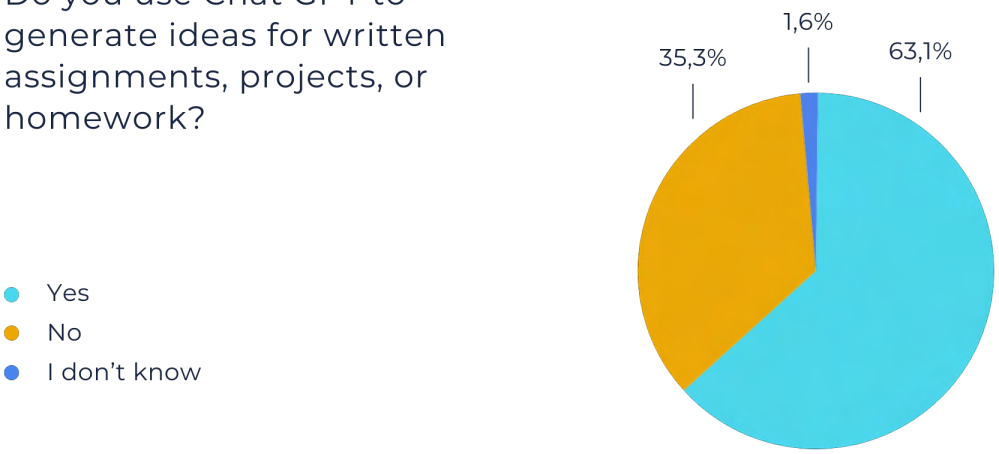
Does Chat GPT help you to find information or solve learning problems quicker?



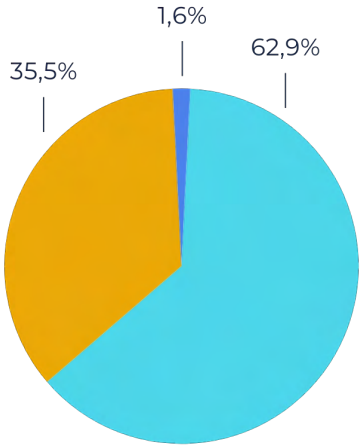
Perceived Efficiency and Practical Implications of ChatGPT

Despite the prevalent use of ChatGPT, the survey findings reveal that only 48.2% of students believe that it significantly reduces their preparation time for exams and coursework. This suggests that while AI tools are widely used, they may not always be perceived as shortcuts to academic success. Instead, their role is perhaps more nuanced, complementing traditional study methods rather than replacing them. This perception aligns with the importance of experiential learning, as highlighted in Chapter 6, 'Beyond the Classroom,' suggesting that a combination of AI tools and hands-on learning experiences could enhance the overall educational process. It points to the necessity of developing a balanced approach in educational methodologies, blending technological aids with traditional pedagogical practices.

Do you use Chat GPT to generate ideas for written assignments, projects, or homework?



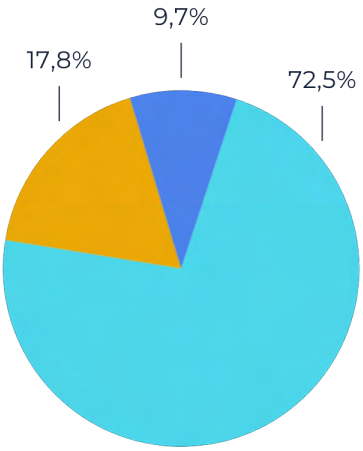
Does Chat GPT help you to find information or solve learning problems quicker?



Awareness and Ethical Considerations of ChatGPT Use

A significant 72.5% of the surveyed students are aware of the potential risks and ethical implications associated with using ChatGPT in academic settings. This level of awareness is crucial in the context of responsible AI use in education, an aspect deeply connected to the themes in Chapter 5, 'Decolonizing and Diversifying Curricula.' It suggests that while students are eager to embrace new technologies, they are also cognizant of the need for ethical guidelines and responsible usage. This finding underscores the importance of incorporating ethical considerations into the curriculum, emphasizing the responsible use of AI tools in academic and research settings.

Are you aware of the risks involved in using Chat GPT in the context of learning and academic use?

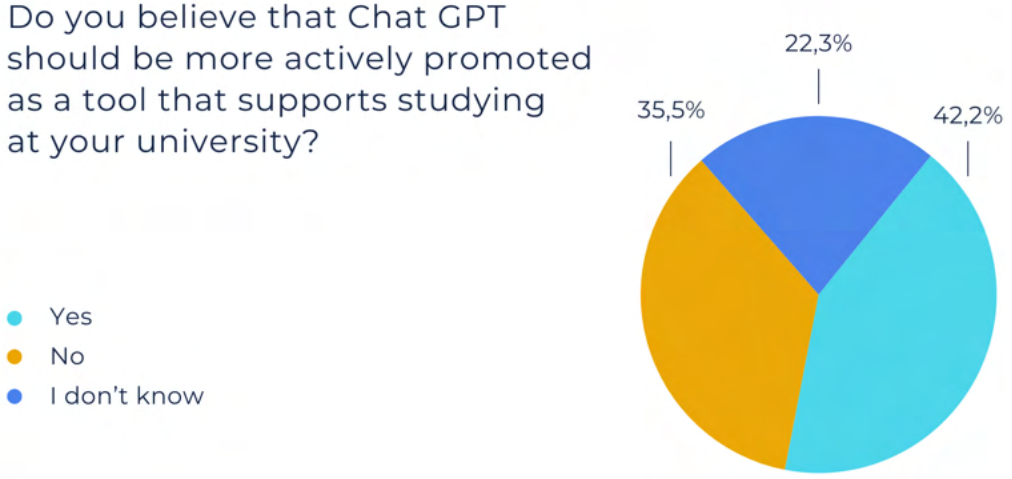


Need for Guidelines and Policies in AI Tool Usage

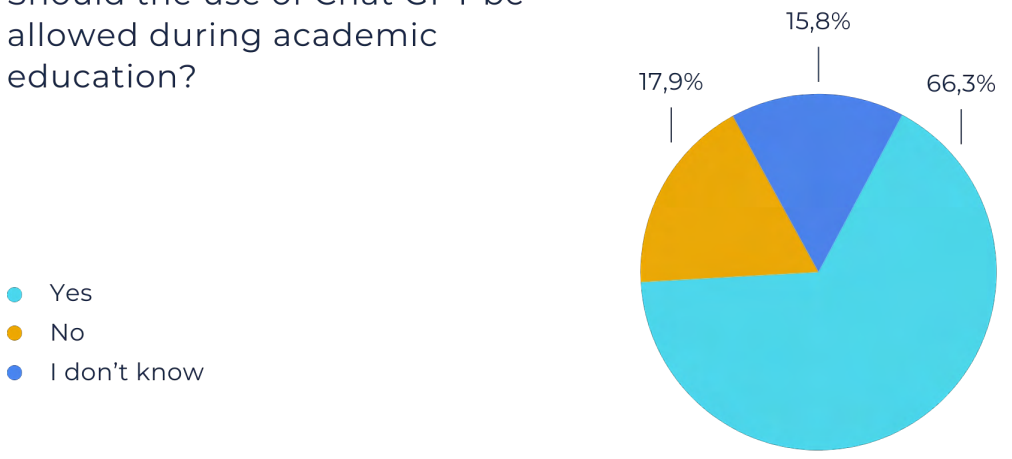
Only 42.2% of respondents believe that ChatGPT should be more actively promoted as a tool to support academic education. Interestingly, as many as 66.3% of students believe that the use of large language models should be allowed in universities.

Reflecting on the necessity for regulatory measures, 62.3% of students advocate for the establishment of guidelines for ChatGPT usage to maintain academic integrity. This perspective resonates with the policy-making and curriculum design considerations discussed in the report's Chapter 1, 'Global Campuses,' emphasizing the importance of adaptive policies in the face of technological advancements. The students' stance highlights the need for educational institutions to develop and implement clear guidelines and policies governing the use of AI tools in academic settings. Such measures would not only ensure the ethical use of AI but also help maintain academic standards and integrity in the rapidly evolving digital landscape of higher education.

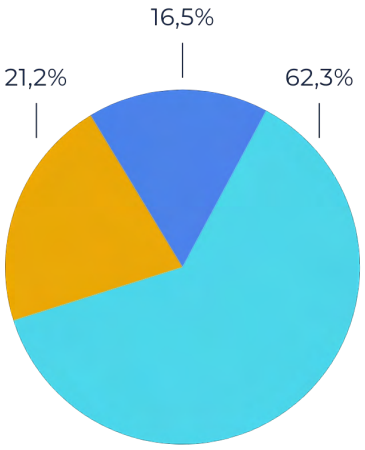
Do you believe that Chat GPT should be more actively promoted as a tool that supports studying at your university?



Should the use of Chat GPT be allowed during academic education?



Do you think that universities should implement guidelines regarding the use of Chat GPT to ensure academic integrity?



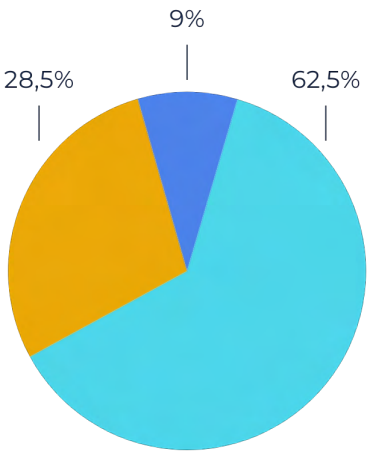
Awareness and Ethical Considerations of ChatGPT Use

Answers show that 62.5% of respondents have concerns about the impact of ChatGPT-based technologies on the labor market and professional competitiveness.

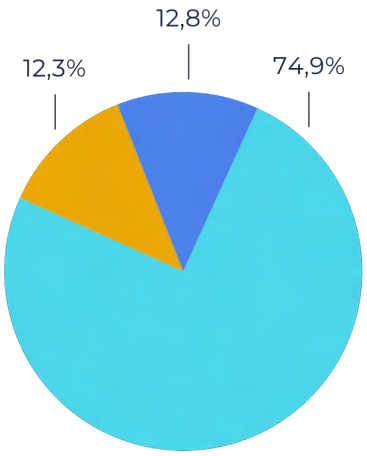
The survey underscores a pronounced interest among students in enhancing their AI skills, with over 70% expressing a desire to improve their proficiency with AI tools like ChatGPT. This trend aligns with the skill gap addressed in Chapter 4, 'The Skill Gap Conundrum,' of the report, highlighting the necessity of equipping students with relevant digital skills for the modern job market.

The findings indicate a growing recognition among students of the importance of AI literacy in their academic and professional lives. It suggests that higher education institutions have a critical role to play in incorporating AI education into their curricula, providing students with the necessary tools and knowledge to navigate a digitally-driven world.

Do you have concerns about the future impact of Chat GPT-based technologies on the job market and professional competitiveness?



Would you like to improve your skills in the use of large language models (LLMs), such as Chat GPT?

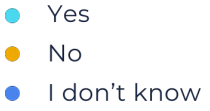


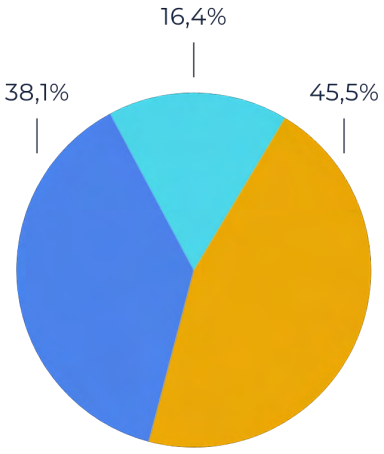
Gap in AI Education and Training Opportunities

An important finding from the survey is that only 16.4% of students currently have access to training in large language models like ChatGPT at their universities. This gap in educational offerings presents a significant opportunity for higher education institutions to expand their curricula to include AI education. It echoes the report's emphasis on technological adaptation and the promotion of continuous learning in higher education.

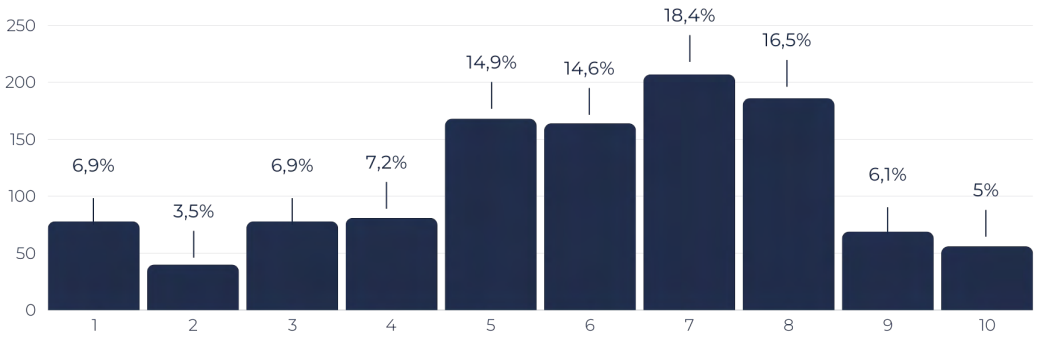
Addressing this gap would not only enhance students' AI literacy but also prepare them for the increasing integration of AI in various professional fields. The incorporation of AI training and education in university curricula would ensure that graduates are well-equipped to meet the demands of an increasingly AI-integrated job market.

Does your university offer training on the use of large language models (LLMs), such as Chat GPT?





How would you rate your proficiency on a scale of 1-10 in using language models?



Student Perspectives on AI's Future in Academia

The students' responses provide valuable insights into their perceptions of the future role of AI in academia. They express a mix of optimism and concern, recognizing the benefits of AI in enhancing learning experiences while also being wary of its potential impact on academic integrity and the job market. This reflects a balanced viewpoint, appreciating the advancements AI brings to education while being cautious of its challenges.

Chapter 4

DIPLOMA DEFLATION

The Rising Tide of Graduates and the Eroding Value of Education

Introduction

The current educational landscape is witnessing a paradoxical phenomenon: as higher education becomes more accessible, the once-unchallenged value of a diploma is facing dilution. This chapter delves into the dynamics of 'diploma deflation,' where the proliferation of degree holders in the job market does not correspond with an equivalent increase in job opportunities requiring such credentials.

Historical Context

Traditionally, degrees in fields such as law, business, and medicine have been coveted for their promise of lucrative and stable careers. In the United States, for example, a law degree was once a guarantee of professional success. Similarly, in the United Kingdom, degrees from prestigious universities were seen as golden tickets to high-ranking positions. However, with changing industry demands and technological advancements, the preference for certain degrees has shifted.

Global Shifts in Degree Demand

STEM subjects are now taking precedence, with computer science and engineering graduates enjoying favorable employment prospects. In contrast, the popularity of degrees in the humanities and social sciences is waning, leading to a situation where the supply of graduates in these fields outstrips demand in the traditional sense.

The Case of the United States

In the USA, there has been a significant surge in demand for degrees related to technology, data science, and AI. Silicon Valley's tech giants often eschew traditional degree requirements in favor of demonstrable skills, sometimes preferring self-taught programmers or those with practical bootcamp experience over traditional degree holders.

The United Kingdom's Educational Evolution

The UK has seen a rise in interdisciplinary degrees, with institutions blending science and technology with business and digital media. Moreover, the UK's focus on international students has led to an increase in courses offered in global business, international relations, and cross-cultural communication to cater to a diverse student body.

Central and Eastern Europe's Educational Reforms

Central and Eastern Europe (CEE), on the other hand, has been grappling with brain drain due to the emigration of skilled graduates. In response, countries like Poland have been pushing for educational reforms, focusing on degrees that promote innovation and entrepreneurship to retain talent and bolster their economies.

The Disparity Between Degrees and Employability

Across the globe, there is a growing recognition that not all degrees yield the same return on investment in terms of employability. In the US, UK, and CEE, there is a notable push towards vocational and technical education, which is perceived to offer more direct pathways to employment.

Case Studies: Adaptation in Education

In the United States, universities are partnering with tech companies to offer co-op programs that combine academic coursework with practical work experience.

The UK is enhancing its focus on 'conversion courses,' which allow graduates from non-technical backgrounds to gain skills in sought-after areas like computer science.

In CEE, there is an increasing emphasis on public-private partnerships to align university curricula with the needs of the local and regional job markets.

Differing Responses to the Skills Gap

Each region has its own strategy for dealing with the skills gap. In the USA, the trend is towards short-term, skill-specific educational programs. The UK is leveraging its traditional strengths in higher education to retrain and upskill graduates in new fields. Meanwhile, CEE is focusing on integrating more practical skills and workplace readiness into their higher education systems.

Scholar commentary on the chapter

Dorota Klysz, PhD

Stanford Center for Cancer Cell Therapy
Senior process development scientist

The report, titled 'Shifting Horizons: Transformative Trends Reshaping the Landscape of Higher Education', reflects trends in the modern job market and discusses how the educational system needs to adapt to prepare the future generation of students for these changes. Importantly, this report was created in extremely transformative times when factors such as the global pandemic, digital revolution, and technological advancement completely reshaped our approach to work and how we learn. The topic that is specifically close to my heart is the relationship between the private sector and academia and how it has been evolving throughout the years.

In recent years, the academic job market has become extremely competitive. Most PhD candidates plan for a long-lasting academic career; however, only a small percentage actually succeeds. There is an increasing number of graduate students being awarded a PhD title every year, whereas the number of tenure-track positions is steady or changing very slowly. That is why many early-career scientists choose to accept low-paid academic jobs such as postdoctoral positions. Anyone who decides to stay in the market longer still needs to survive an incredible pressure of publishing several high-impact factor articles to compete for a limited number of funding sources. On top of that, the continuously growing cost of living, uncertainty of short-term contracts, piling up responsibilities, and mediocre salaries are just a few among the many reasons for growing frustration among scientists. The recent series of strikes in higher education that has occurred across the United States and other countries are a perfect reflection of this dissatisfaction.

Not surprisingly, more and more researchers are turning towards the private sector in search of more lucrative jobs. Yet, here as well, despite high qualifications, a lot of PhDs struggle to land a job. The more academic experience a person has, the more difficult the transition can be. Academic achievements and career advances collected through years seem to be worthless in the industry. Unfortunately, it all comes down to the fact that companies have a different set of criteria upon which candidates are judged and scrutinized. Lack of project management skill sets, strict chain of decision-making, and rapid unexpected shifts in projects can be very difficult for scientists exiting academia.

This situation is a perfect example of where the higher education system needs to evolve in order to prepare students to better navigate within the job market. On one hand, universities generate a lot of highly specialized academics that have very low chances of obtaining a tenure-track position. On the other hand, they fail to equip them with the skillsets appropriate to find a position in the industry. This creates a huge opportunity for a partnership between the public and private sector. Projects that are based on collaboration between academic labs and companies can provide higher financial support to the researchers compared to public funding sources and give a glimpse of how the private sector works without compromising on scientific freedom. At the same time, companies need to be more open to sharing their proprietary resources and publishing the results while benefiting from the expertise and perspective of researchers. Furthermore, understanding basic business principles, project management, writing progress reports, or performance assessments should be introduced as part of the mandatory curriculum for graduate students.

Only by developing a model based on academic and industry partnership will early-career scientists be fully prepared for working in both sectors without being forced to make an 'either–or' decision.

Scholar commentary on the chapter

Anna M. Górska, PhD

Kozminski University

In the context of 'Diploma Deflation, where an increasing number of graduates does not correspond to a rise in job opportunities, the global education sector faces a significant challenge. The historical prestige associated with degrees in certain fields is diminishing as industry demands and technology evolve. This shift is particularly evident in the rising demand for STEM subjects over humanities and social sciences. In response, regions like the United States, the United Kingdom, Central and Eastern Europe are adapting differently.

The U.S. is focusing on skill-specific programs and practical experience through partnerships with tech companies. The UK is blending traditional education strengths with 'conversion courses' to retrain graduates in technical fields, while CEE is integrating practical skills into their curricula to address brain drain and boost their economies.

These adaptations reflect a broader global recognition of the disparity between degrees and employability, emphasizing the need for vocational and technical education to bridge the skills gap. It's crucial for educational institutions to align more closely with industry trends and job market requirements, ensuring that degrees maintain their value and relevance in the changing landscape.

chapter 5

THE SKILL GAP CONUNDRUM

Adapting Curricula to the Needs of a Rapidly Changing Job Market

Introduction

The modern job market is a dynamic entity, evolving rapidly as technological advancements reshape industries. With the emergence of new career avenues and the obsolescence of some traditional roles, there's a growing imperative for higher education institutions to realign their curricula to these shifts. This chapter seeks to explore how academia is navigating this transformation and the associated challenges.

In this era of unprecedented technological innovation and digital transformation, the job market is undergoing constant metamorphosis. The demands of employers are evolving, necessitating a recalibration of the skills and knowledge that higher education imparts to students. The rapid pace of change in the job market, driven by automation, artificial intelligence, and the digitalization of industries, has made it imperative for academic institutions to adapt their curricula to bridge the widening skill gap.

The Genesis of the Skill Gap

Historical trends demonstrate that as technological revolutions pervade society, they inevitably influence occupational structures. The Industrial Revolution brought about shifts from agrarian societies to industrial ones. Similarly, the current Digital Revolution is catalyzing a migration from manual and repetitive tasks to roles necessitating cognitive skills and digital fluency.

The evolution of the skill gap is not a novel phenomenon; history reveals that major technological revolutions have consistently redefined the labor landscape. The Industrial Revolution, for instance, transformed agrarian societies into industrial powerhouses, leading to a shift in occupational structures. Today, the Digital Revolution is similarly reconfiguring the job market, demanding skills that encompass digital literacy, cognitive abilities and adaptability.

Identifying the Gaps

The Digital Divide

A significant portion of the current workforce lacks foundational digital skills, be it basic software usage or understanding cybersecurity protocols. Bridging this digital divide is crucial to ensure that individuals from all walks of life can access and thrive in the digital job market.

Soft Skills

While technical proficiencies are vital, employers frequently cite a lack of soft skills - communication, critical thinking, teamwork, and adaptability - among recent graduates. These interpersonal and cognitive skills are essential for success in the workplace, as they enable individuals to collaborate effectively and navigate complex challenges.

Advanced Technological Skills

Beyond basic digital literacy, there's an escalating demand for advanced tech skills, such as data analytics, machine learning, and digital content creation. The ability to harness and leverage cutting-edge technologies is a competitive advantage in a job market driven by data and automation.

Higher Education's Response

Industry Collaborations

Universities are increasingly partnering with industries to co-design courses. Such collaborations ensure that the academic content remains relevant to real-world applications. By actively involving industry experts in curriculum design, universities can ensure that graduates are equipped with the skills and knowledge needed to excel in their chosen fields.

Modular and Flexible Curricula

Traditional, rigid curricula are making way for modular structures where students can pick courses aligned with their career aspirations and the market's demands. This modular approach empowers students to tailor their education to match their unique career goals, fostering a sense of ownership over their learning journey.

Emphasis on Lifelong Learning

Recognizing that a single degree might not suffice for a professional's entire career, institutions are offering short-term courses for upskilling and reskilling, catering to professionals in different career stages. Lifelong learning has become a fundamental aspect of career development in a rapidly evolving job market, and higher education institutions are facilitating this ongoing process of knowledge acquisition and skill enhancement.

Case Studies: Leading the Charge

1. **MIT's OpenCourseWare (OCW)**
   MIT's OCW initiative offers a plethora of courses online for free, democratizing access to quality education and enabling professionals worldwide to upskill at their convenience. This open-access platform is a testament to the university's commitment to knowledge dissemination and its recognition of the global demand for relevant education.

2. **The Rise of Bootcamps**
   Coding bootcamps like General Assembly and Le Wagon have become popular for their focused curricula and industry-oriented training, often boasting high employment rates post-completion. These bootcamps offer an intensive and targeted learning experience, equipping students with the practical skills required in today's job market.

3. **University-Industry Collaborative Degrees**
   Stanford's collaboration with companies in Silicon Valley has resulted in courses tailored to the tech industry's evolving needs, fostering a seamless transition from classroom to workplace. This collaborative approach not only aligns education with industry demands but also provides students with real-world experiences and connections.

Challenges in Bridging the Gap

1. **Pace of Change**
   The velocity at which industries evolve poses a challenge for academia, which traditionally doesn't change at the same speed. Adapting curricula to match the rapid pace of technological advancements and industry changes requires a paradigm shift in how higher education institutions operate.

2. **Faculty Training**
   Modifying the curricula is only part of the equation. Equally crucial is ensuring that faculty members are equipped to deliver the updated content effectively. Faculty development programs are essential to prepare educators to teach the latest technologies and pedagogical approaches.

3. **Balancing Depth and Breadth**
   While addressing market demands is essential, universities grapple with ensuring that the breadth of knowledge doesn't compromise the depth of academic inquiry. Striking the right balance between preparing students for the workforce and providing them with a well-rounded education is a continuous challenge.

Gazing into the Future: Predictions and Implications

Dynamic Curriculum Design

The concept of a static curriculum might become obsolete. Instead, dynamic curricula, updated regularly based on industry feedback and advancements, might become the norm. This dynamic approach ensures that graduates are equipped with the most current and relevant skills, making them more competitive in the job market.

Increased Reliance on EdTech

With the onus on continuous learning, EdTech platforms offering on-demand courses tailored to skill gaps might see a surge in popularity. These platforms will empower individuals to take control of their professional development, enabling them to acquire the precise skills needed to address job market demands.

Holistic Skill Development

While catering to job market demands, institutions might also focus on fostering holistic development, ensuring students are not just job-ready but also possess a well-rounded worldview. This holistic approach to education recognizes the importance of not only technical skills but also ethical and social responsibility, enabling graduates to contribute positively to society.

Conclusion

The chasm between higher education outputs and job market demands is a pressing concern, prompting academia and industry to collaborate closely. As we tread into a future marked by uncertainties, one thing remains unequivocal: the ability to adapt and learn continuously will be the cornerstone of professional success. Higher education institutions must embrace change, innovate their curricula, and empower students with the skills and knowledge to thrive in a rapidly changing job market. The partnership between academia, industry, and technology will be instrumental in bridging the skill gap and preparing the workforce of the future.

Scholar commentary on the chapter

Prof. Bartłomiej Nowak

Kozminski University

The modern job market, characterized by rapid technological advancements and evolving demands, poses a significant challenge for higher education. The question arises: how are academic institutions adapting their curricula to align with the needs of this dynamic job market?

Major technological revolutions have always reshaped occupational structures, and the Digital Revolution is no exception. It demands a workforce proficient in digital literacy, cognitive abilities and adaptability.

To address these gaps, universities are undertaking various initiatives. Notably, Kozminski University's cooperation with businesses has led to co-designed programs that ensure relevance to real-world applications. There is a shift towards programs that allow students to tailor their education to specific career goals and market demands. Furthermore, higher education is emphasizing lifelong learning, offering courses for continuous upskilling and reskilling.

The alignment of higher education with the rapidly changing job market is crucial. Continuous adaptation, innovation in curricula, and partnerships between academia, business, and technology are vital in equipping students with the necessary skills and knowledge.

chapter 6

BEYOND THE CLASSROOM

The Rise of Experiential Learning in Higher Education

Introduction

Historically, the crux of higher education rested on structured classroom lectures and theoretical examinations. However, there's a growing cognizance that to truly grasp the nuances of a subject and its real-world applications, students must venture beyond traditional academic confines.

This chapter elucidates the surge in experiential learning, its multifaceted benefits, and the evolving paradigms of pedagogy. As institutions adapt to the changing landscape of education, experiential learning has emerged as a powerful tool to prepare students for the complexities of the real world.

Defining Experiential Learning

At its core, experiential learning revolves around learning through action and reflection. Instead of passive absorption, students are encouraged to actively participate, engage with real-world challenges, and subsequently introspect on their experiences. This active learning approach transforms students from mere recipients of knowledge into active participants in their education. It challenges them to apply theoretical concepts to practical situations, ultimately deepening their understanding and retention of the subject matter.

Modalities of Experiential Learning

Internships and Co-ops

These offer students the chance to immerse themselves in professional settings, gleaning insights from real-world tasks. Students benefit not only from practical experience but also from networking opportunities and potential job offers, bridging the gap between academia and the professional world.

Research Opportunities

Universities are opening doors for undergraduate students to engage in meaningful research, fostering analytical thinking. Participating in research not only sharpens students' critical thinking skills but also provides them with the opportunity to contribute to the advancement of knowledge in their field.

Service Learning

Integrating community service with instruction enriches learning experiences and instills civic responsibility. It allows students to apply their skills and knowledge to address real community needs, fostering a sense of social responsibility.

Study Abroad Programs

These aren't merely cultural exchanges; they provide global perspectives on academic subjects and diverse methodologies. In recent years, a notable trend in higher education has been the development of academic alliances and scholarship programs. Universities from different corners of the world have been forming partnerships to offer their students unique opportunities. A prime example is the Erasmus+ program in Europe, which facilitates exchanges between European universities. Students can travel to partner universities for short-term study trips, attend special lectures, and participate in intensive workshops.

Another prestigious program is the Chevening Scholarship, funded by the UK government. It enables outstanding scholars from all over the world, including Poland, to pursue postgraduate studies in the UK. While the primary goal is to foster academic excellence, Chevening also emphasizes the importance of creating global leaders and professional networks. Such initiatives not only provide students with a broader perspective on their field of study but also enable them to develop crucial intercultural skills. The hands-on experiences and networking opportunities these alliances and scholarships offer are invaluable, enriching the students' academic journey and preparing them for a globally interconnected professional landscape.

Pedagogical Shifts Driving the Trend

- **Recognizing Diverse Learning Styles**
  Acknowledging that students have varied learning preferences, institutions are diversifying their teaching approaches. From hands-on experiences to collaborative projects, institutions are moving beyond traditional lectures to cater to a range of learning styles.

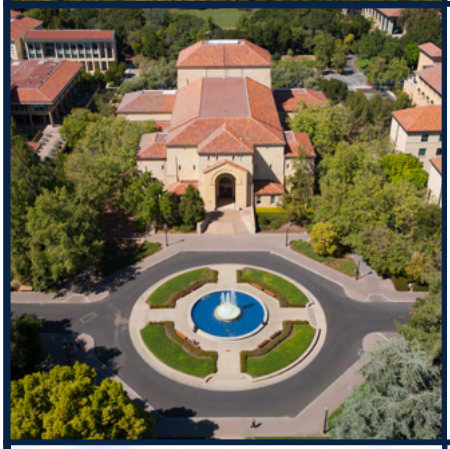
- **Employer Expectations**
  Companies increasingly seek graduates who aren't just theoretically sound but also possess practical exposure. Employers value candidates who can apply their knowledge to real-world challenges, making experiential learning a valuable asset in the job market.

- **Need for Real-World Problem Solving**
  Addressing global challenges requires not just knowledge but also the skills to apply this knowledge effectively. Experiential learning equips students with problem-solving skills and the ability to navigate complex, real-world issues.

Notable Implementations

Northeastern University's Co-op Program

A distinctive model that allows students to alternate between classroom studies and full-time employment, enabling them to blend theory with practice. Northeastern's co-op program is highly regarded for its ability to connect students with a vast network of employers in diverse industries, ranging from tech and healthcare to finance and engineering.[2]



Stanford's Bing Overseas Study Program

More than just a semester abroad, this program meticulously integrates overseas studies with Stanford's curriculum, offering a unique opportunity for students to learn in diverse international settings.[3]

DukeEngage

Funded by Duke University, this program empowers students to engage in immersive service projects globally, bridging academic learning with community needs. It fosters students' understanding of social issues and their role in addressing them.[4]

The Multifaceted Benefits

1. **Skill Development**
   From communication and teamwork to analytical prowess, experiential learning hones a gamut of soft and hard skills. Students develop critical life skills such as leadership, problem-solving, and adaptability that are highly sought after by employers.

2. **Career Clarity**
   Early exposure to professional realms can guide students in refining their career trajectories. It enables them to make informed decisions about their future career paths and provides a competitive edge in a rapidly evolving job market.

3. **Civic Engagement**
   Service learning, in particular, fosters a sense of community involvement and social responsibility. It encourages students to actively participate in addressing societal issues and contributes to building stronger, more engaged communities.

Challenges and Future Perspectives

Equity and Access: Ensuring that all students, irrespective of their socioeconomic backgrounds, can access these opportunities is crucial. Institutions must work to provide financial support and remove barriers that hinder students from participating in experiential learning.

Quality Control: As experiential learning becomes mainstream, maintaining the quality of experiences remains paramount. Institutions must ensure that these programs are well-structured and consistently monitored for effectiveness.

Integration with Curriculum: Seamlessly blending experiential learning with traditional pedagogy without compromising on academic rigor is a challenge institutions grapple with. It requires careful planning to integrate real-world experiences into the curriculum while upholding educational standards.

Conclusion

The walls of the classroom are extending, encapsulating a world rich with experiences and lessons. As higher education institutions champion experiential learning, students stand to gain a holistic education, preparing them not just for exams but for the intricacies of the real world. By embracing diverse modalities of experiential learning, recognizing shifts in pedagogy, and addressing the challenges, academia is poised to create graduates who are not only academically sound but also well-prepared to navigate the complexities of a rapidly evolving world. This shift towards experiential learning aligns education with the demands of the modern job market and society at large, empowering students to become lifelong learners and engaged global citizens.

Scholar commentary on the chapter

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There is a long-term relationship between technology and education. In the 2000's this moved to digital means with the expansion of personal computers and learning management systems. Early on, learning management systems were supplemental to classroom instruction but quickly evolved into becoming a means to hold distance and online education. This became particularly important during the COVID-19 pandemic when institutions of higher education closed in person instruction options and moved quickly to online means. Since the pandemic, the relationship between the classroom and digital technology has only strengthened. Digital technology is a norm in higher education and will remain a part of the college experience for years to come. The post-pandemic college experience includes greater online class options than before. This has significantly shifted higher education to adapt to new modalities, technology, and development of curriculum. It has forced higher education to examine practices that once seemed unimaginable and move to being the standard of operation. As educators navigate the new world of education, there is a tendency to rely on digital means such as software to engage students in learning.

This is especially challenging when examining experiential learning. The focus of experiential learning is on learning by doing. This is often achieved through job shadowing, service-learning projects, internships, or study abroad opportunities. For many educators, the challenge now becomes how to implement experiential learning in the digital classroom. Kolb (1984) outlined 4 steps where students have an experience and engaging with this new knowledge. The 4 steps include concrete experience, reflective observation, abstract conceptualization, and active experimentation. In the digital classroom, creating concrete experiences has provided to be the most challenging for educators. With students able to join a college from anywhere in the world, how can educators develop meaningful concrete experiences for all students in the classroom? One approach that Goodwin University took to meet this challenge was through creating an experience in the format of a lecture series. Upon the 2022 Russian invasion of Ukraine, there were many questions from faculty, staff, and students about the war. This was due to the geographical distance between the United States and Ukraine, the minimal focus on European history in higher education, and the focus

of the mass media in the United States. The questions were of concern of what was happening and what could potentially happen due to the war. To provide credible answers to these questions, Goodwin University faculty and staff developed a lecture series that answered the questions posed by the university stakeholders. The series was developed using digital tools. The lectures were held live on Zoom after participants registered through Eventbrite. The lectures were recorded and then made available on the Goodwin University YouTube page (https://tinyurl.com/bdd3cjmj).

The 4-part lecture series focused on the historical background of the current war, a discussion about democratic nations, a film review focused on the Holodomor, and a review of cybersecurity practices. This series answered some of the questions about the invasion but also created a need for future lectures. The series was titled Community Conversations @Goodwin University and went on to develop a total of 15 lectures. Each lecture was focused on a current event topic and presented by an expert in the field. It focused on key areas of society including immigration, healthcare, globalization, working international, and the importance of language. The University provided these lectures for free of charge to the public in service to the regional, national, and international community.After the production of the lectures, the development team had discussions about how this can be infused within the curriculum. Goodwin University has adopted Universal Design for Learning (UDL) as the main pedagogical approach. The UDL framework is focused on three key areas. This is providing multiple means of engagement, multiple means of representation, and multiple means of action and expression. This framework engages the why, what, and how of learning (CAST, 2018; Ralph, & Greenawalt, 2022). The developers of the program utilize UDL as the framework for this project and experiential learning as the way to engage students in their learning. The lectures were developed into learning modules that included the video, discussion questions, a learning guide, a glossary of terms, the PowerPoint, and an assessment. The lecture series became the concrete experience noted in Kolb's model (1984).

The development team also realized that this is a mode of developing Open Education Resources (OER). Institutions of higher education have examined and implemented OER in their curriculum for several years. However, this may not always be possible in every course. In addition, some instructors or students may still prefer a textbook due to their learning preferences. With digital tools such as file sharing platforms (i.e., Dropbox), video conferencing (i.e., Zoom), and remote work tools (i.e., Slack, Google Drive) there are greater opportunities to develop OER materials. It also creates new means to develop these resources moving from just written and printed content to including video content. The learning modules were piloted in 2 courses. The courses were English Composition (ENG 101) and Introduction to Sociology (SOC 101). These courses were chosen for specific reasons. The first is the instructors worked as a team to develop the curriculum and ensure

there was alignment in both courses. The second is the courses are developmental courses that all students take at the beginning of their course of study. The third is these lecture experiences can inform and support their learning in higher level course work. The students were provided the learning modules and had the opportunity to engage with the content in any way their chose (i.e., watch the video or read the learning guide). Each student submitted a learning assessment to the instructor. In the learning assessments, students were asked specific questions related to the course content, asked to make connections to their experiences, and how the learning module relates to the world around them. This concrete experience led to reflective experiences as students completed the assessments for each module. Students were able to reflect on the knowledge they had before viewing the lecture and what they gained because of watching the lecture. This led to abstract conceptualization. Students were then able to identify what knowledge they needed to gain for future experiences. Their final critique was a discussion of how they would apply this new knowledge into the course and their daily interactions. Students reported that the modules shared information that was new to them or presented it in a way that they had not experienced before. It also helped students to make connections to current events in a new way. For many students, while they were concerned about the events in Ukraine, they were unsure how this applied to them and their lives in the United States. The modules and assessment provided insight into how this could impact society beyond the borders of Europe. The lectures and learning modules made the current events real, clarified the current events, and provided a way to apply them to their daily lives. Upon further service t o the community, the University has made the completed learning modules publicly available through a public facing website (https://tinyurl.com/w8s25xp6). This continues the service learning of experiential models to demonstrate professional development and sharing of resources. Models such as Community Conversations Goodwin University can be implemented to meet the needs of diverse learners. Digital tools provide opportunities for multiple ways of engaging with the material and representing the information. In addition, digital tools provide educators an opportunity to develop learning content as it is happening. Especially in fields such as sociology, where society continues to change quickly and world events may need to be addressed quickly, textbooks may be outdated before even becoming available for the class. Digital tools and content creation can provide a solution to addressing current events while providing students experiential learning opportunities.

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The realm of higher education is undergoing a transformative shift, increasingly embracing experiential learning as a key approach. This method transcends traditional classroom settings, blending theoretical teachings with hands-on, real-world experiences. It represents a paradigm shift where learning occurs through active engagement in internships, study abroad programs and immersive fieldwork, thus preparing students for the complexities of the real world.

Kozminski University, along with leading universities around the world, incorporates experiential learning into their curricula, providing students with opportunities to engage in real-world challenges. This approach has enhanced students' employability and professional skills, making them adaptable and versatile in their fields.

Experiential learning also benefits from transnational collaborations, with programs like Erasmus+ and Fulbright Scholarships promoting global educational experiences.

Chapter 7

A NEW SCHOOL FOR A NEW WORLD

The Future of Business Schools

Introduction

Business education has always been a barometer of economic, technological, and social trends, adapting to and sometimes leading change. As the world transitions to a more interconnected, digital, and socially conscious era, business schools find themselves at a crossroads. Beyond the allure of rankings, these institutions are grappling with fundamental questions about their purpose, curriculum, and role in shaping the future leaders of the global business ecosystem.

Business schools have been centers of transformation, evolving to meet the changing needs of the business world. Their significance extends far beyond the classroom, encompassing a broader impact on economies, industries, and societies. In an era characterized by rapid technological advancements, shifting global dynamics, and growing concerns about sustainability, the role of business schools is more crucial than ever.

In this chapter, we delve into the future of business schools, exploring how they are adapting to an ever-changing landscape, redefining their objectives, and embracing innovation to prepare students for the complex challenges they will face in the business world.

The Ranking Rundown: A Global Snapshot

Business school rankings have long been used as a measure of prestige, quality, and success. They provide a snapshot of how institutions compare on various metrics, from academic reputation to employability of graduates. Historically, business schools in the U.S., like Harvard Business School and Wharton, and the U.K., such as London Business School, have secured top spots in global rankings. Their reputation, extensive alumni networks, and rigorous academic programs contribute to this status.

However, as the world becomes increasingly interconnected, rankings are evolving to reflect a more global perspective. European institutions like INSEAD in France, IE Business School in Spain, and Poland's Kozminski University have made their mark, thanks to their international approach to business education. The rise of Asia as an economic powerhouse has also led to the ascent of Asian business schools in global rankings. Institutions like China's CEIBS and Singapore's NUS Business School have made significant strides, indicating a shift in the epicenter of business education.

While rankings remain important, they are just one facet of a business school's identity. The future of business education is about more than securing top positions; it's about creating meaningful impact on students, industries, and society.

Underlying Factors Driving the Rankings Academic Reputation

A business school's academic reputation is a composite of faculty qualifications, curriculum rigor, and research contributions. It reflects the institution's commitment to academic excellence and intellectual contributions to the business world.

1. **Employability**
   Post-graduate employment rates and salary uplift often weigh heavily in rankings, reflecting the tangible impact of the MBA on graduates' careers. The success of alumni is a testament to the quality of education and career support provided by the school.

2. **Diversity & Internationalization**
   A global student body, diverse faculty, and an international curriculum play an essential role in molding global leaders. Business schools that emphasize diversity and international experiences are better positioned to prepare students for the complexities of a globalized business landscape.

3. **Alumni Outcomes & Network**
   The success of alumni and the strength of the alumni network can greatly enhance a school's reputation and position in rankings. Alumni who achieve remarkable success in their careers contribute to the school's legacy and reputation.

While these factors are important for rankings, business schools are increasingly recognizing the need to move beyond rankings and focus on their broader mission of preparing students for the challenges and opportunities of a rapidly changing world.

Beyond the Rankings: Changing Paradigms in Business Education

Business schools are undergoing a profound transformation in response to global challenges and the evolving demands of students and employers. The paradigms of business education are shifting, and several key areas reflect this change:

Ethical and Sustainable Business

In response to global challenges like climate change and social inequality, business schools are infusing their curriculums with sustainability and ethics. The next generation of business leaders must be socially conscious and responsible. Courses in corporate social responsibility, sustainable business practices, and ethical leadership are becoming integral parts of business education.

Digital Transformation

As industries undergo digital transformations, business schools are incorporating courses on AI, data analytics, and digital entrepreneurship. Graduates must remain at the forefront of business innovation to navigate the challenges and opportunities presented by rapid technological advancements.

Soft Skills & Holistic Development

Leadership in the modern business world goes beyond analytical prowess. Recognizing this, institutions are focusing on soft skills, emotional intelligence, and mental well-being. These skills are essential for effective leadership and interpersonal relationships in the workplace.

The Road Ahead: Upcoming Trends & Changes

The future of business education is marked by several emerging trends and changes that reflect the evolving needs of students, employers, and society as a whole.

Interdisciplinary Approach: There's a growing realization that complex business problems cannot be siloed. Business schools are fostering interdisciplinary collaborations, blending business education with fields like technology, healthcare, and the arts. This approach equips students with a broader perspective and the ability to address multifaceted challenges.

Blended Learning Models: Leveraging the best of online and offline methods, business schools are moving towards hybrid models. These models provide flexibility and widen access to education. The COVID-19 pandemic accelerated the adoption of online learning, and business schools are exploring how to integrate online and in-person learning for the best student experience.

Closer Industry Collaborations: To keep the curriculum relevant and updated, business schools are forging stronger ties with industries. These collaborations ensure real-time knowledge transfer and create more opportunities for students to engage with real-world business challenges. Internships, consulting projects, and partnerships with companies are becoming essential components of business education.

Conclusion

The future of business schools is not just about ascending rankings but about creating value and impact in an ever-evolving world. Whether it's the renowned institutions in the U.S., the U.K., the emerging powerhouses in Asia, or the dynamic schools in Europe, including Poland's contributions to the academic landscape, their collective mission remains the same: to equip students with the skills, knowledge, and ethics to navigate and shape the complex business landscape of tomorrow.

As business schools navigate the shifting tides of the global landscape, they are poised to continue their crucial role in preparing the next generation of business leaders to meet the challenges of a dynamic and interconnected world. The essence of business education remains the pursuit of excellence, adaptability, and a commitment to shaping the leaders of the future. With their eyes on the future, business schools are on a transformative journey, evolving to meet the needs of a rapidly changing world and ensuring that they remain at the forefront of business education.

Scholar commentary on the chapter

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The future of business schools is shaped by a multitude of factors, reflecting the rapidly evolving economic, technological, and social landscapes. As we transition into a more interconnected, digital, and socially conscious era, these institutions are facing significant changes in their purpose, curriculum, and role in shaping future global business leaders.

This evolution involves a critical examination of the traditional measures of success, such as rankings. While rankings are important, they represent only one aspect of a business school's identity. Factors like academic reputation, employability, diversity, internationalization, and alumni outcomes play a significant role in these rankings. The future of business schools is about creating meaningful impact in a changing world.

Competencies of the future and the future of education
Trendbook of Kozminski University

The future of education is shaped by economic, social and technological trends. Economic factors are related to the need to match the requirements of the labor market. Expectations of universities are thus mainly concerned with the adequacy of their fields of study to the needs expressed by employers. Social trends are related to lifelong learning and increasing diversity in the student population. Technological trends, meanwhile, include online and hybrid learning, artificial intelligence and data analytics, virtual and augmented reality, and data security. These trends open up new opportunities for personalized learning, immersive experiences and decision-making based on data.

Competencies of the future refer to the skills, knowledge and qualities that individuals need to succeed in a changing economic and social environment. These abilities include critical thinking, collaboration and teamwork, creativity, communication, adaptability, lifelong learning orientation as well as global and technological awareness.

Higher education institutions play a key role in developing these competencies through appropriate curriculum design, application of active learning methods and extensive dialogue with the business community. Higher education institutions should focus on personalized learning, interdisciplinary approaches, ethics and social responsibility. Lifelong learning, continuing education and cooperation with business are key to preparing students for the future.

The future of education lies in flexibility and adaptability as well as equipping individuals with the competencies necessary to work in a changing world. This requires a proactive approach to solving economic, social and technological challenges and seizing emerging opportunities.

INTRODUCTION

Business-oriented universities are currently facing many challenges related to shaping the competencies of the future and the future of education. In this aspect, what's becoming important are the capabilities of universities in such areas as:

1. adjusting program offers to the changing needs and requirements of the job market, including digital transformation and the growing need for interdisciplinarity in addressing business problems and challenges;
2. shaping attitudes oriented towards lifelong learning;
3. fostering international cooperation and student mobility;
4. shaping a culture of innovation and entrepreneurship among students;
5. addressing the aspects of sustainable development.

TRENDS SHAPING THE FUTURE OF EDUCATION AND THE COMPETENCIES OF THE FUTURE: CHALLENGES FOR HIGHER EDUCATION INSTITUTIONS

The future of higher education, particularly in the areas of management, economics and finance, will be shaped by a number of economic, social and technological trends (table 1). The key challenges that higher education institutions are facing, especially those with a business focus, undoubtedly include meeting the changing demands of the labor market, the digital transformation taking place (both at the level of educational offers and university management), the increasing need for interdisciplinarity, lifelong learning capabilities and cultural sensitivity, as well as fostering an entrepreneurial and pro-environmental orientation.

Trends shaping the future of education

Economic trends

- Rising costs and accessibility
- Globalization and internationalization,
- International cooperation and mobility
- Adjusting to the labor market
- Social and educational trends
- Lifelong learning
- Focus on competency-based education; emphasis on development of transferable skills, interdisciplinarity and innovation
- Diversity of students
- Cooperation between business and academia
- Ethical awareness, social responsibility and sustainable development

Technological trends

- Integration of technology, online and hybrid learning
- Artificial intelligence (AI) and educational data analysis
- Virtual and augmented reality
- Data security and privacy

Source: own study

The cost of higher education is rising steadily in numerous places all around the world, raising concerns about college accessibility and student debt. Even if public universities offer free full-time study programs, the issue of rising living costs and under-participation in the labor market while studying remains. This has prompted the development of alternative funding models for higher education (revenue-sharing/income-share agreements and micro-degrees) to make it more accessible. For the same reason, universities are also developing scholarship offerings, supporting talented and high-measuring people for whom going to college is a fulfillment of their ambitions.

International cooperation and experience will become increasingly important in higher education, especially for business schools, but not only for them The globalization of the economy requires business school graduates to be able to work in an international environment. Universities will therefore increasingly promote and develop student exchange and foreign internship programs, create double-degree programs with foreign partners, expand international research cooperation, and strive to increase the diversity of the learning environment. Such activities prepare future graduates for a globalized world, enabling them to gain experience in different business cultures and develop cross-cultural management skills as early as during their studies.

A consequence of technological advances and globalization is the rapidly changing demand for skills and the need to align study programs with the labor market. Key competencies of the future, such as the ability to analyze data, solve problems, be creative or work with technology, are essential for graduates to find their way in a dynamic business environment.

Higher education institutions, especially those with a business focus, must integrate digital transformation into their curricula, ensuring that students acquire skills in data analysis, the use of artificial intelligence, e-commerce, digital marketing and technology management. The role of higher education institutions is and will continue to be to develop curricula that meet the needs of employers and the challenges of the modern world, which requires flexibility and speed on the one hand, and close cooperation with business on the other.

SOCIAL AND EDUCATIONAL TRENDS

The trend of lifelong learning is gaining importance in today's dynamic business environment. We are clearly aware of the need to acquire new skills and knowledge over the course of an increasingly long working life. And we realize the relevance of Alvin Toffler's words that 'The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn and re-learn.' The need for continuous learning, improving skills or acquiring new ones is becoming indispensable due to the rapid pace of technological development and, consequently, the changing demands of the labor market. Higher education institutions are responding to this by making degree programs more flexible and allowing students to create individualized learning paths, as well as by supporting continuing education and the long-term development of graduates' skills through professional development programs and supplementary courses.

The focus on competency-based education is also gaining ground. The emphasis is on the mastery and advancement of specific skills and knowledge, not just on earning ECTS credits. Academic knowledge will continue to be important, but it will be accompanied by an increased emphasis on the development of transferable skills such as critical thinking, problem solving, communication, collaboration and adaptability. Higher education institutions will focus on integrating these skills into their curricula and providing opportunities for hands-on learning through experience, including through business consulting projects during studies, or the use of simulation games.

Complex social as well as business, challenges increasingly require interdisciplinary and transdisciplinary approaches. We believe that higher education institutions will foster cooperation and integration between different fields, such as business, technology, social sciences and science, encouraging students to solve multifaceted problems together. Undoubtedly, the role of business-oriented universities is also to promote a culture of innovation and entrepreneurship, including interdisciplinarity. It is therefore on the university's side to provide the right tools, support and resources (such as mentoring, hubs and gas pedals, co-organizing hackathons) to enable young people to develop and implement their own business ideas.

The student population is becoming increasingly diverse, including in terms of age, background and cultural perspectives. The role of universities is and will continue to be to provide an inclusive context and foster attitudes that express respect and support for the diversity of students, graduates and the broader community.

Collaboration between business and higher education institutions will be increasingly important to ensure that graduates have the right skills and knowledge. Partnerships with employers, internships, cooperative education programs and work-integrated learning will reduce the gap between the academic world and the job market. Research shows that there is no one foolproof recipe for successful cooperation, as each party has different needs. What is important is the idea behind it, the openness, the commitment of both parties, and the compatibility of the parties' ideas and expectations from the very beginning (Cooperation of science and business..., 2013). The give-and-take nature of university-business cooperation, as indicated by Perkmann and Walsh (2009), is well suited to today's reality. Universities have a lot of influence on the development process to shape competencies accordingly, but without the conscious participation of business partners, this is simply more difficult and has less impact on the future, and after all, positive changes in the world are what we are all concerned about. The form of cooperation can be multifaceted - from comprehensive educational offers for employees or leaders, to positioning the company as a leader in modern solutions and skillfully drawing on education, to tailor-made strategic partnerships. Using any form, however, will only make sense if all parties are aware of the purpose of cooperation.

Higher education will increasingly take into account the ethical implications of technological advances, sustainable development issues and social responsibility, both in terms of diversity and the organization in which it participates. Universities will emphasize ethics education, civic engagement and sustainable practices in all disciplines.

TECHNOLOGICAL TRENDS

Online teaching, virtual reality, artificial intelligence and adaptive learning systems learning will transform the traditional lecture education model. Technology has enabled the development of educational platforms and hybrid learning models that combine online (synchronous and asynchronous) and traditional learning. Hybrid learning methods will become more widespread, offering greater flexibility, access to education from anywhere and personalized learning experiences.

Artificial intelligence and educational data analysis provide opportunities for personalized teaching, adaptive assessment and data-driven decision-making. These technologies can increase student engagement, identify areas to improve, and provide targeted support (Box 1). Big data analytics will play an important role in shaping higher education policies, program development and support services for students. Higher education institutions will be more and more able to use data and adaptive learning systems to monitor students' performance, identify strengths and areas for improvement, tailoring instruction to individual needs and providing targeted support.

Virtual and augmented reality technologies will be integrated more frequently in higher education to create immersive learning experiences, especially in fields such as healthcare, engineering and design, but the applications are far broader. For example, a few years ago ALK already developed a special educational game for law students, using VR technology.

With the increase in the use of digital platforms and data collection, ensuring data security and privacy is a significant challenge. For universities, this means the need to develop and implement smart strategies and policies for acquiring, storing and protecting data about members of their communities.

In conclusion, it should be noted that economic, social and technological trends interact with each other. Economic aspects affect accessibility, which in turn influences social dynamics and access to education. Technological advances affect available learning modes and accessibility of education, shaping the skills required in the labor market. Universities must navigate these trends and adjust their strategies to meet the evolving needs of students, society and the labor market. Overall, the future of higher education will be characterized by flexibility, adaptability, lifelong learning, technological integration, interdisciplinary cooperation, and a focus on developing competencies that are essential for success in a changing global environment. Meeting these challenges is not easy and requires constant evolution of programs, methods and modes of teaching. It is also essential that universities receive support from business, which will eventually be joined by the large number of university graduates.

NEW BUSINESS MODELS IN BUSINESS UNIVERSITIES AFTER AI IMPLEMENTATION

Following the implementation of artificial intelligence (AI) in business universities, various new business models may emerge that take advantage of the opportunities and benefits of this technology. Below are some potential examples.

1. Personalized study programs: AI can enable the creation of individually tailored study programs that take into account students' preferences, skills and goals. Through data analysis, AI can identify optimal combinations of subjects, courses and career paths for individual students, providing them with a more personalized educational experience.

2. Recommendation systems: Using AI, business universities can introduce advanced recommendation systems. Based on analysis of data on students' preferences, academic and professional achievements, AI can suggest appropriate courses, educational materials, workshops or internship programs that can interest students and support their development.

3. Chatbots and student support: AI-based chatbots can be used to provide quick answers to students' questions, provide information about classes, exam dates, class schedules or university policies. They can also provide support for academic issues by directing students to appropriate resources or putting them in touch with relevant university staff.

4. Data analysis and forecasting: AI can help business universities analyze data on both students and the labor market. This can forecast trends relat-

ed to students' preferences, changes in the labor market, demand for specific skills, and create degree programs that align with current and future business needs.

5. Virtual and Augmented Reality: AI can be used to develop advanced virtual and augmented reality tools to enhance the learning process. Students can use virtual simulations, trainings, educational games and interactive tools to learn practical business skills in a controlled environment.

6. Personalized counseling and career support: AI can help create counseling and career support systems based on data analysis. Business schools can use AI to assess students' preferences and skills and match them with appropriate career paths, internships, mentors and professional development opportunities.

7. Predictive analysis of student success: With AI and data analysis, business universities can create predictive models to help identify students at high risk of failing or dropping out of college. This allows them to target appropriate resources and support at an earlier stage to increase these students' chances of success.

8. Administrative process automatization: AI can be used to automate administrative processes at business universities, such as recruitment, document intake, database management and financial accounting. This saves time and resources and minimizes the risk of human error.

9. Artificial intelligence in market research and analysis: Business schools can use AI to conduct advanced market research and analysis. AI can help identify trends, analyze competitors, conduct forecasts or make recommendations on business strategies based on large data sets.

10. Create digital learning platforms: AI can be used to create advanced educational platforms that allow students to access materials, content, educational tools and online cooperation. These platforms can offer personalized learning experiences, interactive quizzes, adaptive materials and analysis of students' progress.

Source: generated by ChatGPT

COMPETENCIES OF THE FUTURE AND THE ROLE OF UNIVERSITIES IN SHAPING THEM

Competencies of the future refer to the skills, knowledge and qualities that individuals need to succeed in a changing world. They include critical thinking, collaboration, creativity, communication, adaptability and global awareness. Certainly the list of these competencies is not exhaustive, but it provides a foundation on which students can succeed in a dynamic and uncertain world. It includes skills necessary for professional success and personal fulfillment, such as:

Critical thinking and problem solving.
The ability to analyze complex issues, think critically and propose innovative solutions is highly valued. Students should be able to objectively evaluate information, consider different perspectives and make informed decisions based on reliable sources.

Cooperation and teamwork, virtual teams
In a globalized and globally interconnected world, the ability to work effectively in teams of diverse composition is essential. Students should be able to communicate and collaborate in a team, respecting diverse points of view and using collective intelligence.

Creativity and innovation
As automation and artificial intelligence advance, creativity is becoming a unique human trait. Encouraging students to think outside the box, generate new ideas and find novel approaches to challenges will allow them to adapt to changing circumstances and develop their creativity.

Communication and digital skills, working with data and analytics
Strong communication skills, both verbal and written, are critical. Students should be able to clearly express their ideas, adapt their communication style to different audiences, and effectively use digital tools for information gathering, collaboration and presentation. In the era of big data, students should be able to collect, analyze and interpret data for decision-making. The ability to work with data and analytical skills are essential for drawing meaningful conclusions and making data-driven decisions.

Emotional intelligence
With the increasing importance of human interaction, empathy, self-awareness and relationship-building skills are becoming crucial. Students should develop emotional intelligence to understand their emotions and manage them skillfully.

Caring for well-being (own and team)
The increasing pressure to work more and more efficiently, the ever-present prospect of multitasking and completing many projects at the same time, makes those related to well-being, managing oneself in time, stress management and responsible leadership of teams important competencies. Awareness of aspects of physical and mental health is in fact becoming a prerequisite for good, wise and effective value creation in the modern world.

Adaptability and resilience, lifelong learning
The ability to embrace change, be flexible and learn from setbacks is invaluable. Students must develop a growth mindset, constantly learning and adapting to new technologies, industries and ways of working.

Global and intercultural competencies

In a globalized world, students should understand diverse cultures, global issues and skillfully navigate between them. Respect and sensitivity to cultural differences are essential in today's world.

Ethics and social responsibility

Students should understand the ethical implications of their actions and be socially responsible. They should demonstrate integrity and make decisions based on ethical principles and strive to make a positive contribution to society and sustainable development.

The university's role will be to support students in implementing the idea of lifelong learning, which is becoming crucial in today's changing world. Knowledge and competencies provide the opportunity for faster adaptation and promote the building of resilience to unexpected situations, and thus prepare to a considerable extent for the challenges and opportunities of the future labor market.

It is worth noting that universities (including business universities) operate in a world shaped by megatrends, labor market demands or technological changes, but also, and perhaps most importantly, regulated by state institutions, including ministerial, accreditation and ranking institutions. This world of regulation and evaluation provides support for the creation of certain solutions, but is also sometimes a constraint, not allowing the implementation of innovative solutions. One line of a provision in a law, regulation or other important document can derail or enable the market to propose certain solutions.

When constraints arise, there are several ways to overcome them. The first is to signal the need for changes to the regulations or guidelines in question. This route - regardless of whether the addressee is the state or, for example, a global ranking or accrediting organization - is lengthy and rarely effective. The second, much more often used by both the providers and consumers, is 'bypassing' - circumventing the system. This involves either preparing alternatives that are not encumbered by regulations or that are less restrictive, or entering other playing fields or even a different chessboard. An example of the former scenario is the implementation of innovative educational formats that may not be referred to as a 'bachelor's' or 'master's' degree (behind which, is a huge amount of regulation), but, for example, as a certificate - which, in the case of a university with a brand identified with education of high quality, does not disrupt the market at all, in fact it expands it even further. An example of the second scenario is the flight of stakeholders (e.g., students) to alternative educational spaces (e.g., study abroad or online studies). In both cases, it is worth remembering that the value of a particular education format is evidenced by its reception by the economic ecosystem.

In a word, the immense power (still) of the professional (master's) degree is evidenced not only by the sheer value derived from it, but also by the expectations of clients for talent (employers) as to the necessity of having such a title. But is this a world in rules of the game that does not change? This question remains open.

SUMMARY

The times in which we live and will live in the future are definitely the era of the conscious man. Work is now becoming a source of energy, knowledge, satisfaction, and the search for meaning. Entirely new demands are being placed on leaders and managers. There is a growing demand for employees who understand technology, and at the same time have developed soft skills that will set them apart from artificial intelligence. Education of the future is an expanded concept of lifelong learning, which we have known for a long time. Today, when the world has accelerated so rapidly, it takes on a much greater significance. The vocational education model we are all familiar with is slowly becoming a thing of the past. More and more workers are confronting the fact that they will change professions - not only jobs- many times in their lives, and new professions will require an interdisciplinary approach. These changes can't be avoided; you must to adapt to them. Our approach to these changes will determine our future successes or failures. Popularizing the idea of lifelong learning is important because good, up-to-date and needed competencies always give freedom to choose a professional path. Times of great uncertainty and pace of change requires rapid adaptation to what we face. We need this competence to actually not be afraid of change, to tolerate uncertainty to a greater extent, to be flexible.

The responsibility for preparing a young individual, and later an employee and a leader, should be the result of cooperation between universities and the environment: high schools, employers, research institutions, business. Of course, in the end, it is the university that takes responsibility for what set of competencies the graduate enters the labor market with, but close cooperation with entrepreneurs, HR teams and management boards ensures that they are actually ready for the challenges ahead. It is on the shoulders of future male and female leaders that the burden of responsibility for the development of the organization will rest. They should always have a place where they will get support at every stage of their career path. Universities should be such a place.

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TRANSLATION Aleksandra Fijałek

Chapter 8

CONCLUSION OF THE REPORT

Roadmap to Navigating Changes in Higher Education

Introduction

In the face of sweeping changes across the landscape of higher education, it is imperative for stakeholders to adopt a proactive stance. This roadmap is designed to equip educators, institutions, students, and policymakers with strategic approaches to navigate the transformative currents shaping the sector.

Embracing Technology and Digital Learning Platforms

The integration of digital technology in education is inexorable. Institutions must invest in robust online platforms and training to ensure educators are adept at delivering quality education through these mediums. It is not just about transferring content online but also about rethinking the delivery to match the medium's strengths.

Fostering International Collaboration and Exchange Globalization mandates an open, collaborative approach to higher education. Institutions should seek partnerships for exchange programs, joint research projects, and shared curricula. Moreover, they must actively work to attract international talent, recognizing the value of a diversified academic community.

Adapting to the AI Revolution

The rise of AI as a tool for personalized learning cannot be overstated. Universities should incorporate AI literacy into their curricula and explore AI-based tools to enhance teaching and learning processes. Preparing students for an AI-integrated world is no longer optional but a necessity.

Bridging the Skills Gap Curricula need to be continually reviewed and updated to align with the evolving job market. Universities should establish stronger connections with industry leaders to understand future skill requirements and adjust their offerings accordingly, ensuring that graduates are well-equipped to meet employers' needs.

Promoting Inclusivity and Diversification Efforts

to decolonize and diversify curricula should be intensified. This involves curating course content that reflects a broad spectrum of perspectives and acknowledges contributions from different cultures and societies. Institutions should also support research into marginalized histories and narratives.

Expanding Experiential Learning Opportunities

Experiential learning bridges the gap between theory and practice. Universities should establish more internships, co-op programs, and real-world projects that allow students to apply their knowledge. Moreover, leveraging new technologies such as VR and AR can simulate practical experiences in a controlled environment.

Rethinking Business and Management Education

Business schools must recalibrate their focus towards sustainable and ethical practices in business. This involves a curriculum that is responsive to global challenges such as climate change, digital transformations, and social responsibility.

Continuous Learning and Professional Development Lifelong learning should be an integral part of higher education. Institutions must provide opportunities for continuous professional development, allowing individuals to upskill and reskill as the job market evolves.

Policy and Investment in Higher Education
Policymakers must ensure that higher education remains accessible and that funding models reflect the new realities of education delivery. This includes supporting not only traditional academic paths but also vocational and non-traditional routes that are becoming increasingly relevant

Monitoring and Research Ongoing
Research into educational trends and regular monitoring of outcomes are critical. Institutions should establish think tanks and research hubs dedicated to studying the impact of these changes and providing data-driven recommendations.

Central and Eastern Europe: The Way Forward

Regions like Central and Eastern Europe (CEE), with their unique strengths and challenges, can navigate these transformative changes in higher education effectively:

Adding to your comprehensive roadmap, regions like Central and Eastern Europe (CEE), with their unique strengths and challenges, can navigate these transformative changes in higher education effectively:

1. **Leveraging High Developer Density and Technical Expertise**
   Countries like Poland, known for their high developer density, should focus on establishing themselves as hubs for technology and computer science education. This involves enhancing curricula with cutting-edge programming languages, cybersecurity, and AI, leveraging local talent to create a niche in the global education market. Collaboration with local tech industries can facilitate practical, hands-on learning experiences for students.

2. **Utilizing Geographic and Cultural Proximity for International Collaboration**
   CEE countries can use their strategic location and cultural ties to foster deeper educational partnerships with both Western Europe and Asia. This can include student and faculty exchange programs, joint research initiatives, and shared online learning platforms, ensuring a rich exchange of ideas and perspectives.

3. **Focusing on Regional Specializations and Strengths**
   Each country within the CEE region has unique strengths – be it in arts, history, engineering, or natural sciences. Developing specialized courses and research centers that reflect these strengths can attract international students and scholars, boosting the region's reputation in these fields.

4. **Embracing Digital Transformation with Local Context**
   While adopting digital learning platforms and AI tools, it's crucial for CEE institutions to tailor these technologies to their local contexts. This might involve multilingual platforms, content relevant to regional challenges, and leveraging local case studies and examples in digital curricula.

5. **Investing in Entrepreneurship and Innovation**
   Encouraging entrepreneurship within the higher education sector can drive innovation. This can be achieved through incubators, startup accelerators and courses focused on entrepreneurship, particularly in technology and social enterprises.

6. **Policy and Funding Models Tailored to Regional Needs**
   Governments in the CEE region should develop funding models and educational policies that reflect the unique needs and aspirations of their higher education systems. This includes supporting not only traditional academic paths but also vocational and technical education, which are particularly relevant in these economies.

7. **Building a Regional Education Brand**
   There's an opportunity for CEE countries to collectively promote their region as a distinct and attractive destination for higher education. This involves marketing their educational excellence, unique cultural experiences, and relatively lower costs of education to international students.

8. **Fostering Inclusivity and Accessibility**
   Efforts to make higher education inclusive should consider the diverse socio-economic backgrounds prevalent in the CEE region. This includes scholarships, remote learning options for rural students, and programs targeting underrepresented groups.

By focusing on these areas, the CEE region can not only catch up with leaders like the UK and USA but also carve out its unique position in the global higher education landscape.

As we navigate through the uncharted territories of higher education's future, this roadmap serves as a strategic guide for proactive adaptation and innovation. The journey ahead is fraught with challenges, but it also abounds with opportunities for those willing to embrace change and lead the transformation in higher education. The concerted efforts of all stakeholders, guided by this roadmap, will ensure that higher education continues

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As we reflect on the culmination of the report, 'Shifting Horizons: Transformative Trends Reshaping the Landscape of Higher Education,' we are compelled to express our gratitude to the distinguished scientists whose commentaries have enriched this endeavour.

Their commitment to the pursuit of knowledge and exceptional expertise has been instrumental in elevating the content and significance of our research. Their comments, analyses, and thought-provoking perspectives have broadened the scope of our inquiry and added layers of insight that will contribute to the debate on higher education.

Furthermore, we sincerely thank our partners for their support and collaboration. Through the shared commitment of individuals and organizations alike, we can aspire to drive positive change in higher education. We look forward to continued collaboration and the opportunity to produce more insightful studies.

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As we move forward, we look to the continued evolution of higher education systems. We sincerely hope to engage in further collaboration and explore the trends that will continue shaping the educational landscape.

Sincerely,

Member of the Management Board

Our Future Foundation

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