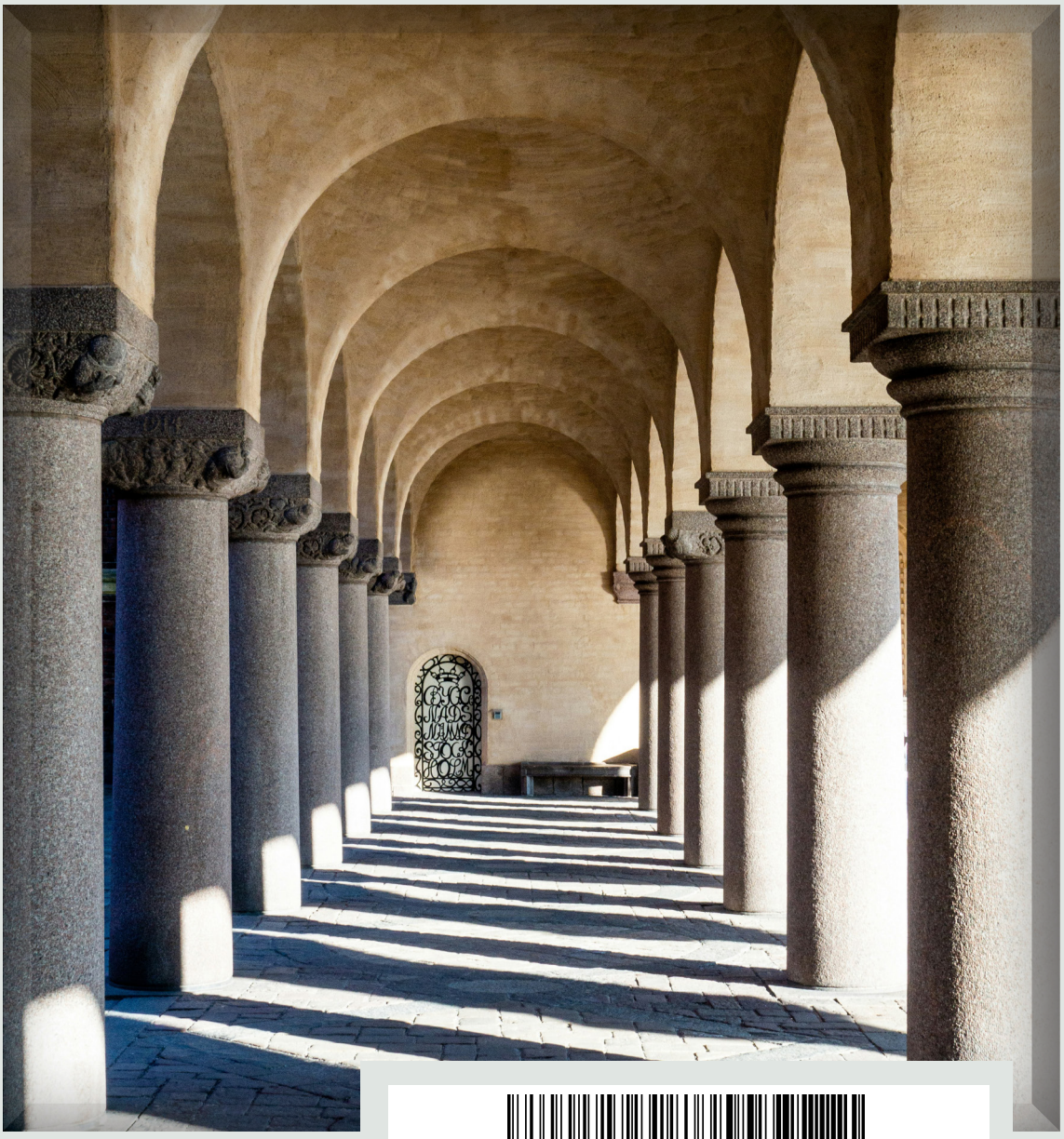
encore

MAGAZINE ON INTERNET AND SOCIETY

VOLUME 2023/2024



hiig.de/encore2023

SELECTED CONTENT ON OUR SIX RESEARCH TOPICS IN FOCUS

Digital organising and the future of work

Artificial intelligence and society

Platform governance

Digitalisation and sustainability

Open higher education

Data governance

EDITORIAL

Welcome to *encore*, the annual research magazine of the Alexander von Humboldt Institute for Internet and Society. 2023 was an eventful year, and again one that was full of out-of-the-box ideas and new scientific approaches to explore the complexity of our networked present and future. Our mission is simple: pioneering tomorrow's digital society. In this edition, you will accompany us through many aspects of digital change. Our team of political scientists, economists, legal scholars, sociologists, computer scientists, philosophers and many other disciplines shed light on many of the pressing issues of our time.

Exploring the transformative dynamics of digitalisation in the workplace, we delve into the opportunities and risks that will shape the future of work. This includes an analysis of the complex interplay of artificial intelligence (AI) with all areas of our society. To make this understandable for everyone, we employ new and playful approaches, unravelling the black box of AI. We investigate critical platform infrastructures that can be leveraged to promote inclusion, protect digital democracy and safeguard individual rights. But that's not all: we also focus on the responsible use of digital technologies and data. These and all the other topics on the following pages are always analysed from various angles, combining social, economic, political, juridical and/or ecological perspectives.

Are you curious? Enjoy *encore* and see why we are so proud to show our commitment to fostering innovative solutions in the digital age.

Björn Scheuermann,
Director at HIIG

Frederik Efferenn,
Head of Science Communication

FREYA HEWETT & HADI ASGHARI

Lowering the barriers: Accessible language and "leichte Sprache" on the German web

FURTHER ARTICLES

Public interest AI – Quo vadis?

ChatGPT and the AI Act

Inside Hugging Face

The AI transparency cycle

LECTURE

Making AI work for us

OPEN EDUCATIONAL RESOURCES

Facial detection experiments

AI Compass card game

Simba text assistant

Artificial intelligence and society

AI

Wo

Digital organising and the future of work

FOCUS

Artificial intelligence and society

Artificial intelligence unveils a world where the capabilities of technical systems are similar to those of human intelligence. But, AI isn't just about algorithms; it's deeply interwoven with our society. The future of AI technologies is strongly interlinked with the automation of social processes and will touch every facet of our lives: From tailoring your social media feeds to driving innovations in healthcare and even climate research. It's beyond just the screens we scroll; it's in our offices, our hospitals, our roads and even in the cutting-edge robotic systems we design. Our research investigates the interplay of AI within the political, social and cultural landscapes, and explores the impact of AI discourses on society.

VISIT TOPIC OVERVIEW ONLINE

FREYA HEWETT & HADI ASGHARI

Lowering the barriers: Accessible language and "leichte Sprache" on the German web

The inventor of the web, Tim Berners-Lee, stated that "the power of the Web is in its universality. Access by everyone, regardless of disability is an essential aspect". This statement, from the 1990s, rings even more true in 2023, as participation in society depends on being able to access the web for information, services and connections. In Germany, there is now a legal requirement for the public sector to provide content in "leichte Sprache" (eng: easy read) formats: language used in a simple manner to achieve broad accessibility. In the following article, Freya Hewett and Hadi Asghari outline their findings on the question: how much German-language web content is indeed available in "leichte Sprache"?

EASY-TO-READ

Leichte Sprache (LS), literally translated to English as easy language, is a set of formal rules which a text should adhere to for it to be understood by its target group: people with German as a second language, little to no formal education or cognitive disabilities. This German branch of easy-to-read language has been around since the early 2000s, but LS has gained more traction in recent years due to various legal requirements.

IT'S A 'LÄNDERSACHE'

One of these legal requirements is the Web Accessibility Directive, enacted by the EU in 2016. It requires public sector websites to be accessible to persons with disabilities. The Directive describes four principles for accessibility, one of which is "understandability". While most EU countries transposed the Directive in one or two laws, Germany has created 54 national laws based on the Directive. And this is where the easy language situation starts to get complicated: around two thirds of German states have accessibility laws requiring their state and municipal websites to provide the gist of the website's content in LS. But in six states the law refers to a different standard and bypasses the rules about LS. To summarise: there is no consensus on the interpretation of "understandable language".

In our research, we spoke to the authorities responsible for monitoring compliance with the Directive by public websites across 16 German states as well as the federal government. We also developed technical tools to

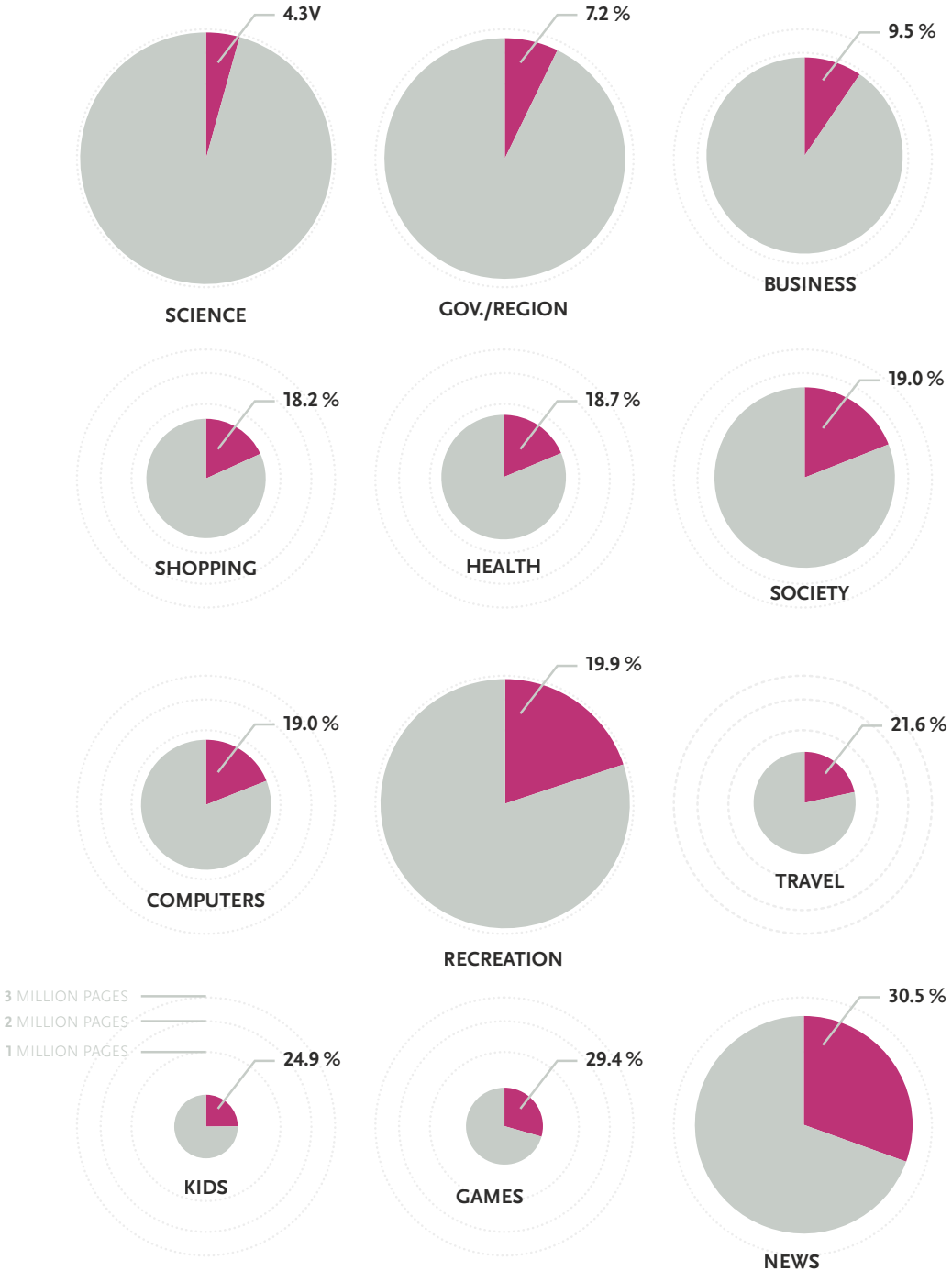
automatically evaluate the complexity of web page content across .de domains.

SCIENCE & GOVERNMENTAL WEBSITES USE DIFFICULT LANGUAGE

We trained a neural classifier to detect simple language and ran it on the German subset of the Common Crawl, one of the best open archives of the web. We then looked at the categories of the web content that our classifier said were "simple": science and governmental websites had the lowest proportion of easy-to-read pages, whereas the categories kids, games and news had the highest.

QUALITY OF LS IS GOOD, BUT ITS COVERAGE NOT SO

There are no legal requirements regarding the amount of LS a website must have. Our conversations with the public monitoring offices confirmed that they merely check for the existence of one page in LS. We collated a list of public sector websites from different German states, crawled them, and found 2,413 LS pages. We analysed the quality of these pages and found that, generally, the quality of the pages in LS was high. This was unsurprising as the responsible offices told us that the vast majority of LS texts are written by specialist translation agencies (and often verified by users of LS). However, of the websites in our sample, just a third had content in LS, and only 40 sites had more than three pages in LS.



Percentage of webpages offered in LS across different categories

Numbers based on our processed subset of the German Common Crawl archive.

ESTIMATING LS USAGE IS DIFFICULT

We also asked if there was any information on how the LS content is being used. We received some limited information on page impressions. Page impressions are not a reliable indicator of usage by themselves; nonetheless, for the statistics that we received, large differences in impressions were noticeable. This might indicate that some content has higher priority for the target groups of LS. For example, Berlin's waste collection and public transportation services both reported fairly high page impressions, indicating their relevance.

THE GLASS IS HALF EMPTY...

We recommend that all monitoring bodies publicly release the list of websites in their jurisdiction, including those that are selected for testing. At present, only a few of the federal states do this. This would open up the process of creating and monitoring LS content. It would furthermore allow for a dialogue between public organisations and the potential target users, hopefully placing emphasis on the content they need most. We also suggest that using LS to improve understandability be combined with efforts to simplify the bureaucratic process in general while striving to make all government communications and content more understandable — instead of merely offering navigation and key information in LS.

THE GLASS IS HALF FULL

Having said this, even though the goal of a truly accessible web still appears far away, we think it's fair to say that the EU Web Accessibility Directive has succeeded in at least two ways: all German states now have monitoring offices set up with competent personnel, and processes are in place so that LS pages can be created for the public sector at a reasonable price. In other words, the Directive's objectives of shifting the burden of monitoring accessibility to the public authorities, and using their procurement powers to incentivise suppliers, seem to be working, although perhaps at a slower pace than one would hope.

More details, the code and our paper can be found on GitHub.

VIEW PROJECT ON GITHUB

THERESA ZÜGER

Public interest AI – Quo vadis?

HIIG's research group on public interest-oriented AI was founded in 2020. Since then, a lot has happened around the topic, not just from a scientific perspective but politically and socially, too. In this article, research lead Theresa Züger gives an introduction to the concept of AI for the common good, explains important findings and gives an outlook on the group's next goal.

READ FULL ARTICLE

NATALI HELBERGER & NICHOLAS DIAKOPOULOS

ChatGPT and the AI Act

It is not easy being a tech regulator these days. European institutions were currently working hard towards finalising the AI Act, and then generative AI systems like ChatGPT came along! Where do generative and "traditional" AI systems differ? In this essay, the authors argue that the European AI Act's current risk-based approach is far too limited for reigning in ChatGPT & co.

READ FULL ARTICLE ON IPR

SAMI NENNO

Inside Hugging Face

Machine learning (ML) seems to be the new big thing. For an understanding of the dynamics of current open-source research in this context, one platform is of central importance: Hugging Face. It's the place to be for access to state-of-the-art ML models. In this article, Sami Nenno analyses how these models uploaded to the platform in recent years have changed and what kind of organisations are now using them.

READ FULL ARTICLE

THERESA ZÜGER & DANIEL POTHMANN

The AI transparency cycle

AI is omnipresent and invisible at the same time. Do you notice every time you interact with an algorithm? What data is being collected and processed while you casually scroll through social media or browse products on retail websites? Privacy statements by platform providers promise full transparency, but what does this even mean and what is the underlying goal?

READ FULL ARTICLE

AI EXPLAINED IN HUMAN TERMS

Discover the possibilities of artificial intelligence and its limitations with the example of facial detection and recognition. Two interactive experiments allow you to try out this technology for yourself with a personal computer or smartphone camera. In addition, explanatory videos detail how the AI systems behind the experiments work and where they are already being used in our society.

START THE EXPERIMENT

AI

LECTURE BY GINA NEFF

Making AI work for us

In this edition of the HIIG lecture series, Gina Neff explains how artificial intelligence and other innovative technologies are constantly evolving at a rapid pace. In this case, it is utterly important to understand the future challenges and opportunities. This requires a deep insight into how we as a society on the whole will deal with, resist or get in line with AI's new ways of organising information. But what needs to be done to make these tools and our digital technology infrastructure work – for all of us?

WATCH FULL LECTURE

AI COMPASS

Artificial intelligence is a hot topic, and the discussion about its capabilities is roaring. But what is the hype really all about? Find out in the card game AI Compass!

EXPLORE THE CARD CAME

SIMBA TEXT ASSISTANT

We've published a new tool on our Public Interest AI interface. The SIMBA text assistant is a browser plug-in that produces summaries of the text on web pages. It is designed to additionally simplify the summaries by shortening sentences and providing explanations for words. The researchers trained and evaluated the model with news articles, which is why it works best on news sites.

INSTALL THE PLUGIN

Turning research into action for meaningful societal change by understanding AI and using its potential wisely.

We worked with members of the public in workshops to develop ideas for explanations about AI that meet their needs. This resulted in the AI Compass card game. Thousands of copies are in the hands of educators, and we have partnered with several national educational institutions to provide people across Germany with special editions to help explainAI to anyone.

Our publicinterest.ai interface connects over 40 pioneering initiatives with fundraising opportunities to promote ideas for digital technologies for the common good around the world.

We have shaped an informed discourse on AI in more than 17 high-profile media reports – ranging from voices on political regulation and ethical guidelines to reducing fears of superintelligent machines.

Digital organising and the future of work

Wo

AI

Artificial intelligence and society

PI

Platform governance

FOCUS

Digital organising and the future of work

The dynamic interplay of digitalisation and artificial intelligence (AI) is about to fundamentally reshape the workplace landscape. While consensus exists on this shift, the precise contours of the impending transformation remain unclear. How exactly will digital organising, digitalisation and AI in the workplace change our working world? In our research, we explore and explain these phenomena, assess their impacts, as well as associated opportunities and risks for the future of work.

VISIT TOPIC OVERVIEW ONLINE

SONJA KÖHNE & GEORG VON RICHTHOFEN

People analytics: Hype, fear and real opportunities

Data analyses are gaining importance in many areas of work. IBM consulting, for example, claims to have saved more than 100 million US dollars within one year through the use of artificial intelligence (AI) in human resources. Several start-ups have also specialised in the business of people analytics and are benefiting from the hype. But what does it mean when such analyses increasingly include the personal data of an organisation's employees? In the following article, Sonja Köhne and Georg von Richthofen discuss who may benefit from such analyses, for whom they pose risks, and what organisations should consider when using such data.

For many organisations, the analysis of various types of data is part of everyday business. Increasingly, organisations are also turning to the data of their own employees. Under the term people analytics, data about employees is collected, often combined with external data, and analysed statistically. As a result, HR decisions are being augmented and certain HR activities automated. The public debates on people analytics are often highly polarised.

BETWEEN HYPE AND FEAR

In 2021, a team from Bayerischer Rundfunk (Bavarian Broadcasting Service) tested a recruiting software that was supposed to generate a behaviour-based personality profiles for applicants based on voice, language, gestures and facial expressions. The result: the system evaluated applicants as less conscientious if they wore glasses, and more open if they wore a headscarf. Amazon's attempt to develop a hiring algorithm that identifies ideal applicants based on profiles of successful hires from the past 10 years failed as well – almost exclusively, it recommended hiring male applicants. Finally, a "productivity score" designed to capture how, when and for how long users in an organisation used Microsoft 365 services caused public criticism. The score was intended to offer administrators insights into the use of the internal IT infrastructure. Initially, however, the data was reported on an individual basis. Today, hardly any article on the risks of people analytics can do without one of these three scandalous examples.

On the other hand, the vendors of people analytics software themselves shape the debates with promises to "measure soft skills [...] validly and objectively" or "[eliminate] unconscious biases with AI-supported video interviews" and even "[better understand] employees of your company with ease".* Such promises raise customer expectations to the point of being barely attainable and promote hype around people analytics, while scandals reported in the media trigger fears. Both these aspects shape our understanding and use of people analytics.

FOR WHOM DOES PEOPLE ANALYTICS POSE RISKS?

The use of people analytics is associated with risks, which are evident in the examples presented above. Bayerischer Rundfunk's research on AI-based personality profiling shows that complex analyses are often only explainable to a limited extent and can lead to self-fulfilling prophecies, for example, when recruiters are notified by the software – before a job interview – that an applicant has been classified as a narcissist according to their tone of voice or body language. The much-cited example of Amazon's hiring algorithm clearly shows that such algorithms are in fact not neutral and the use of historical data can inhibit change. Finally, when huge amounts of personal data are collected and analysed, questions of data protection and employee privacy arise, as the example of Microsoft's productivity score illustrates.

* These quotes are from people analytics vendor websites and are used here for illustration.

People analytics can also pose a risk to management, for example through high costs associated with its implementation, while the financial benefits are difficult to assess.

WHO BENEFITS FROM PEOPLE ANALYTICS?

People analytics can be a profitable business involving many different actors inside and outside organisations. IBM, for example, claims to have saved more than 100 million US dollars within one year through the use of artificial intelligence in human resources. Several start-ups have also specialised in the business of people analytics and are benefiting from the hype: the AI-based talent management platform eightfold, for example, recently raised 220 million US dollars and is now valued at over 2 billion US dollars.

At the same time, the polarised debates between fear and hype often make it difficult to address the real potential of people analytics – for organisations as well as employees. Beyond distant, hypothetical scenarios of the future, people analytics can already offer support in urgent HR management issues today, as our interviews with people analytics managers have shown. The shortage of skilled workers, for example, is currently a major challenge for many HR departments. Here, analytics can support HR planning by combining internal data on skills, roles and needs, with external market data to assess where future shortages may arise. Retention of existing

employees also becomes relevant here: automated, anonymous pulse surveys are used to evaluate job satisfaction in real-time or to determine which factors are particularly important to employees, such as work-from-home policies. In addition, many organisations now set their own diversity and equality goals. In this context, algorithms are used, for example, to analyse salary data to determine how large the gender pay gap is within a given organisation. Overall, our interviews have shown that people analytics offers real opportunities to organisations that indeed differ greatly from the negative examples presented in the media.

NEEDS ORIENTATION, PARTICIPATION, CONTEXTUALISATION AND DATA PROTECTION AS KEY FOUNDATIONS

Protecting employees is important in order to realise the potential of people analytics. When developing use cases, the real needs of employees and organisations should be put front and centre. Therefore, those responsible should not construct use cases solely according to feasibility and data available. It is also important to involve employees and their representatives in the development process right from the beginning. Works councils are often involved too late, engendering mistrust, even though they know the workplace very well and can thus assess feasibility. When interpreting the analyses, users should always consider the context of the data, as people analytics will never fully capture human complexity. At the same time, data protection must be at the centre of use case development, for example, by

technically limiting data misuse from the beginning or by only analysing data on a team or organisational level instead of on an individual level.

FOCUS ON REAL OPPORTUNITIES INSTEAD OF HYPOTHETICAL SCENARIOS OF THE FUTURE

The use and analysis of employee data will continue to play an important role in the world of work. It can well support some activities in HR management. However, when it is used to evaluate or rank people it becomes problematic. When discussing people analytics, it is therefore important to look at the real-world potential that the technology can already offer today instead of focusing on hypothetical scenarios of the future.

FABIAN STEPHANY & OLE TEUTLOFF

Skills to 'race with the machines': The value of complementarity

Artificial intelligence can create unemployment and labour shortages simultaneously due to the mismatch of skill sets. As workers are constantly urged to reskill, how can they determine which skills to invest in? Are particular ones most important, like software development, or a broader skill set? The authors examine these questions using data from one of the world's largest online freelancing platforms. The results show that skills rarely stand alone.

READ FULL ARTICLE

Wo

SONJA KÖHNE

Between experimentation spaces and traffic light systems: Negotiating artificial intelligence at the company level

Systems based on artificial intelligence have advanced into many areas of the world of work. That said, how can the introduction of such systems be aligned with the rights and interests of workers? This is what management and worker representatives are negotiating at the company level by introducing innovative pilot projects as well as highly structuring new instruments.

READ FULL ARTICLE

PODCAST EPISODE

Exploring Kenya's gig work opportunities

This episode of our podcast Exploring Digital Spheres brings the listeners to Nairobi, Kenya. An African country that impressively reflects the growing relevance of global digital labour markets and online-mediated work, so-called gig work. While the platform economy opens immense opportunities for flexible, gainful and convenient entrepreneurship, the precarious livelihoods of the gig workers and service providers often remain unaddressed. How can we thrive for a gig economy that is socially just?

This piece is based on the findings of the research project Sustainability, Entrepreneurship and Global Digital Transformation.

LISTEN TO THE EPISODE

Wo

INSPIRATIONAL TALK IN MEXICO

Women* who inspire in technology

Delve into the working world of a woman* in the tech sector in Latin America with industrial engineer and social entrepreneur Mónica A. Ramos Li and moderator Sarah Spitz. What are the range of issues women* and marginalised groups have to overcome? In her talk Mónica shared her personal journey, challenges and triumphs as a woman* in this industry. This event was organised as part of the Women* in Tech project.

WATCH FULL TALK

PODCAST EPISODE

The challenges of women* in Mauritania's digital landscape

This time, Exploring Digital Spheres takes us to Mauritania in Africa. Our team worked with local experts to analyse how women can overcome obstacles and barriers in the technology sector. After all, their underrepresentation in the digital industry remains a major and global problem. We spoke to courageous refugee women from Mali and Central Africa. They talk about their resilience in the midst of these challenges and how digital tools have played a crucial role in their personal transformation in Mauritania's digital landscape.

The episode is based on the findings of the research project Women* in Tech.

LISTEN TO THE EPISODE

We don’t just observe, we contribute to the discourse and are catalysts for change.

We presented our research findings on the implementation of digital technology in the workplace to industrial trade unions and initiated a dialogue on the responsible introduction of AI in the interests of employees.

We met with policymakers such as Margrethe Vestager (Executive Vice-President of the European Commission) to consult on actively combating gender inequality in the tech industry.

Our scientists regularly take centre stage in the media, dispelling unobjective fears of job disappearance and providing empirical evidence to categorise what the working landscape might look like in an AI-driven future.

ALINA KONTAREVA

How Russian online platforms compete with global giants

FURTHER ARTICLES

Platform://Democracy

More power to the people: How platform councils can make online communication more democratic

Innovating democracy: Platforms, policies, and possibilities

Teaching norms to large language models: The next frontier of hybrid governance

LECTURES

The global evolution of smart technologies

Digital autonomy and sovereignty

Platform governance

Pl

Wo

Digital organising and the future of work

Su

Digitalisation and sustainability

FOCUS

Platform governance

Platform governance refers to the rules, regulations and framework within which digital platforms are managed in our society. This includes social networks, online services, digital marketplaces or messaging services, to name a few. These digital platform ecosystems facilitate the exchange of information, goods and services in our daily lives. As an integral part of our modern communication, they also have a profound impact on public discourse and economic processes. In our research on sustainable platform governance, we therefore examine how entrepreneurial goals, individual rights and societal values can be aligned or at least harmonised in these online communication spaces. This includes questions related to online platform regulation, competition law, freedom of speech, individual autonomy and (democratically anchored) decision-making.

ALINA KONTAREVA

How Russian online platforms compete with global giants

US online platforms have become the most important providers of many services in our globalised world. Billions of people from many different countries use their search engines, booking tools or online e-commerce infrastructures every day. But this begs the question: what does it take for national online platforms to emerge and develop successfully outside the US? In this article, Alina Kontareva summarises her and her co-author's research on Russia. It is one of the few countries that has managed to build a population of domestic online platforms that are still successfully holding their own against the US giants. In the following, she analyses the cultural, social and geographical factors that have made this possible. What can other countries learn from the Russian case?

HOW PLATFORMS COMPETE

Why are there only a few online platforms for billions of users? Some of the answers lie in how they compete and exploit network effects. Over the last few decades, this behaviour has led to a few giants such as Google, Amazon and Meta Platform establishing a global monopoly. They attract the most users with their dominant marketplaces and buy up or suffocate competition. Many EU citizens, for example, also use the services of American providers. As a result, the platforms emerging elsewhere often have great difficulty in becoming competitive, generating large user numbers and becoming a domestic alternative for people.

In contrast to other internal markets, Russia has developed a population of domestically competitive services that deliver functionality similar to that of global platform providers, as listed below. But how did that happen?

Basic information on key Russian internet companies:

	Yandex	**VKontakte**	**Odnoklassniki**	**Ozon**
SERVICE	Internet search	Social media	Social media	Online sales
US MODEL	WebCrawler/ Lycos/AltaVista	Facebook	Classmates	Amazon
KEY FOREIGN COMPETITOR	Google	YouTube, Instagram	YouTube, Instagram	AliExpress
DATE ESTABLISHED	1997	2006	2006	1998

RUSSIA AS A "CHAOTIC" NATIONAL ENVIRONMENT

The national environment creates vital conditions for companies' growth. One of the reasons why Russian online platforms have attracted users was because foreign platforms were late entrants. When the internet was developing globally, Russia was transitioning from socialism to capitalism after the collapse of the Soviet Union in 1991. During this time, Western entrepreneurs described Russia as "hostile" and "chaotic." A financial crisis in 1998, followed by the dramatic drop in GDP to 1991 levels, high unemployment rates and low population purchasing power discouraged foreign entry into this small national market where users did not speak English. Most importantly, Russia was poorly connected to the internet, which meant it offered a small user base for Western services.

Despite this, and quite surprisingly, Russia saw the rise of domestic internet entrepreneurship, a development that was boosted by the engineering and maths skills the country inherited from its Soviet past. In 2000, the national environment began to improve: Russia experienced an economic recovery and improvement in government institutions. The number of internet users increased dramatically from 3 million in 2000 to over 59 million by 2010. The rapid growth of the Russian market finally attracted Western investors to invest more than $100 million in Russian internet companies in the early years.

This sheltered national environment together with rising demand for Russian-language services created room for domestic platforms. In the following, I will focus on three market segments – search, social media

and e-commerce – and demonstrate how Russian companies established competitive advantage with local network effects.

SEARCH ENGINES: YANDEX'S RISE FROM CYRILLIC PIONEER TO NATIONAL PLATFORM EMPIRE

With the growing volume of content, users needed a tool to navigate the internet. Except for AltaVista, Western services did not process texts in the Cyrillic alphabet. Yandex was one of the few Russian search engines to index the Russian-language web content and thus attracted early adopters by the late 1990s. Having had access to the growing volume of user queries, Yandex learned from these data and improved its search algorithms. When Google introduced its Russian-language interface in 2001, the quality of results was poor compared to Yandex's search engine.

Access to user queries gave Yandex an understanding of what services were relevant for Russian users. For example, as the number of queries about goods grew, the Yandex team noticed demand forming for an online marketplace. Over the years, Yandex extended its offering to create a portfolio of other local services such as online maps, ride-hailing as well as grocery and food delivery. By 2021, these services generated more revenue than advertising.

E-COMMERCE: KNOWING LOCAL CIRCUMSTANCES TO ENABLE NATIONWIDE LOGISTICS

The e-commerce segment was perhaps the most difficult to develop because of its reliance upon material infrastructure. Several obstacles conditioned its development in Russia in the 1990s: the lack of credit card use, an unreliable postal delivery infrastructure and minimal trust in online shopping. Because Russian users were only willing to pay for merchandise upon delivery, sellers were chronically short on capital and had a negative float. As a result, foreign firms remained hesitant to enter the market. But domestic startups struggled to generate growth as well.

One of the Russian marketplaces that emerged was Ozon, founded in 1998, which sold books. It attracted Russians by improving delivery, storage and user trust, and gradually extending the assortment of goods to become a universal marketplace. One particularly important strategic move was the development of a network of sales pickup locations in 2002. This reduced the warehouse storage time and allowed customers to pay upon pickup. As a result, the delivery and logistics infrastructure improved, and the demand for online shopping had been established.

At this point, a few other domestic marketplaces – Wildberries, Citilink and Lamoda – sprung up in the e-commerce landscape and achieved significant growth. This was possible because they entered the relatively matured market with a working delivery and logistic infrastructure and a demand for online shopping.

Amazon was a late entrant, too, when it opened a Russian website in 2013 but shut it down shortly afterwards. The global behemoth simply could not compete against native players and was not ready to invest into building a nationwide infrastructure by itself. Whereas Amazon was no competitor to Russian platforms, AliExpress, a Chinese online retailer owned by Alibaba, steadily generated growth. They attracted users by offering cheap products and by partnering up with the Russian social media platform VKontakte.

Thus, domestic marketplaces had seized the advantage due to their national presence and delivery infrastructure. But because no firm, including Ozon, was able to dominate the market early on, the e-commerce market in Russia remains fragmented and openly competitive.

SOCIAL MEDIA: PERSONAL NETWORKS AND USER LOCK-IN

Globally, social media platforms emerged later than search or e-commerce. Facebook was developed in 2004, but it had no Russian version and was difficult to navigate. So,it did not generate interest among Russian users. Two Russia-born social media platforms, VKontakte and Odnoklassniki, appeared in 2006 and were immediately adopted.

In social media, functionality in creating connections and personal networks is of great importance. Compared to Facebook at that time, Russian platforms, particularly VKontakte, were technologically superior and had an advanced people search system. Moreover, both Russian platforms attracted audiences by giving access to music and video content repositories, which had incidentally been uploaded illegally, thus benefiting from extremely

lax regulation. When a Russian version of Facebook was released, Russian users had already been connected via VKontakte or Odnoklassniki. Local network effects created powerful lock-in dynamics that proved difficult for foreign companies to overcome.

STATE PROTECTION: CONSEQUENCES IN DIFFERENT SECTORS

After around 2008, the Russian government embarked on a mission to gain more control over the internet. This included the takeover of VKontakte's ownership by the government-affiliated business structures in 2014. These regulations, however, had little effect on the competition between Russian and Western platforms. The majority of users stayed connected through the domestic social media platforms despite clearly evident state control as a means of surveillance. The exception came when Russian users adopted Twitter and Facebook during the wave of protests in 2010–2012 against the Russian parliamentary elections. Eventually, users returned to the native platforms and the personal networks established before the unrest. This example shows how Russian domestic platforms created a strong user lock-in that prevented their users' migration to foreign platforms.

But in a time of rapid-paced technological innovation, local platforms constantly face competition. A good example is the case of Yandex. Despite its leading position in Russia, Google remained a serious competitor with more than 40% of the Russian market. The release of the Android OS with Google services pre-installed leveraged a dramatic advantage for Google. Yandex's market share began to erode. The company attempted to mount

competition by developing its mobile operating system Yandex.Kit, which was designed to be installed on smartphones sold in Russia. But, by the time it appeared, Google had already made exclusive contractual agreements with vendors that prohibited them from installing third-party software. In 2014, Yandex filed an antitrust lawsuit against Google, and Russia's Antimonopoly Service rallied behind the national champion. Google was forced to open the Android settings to allow device manufacturers to pre-install Yandex on Android devices.

The example of Yandex illustrates how a local online platform was able to leverage local knowledge and access to local data to create a niche. But it also shows limited capacities of a local platform to protect its core product in cases when a global leader controls a major technology transition. Without government involvement, it seems native technology systems are at a critical disadvantage in terms of economies of scale.

CONCLUSION: WHAT CAN WE LEARN FROM THE RUSSIAN CASE?

Russia's internet experience offers valuable insights into how online platforms can be fostered in a highly competitive environment. Although some conditions may not be easily replicated due to the existing convergence of national markets with US online platforms, there are key lessons that European countries, India, Brazil and other nations aspiring to enhance the competitiveness of their digital economies can consider.

First, the local component plays a significant role in providing a competitive advantage for online platforms. Native companies can navigate local obstacles better because of their embeddedness.

Factors such as language, access to local data and physical proximity can offer distinct advantages for local platform providers. However, platforms that capitalise on national network effects find themselves naturally restricted to their domestic markets and must overcome this limitation.

Second, local online platforms may require state protection. Over the years, the Russian government selectively protected national champions. Some policies, in the social media segment for example, had little effect on competition. Instead it was openness to foreign entry that contributed to fast-paced innovation among Russian platforms. Those platforms, however, also profited from a first-mover advantage in a shielded market environment. The state intervened when platforms generated positive network dynamics and demonstrated stable growth.

Today, local online platforms can develop alternative solutions that reduce reliance on global platforms. One example is creating industry-level data sharing infrastructure that lessens market-entry barriers for smaller innovators and gives them growth potential. Exploring these solutions is the focus of the INCA research project at HIIG.

MATTHIAS C. KETTEMANN & WOLFGANG SCHULZ

Platform://Democracy

This publication examines how platform rules can be aligned with public values and is based on the findings of the research project Plattform://Democracy. More than 30 researchers from all continents focused on the following question: Can platform councils or other institutions ensure that public interests and democratic values are taken into account in the rule-making processes of platforms?

READ FULL PUBLICATION

MATTHIAS C. KETTEMANN

More power to the people: How platform councils can make online communication more democratic

In the dynamic realm of digital communication, social media platforms in particular have established themselves as influential channels for shaping opinions. They wield significant influence over hybrid communication spaces, and their terms of use and algorithmic moderation practices not only shape public discourse but also affect basic human rights. This rising influence on societal narratives and global information and communication processes has sparked an important debate about integrating public interests into the governance framework of these predominantly privately-owned digital spaces. One potential solution to this complex challenge is the concept of *social media councils*.

READ FULL ARTICLE

CATHLEEN BERGER, CHARLOTTE FREIHSE,
VINCENT HOFMANN, MATTHIAS C. KETTEMANN
& KATHARINA MOSENE

Innovating democracy: Platforms, policies, and possibilities

The year 2024 will be heavily impacted by climate and political change, multiple important elections and trailblazing new laws. We must therefore actively redetermine democratic futures. Hence, researchers from HIIG teamed up with Upgrade Democracy and deep dived into platforms as a democratic setting. Together, they tried to find answers to the following questions: How can we shape existing digital platforms in a democratic way? And are there possible solutions for alternative models?

READ FULL PAPERS

WOLFGANG SCHULZ & CHRISTIAN OLLIG

Teaching norms to large language models: The next frontier of hybrid governance

Large language models (LLMs) have significantly advanced natural language processing capabilities, enabling them to generate text that seems to have been written by a human-like mind. However, their growing presence raises concerns about potential societal risks and ethical considerations. To ensure responsible deployment of LLMs, it is crucial to train them in societal norms. Wolfgang Schulz and Christian Ollig explore the ways in which we can teach norms to LLMs from a rulemaking perspective. The authors introduce the concept of hybrid governance to emphasise the interdependencies of public and private norms.

READ FULL ARTICLE

LECTURE BY DANIEL MILLER

The global evolution of smart technologies

When we talk about technologies such as smartphones we assume that it is the technology that is smart. But who puts the smart into smart digital communication? The answers to this question can be found in the creativity and skill of the populations that use digital platforms, social media or intelligent devices. In this edition of the HIIG lecture series, Daniel Miller presents the results of ten years of ethnographic research on the use of digital media by ordinary populations and their social consequences across the world, from China to Italy and from Uganda to Brazil.

WATCH FULL LECTURE

PANEL DISCUSSION

Digital autonomy and sovereignty

Internet Policy Review, our open access journal on internet regulation, turned ten in 2023. To mark the occasion, we celebrated a decade of excellent research and publishing with a lively panel discussion on current issues surrounding internet regulation. Speakers Marianne Franklin, Elinor Carmi, David Dueñas-Cid and Julia Pohle stressed the importance of autonomy and digital data sovereignty by offering insights from their various research perspectives.

WATCH FULL DISCUSSION

Empowering ethical and effective platform governance through rigorous research and actionable insights.

Our active exchange with political representatives and ministries about our research findings on potential control bodies for social media platforms has contributed to the establishment of an advisory board at the German coordination office for digital services.

Our recommendations for action gave policymakers insights into the most pressing platform governance issues and key resources for their work.

We furthermore engaged in productive exchange with the global platform Meta to learn more about algorithmic ranking on Instagram for society's sake.

GEORG VON RICHTHOFEN

Climate change in Vietnam: How can we promote digital entrepreneurship in the green tech sector?

FURTHER ARTICLES

Identifying potential emerging human rights implications in Chinese smart cities via machine-learning aided patent analysis

Digital technology for rainforest protection in Indonesia: Disturbances, revitalisation and resilience

Impact without imposition: What role for northern academics in the global south?

Resilience without accountability holds back transformative change

LECTURES

Digitising the environmental paradigm

Exploring Mexico's sustainable entrepreneurs fight for climate change

Digitalisation and sustainability

Su

Pl

Platform governance

Ed

Open higher education

FOCUS

Digitalisation and sustainability

When it comes to sustainability, digitalisation opens up great opportunities but poses myriad challenges. It is important that societies, organisations and individuals begin to grasp the sustainable potential of digital technologies. Currently, their negative effects often outweigh the positive ones due to enormous requirements for material and energy, but also due to discrimination against certain social groups – the same ones affected most by the negative consequences of outsized material and energy consumption on the whole. In our research at HIIG, we investigate how digital and sustainable transformation can be shaped together. How can technology be introduced and used in a responsible manner from a social, economic and ecological perspective?

VISIT TOPIC OVERVIEW ONLINE

GEORG VON RICHTHOFEN

Climate change in Vietnam: How can we promote digital entrepreneurship in the green tech sector?

Climate change is a global phenomenon with far-reaching environmental effects such as heatwaves, melting polar ice and declining biodiversity. Vietnam specifically is threatened by rising sea levels, typhoons and floods that could have disastrous consequences for its ecosystem, economy and the well-being of its population. In light of these prospects, policy-makers such as the World Bank have called for immediate and drastic measures in Vietnam to adapt to climate change by building resiliency and to mitigate climate change by decarbonising the economy. Let's have a look at the status quo and the potential of digital entrepreneurship in Vietnam's green tech sector.

CAN GREEN TECHNOLOGIES BE PROMOTED THROUGH PRIVATE BUSINESSES AND ENTREPRENEURS?

The deployment of green technologies, or green tech, is central to mitigating climate change in Vietnam. For example, using sustainable energy sources such as hydro-, wind and solar power could help to decarbonise the energy sector, while the expansion of public transport and adoption of electric vehicles could contribute to decarbonising transport. Promoting the development and adoption of green tech will require considerable effort, not only from the government and state-owned enterprises but also from private businesses and entrepreneurs. And yet, the Vietnamese green tech ecosystem suffers from a shortage of entrepreneurs. This raises the questions: What obstacles do Vietnamese green tech entrepreneurs currently face and what can be done to promote the founding of green tech start-ups in Vietnam?

LIMITING FACTORS: GREEN-TECH, ENTREPRENEURSHIP & CLIMATE

To find answers to these questions, the research sprint Green Technology, Entrepreneurship & Climate brought together eleven international and interdisciplinary fellows to study the barriers to digital entrepreneurship in Vietnam's green tech sector. First, the fellows worked online with data provided by the Digital Transformation Center (DTC) Vietnam before travelling to Vietnam to discuss their initial findings with local entrepreneurs, policymakers, academics and intermediaries such as the Vietnam Initiative for Energy Transition. Then, the fellows presented and debated their findings during a multi-stakeholder dialogue and a panel

discussion at the Green Economy Forum & Exhibition (GEFE) 2022 in Ho Chi Minh City with key stakeholders from Vietnam's green tech ecosystem and, ultimately, documented their insights in a final report.

FOUR FACTORS CONSTRAIN DIGITAL ENTREPRENEURSHIP IN VIETNAM'S GREEN TECH SECTOR

Throughout the sprint and in the report, the fellows identified a variety of factors that inhibit digital entrepreneurship in Vietnam's green tech sector. These factors can be organised into four broad categories, namely economic, institutional, social and technological challenges.

Economically, entrepreneurs face challenges such as insufficient access to high levels of funding. While the capital market for start-ups is maturing in the South-East Asian region overall, the level of investment in Vietnam has been relatively low, as compared to Singapore, Indonesia and Thailand. There are several reasons for this, including but not limited to overly indebted financial institutions and unexpected tax assessments.

Institutionally, digital entrepreneurship in the green tech sector could be promoted by developing clearer and preferential policies for early-stage green tech investors. While some policies promoting green tech entrepreneurship are in place, several entrepreneurs reported difficulties in benefiting from these policies due to the administrative efforts involved.

The social challenges involve factors such as social acceptance and willingness to adopt new technologies. One reason for this has to do with

the lack of quantity and quality of existing green tech offerings in the market, concerning products such as e-motorbikes, so that consumers opt for alternatives based on fossil-fuels.

The technological challenges for digital entrepreneurship in Vietnam's green tech sector can be summarised into skill-, infrastructure- and data-related challenges. In addition to mere technical digital skills, for example, there is also a need to develop legal and finance skills, competencies that green tech start-ups often lack.

ACCELERATORS AND INCUBATORS COULD PLAY A CENTRAL ROLE

In addition to addressing the above challenges head-on, both the fellows and the stakeholders they engaged with in Vietnam highlighted the importance of enabling and empowering entrepreneurs through accelerator and incubator programmes. Next to offering advice on developing viable business models and reaching product-market fit, such programmes could help entrepreneurs to navigate the tricky institutional landscape of Vietnam's green tech sector. The findings of the research sprint therefore point to the potential of the Green Tech Hub that the DTC Vietnam established in partnership with the National Innovation Center Vietnam, the local and regional start-up ecosystem and members of the Make-IT Alliance. The sprint's findings have been shared with the DTC Vietnam and its political partner to support the further development of Vietnam's green tech sector.

This article first appeared on www.bmz-digital.global on 14.03.2023.

JOSS WRIGHT, VALENTIN WEBER &
GREGORY FINN WALTON

Identifying potential emerging human rights implications in Chinese smart cities via machine-learning aided patent analysis

In this article, the authors investigate smart city technologies by examining patent filing trends. To do so, they use machine learning methods to explore the increasing global rates of patent submissions and to identify the emerging areas of interest for companies in this field. The primary focus is on urban systems in China, where a significant number of patents have been filed for these technologies recently, and their potential global impact. The findings present significant human rights concerns, especially regarding privacy, freedom of expression and assembly.

READ FULL ARTICLE

ROELAND HEMSTEEDE & PRAGYA POKHAREL

Digital technology for rainforest protection in Indonesia: Disturbances, revitalisation and resilience

Rainforest ecosystems provide essentials and livelihoods to hundreds of millions of people across the globe and are key to achieving the UN's Sustainable Development Goal 15. They are also constantly under threat from climate change, deforestation and degradation. Digital technology might offer solutions to help protect rainforests – but solutions to what exactly, and what are its limitations? To address these questions, this article takes a closer look at the role of technology in preparing for rainforest protection, how it is used to respond to disturbances, and how it can be used to restore and revitalise nature on the ground.

READ FULL ARTICLE

GEORG VON RICHTHOFEN & ALI ASLAN GÜMÜSAY

Impact without imposition: What role for northern academics in the global south?

Rethinking and changing scholarly behaviour: How can scholars from the global north address grand challenges for the global south without imposing their ideas on local communities? The authors joined forces with local researchers from eight countries of the global south. Together they worked to solve sustainability problems from socially just platform work in Kenya and Ghana to rainforest protection in Indonesia and green technologies to fight climate change in Vietnam. This resulted in six commissioned studies, two research sprints, eight multi-stakeholder dialogues and six events in over 18 months. In this article, they reflect on these experiences and present three possible approaches to achieve "impact without imposition".

The reflections are based on the research project Sustainability, Entrepreneurship and Global Digital Transformation.

READ FULL ARTICLE

Su

BENEDIKT FECHER, ALI ASLAN GÜMÜŞAY,
STEPHAN BOHN & ANNA JOBIN

Resilience without accountability holds back transformative change

The concept of resilience is often positioned as a solution to social challenges, notably the unfolding climate crisis. However, as the authors discuss, resilience on its own is insufficient without accountability. Linking resilience to the vastly increased powers of digital technology, for better or worse, to track, monitor and visualise human behaviour, they suggest resilience can only be effective in conjunction with deliberate action.

READ FULL ARTICLE

PODCAST EPISODE

Exploring Mexico's sustainable entrepreneurs fight for climate change

The second season of our podcast Exploring Digital Spheres is all about global digitalisation projects with a focus on the topics of sustainability. In this episode, our team visits Mexico City to explore the potential of sustainable digital entrepreneurship to mitigate climate change and the challenges to be overcome. Not only is Mexico a country with rich cultural heritage, it's also home to a growing community of bright digital minds creating innovative solutions to address pressing, environmental and social challenges. From harnessing the power of data analytics for better resource management, to developing digital platforms for social impact, Mexican entrepreneurs are driving force towards a more sustainable future.

This episode is based on the findings of the research project Sustainability, Entrepreneurship and Global Digital Transformation.

LISTEN TO THE EPISODE

LECTURE WITH LORENZ HILTY AND JAMES MAGUIRE

Digitising the environmental paradigm

In the context of sustainability, climate and environmental protection, great expectations are placed on digital technologies. For example, they supposedly will contribute to solving human-made ecological problems such as climate change by helping to better distribute and save resources. But will digital technologies really ensure sustainability? Or might they have just the opposite effect and harm efforts to protect the climate and the environment, as, for example, gigantic server farms consume large amounts of energy unnecessarily, or raw materials for chip production are mined in environmentally harmful ways? These are the questions discussed by Lorenz Hilty, Professor of Informatics and Sustainability at the University of Zurich, and James Maguire, anthropologist and Associate Professor at the IT University of Copenhagen.

WATCH FULL LECTURE

IMPACT IN 2023

Promoting digitalisation as a force for positive environmental impact and societal well-being.

In collaboration with the Digital Transformation Center Mexico, we conducted a research sprint and a multi-stakeholder dialogue to pave the way for innovative entrepreneurs to utilise digital technologies in order to mitigate the effects of climate change in the Mexican ecosystem.

We organised public events where members of the public, business representatives, scientists and civil society actors discussed socially fair working conditions for gig workers on digital platforms and digital solutions for the protection and restoration of forests.

Open higher education

Ed

Su

Digitalisation and sustainability

Da

Data governance

FOCUS

Open higher education

The idea of open (higher) education is driven by the aspiration to share knowledge across diverse communities and broaden access to education for everyone, regardless of background, digital skills, finances or location. The field of educational technology (EdTech) builds on the belief that open educational resources should be public assets. They should be open source, readily accessible, and not solely driven by profit motives. Educational technology tools like digital spaces, open source knowledge bases and repositories have the potential to democratise access in higher education. In this context, universities, publishers and libraries are pivotal in managing access to knowledge and open education resources. In our research on open education, we study these key actors and their practices and explore a more equitable future for educational technology amidst evolving trends and solutions.

VISIT TOPIC OVERVIEW ONLINE

MELISSA LAUFER, FREIA KUPER & MARVIN SIEVERING

My robot did my homework: AI applications and creativity at the university

The launch of ChatGPT and its overnight popularity created a stir in universities. Dominating the headlines were fears that this new technology would be detrimental to students developing critical thinking skills or worse yet lead to increased cases of plagiarism. In the following article, the authors ponder how to use generative AI to enhance creativity at the university.

'"My doggy ate my homework. He chewed it up," I said. But when I offered my excuse. My teacher shook her head.'

Crawley, 2004

But my dog ate my homework! This is the timeless excuse of school children; it even has its own Wikipedia entry. Who might vindicate the poor family dog? New tech developments like ChatGPT, other large language models (LLMs) or text-to-image models have finally offered up another culprit, generative AI — the future ghostwriter of homework assignments.

Since its launch in November 2022, ChatGPT has received a great deal of attention both from scholars, who debate its merits and threats to scientific publishing and the science system, as well as educators pivoting between cautiously praising or condemning it. Major concerns voiced are that generative AI will lead to more cases of plagiarism and be detrimental to students, allowing them to skimp on actually learning. Taken together this may signal the death of the student essay.

All in all, the verdict is still out on ChatGPT. Now, as we gear up for another academic year, we are once again revisiting the question of if and how generative AI applications should be integrated into higher education.

ANYTHING AI CAN DO, I CAN DO BETTER

Are generative AI applications killing creativity because all writing and imagery will look the same? Rather than taking the polarised view of generative AI tools merely as a threat or a helper, we believe they also offer an opportunity to rethink our writing practices. If we believe that good essays cannot be created by AI alone, what makes a good essay then? Could parts of the writing or design process indeed benefit from AI tools? What parts require human creativity?

CREATIVITY BEYOND AI

We know ChatGPT and other generative AI-tool outputs are limited in their creativity because of how generative AI functions: for example, text generators streamline text and parrot back the most likely sequence of words, based on the many texts they were trained on. This process can reproduce harmful content and stereotypes, which is one of the dangers. However, such texts may be genuinely useful when writing standardised communication or filling content. Producing something genuinely new, though, is not what generative AI applications are meant to do. We as users need to recognise this when monitoring and evaluating their output. For essay writing, the lack of creativity within generated texts reminds us of the great importance that fresh ideas, new twists and out-of-the-box thinking play in the writing process. Because text generators aren't creative but reproductive, students need to discover their very own creative ways of

conceptualising and writing texts. ChatGPT's generic writing alerts us to the creativity beyond AI that makes a good essay.

What happens when you let ChatGPT write a term paper? After the initial surprise that an AI tool has in fact generated an appealing structure, students in a class at the University of Applied Sciences Dresden quickly realised that neither the focus of the text nor definitions produced were appropriate for their discipline. And that they needed to dig deeper for better results. This method of testing AI-produced texts taught students critical thinking skills by challenging them to question AI results, and consider how to appropriately integrate them into their coursework.

BEING CREATIVE WITH AI

Alternatively, new ideas could arise in dialogue with generative AI tools, especially when using a playful approach. AI tool and user can be considered co-workers — one collaborative unit tackling tasks together. In conversation with ChatGPT, creative ideas can sprout, grow and take shape.

The interaction with an AI writing tool can lead to unexpected encounters with terms, concepts or text structures. Whether dismissing the images or texts generated by AI applications, accepting them or altering them, the user is pushed to deal with AI results creatively. As we adapt our prompts to get ChatGPT or Stable Diffusion to produce something outstanding, we engage in a co-creative interchange between technology and user.

We can see different practices being used at universities to explore this creativity potential as detailed by Abbey Bamford in conversation with design practitioners in Design Week, a design news outlet. In the article, the University of Leeds associate professor in graphic design, Dr Catherine Stones encourages students to stay "AI-agile" and question whether AI generated images contribute to stereotypes as well as copyright issues. Another respondent of the Ravensbourne University London also sees the potential of ChatGPT. Head of Creative Lab, Derek Yates explains that AI tools have the potential to free up the creative process by providing many options and quickly generated prototypes. Using generative AI for these tedious tasks helps prioritise conceptual development and other creative steps.

THE HUMAN AS THE CREATOR

With generative AI technologies and users working together, the essay or image may truly become a cyborg product, made by a mix of human and machine. Nonetheless, this should not lead us to regard the AI tool as an accountable creator of content. The unimaginative, stereotypical and in cases harmful content it reproduces remind us also of the ethical implications of AI use. The user always needs to check AI-generated output, and the user must decide when to use AI and when not to. In the end, the human is the creator and thus responsible for the content. The ghostwriter AI can not be held accountable for writing a bad or even harmful essay. Just like the family dog, it is the wrong one to blame.

FINAL THOUGHTS

Fears and concerns about ChatGPT and other LLMs resonate with past discussions researchers have had concerning how educational technology (EdTech) affects the quality of education, a debate that continues today. These past and present discussions boil down to the same question — what role should technology play in our lives?

We explored different possible roles of AI tools in the classroom and how they relate to creativity: the unimaginative ghostwriter or the creative partner.

In conclusion, university leaders and teachers faced with digital change should think about how they can harness these new technologies as means to foster creativity within classrooms and teach students to self-regulate their use, while building institutions that remain resilient and creative.

INTERVIEW WITH PETER WEINGART

Between societal relevance and autonomy

Academic research enjoys a high level of trust in German society, not least because of the autonomy that it is granted by the constitution. At the same time, the public expects research to leave its "ivory tower" and take on a more active role in addressing complex societal challenges such as the Covid-19 pandemic or climate change. Engaging in public debates and political decision-making constitutes a conflict of interest for researchers: how far can they go and when is their scientific autonomy threatened? Elephant in the Lab talked to Peter Weingart about the transformation of the scientific expert's role and current threats for researchers who communicate with publics outside of academia.

READ FULL INTERVIEW

INTERVIEW WITH NIELS MEDE

Populism, science and public discourse

How to shape the relation between public discourse and science? In this interview, communication researcher Niels Mede talks about how the rise of populist politics affects academic work, science communication practices of scholars engaging in public discourse and ways to address these challenges. His research centres around science communication, with a focus on public attitudes toward science and communication about science on social media and beyond.

READ FULL INTERVIEW

DIGITALER SALON

Chatbot potentia est!

Once a month, we publicly discuss the impact of digitalisation on society at Digitaler Salon. In light of the rise of the chatbots, in our February episode, we explored how these new developments affect teaching and learning processes. What advantages can analogue education still offer and what skills will (still) be needed in the future?

WATCH FULL VIDEO (GERMAN WITH ENGLISH SUBTITLES)

MELISSA LAUFER, FREIA KUPER,
MARICIA ALINE MENDE, LEN OLE SCHÄFER,
TIANA TSCHACHE & BRONWEN DEACON

Organising digital change at the university: The practitioners' field guide for implementing educational technology

This guide provides insights and recommendations for practitioners implementing digital change. It offers helpful suggestions, space to reflect and guidance for discussion. Readers will gain a deeper understanding of the challenges associated with implementing educational technology and learn how to create an organisational culture that inspires motivation and engagement among university teachers and staff.

READ FULL GUIDE

TINCA LUKAN

Make science go viral: How to effectively communicate research through short-form video formats on social media platforms

Social media is very promising for science communication. By sharing scientific results online, researchers can improve public perception of science and counteract the spread of misinformation online. While the benefits of sharing scientific research results on social media are obvious, engaging users with scientific content on these platforms is easier said than done. The goal of this toolkit is to empower scientists to become short-form video storytellers to share ideas, spark curiosity and connect with the world.

EXPLORE THE TOOLKIT

Dedicated to driving positive change through knowledge, we advance higher education opportunities.

Together with Wissenschaft im Dialog and Bundesverband Hochschulkommunikation, we have set up a national helpdesk to deal with hostility towards science. It stands ready to help scientists and their organisations to fend off unjustified attacks and promote objective scientific dialogue.

Our handbook for science-led publishing is the standard reference for thousands of publishers, providing them with comprehensive know-how on how to successfully edit and market an open access journal on a day-to-day basis.

With the help of a practical guide, we supported university leaders to effectively implement educational technology in higher education with the assistance of administrative, teaching and technical staff.

Data governance

Da

Ed

Open higher education

FOCUS

Data governance

Data governance refers to technical, organisational and regulatory mechanisms for responsible data sharing and use. These components are deeply connected to broader societal concerns such as data security, privacy, autonomy and political engagement. It includes infrastructures, artificial intelligence integration and issues around data ownership and commodification. In our research, we explore the development of resilient data governance frameworks, tools and best practices. Part of this is the responsible use of data in the public interest across organisational and national boundaries.

VISIT TOPIC OVERVIEW ONLINE

DANIEL POTHMANN

The consent fallacy

Humans are not the rational cost-benefit analysis machines that law and economy often wants them to be. Still, when fundamental rights like self-determination are at stake, it is up to you to make the right choices. You could decline the cookies and read the multiple page-long privacy statements before using a digital service. But our brains are fallible and there is no legal safety net. Do we need better protection? Are legislators asking too much by relying on our consent?

INTRODUCTION

The often cited privacy paradox describes how people happily share – even sensitive – data despite great concerns for privacy. But how paradoxical is this behaviour really? People consent to things all the time that are bad for them. Drugs and alcohol are subject to prohibitions and age restrictions; poisonous food ingredients and pesticides are banned; yet it is not up to you whether to wear a seat belt in a moving vehicle. Existing European legislation on the processing of personal data builds its steadfast barrier against exploitation and harm on the consent of the individual. However, depending on the level of potential risk involved, letting citizens decide for their own good is not necessarily the norm in many areas of life. Can consumers responsibly bear the burden of choice? Or did we – in the perception of protecting the human right to choose – fall prey to a consent fallacy?

ATTENTION, ECONOMY!

Meet the ad-based business model. The attention economy offers "free" digital services in exchange for cognitive real estate. Only when we pay attention to ads – or better even click on them – do advertisers get a return on their investment. For that reason, platforms are incentivised to optimise their platforms for user engagement so that people stick around during the ad – and to collect and provide detailed metrics on user behaviour to their customers. These clusters of data range from people living in a certain area to having a certain hobby to even having similar, deeply rooted fears. It is

no secret, and users consent to these conditions – usually, without fully grasping the trade-off.

THE ULTIMATE EUPHEMISM

Engagement orientation sounds great at first. It implies relevant and entertaining content, personalised to your taste. But what makes us engage? Essentially, it boils down to what attention actually is and why we pay it to what. Attention as a capacity for selective information processing as well as "presence of mind" (Franck, 2019) in its core is an evolution-driven mechanism to preserve our precious energy levels. Besides and because of that, it is a deeply rooted survival feature to make us focus on threats (Davenport & Beck, 2001): those who unswervingly admired the flower in front of them while a lion was approaching its easy dinner ultimately did not pass on their genes. So, what grabs our attention the most is likely fear-inducing, extreme, new, threatening or loud. Carefully think through how this may influence online content.

FEEL FREE TO INFORM YOURSELF

You might ask yourself: why aren't we legally protected against such practices? We users choose not to be – some of us, every single day anew. Consent, according to EU data protection laws, shall be informed and voluntary. Presumably, we are being informed by multiple-page-long privacy statements before we use a digital service. But this systematic information overload does not inform us in the true meaning of the norm, providing a

false sense of justification (Poursabzi-Sangdeh et al., 2021). The term *cookie* presents a wonderful metaphor for an action you cannot resist despite being somewhat aware of its potentially negative consequences. How voluntary do we consent to the processing of our data in light of our brain's energy-efficient state when we mindlessly scroll through engagement-driven feeds? Digital service providers utilise dark design patterns ubiquitously (Weinzierl, 2020), like colour contrasts and persuasive language (Martini, 2022; Ruschemeier, 2020), in an effort to trick our lazy brains into choosing the easy opt-i(o)n.

CONSENT WITHOUT CONSENSUS

Despite all of this, being able to freely and independently arrange one's private legal relationships sounds fair – and is essentially what German law means with its constitutionally protected "informational self-determination" (Rüthers & Stadler, 2014). Is it fair though? For proper consent-giving, the GDPR demands the absence of clear imbalances in the parties' power relationship (Stemmer, 2022). In a society that is socially and professionally on social networks to a large extent dependent, doubts might be raised. No law states that you have to have a bank account, but you need one to participate in modern society. Social factors like the fear of missing out (Wildt, 2015), rooted in a deep desire for belonging to social groups, leading to conformity, do not seem to be part of the legislators' consideration. Also, social media addiction is no recent discovery (Alter, 2017; Fogg, 2003). Just search for "intermittent variable reinforcement" and reflect whether this effect feels eerily familiar to you in the context of your daily platform

usage. The crux of an addiction – no matter how severe – lies in involuntary behaviours, regardless of being informed of the risks.

THE BURDEN OF CHOICE

No decision is free from external influences. Certainly, not many decisions are as highly influenced, however, by profit-oriented actors alongside our very own fallible nature as the decision to use or not use platforms and accept or decline cookies. Legislators should ask themselves whether an almost Pavlovian conditioned click-response to service-interrupting pop-ups really represents the bulletproof protection of fundamental rights they claim it to be. Art. 8 II 1 of the Charter of Fundamental Rights through the GDPR – which has thus far proved unable to counter the incentive structure of the ad-based business model – manifested in a behavioural market failure. To end this "race to the bottom of the brain stem", it requires a paradigm shift in EU legislation (Weinzierl, 2020), turning away from the homo oeconomicus towards a more humane – and realistic – homo empathicus.

REFERENCES

Alter, A. (2017). *Irresistible – The Rise of Addictive Technology and the Business of Keeping Us Hooked*. Penguin Press, New York.

Davenport, T. H., and Beck, J. C. (2001). *The Attention Economy*. Harvard School Press, Boston.

Fogg, B. J. (2003). *Persuasive Technology – Using Computers to Change What We Think and Do*. Morgan Kaufmann Publishers, San Francisco.

Frank, G. (2019). *Ökonomie der Aufmerksamkeit*. 12th ed., Carl Hanser Verlag, Munich.

Martini, M. (2022). Art. 25 GDPR, Rn. 46a in Eds. Wolff, A., and Brink, S., BeckOK Datenschutzrecht, 40th ed., C. H. Beck Verlag, Munich.

Poursabzi-Sangdeh, F. et al. (2021). *Manipulating and Measuring Model Interpretability*. Cornell University, arXiv:1802.07810v5 [cs:ai].

Ruschemeier, H. (2020). *9. Speyerer Forum zur digitalen Lebenswelt: Regulierung Künstlicher Intelligenz in der Europäischen Union zwischen Recht und Ethik*. NVwZ 2020, p. 447.

Rüthers, B., and Stadler, A. (2014). *Allgemeiner Teil des BGB*. 18th ed., C. H. Beck Verlag, Munich.

Stemmer, B. (2022). Art. 7 GDPR in Eds. Wolff, A., and Brink, S., BeckOK Datenschutzrecht, 40th ed., C. H. Beck Verlag, Munich.

Weinzierl, Q. (2020). *Dark Patterns als Herausforderung des Rechts*. NVwZ 2020, p. 1087.

Wildt, B. T. (2015). *Digital Junkies – Internetabhängigkeit und ihre Folgen für uns und unsere Kinder*. Droemer Verlag, Munich.

LOTTIE LANE

Preventing long-term risks to human rights in smart cities: A critical review of responsibilities for private AI developers

Privately developed artificial intelligence systems are frequently used in smart city technologies. The negative effects of such systems on individuals' human rights are increasingly clear. But we still only have a snapshot of their long-term risks. In this regard, AI companies are in a key position in the context of smart cities to identify, prevent and mitigate risks posed by AI systems. How is their preventive responsibility articulated in international and European governance initiatives on AI and corporate responsibility?

READ FULL ARTICLE

ALINA WERNICK, EMELINE BANZUZI &
ALEXANDER MÖRELIUS-WULFF

Do European smart city developers dream of GDPR-free countries? The pull of global megaprojects in the face of EU smart city compliance and localisation costs

Smart city technologies can have detrimental effects on human rights, making it crucial to mitigate them in the research and development phase. This qualitative socio-legal study of the Helsinki Metropolitan Area explores how public funding for smart city research and development, and the data protection by design principle of the General Data Protection Regulation (GDPR), facilitate the development of human rights compliant technology. Our study shows that the tension between the neoliberal logic of smart cities and that human rights compliance extends from the local to the global level.

READ FULL ARTICLE

FREDERIK ZUIDERVEEN BORGESIUS & HADI ASGHARI

Data breaches: Does the GDPR help?

Imagine waking up one morning to find that your favourite online service has been subject to an attack by hackers. The hackers have exposed confidential data from the company, including your name, address and credit card details. Such a scenario illustrates what a data breach can mean: an unauthorised access to or release ofsensitive information by malicious actors. But what steps need to be taken when such a security violation occurs? The General Data Protection Regulation (GDPR) requires a multi-step notification process. Can this really help us to mitigate the potential consequences of data breaches?

READ FULL ARTICLE

DIGITALER SALON

Mentale Mietfläche

This episode of the monthly discussion series Digitaler Salon is dedicated to how consciously we allocate our mental rental space. Smart minds discuss what information about the usage and click behaviour of users is passed on to advertisers by the social media platforms. What exactly is human attention for certain things worth and how is it traded?

WATCH FULL VIDEO (GERMAN WITH ENGLISH SUBTITLES)

IMPACT IN 2023

Putting data governance into practice by bridging technology, policy and ethical considerations.

Our interdisciplinary research team has implemented an interactive participation format with members of the Berlin public to discuss how data can transform their city for the common good. Together they worked out ways in which they could participate in this process using existing democratic means.

We assisted stakeholders from the health and social sectors by providing them with our practical data governance toolkit. It helps to reconcile different data interests in digitalisation projects through participatory formats and methods.

We engaged directly with local governments and policymakers to help them better understand the values and risks of data-driven, public good innovation in their work.

POSTSCRIPT

At this point, we conclude our discussion and draw your attention to the upcoming research topics. We believe that the year 2024 will be shaped by an interplay of three major themes: digitalisation, democratisation and decarbonisation.

Our world is rapidly transforming due to the continued advancement of digitalisation. This landscape is characterised by innovation, where new cutting-edge technologies and innovative start-ups are redefining our experiences. Just as past industry leaders were swiftly overtaken by innovators such as Google, current disruptors like OpenAI are influencing how we handle and utilise information. This process is not occurring in a vacuum; it is intertwined with wider societal and economic shifts.

In this context, the discourse surrounding digitalisation and democracy alone highlights the variety of conflicting perspectives and diverse predictions. For instance, the mobilisation potential of social media platforms such as X, TikTok and others has been observed to have both pro-democratic effects, as seen during the Arab Spring of 2011, and anti-democratic effects, as witnessed during the attacks on the US Capitol in 2021. Therefore, can technology truly be considered neutral, as is often claimed? This seems ever less likely. True neutrality is unattainable and is often a shield against regulation and cost reduction. In the meantime, intense debates are raging about limiting the power of large platforms in the USA. In Europe, steps have already been taken in the Digital Markets Act and the Digital Services Act, which just came into force. The aim of European regulation is to reign in the power of platforms, force them to act on illegal content like hate speech and do so better and faster. The upcoming elections in

Europe, the US, India and German federal states will be a test case for the effectiveness of these measures. As researchers at the intersection between digital technology and social change, our task is to closely examine the development of technological innovation and work to ensure they serve the interests of free societies, rather than being an end unto themselves.

This especially applies to the development of AI, which is increasingly viewed as a technology that promises to combat climate change. Digitalisation has already demonstrated that datafication can make critical developments transparent and visible. For instance, Global Forest Watch allows anyone to track rainforest deforestation and destruction, while Global Carbon Atlas and Global Carbon Project provide billions of data points on carbon dioxide emissions and sustainability. AI has the potential to combine and leverage data to make our mobility, energy and industry systems more efficient and climate-friendly. However, it is important to remain objective and avoid overstating its capabilities. While there certainly is potential for AI to reduce carbon dioxide emissions, it is just as important to note that there are currently no projects that have successfully scaled and demonstrated meaningful reduction. Therefore, it is necessary for AI to prove that more data leads to sustainable decisions. Additionally, it is ever more important to consider the significant CO_2 footprint of digital technologies themselves.

It is time for platforms and AI to prove their societal benefits beyond the typical promises of consumption and connection

BY STEPHAN BOHN, ALI ASLAN GÜMÜŞAY, GEORG VON RICHTHOFEN & ALINA KONTAREVA

JOIN US AND ENABLE POSITIVE DIGITAL CHANGE

Do you want to strengthen Europe's voice in the international debate on the internet and society? Give something back to society and contribute to scientific knowledge creation and public engagement.

In order to effectively implement solutions to societal challenges, we first need basic scientific research. We are dependent on your support to continue to investigate and critically inform the digital transformation.

SUPPORT OUR WORK

Alexander von Humboldt
INSTITUTE FOR INTERNET
AND SOCIETY

encore

Volume 2023/2024

Published February 2024

PUBLISHER

Alexander von Humboldt Institute
for Internet and Society
Französische Str. 9
10117 Berlin

EDITORIAL TEAM

Stefanie Barth, Stephan Bohn, Frederik Efferenn,
Björn Scheuermann, Larissa Wunderlich,
Yuanwen Zhong, Ann-Kristin Ziesemer

DESIGN

Larissa Wunderlich

Digital ISBN 978-3-9821760-9-3