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Research Report

Communications Trend Radar 2023. State revival, scarcity management, unimagination, augmented workflows & parallel worlds

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COMMUNICATIONS TREND RADAR 2023



State
Revival



Scarcity
Management



Unimagination



Augmented
Workflows



Parallel
Worlds



ACADEMIC SOCIETY
FOR MANAGEMENT & COMMUNICATION
An initiative of the Günter Thiele Foundation

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EDITORIAL

The global turmoil of the past few months has shown just how quickly the world can change in all sorts of ways. This puts high pressure on companies, their reputation, and their relationships with key stakeholders. It also reveals why communication leaders need to anticipate future developments, how these changes can influence daily practices in their organizations, and the opportunities they offer. But identifying and evaluating trends is a challenge in itself. We are therefore particularly pleased to present the Communications Trend Radar for the third time.

A team of researchers at Leipzig University and the University of Potsdam (Germany) observed trends emerging from society, business management, and technology. They scanned hundreds of recent academic and business publications, selected the most relevant issues, and scored them according to their impact on corporate communications. As a result, we identified another five trends for the Communications Trend Radar 2023 that will change communications profoundly and offer new ways for communication leaders to position themselves as thought leaders: state revival, scarcity management, unimagination, parallel worlds, and augmented workflows.

Three years ago, we embarked on this path with the Academic Society for Management & Communication, and bundled resources from renowned universities and leading companies to conduct this thought-provoking research. Previous editions of the Communications Trend Radar have already identified and explained ten fascinating topics ranging from denialism and digital nudging to cybersecurity and virtualization. These issues have developed at different speeds, as exemplified by three topics from last year's edition: Synthetic media, one of our technology trends, became a mainstream topic faster than expected due to the use of deep fakes in war propaganda. Lately, however, this trend has been increasingly discussed in the industry in response to the release of ChatGPT and commercial



The Communications Trend Radar research team (left to right): Stefan Stieglitz, Daniel Ziegele, Sünje Clausen, and Ansgar Zeffass

applications of text-to-image generators including Microsoft Designer. The trend towards closed communication (communication via private channels and platforms for selected individuals or groups) is also being hotly debated. Closed communication platforms are a powerful tool for protest, for instance in Iran. Moreover, this discussion is likely to take on a new angle following the acquisition of Twitter by Elon Musk, with many users apparently leaving the platform and seeking alternatives. On the other hand, gigification (the trend of dividing large tasks into small and independent jobs/gigs) has not made much headway yet, and its merits for communications are still waiting to be discovered.

The Communications Trend Radar supports communication leaders by presenting trends from the related fields of business management, technology and society. These are usually harder to grasp for communicators than developments within the communications sector itself.

We would like to thank Daniel Ziegele and Sünje Clausen for their diligent research, our corporate partners who provided insights on the trends, and Karen Berger for communicating this study.

Ansgar Zeffass

Stefan Stieglitz

KEY FINDINGS

THE MOST RELEVANT TRENDS FOR CORPORATE COMMUNICATIONS IN 2023



STATE REVIVAL: THE RENAISSANCE OF A LONG- NEGLECTED STAKEHOLDER

This trend from the field of society addresses the advent of fundamental changes in the relationship between individual companies and the state. The state – including governments, regulators, political parties and politicians – is gaining in importance as both a partner and an antagonist. After a long period in the Western world with little state intervention (neoliberalism), the pendulum is now moving back in the other direction towards more state control (neodirigism). Multiple crises have prompted the state to interfere more strongly through regulation, yet also by providing subsidies and accelerating the growth of specific markets by means of high spending.

As a consequence, public policy arenas will become more important for many businesses beyond the traditional quest for legitimacy and acceptance. Communication leaders need to rethink the positioning of their companies in political debates. Apart from strengthening public affairs activities, they need to keep tabs on the activities of state actors so that they can serve as primary political advisors to the board.



SCARCITY MANAGEMENT: FROM ECONOMIC ABUNDANCE TO SHORTAGES

This management trend addresses the transition from a world full of abundance to one of scarcity and bottlenecks. Shortages in many areas have been exacerbated by current events such as the pandemic or the Russian war against Ukraine, yet also by demographic changes leading to labor shortages as well as by dwindling resources leading to rising energy costs. As a result, many products and services are in short supply or are simply not available anymore.

In this toxic mix, companies face the challenge of doing business despite mounting shortages. But scarcity offers opportunities as well. For example, the need to wait for a product can make it more attractive and raise profitability for those who can deliver. This has consequences for corporate communications, too. Managing brands or responding to stakeholder requests about delays or disrupted services needs to be handled with caution and by striking a balance between economic needs and responsibility towards the common good. Moreover, communication departments need to evaluate their business models

to ensure that they can fulfill their mandates with fewer resources or in a different way.

To sum up, scarcity management means dealing responsibly with shortages and bottlenecks so that corporate goals and functional objectives are achieved and professional communication management can be maintained.



UNIMAGINATION: BEING PREPARED FOR INCONCEIVABLE DEVELOPMENTS

Unimagination, the second management trend in the Communications Trend Radar 2023, refers to the ability to accept and respond to previously unimaginable incidents and their consequences. Dealing with such situations requires new skills on the part of companies and their employees to avoid becoming overwhelmed and paralyzed. Organizations need to develop the “ability to unimagine,” which can be promoted on an organizational and an individual level. A company can adapt structures and processes early on in order to be prepared for future scenarios and retain the capacity to act when the unimaginable happens. On an individual level, psychological stability and robustness are needed. This can be promoted through training on ambiguity tolerance, resilience and improvisation.

Communication departments often have a competitive edge when facing the unimaginable because of their experience in crisis communication, coping with 24/7 media requests, and dealing with emerging issues inside and outside the organization. Communicators can help their organizations and stakeholders navigate through difficult times. They can inform stakeholders and manage their lack of information, thus saving them from paralysis and strengthening their self-efficacy. Moreover, they can share their knowledge and experience on staying resilient and acting under pressure with executives and co-workers across the organization.



AUGMENTED WORKFLOWS: WHEN AI AND HUMANS COLLABORATE

This technology trend spotlights the future of work in which humans and artificial intelligence (AI) collaborate. Augmented workflows will change how tasks are accomplished in organizations. AI-based technologies enable new forms of interaction between humans and technology and promise to improve productivity by performing routine tasks, to reduce human error, and to generate insights that improve decision-making. As exciting as these prospects are, they may also be problematic. For example, although some AI-based technologies can listen and respond to us autonomously, they may also take unwanted action unnoticed; others make great recommendations but are opaque. The prospect of augmented workflows challenges us to think about questions such as: Who delegates tasks to whom when humans and AI collaborate? How do outputs change if an AI makes suggestions – and who is responsible for them?

Augmented workflows are likely to modify current practices of managing and executing corporate communications in multiple ways. This can range from the selection, creation, and personalization of content, handling stakeholder requests, and monitoring and evaluating strategic conversations to producing financial reports and improving processes and management activities. Reflecting early on the interoperation between AI-based technologies is of utmost importance for future-looking communication leaders.



PARALLEL WORLDS: DIVERSIFICATION OF REALITY

Technology is increasingly enabling organizations and stakeholders to create and immerse themselves in extended, altered, or alternative versions of reality – so-called parallel worlds. This can make abstract concepts more tangible and create a completely new experience for consumers, for instance for product launches. As the quality and capabilities of immersive

3D technology improve, this technology trend should not be overlooked by communication experts in the near future. More and more companies are developing virtual platforms and services in pursuit of “the Metaverse”. In fact, the Metaverse is primarily a vision propagated by big tech companies. If and when it will arrive and what it will look like is still uncertain.

For corporate communications, the possibilities and challenges induced by technologies that create new realities are manifold. Parallel worlds will affect where stakeholders communicate and what they expect from organizations. 3D technologies (e.g., augmented reality, virtual reality, and holograms)

provide new opportunities to enhance existing communication formats, including for in-person events. New platforms are also changing expectations when it comes to monitoring public communication and discourses with strategic significance, managing debates, and building relationships. Parallel world technology can also be used to imitate and simulate reality (“digital twins”), for example, by accurately imitating significant communication processes and simulating different scenarios. This may become a powerful tool for planning real-world interactions. The growing importance of parallel worlds requires communications leaders to build new competencies required to understand, shape, and navigate them.

METHODOLOGY

The Communications Trend Radar is an applied research project focusing on trends that impact corporate communications. It was initiated by the Academic Society for Management & Communication, a non-profit think tank for corporate communications comprising four universities, six university professors, and approximately 40 leading international companies in the German-speaking countries. Research is carried out by a team from Leipzig University and the University of Potsdam, Germany. Since 2020, an edition of the Communications Trend Radar has been developed and published annually. The overarching goal of this series is to help communication leaders prepare for trends that look set to influence their work.

A **trend** describes developments which are predicted to unfold over several years and have a more lasting impact than short-lived fashions and hypes. Such trends may originate from practices in disciplines adjacent to corporate communications or from scientific research maturing into practice. Therefore, the

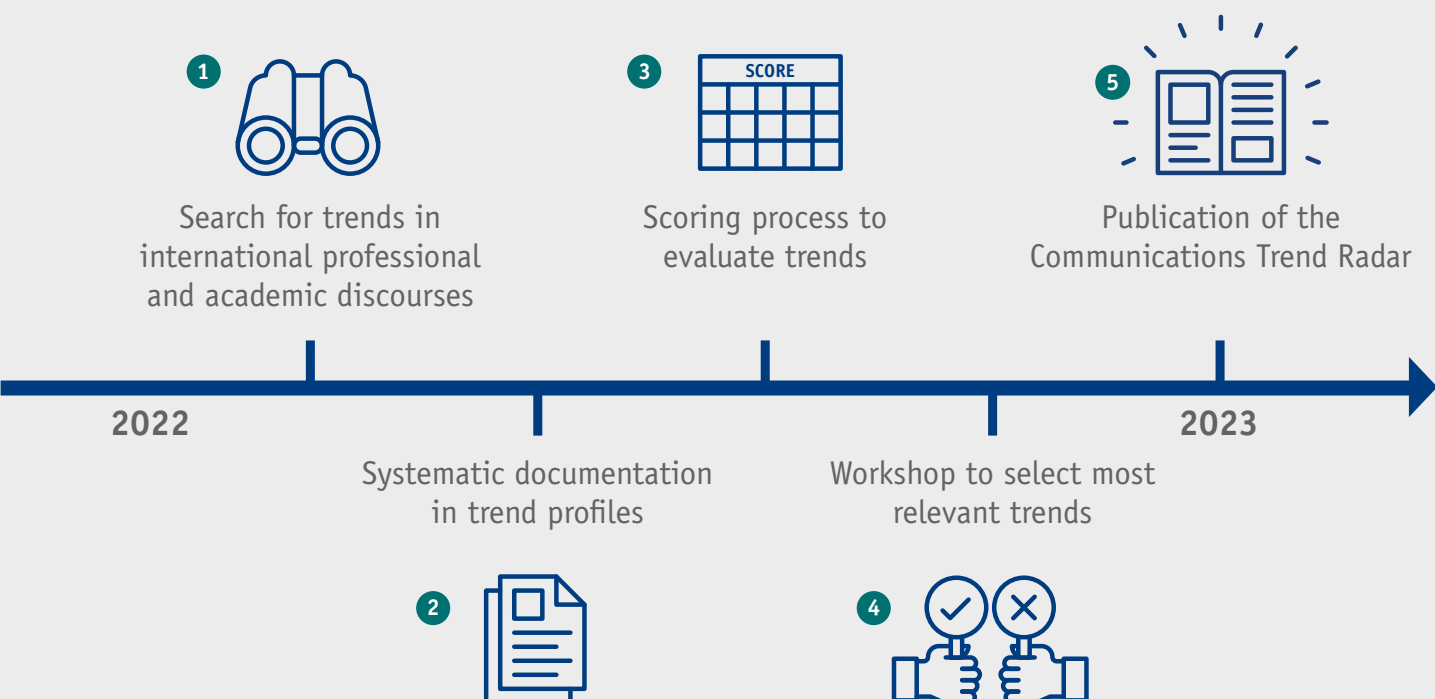
Communications Trend Radar specifically focuses on current professional and academic discourse in the areas of management, technology, and society. These are monitored and assessed regarding their possible relevance to communication professionals. For each of the three focus areas, trends were understood as follows:

- ▶ **Society:** Trends emerging in different domains of public communication, opinion formation, and values that might change people’s attitudes and behavior, and affect expectations regarding businesses, their activities, and their communication.
- ▶ **Management:** Trends in strategic management and organizational design that communication professionals should be aware of.
- ▶ **Technology:** Technological developments that could either impact corporate communications or be used by communication professionals.

RESEARCH PROCESS

- 1 Sources & screening:** First, we selected information sources providing relevant insights into the professional discourse in the areas of management, technology, and society. These sources primarily include recent publications from scientific journals and conferences in the respective focus areas, yet also selected newspapers (e.g., Die ZEIT, The Economist), magazines (e.g., Harvard Business Review, Wired), social news sites (e.g., Reddit Science), blogs and websites (e.g., ReadWrite), whitepapers, and corporate trend reports (e.g., from the Future Today Institute). Sources were included based on their scientific reputation (impact scores, rankings) within the research area, or their general reputation and website traffic (Alexa Internet) for non-academic sources. All selected sources were monitored and screened for potential trends between January and July 2022. Screening and complementary research on specific potential trends also considered content published outside of this time frame.
- 2 Trend profiles:** Each potential trend was systematically documented in a trend profile consisting of a brief description and several criteria estimating the trend's relevance to corporate communications. Specifically, we assessed the impact of the trend on the corporate communications function (e.g., governance, goals, competencies), processes (e.g., platforms, formats, stakeholder interaction), and management (e.g., content processes, cost structures). We also considered the extent to which a trend offers communication leaders an opportunity to raise their profile within the company by advising on strategic issues. In total, fourteen trend profiles were shortlisted during this phase.
- 3 Scoring:** Based on the criteria detailed in the trend profiles, a scoring method was derived that was used to rate each of the trends. Scoring was conducted individually by a total of six researchers and fellows of the Academic Society involved in

Selection process for trends in the Communications Trend Radar 2023



the Communications Trend Radar project. Based on the ratings and qualitative feedback on the trends, ten trends (technological, three managerial, and three societal trends) were selected for further consideration.

4 Selection process: These trends were then discussed by the research team and fellows of the Academic Society during a workshop in July 2022. Each team member voted individually for the most promising trends in the areas of

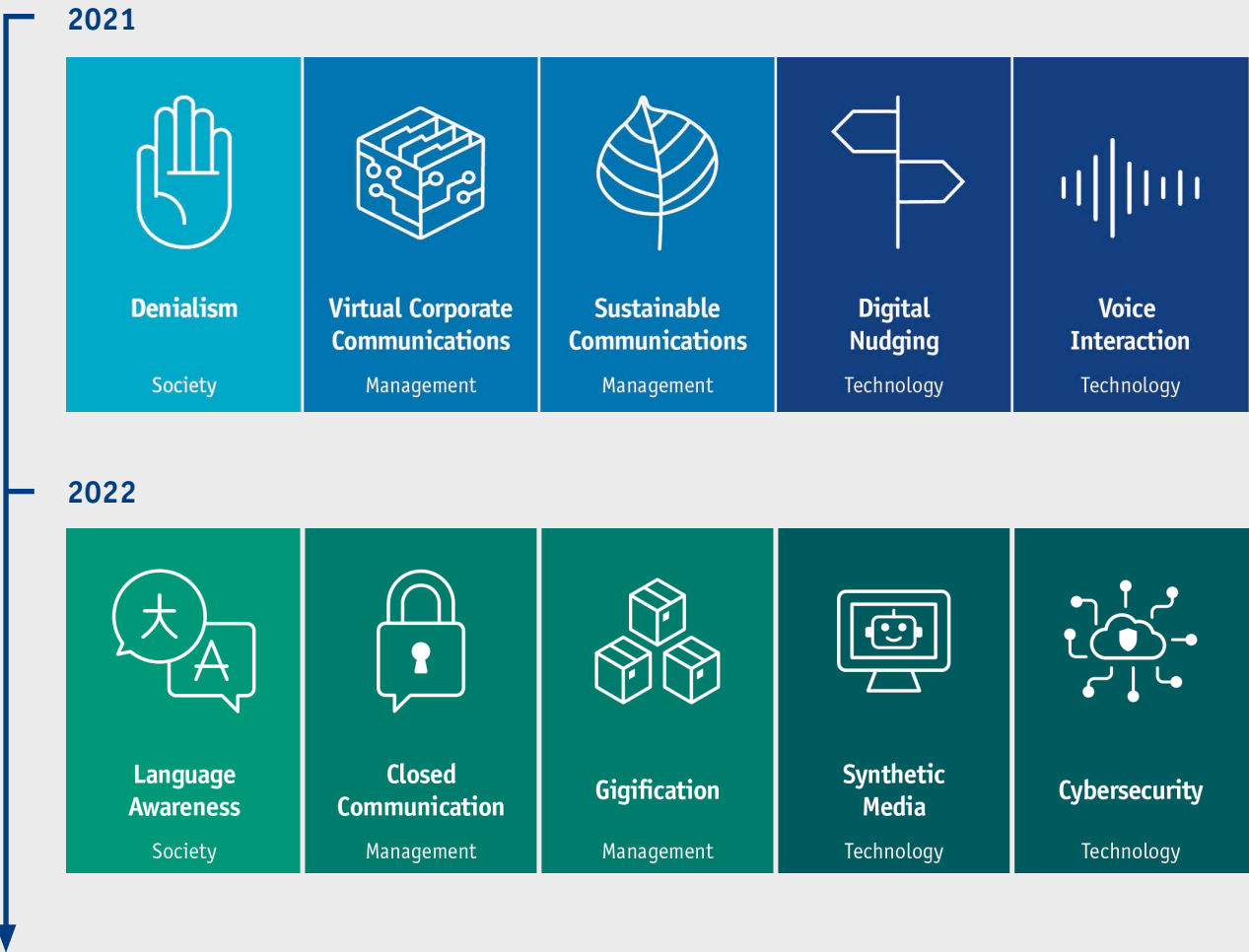
management, technology, and society. As a result, we identified five key trends for 2023. These were examined further by the research team.

5 Report: All trends were analyzed and described in more detail in this publication.

Outlook: The trend selection process will be restarted in 2023 for the fourth time to identify the most relevant trends for corporate communications in 2024.

Previous trends identified by the Communications Trend Radar series

More information on the Communications Trend Radar 2021 and 2022 is available at academic-society.net.





STATE REVIVAL

INTERACTING WITH THE STATE AS A PARTNER AND COUNTERPART OF BUSINESSES

AT A GLANCE

- ▶ The trend **State Revival** focuses on the renaissance of the state (including governments, regulators, political parties and politicians) both as a strong partner and as an antagonist of businesses.
- ▶ A **profound transformation of relationships between the state and individual companies** has been prompted by the COVID-19 pandemic and the energy crisis following the Russian invasion of Ukraine. The state is interfering more strongly through regulation as well as by financing more and more services and industries. Thus, the state is becoming a more **influential stakeholder** for many enterprises under conditions of uncertainty.
- ▶ Researchers from different disciplines are debating where this development is heading, and predict the greater consolidation of interests of both sides. Ideas range from social contracts to the creation of joint missions.
- ▶ Communication leaders need to recognize that public policy arenas will become more important for many businesses beyond the traditional quest for legitimacy and acceptance. They need to rethink the positioning of their companies in political debates. Apart from strengthening public affairs activities, activities of state actors must be monitored so that communication leaders can serve as primary political advisors to the board.

THE RELATIONSHIP BETWEEN THE STATE AND THE ECONOMY OVER TIME

The relationship between the state and the economy is constantly in flux and one of the perennial topics of economists, sociologists, and historians. The history of this relationship is marked by several turning points. For example, while state interventions into the market were popular and successful after World War II, the belief in continuous modernization through welfare state control entered a deep crisis at the end of the 1970s, as historian Philipp Sarasin (2021) wrote in his book 1977. As a result of this crisis, the state retreated to a supervisory role in the Western hemisphere.

The logic of a free market with the state as its watchdog worked well for many years. But in the early 2020s, the state–economy relationship faced another turning point. COVID-19, the Russian war in Ukraine, and climate control, as well as rising nationalism and protectionism in key countries have returned the state to the spotlight. Due to its important role during the pandemic, the state has already been called the “new superstar” by mainstream media.

The trend **State Revival** describes precisely this resurgence of the state (e.g., governments, regulators, political parties, politicians) as a strong partner and antagonist of enterprises. However, important questions remain open: How will the role of the state change in the long run? And what will this mean for companies and their communicators?

THE STATE AS AN INFLUENTIAL STAKEHOLDER FOR INDIVIDUAL COMPANIES

For companies, the state will become an even more influential stakeholder. Opinion building related to decisions in this realm (for example, through public

affairs and lobbying) will be strategically more important than in the last decade. Two key developments underline why the state will become more influential for many companies:

① Lately, the state has once again been interfering more strongly with the economy through **subsidies and financial backing** for specific industries, regulation in terms of energy supply and wages, as well as by extending the social welfare system. What can be observed is a polarized public debate about questions such as ‘Who deserves welfare?’ or ‘What does systemic relevance mean?’ (Kaldewey, 2022). While some players appear to be “too big to fail”, many actors and sectors feel overlooked by the state. Simple solutions are not in sight. Corporate strategies, industry-wide positions, and popular demands are often

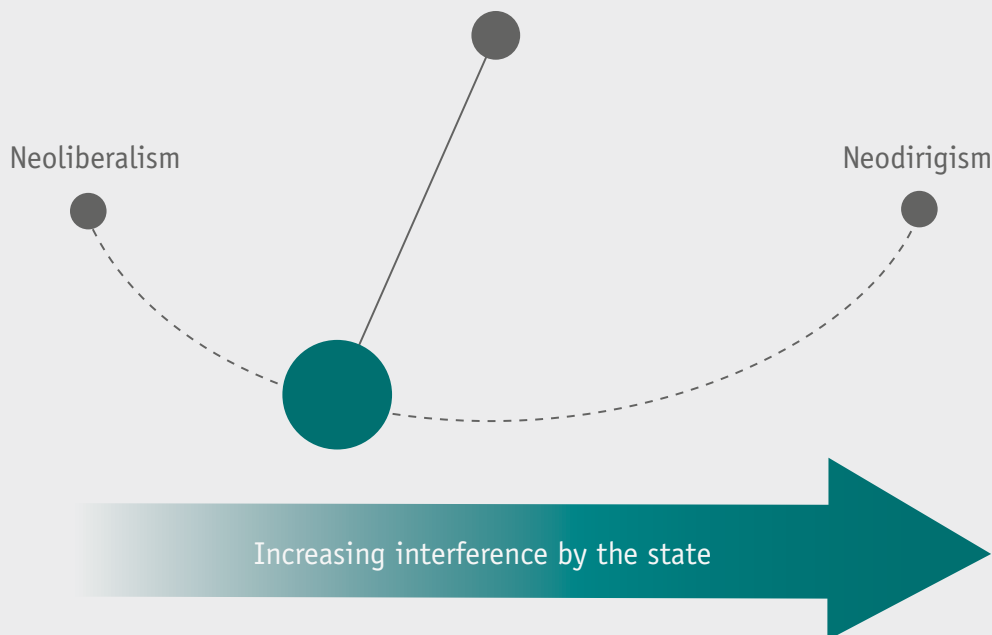
contradictory. This became apparent, for example, during the European debate on gas supplies in the fall of 2022. Here, it is important for companies to observe the public discourse closely and participate if required.

② However, the state not only regulates, but also creates new demands and markets. It is becoming a more **influential stakeholder** for many enterprises as it is now not just a regulator but sometimes a customer, too. For example, the markets for vaccines, refugee housing and integration, and military supply have exploded due to huge state spending. Regardless of the importance of these resources, it has been shown recently that these interventions are often decoupled from consumer requests, innovation, and healthy competition. What can be observed in many industries, regardless of any political evaluation of these activities, is that such interventions are changing the rules of the game for branding as well as for corporate and marketing communications.

»We have under-theorized and under-imagined the role the state can play in collaborating with business. I really believe that, in the end, it's all about partnership.«

Mariana Mazzucato, University College London

The state pendulum



The relationship between the state and business can be viewed as a pendulum. After a long period of neoliberalism with almost no state intervention being the standard in the Western world, the pendulum is now moving back in the other direction towards more state control (neodirigism). While debate often addresses the two extremes (or ways to break out of the pendulum), the idea of the pendulum shows that there are probably many realistic situations in between.

TOWARDS CONSOLIDATION BETWEEN STATE AND BUSINESS

The stronger role of the state has both advantages and disadvantages for companies and decision-makers. Given current developments, it is not yet clear whether the state will step back and limit itself to a watchdog function again or instead strengthen its position as a welfare state (see figure above). On the one hand, many citizens are quite satisfied with state intervention and call for more. This can be seen, for example, in the evaluation of COVID-19 measures in Germany, where the large majority of the population were satisfied with interventions or would even have liked to see stricter measures by the state between 2020 and 2022 (ZDF Politbarometer, 2022).

On the other hand, trust in governments and openness towards welfare state reforms are low in many European

countries (Garritzmann et al., 2021). As a result, voices are being raised that the relationship between the state and businesses needs to be recalibrated. Well-known researchers such as economist Marianna Mazzucato (2021) and sociologist Andreas Reckwitz (2020) predict the greater consolidation of interests on both sides. For example, Mazzucato argues that the state should define joint missions for governments and businesses to address major challenges such as climate change and inequality. She draws comparisons to the Apollo mission and groundbreaking innovations such as the Internet, GPS, and voice recognition, where the state provided early impetus with basic research and shouldered the risks. It becomes clear that aligning these relationships is a key challenge for companies and their public affairs function.



» When the strategic agenda of business is directly impacted by the state dealing with existential crises and managing fundamental change, there is a need to monitor political debates even more closely and to significantly foster the ability to provide expertise for key political decision-making, including at very short notice. With governments driving change on a national, regional, and global scale, the political environment is characterized by a mix of opportunities and challenges ranging from private public partnerships and research funding to increased regulation and an overall more political view of business activities and their impact. In order to deal with this new reality, companies need their communication and governmental affairs departments to define and promote their own political interests without getting overexposed in complex debates which are not limited to the economic sphere. «

Dr. Christof Ehrhart, Executive Vice President Corporate Communications & Governmental Affairs, Bosch, and Adjunct Professor at Leipzig University

RECOMMENDATIONS FOR COMMUNICATION LEADERS AND PROFESSIONALS

In the light of the recalibration of the relationship between the state and the economy, communication leaders can help their companies to be in a good position for further action. Hence, there will certainly be plenty of work to do in the political sphere. Three particularly relevant fields of action should be observed:

1 Strengthening the role as political advisor for top management: The discussion about the role of the state is a starting point for boardroom debates on a company's political and societal role. Top executives will increasingly need information and advice on governmental affairs. For communication departments and CCOs in particular, it will be worthwhile to strengthen corresponding

resources. This will help to enact the important role as an internal political advisor, which is much more about listening to fragmented discourses and creating internal scenarios than about traditional lobbying.

2 Repositioning companies in public debates: Discussions about systemic relevance have shown the importance of a company's perception among opinion leaders and the general population. This includes the question of why a company is indispensable for the public good or the overall system – especially in B2B industries, where it is hard to link its own purpose to a social cause. It can also be helpful to be on the radar of politicians

when it comes to the distribution of funding or public procurement. Following these considerations, current stakeholder maps, communication strategies, and budget allocations need to be future-proofed.

- 3 **Building a relationship with the state on a global scale:** The relationship with state actors such as the government, political parties, politicians

and other regulators will be of particular importance to global companies. Strengthening functions such as governmental or public affairs in emerging markets can become a competitive advantage. However, caution is needed. Diverging perceptions of collaboration practices around the world can trigger role conflicts and reputational risks. This requires strategic approaches balancing opportunities and threats.

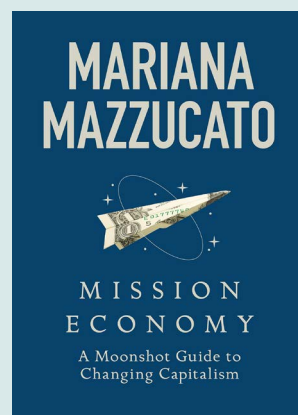
QUESTIONS FOR REFLECTION

- ▶ What are the challenges and opportunities for companies when the state becomes a more influential stakeholder?
- ▶ How do welfare politics and demands from the state affect the positioning of companies, brands and products?
- ▶ To what extent will the resurgence of the state change priorities and tasks in communication departments?

READING RECOMMENDATION

Mariana Mazzucato: Mission Economy (2021)

Professor Mariana Mazzucato, founding director of the Institute for Innovation and Public Purpose at University College London, is one of the most renowned critics of the back-and-forth between state interference and free markets. Her book Mission Economy proposes rethinking the capacities and role of the state in the economy and society, and draws parallels to the Apollo program.





SCARCITY MANAGEMENT

DEALING WITH BOTTLENECKS THROUGH AND IN COMMUNICATIONS

AT A GLANCE

- ▶ The trend **Scarcity Management** is about dealing with shortages and bottlenecks so that corporate goals and functional objectives can be achieved.
- ▶ Current events such as shortages of labor or energy and their effects like the recession have disrupted **global supply chains**, limited the **availability of products and services**, and **increased costs**.
- ▶ The **transition from abundance to scarcity and bottlenecks** in many areas challenge existing business models and the positioning of brands as well as the ability of companies to communicate within short response times.
- ▶ Communication leaders need to **deal responsibly with scarcity** when communicating for their organizations as well as when managing the operations, products and services, revenue streams, and value contributions in their communication units.

FROM ABUNDANCE TO SCARCITY

What happens if there is suddenly no electricity? The prospect of blackouts (widespread power outages over a lengthy period) has recently circulated throughout the media. What Mark Elsberg (2017) in *Blackout* once portrayed as a scarcity dystopia in his eponymous thriller is now causing real anxiety. But why?

Scarcity describes the state of something being in short supply, i.e., the quantity available is below the amount required or eclipsed by demand. Examples of scarce resources include rare metals, gas, and charcoal. In recent past, shortages have only occurred rarely and in specific situations, affecting for instance graphic adapters and chips for computers. Increasingly efficient supply chains, overnight logistics, and B2B platforms have allowed more or less all needs to be met without any delay. In this context, people often talk about the “affluent society”, a description that goes back to the work of Harvard economist John K. Galbraith (1998).

However, this reality has been upset by current events. Labor shortages, disrupted global supply chains, the cancellation of business flights, soaring energy prices, and subsequent effects like inflation have restricted the availability of products and services or increased costs. As a result, even in industrialized countries, the availability of everyday items such as food, hygiene products, or spare parts for machinery has dwindled. When products and services are in short supply, corporate management and communication executives must deal with scarcity wisely to safeguard the company’s long-term future. An increasing trend toward scarcity management is therefore to be expected.

Scarcity management refers to dealing carefully with shortages and bottlenecks to ensure that both overarching corporate goals and more specific functional objectives can be achieved.

AN ALMOST FORGOTTEN CHALLENGE

Scarcity and shortages have become major headaches for companies in recent months. They challenge existing business models, as well as purchasing, production and distribution processes. In terms of corporate communications, scarcity disrupts the positioning of brands as the lack of availability of products and services must be explained and counteracted with suitable messages and communicative frames. This must happen within short response times, as in uncertain times, the need for information among stakeholders is high. At the same time, communication departments and others speaking on behalf of a company have to cope with limited resources and rising prices when producing content, distributing news, staging events, and hiring agencies or service providers.

Dealing with bottlenecks – i.e., scarcity management – was a well-known practice in previous decades. It has become so difficult today because the economic system has become totally focused on the abundance paradigm of the past. Industries and business models have been optimized by interlocking supply chains, just-in-time production, and flexible campaigns using whatever kind of cross-media activity is needed at a given time. Consequently, today’s business and communication strategies are largely rooted in the affluent economy. The scarcity that is currently being experienced and that affects a variety of areas such as energy, labor, transportation, and global travel requires a cognitive and strategic shift.

THE IMPACT OF SCARCITY IN THE ECONOMIC SPHERE

Scarcity is far from being a new phenomenon. It has been intensively studied for many years, especially in marketing research and behavioral psychology. One key finding is that scarcity affects different levels, and can have positive as well as negative impacts (Weinstein, 2022):

» Several shortages will have an impact on corporate communication departments. I mainly see the war for talent, the European energy crisis, and disruptions to production and supply chains as key drivers. We have already experienced severe problems when it comes to corporate events due to a lack of freelance workers in the service industry. During the pandemic, many people left this industry and have not been replaced. This severely compromises our quality standards when preparing major external and internal events. «

Nils Haupt, Senior Director Corporate Communications, Hapag-Lloyd



► **Scarcity on the macro level (economies and societies):**

On the macro level, scarcity can lead to economic downturn caused by missing infrastructure. When energy, public transport or healthcare are in short supply or unavailable, this directly impacts the productivity of enterprises. On the other hand, studies have shown that scarcity can also encourage innovation (Zhao & Tomm, 2018). It can help to build more sustainable economies through the reduction of motorized transport, the invention of more energy-efficient processes, or the consumption of less animal-based food.

- **Scarcity on the meso level (companies):** On the meso level, scarcity is initially seen as a red flag since it might cause business models to fail. For modern businesses, any bottleneck may have negative consequences for just-in-time supply or delivery. However, numerous examples show how a virtue can be made out of necessity. When facing scarcity, companies can boost their sales through positive framing: “The scarcer, the more attractive” is one of many golden rules in marketing (Cialdini, 2021). Incidentally, it is not decisive whether the scarcity is real or not – sales measures such as “limited edition,” “while stocks last,” or “for a short time only” are examples of scarcity manipulations. Moreover,

pre-order models are used by start-up companies for competitive advantage via crowdfunding platforms like kickstarter.com. They use the scarcity principle to drum up orders prior to producing innovative products. Furthermore, what initially sounds positive mainly for companies can also have positive effects for consumers. For example, the feeling of self-uniqueness, power in exchange relationships, pride of ownership, or more intensive use can have a positive impact on individuals (Lynn, 1991; Lynn, 1992).

► **Scarcity on the micro level (consumers and employees):**

On the micro level, scarcity can lead to irrational behavior. Consumer research shows that scarcity creates a competitive environment that drives people to maximize their own profit (Roux et al., 2015). Such irrational behavior can be observed in stockpiling. A study of 1,325 US consumers during the COVID-19 pandemic revealed that over half of the respondents (55.5%) had hoarded products such as canned food, rice, pasta, and toilet paper (Amaral et al., 2021). On the other hand, having less doesn't need to be bad. Scarcity can help to break out of established mindsets and think beyond the previous use and functionality of products. This promotes creativity and more responsible consumption (Mehta & Zhu, 2015).

RECOMMENDATIONS FOR COMMUNICATION LEADERS AND PROFESSIONALS

Communication leaders need to deal responsibly with scarcity in order to balance its positive and negative aspects between competitive advantage and social responsibility. This concerns both communicating for organizations and managing their own activities.

1 Communicating challenges and consequences of scarcity: Scarcity presents both challenges and opportunities for corporate communications depending on its concrete impact on specific stakeholders, their predispositions, and expectations. For example, a pre-order model and waiting times for a desired product can make it more attractive. In this case, communication can focus on positively framed storytelling. On the other hand, delays and waiting times for products can generate frustration and complaints, and sometimes even require crisis communication to avoid panic buying. Communication strategies must address the tension between economic rationality and social responsibility as well as between proactive and reactive approaches (see figure “Steering communications in times of scarcity”).

2 Managing scarcity in communication departments: Communication departments may also be influenced by scarcity. Be it missing resources for print products, personnel for events, or energy-saving measures, scarcity and bottlenecks force communication leaders to assess and redesign the business models of their departments (Zerfaß & Lautenbach, 2022; Zerfass & Link, 2022). They could introduce new communication products and services that do without scarce resources, or try to adjust the high expectations of senior management and external stakeholders. Communication leaders can build more resilient internal workflows and enforce internal budgeting and revenue models that cushion supply uncertainties. Last but not least, communicators must outline the value created by buffering negative business effects of bottlenecks through corporate communications in order to keep or increase budgets. This requires a thorough understanding of corporate strategies, the business impacts of scarcity, and the scope of influence of communications.

Steering communications in times of scarcity

	Driving competitive advantage	Assuming social responsibility
Proactive participation in relevant discourses	<i>Positive framing of scarcity (Marketing Comms)</i>	<i>Refraining from naming clear delivery dates (Marketing Comms)</i>
Reactive participation in relevant discourses	<i>Motivating frustrated employees suffering from lack of supplies (Internal Comms)</i>	<i>Refusing public statements on the security of supply in critical industries (Public Affairs)</i>

Corporate communications can address scarcity and bottlenecks in different ways. The right balance must be sought between economic rationality and social responsibility as well as between proactive and reactive participation in relevant discourses. The examples outlined above show how this framework can be used to identify and evaluate alternative options.

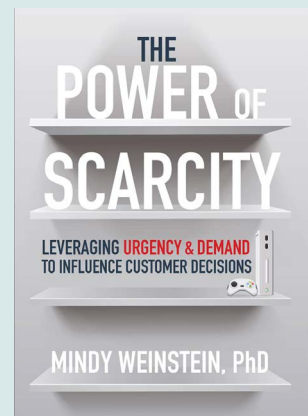
QUESTIONS FOR REFLECTION

- ▶ What are the challenges and opportunities arising from the scarcity of resources, capacities, and people for companies?
- ▶ How does scarcity affect communication with stakeholders and reputation building?
- ▶ To what extent do scarce resources jeopardize the performance of communication departments?
- ▶ How can communication and management challenges be tackled that arise from scarcity?

READING RECOMMENDATIONS

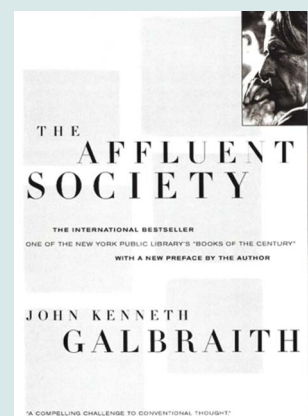
Mindy Weinstein: The Power of Scarcity (2022)

This book by marketing researcher Mindy Weinstein builds on knowledge from both marketing and psychology to reveal how powerful the principle of scarcity can be in different areas of business. Case studies and interviews are used to elaborate first-hand experiences that help the reader understand how scarcity can create competitive advantages.



John K. Galbraith: The Affluent Society (1998)

In *The Affluent Society*, John Kenneth Galbraith describes a society of material abundance. The Harvard economist provided a well-founded analysis of the causes and consequences of a society of abundance as early as 1958. On the occasion of the 40th anniversary, a special edition was published in 1998. The thoughts and discussions back then are still relevant for decision-makers and thought leaders today.





UNIMAGINATION

MANAGING THE UNIMAGINABLE AS A CRUCIAL SKILL TO RESPOND TO INCONCEIVABLE DEVELOPMENTS

AT A GLANCE

- ▶ The trend **Unimagination** describes the ability to accept and respond to previously unimaginable situations as well as to adapt structures and processes in order to be prepared for future scenarios.
- ▶ Due to the perceived **uniqueness or magnitude** of numerous current incidents, unimaginable situations may arise that can paralyze stakeholders, causing them to freeze. For companies and communication departments, however, it is all the more important to be ready to act consistently in such situations.
- ▶ In order to tackle unimaginable situations, **psychological and organizational stability and robustness** are needed. This can be promoted on an individual and organizational level through training on ambiguity tolerance, resilience, and improvisation.
- ▶ Communication leaders are mostly better prepared than other executives to face the unimaginable, as they are experienced in handling crisis communication or 24/7 media inquiries. They should develop further competencies in their teams that combine goal orientation with a preparedness to respond strategically when the unimaginable occurs. This will enable them to **navigate their organizations and stakeholders through unimaginable situations**.

RESPONDING TO UNIMAGINABLE INCIDENTS

A giant comet hitting the earth? The outbreak of nuclear war in the quest for world domination? Robots taking over the government? Many scenarios seem so unlikely that they are considered impossible – and yet **unimaginable incidents** can occur. This has been made all too clear by recent events, with more and more incidents occurring that had been unimaginable to much of mankind. Incidents or developments are usually unimaginable when they are unprecedented, or if their scale or impact differs greatly from previous experiences.

Whether something is fully imaginable or not is always a matter of individual perception. It differs from person to person and depends on factors such as social background, education, and social networks

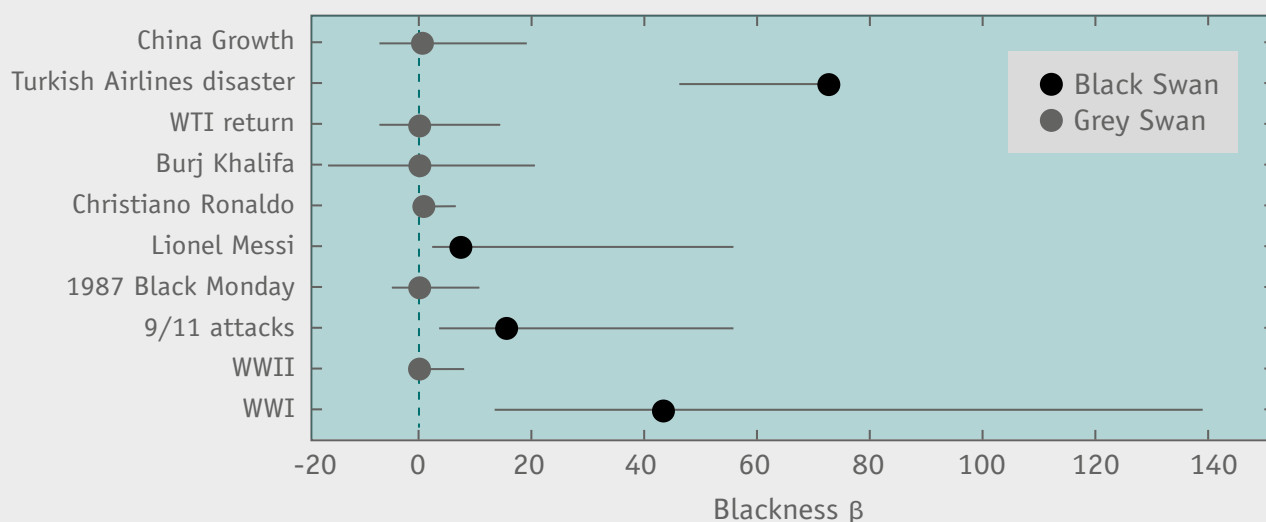
(Zittoun & Gillespie, 2015). However, precisely because more incidents are perceived as unimaginable until they occur, the ability to deal with the unimaginable is becoming increasingly important. The trend unimagination therefore describes the ability to accept and respond to previously unimaginable situations as well as to adapt structures and processes in order to be prepared for future scenarios.

BEING PREPARED FOR THE UNIMAGINABLE BECOMES CRUCIAL

Major upheavals in today's societies challenge existing ways of thinking and problem-solving for people and organizations alike, including communication professionals and their stakeholders. Although this is not completely new, growing awareness of this topic can be observed in many disciplines. There are numerous

How to statistically measure the unimaginable: The black swan theory

Nassim Nicholas Taleb, a professor of risk analysis at New York University who is originally from Lebanon, analyzed the effects of rare and unpredictable events. He labeled them **black swans** (Taleb, 2010). But not all black swans are really black – in other words, many of the events we call unimaginable are, to a certain extent, to be expected. For example, a team of Italian statisticians concluded by arithmetic calculus that World War I as well as the 9/11 terrorist attacks were indeed unimaginable at that time (black). In contrast, stock market crashes, earthquakes and pandemics are not completely new and represent **gray swans** (De Marzo et al., 2022). Gray and black swans are often ignored because this is more convenient in a world full of **white swans** i.e., when the course of events seems orderly and understandable.



» We need to think more in terms of scenarios and try to imagine the unimaginable in order to develop suitable communication strategies and measures at an early stage. This requires an open mind regarding long-term, global trends including politics and their impact on our markets. «

Bernd Hops, Executive Vice President Communications & Public Policy, Infineon



publications with titles such as “Preparing for the unimaginable” (efmd, 1996) and “Imagining the unimaginable” (Arenas & Silver-Malyska, 2021) that describe why it is important to prepare for the unexpected. Self-help books provide tips and tricks on what crises to be prepared for and how to manage them. In summary, unimagination is relevant for two main reasons:

- 1 When previously unimaginable situations or developments occur, this can **paralyze internal and external stakeholders** and influence their perceptions and attitudes – sometimes in positive ways, but mostly negatively. Especially in moments of crisis, however, it is essential for organizations to get a clear picture of difficult situations and how they unfold.
- 2 Current developments and experience show that it can be **difficult to retain the capacity to act in unexpected situations**. Better forecasting methods will not be the ultimate solution – after all, the unimaginable is characterized precisely by the fact that it is so difficult to predict. Hence, unimagination is not about being well prepared

for every incident with management wisdom and predictions, so that one cannot be shocked by anything anymore. Instead, it is about recognizing different levels and types of events, and distinguishing between truly unimaginable and less unimaginable events (see infobox on page 20).

DEVELOPING THE ABILITY TO UNIMAGINE

Distinguishing between truly unimaginable and less unimaginable events is exactly what the **ability to “unimagine”** is about. It describes a skill that helps people and organizations alike to remain capable of acting as well as to adapt structures and processes in order to be prepared for future scenarios. This skill can be trained with the help of a range of methods on two levels:

- At the **individual level**, people can work to better tolerate uncertainty and insecurity. In psychology, this is known as **ambiguity tolerance**. While people with high ambiguity tolerance are able to tolerate contradictions and can classify ambiguous information, people with low ambiguity tolerance tend to make rash decisions. To prevent this, cognitive strategies can be used to consider

» Consistency is the last refuge of the unimaginative. «

Oscar Wilde (1885)

the consequences of a choice (e.g., whether one would think the same way if one had to justify it to others) and the situation (e.g., how high the current stress level is) (Holmes, 2015). Strengthening intercultural skills and experiences is also helpful, as this reduces the urge to be unambiguous (Tadmor et al., 2012).

- At the **organizational level**, it is important to reduce confusion and quickly gain the upper hand in uncertain situations such as crises. Here, for example, improvisation and resilience training are discussed. **Improvisation** means being able to spontaneously develop creative solutions to a problem (Ratten & Hodge, 2016), while **resilience** refers to the ability to bounce back, reintegrate, and adapt after an unimaginable event (Ziegele & Zerfass, 2021). In both cases, the aim is to learn flexibility in dealing with challenges and to solve problems precisely. In this context, management and psychology often refer to design thinking. Design thinking is a problem-solving method that helps to develop options, test strategies, and gather feedback. It is often used to create new products or processes. In organizational psychology, however, design thinking is also considered an important tool for solving cognitively demanding problems, such as unimaginable situations (Thienen et al., 2014).

Both levels can be specifically trained and help to retain the ability to act in unimaginable situations without paralysis. Thereby, unimagination can fill the gap of established monitoring and forecasting technologies that fail on issues that cannot be imagined or are ignored.

RECOMMENDATIONS FOR COMMUNICATION LEADERS AND PROFESSIONALS

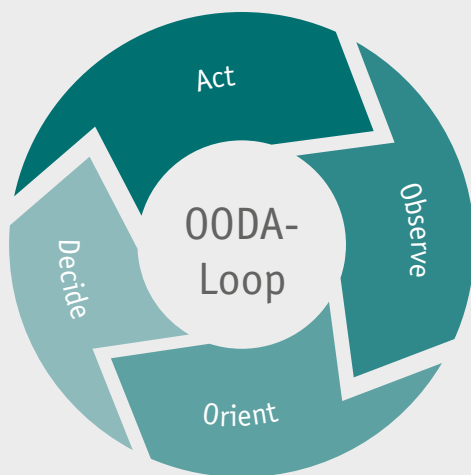
Communication units are often more resilient and more skilled at improvising than other departments. Dealing with the unimaginable is somehow already part of their

routine. Communicators must constantly adapt to new circumstances. For example, they have to bridge internal constructions of reality in their organization and its subsystems and multiple perceptions by external stakeholders. Besides, many of them are well equipped to deal with the unimaginable due to their experience in handling crises or 24/7 media inquiries.

As a consequence, communication leaders can help their organizations and stakeholders to navigate through unimaginable situations. To this end, they must develop competencies in their teams that combine goal orientation with the readiness to react strategically when the unimaginable occurs. Two aspects are central to this:

- 1 **Informing stakeholders and coping with their lack of orientation** is part of any corporate approach to deal with unimaginable incidents. Communication departments can help to ensure that internal and external stakeholders remain capable of taking action. For example, all information should be quickly collected and clearly communicated when an unforeseen situation occurs. This can reduce the influence of other sources and reduce rumors. Corporate communications can also prevent people from being paralyzed, for example by building relationships and trust and by strengthening the self-efficacy of employees.
- 2 **Communicators can use their knowledge and experience** and share it with other members of their organization. For example, resilience training for executives and coworkers across the organization's departments can be provided, or insights can be shared on how the communication department has responded to unimaginable incidents in the past. However, this should not be done without cultivating and expanding the department's own unimagination skills (see infobox on the OODA-Loop on p. 23). Improvisation and resilience training may also be worthwhile for communicators.

Retain the capacity to act with the OODA loop



The OODA loop is a tool enabling people to act even in unimaginable situations. The concept originates from the military and was developed by John Boyd, a United States Air Force colonel and military strategist. It helps people to act quickly in moments of paralysis and to take advantage of the effects of surprise.

The first step is to gain an overview of the situation (observe) and to get familiar with it (orient). Based on this, options are developed from which the best is chosen (decide) and implemented (act). The loop changes the situation, starting the next OODA loop. Through constant experimentation, the process should never grind to a halt or paralysis. The approach has been successfully tested and applied in business (Kaplan et al., 2020).

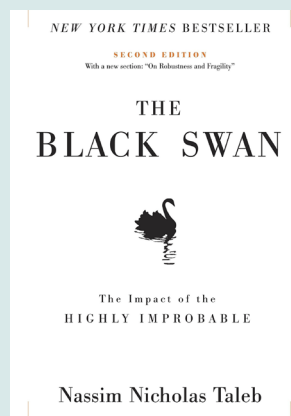
QUESTIONS FOR REFLECTION

- ▶ What are the challenges and opportunities arising from future unimaginable events for companies?
- ▶ How is unimagination reflected in current corporate practices?
- ▶ To what extent are communication departments equipped to deal with the unimaginable, and how can they enhance individual and overarching skills in their teams?

READING RECOMMENDATION

Nassim Nicholas Taleb: The Black Swan (2010)

In his bestseller *The Black Swan*, management researcher and former Wall Street trader Nassim Nicholas Taleb deals with the effects of extremely rare and unimaginable events, which he calls black swans. In a series of essays, Taleb takes his readers into various fields ranging from crime statistics to investment banking.



AUGMENTED WORKFLOWS

PREPARING FOR A FUTURE OF WORK IN WHICH HUMANS AND ARTIFICIAL INTELLIGENCE COLLABORATE

AT A GLANCE

- ▶ The trend **Augmented Workflows** focuses on a future of work characterized by the collaboration of humans and AI-based technologies, which changes the scope, focus, or outcome of task accomplishments and how organizations deal with it.
- ▶ **Multiple challenges** need to be solved in this context, for example: How do the increasing capabilities of AI-based technologies change the interaction between humans and technology? Should AI or the human delegate tasks to the respective other to achieve optimal performance?
- ▶ How will job satisfaction and the skills of workers change if AI takes over more and more tasks?
- ▶ Communication leaders should reflect on how AI-based technologies can (or should) augment practices of human workers and modify workflows in communication units. Augmented workflows will challenge current practices of managing and executing corporate communications in multiple ways, for example, in the areas of team collaboration and content creation.



AUGMENTING HUMANS WITH AI IS THE FUTURE OF (KNOWLEDGE) WORK

When thinking about the future of work, **artificial intelligence** (AI) will inevitably pop up (Berente et al., 2021; Elliott, 2022; Huang et al., 2019). While robots taking over the planet will hopefully remain science fiction, there is a variety of AI applications that we already encounter every day on our computers and smartphones: for example, the ranking of query results by search engines or the automatic prioritization of emails. Organizations are increasingly engaging with, implementing, or developing AI-based technologies with the aim of **enhancing business value** and obtaining **competitive advantage**. AI promises, among other things, to improve productivity by performing routine tasks, reducing or eliminating human error, and generating insights that improve decision quality (Enholm et al., 2021). At the same time, most occupations involve solving a variety of tasks, some of which are easy to automate with AI, some of which are difficult. Therefore, especially in **knowledge work** (i.e., work which relies on the creation, distribution or application of knowledge), a realistic scenario is that **AI-based technologies will augment rather than replace human workers** (Fügener et al., 2021). Thus, AI-based technologies will not take over the tasks of people completely but collaborate closely with human workers.

Increasing collaboration with AI-based technology will **change job profiles and modify existing workflows**. For example, instead of searching for visual content or creating it with software, future graphics experts might describe to an AI application what kind of visual they need and select a fitting image from suggestions it created (see infobox on Augmenting human workers with AI on p. 27)). The design of what we call augmented workflows will affect how human workers respond to the

introduction of AI-based technologies and ultimately whether the potential of such technologies can be realized in practice (Ulfert et al., 2022).

NOT JUST A TOOL: THE INTERACTION BETWEEN HUMANS AND AI-BASED TECHNOLOGY

Until recently, technology was primarily seen as a tool that humans could use to accomplish a task or achieve a goal. This assumption about the nature of the interaction between humans and technology is challenged by AI (Schuetz & Venkatesh, 2020). Previously, an interaction between human and technology would typically be initiated by a human or based on pre-defined inputs. **AI-based technology**, however,

can be **responsive to the environment** – which means that it constantly monitors information from the environment (e.g., acoustic or visual information) and responds autonomously to it. For example, an AI in a car might constantly analyze the face and driving patterns of the driver and encourage them to

take a break if the software detects fatigue. However, responsive systems might be (falsely) activated by unspecific information (e.g., noise) or misinterpret signals from the environment. This is illustrated by voice-activated systems such as smart speakers. Smart speakers constantly listen for their “wake word” (e.g., “Hey Siri”). However, research and examples from practice show that smart speakers sometimes mistake similar-sounding expressions such as “they ... secretly” (in the case of Siri) for their wake word and are activated **without human awareness** (Dubois et al., 2020). This can result in private conversations being recorded or unintended behavior by the system (e.g., ordering products online without human approval).

Furthermore, whereas previously a software vendor would determine the functionality of a technology, self-learning AI-based technologies are contextual and adaptive. This means that the **functionality**

» We define artificial intelligence as the frontier of computational advancements that references human intelligence in addressing ever more complex decision-making problems. «

Nicholas Berente, University of Notre Dame

of a system will evolve during use. Additionally, AI-based technologies are often **opaque** (Buhmann & Fieseler, 2021) and do not explain their decisions or behavior to humans. This could have different implications for human workers, for example skepticism regarding AI recommendations or the impossibility to meaningfully question them, increasing the risk of faulty behavior remaining undetected.

OPTIMIZING PERFORMANCE: WHO DELEGATES TO WHOM?

In theory, collaboration between human workers and AI-based technologies should **combine respective strengths** and lead to improved task performance. To date, there are only few empirical studies on human-AI collaboration and how it impacts performance. A recent study used image classification as an exemplary task. The participants were asked to assign images to content classes, for example, assigning an image of a poodle to the class “poodle.” The study results suggested that if humans and AI collaborate, they outperform both humans and AI working on their own (Fügener et al., 2021). However, this was **only the case if AI could decide when to delegate the tasks** to human workers, but not if humans made delegation decisions. The authors postulated that the humans in their experiment often underestimated both their own ability to solve the task and its level of difficulty, leading to poor delegation decisions that negatively impacted performance (Fügener et al., 2021).

CONSIDERING THE IMPACT ON HUMAN WORKERS

As AI-based technologies become more powerful, the responsibility for handling certain **tasks will shift from human workers to AI-based technologies** (Ulfert et al., 2022). Workers may perceive the introduction of an AI-based technology as both **threatening and empowering** (Strich et al., 2021). It depends on how workers perceive their professional role identity (What do I do? Who am I?)

and how their tasks, responsibilities, and workflows change. For example, if an AI-based technology performs tasks that workers previously perceived as their core competence and reduces their influence on decision-making (i.e., diminishes their autonomy in their work), they are more likely to feel threatened, deskilled, and downgraded by AI (Stieglitz et al., 2022a; Strich et al., 2021).

RELEVANCE OF AUGMENTED WORKFLOWS FOR CORPORATE COMMUNICATIONS

Introducing AI-based technologies promises to **create business value**. Researchers are starting to investigate the role of AI-based technologies for planning, executing, and monitoring strategic communication (Gulbrandsen, 2022). Especially in the field of **content generation**, new innovations, start-ups, and open source projects are rapidly emerging. Communication professionals will increasingly be faced with the question of how to leverage the potential of AI-based technologies, for example, to boost efficiency within their own department or satisfy the communication expectations of different stakeholders. While more research is needed (Duan et al., 2019; Zeffass et al., 2020), the following examples illustrate possible workflows that could be augmented by AI-based technologies:

- ▶ Selection, modification, creation, and personalization of **text and multimedia content**, for example, translating or correcting texts, generating or modifying images and videos (synthetic media) (Stieglitz et al., 2022b)
- ▶ Handling **stakeholder requests**, for example, chatbots to answer questions in marketing or employee communications (Cheng & Jiang, 2022)
- ▶ **Monitoring & evaluating** conversations on digital platforms through social listening, for example, identifying central actors or networks, key topics, or sentiment based on social media data (Stewart & Arnold, 2017)

- **Improving processes and management activities**, for example, prioritizing tasks or incoming e-mails, identifying promising candidates for job vacancies through social media search and application analysis
- **Mandatory reporting**, for example, automated creation of standardized financial reports or sustainability reports

RECOMMENDATIONS FOR COMMUNICATION LEADERS AND PROFESSIONALS

New ways of interaction between human workers and AI-based technologies challenge prevalent practices in corporate communications in many ways. Those in charge need to weigh up the opportunities and challenges related to the specific organization, its stakeholders, and the business model of the communication department. Initial steps might include:

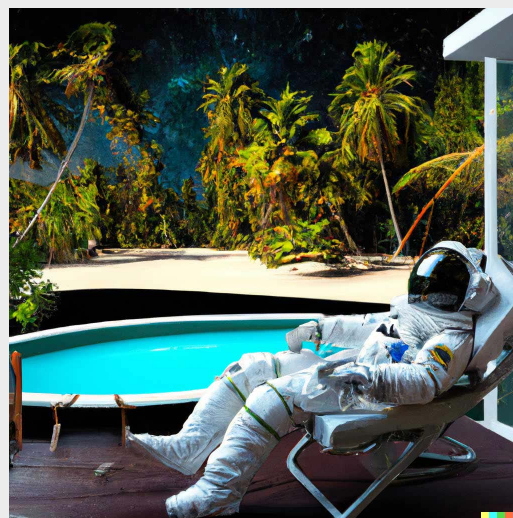
- 1 **Evaluating the impact of augmented workflows on communication content:** AI-based technologies can augment the identification of stakeholder interests, the selection and creation of messages, the handling of stakeholder requests, and much more besides. Here, the suggestions made by AI-based technologies (e.g., ChatGPT, Microsoft Designer) are likely to influence what, how, and where content is communicated. Communication leaders should therefore evaluate how the outcomes of internal workflows will change due to intensified augmentation.
- 2 **Identifying the most promising use cases** for augmenting workflows with AI-based technologies, determining the necessary skillsets, and developing staff competencies in these areas.
- 3 **Preparing for challenges due to shifts in agency:** The increasing relevance of non-human agency which is based on workflows modified with AI-based technologies will raise new challenges, especially regarding accountability for content. It

Augmenting human workers with AI

AI-based technologies that generate synthetic media (Stieglitz et al., 2022b) have gained enormous traction. Especially, OpenAI's text and image generation tools ChatGPT and DALL-E 2 stand out.

ChatGPT interacts with users in a dialogue format. It can write (academic) essays, and fictional stories, create marketing slogans, answer questions, and debug computer code. It's a major milestone in AI research and practice and has already been discussed widely on social media (Mollick, 2022). ChatGPT doesn't search for information from the Internet in real-time and currently can't reflect developments after 2021. While scientific insights on ChatGPT are still scarce, research on earlier GPT models found that they struggle with, for example, mathematical tasks and ethical questions (Floridi & Chiriatti, 2020).

DALL-E 2 can create realistic images and art based on natural language descriptions ("text-to-image"), such as "An astronaut lounging in a tropical resort in space in a photorealistic style." DALL-E 2 can also edit images or recreate them in a different style. The commercial platform Microsoft Designer builds on DALL-E 2 and promises to create original content based on short descriptions, for instance, for advertisements.



is advisable to implement AI-based technologies that are explainable, i.e., that present some form of reasoning for the AI's behavior to those who use it.

- 4 **Considering the “human factor” in augmented workflows:** The introduction of AI-based systems will not leave human workers unaffected. To maximize the benefits and minimize the risks of augmented workflows, communication leaders should try to understand what competencies

or tasks employees view as integral to their professional identity. This will help them to be mindful of potential negative effects for individuals, teams, and the organization (e.g., feeling unmotivated, deskilled) when augmenting these integral elements with AI. As well as addressing this in their own departments, communication leaders could also support colleagues in charge of other functions in which AI-based technologies are introduced.

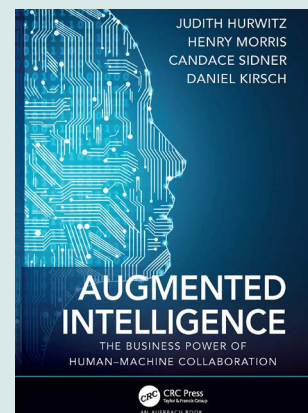
QUESTIONS FOR REFLECTION

- ▶ Is the AI-based technology responsive to the environment, and could it be activated by unspecific information without human awareness? What are the possible negative consequences (e.g., violation of privacy, faulty system behavior remaining unnoticed), and what safeguards could be installed?
- ▶ What challenges arise from adaptive AI-based technologies, especially when they work on tasks more autonomously? For example, who is held accountable for output generated by AI-based technology?
- ▶ How might communication content change if AI-based technologies make suggestions? How could potential bias in content created by AI-based technologies be detected and eliminated?

READING RECOMMENDATION

Judith Hurwitz, Henry Morris, Candace Sidner, Daniel Kirsch: Augmented Intelligence – The Business Power of Human-Machine Collaboration (2020)

This book focuses on the process of combining human and machine intelligence. Four authors from management consulting practice and software research have teamed up to provide a concise understanding of the value of augmented intelligence and its ability to help win competitive markets. They address the importance of data governance and the risks of improper data use, and address the ethics and governance of data in the age of augmented intelligence.



PARALLEL WORLDS

MANAGING THE DIVERSIFICATION OF REALITY

AT A GLANCE

- ▶ The trend **Parallel Worlds** concerns extended, altered, or alternative versions of reality that are created using digital technology and how this **technology-enabled diversification** of reality affects organizations.
- ▶ The quality and capabilities of technology for **immersive 3D experiences** in parallel worlds are improving all the time. More and more companies are developing virtual platforms and services in pursuit of “the Metaverse”.
- ▶ The **Metaverse** is currently primarily a vision pursued by several software companies and platform providers. It is unclear if and when it will arrive and what it will look like. Even so, technologies that create **parallel worlds** by altering, extending, or replacing reality are already available today.
- ▶ Communication leaders need to realize that these technologies offer **opportunities** (e.g., new content formats, virtual events), yet also pose **challenges** for corporate communications (e.g., monitoring stakeholder communications on new virtual platforms, changing expectations towards communications such as the availability of 3D content).



CHOOSING YOUR REALITY

Irritated by other people's conversations on the bus? Just put on your noise-canceling headphones. Want a new desk for your office? Simply project different virtual desks into your office with the IKEA place app to see what fits best. Traveling abroad and can't read the menu? Magically change the writing to a language that you know with Google's instant translation app. Want to know how it would feel to fly across New York City right now? Enter the cockpit in Microsoft Flight Simulator. Technology is increasingly allowing individuals to **immerse themselves in extended, altered, or alternative versions of reality**. Going beyond these already existing, yet mostly disconnected experiences, tech companies are now working towards developing virtual worlds that offer individuals a variety of experiences, ranging from socializing to working and entertainment. Since Mark Zuckerberg renamed the Facebook company "Meta," this vision has been given a name: the Metaverse. Even though the vision of the Metaverse might not come into being any time soon, it is certain that more experiences, interaction, and communication will take place in **parallel worlds**.

EXTENDED AND ALTERNATIVE REALITIES: TOWARDS THE METAVERSE

Most people will have heard the term **Metaverse** by now. But they might find it hard to put their finger on what exactly the Metaverse is, what it requires, and when we can expect it to arrive – assuming it's not already here. This is unsurprising as there is not any universal definition of what constitutes the Metaverse. It has been described, for example, as a parallel plane of existence, a 3D version of the Internet, or the "walk-in Internet." Importantly, the Metaverse does not yet exist, but is primarily a **vision for the future** promoted by tech companies such as Meta, Microsoft, and ByteDance.

» 45% of German companies plan investments in the Metaverse within the next five years. «

Bitkom Research 2022

What already exists are **precursors of the Metaverse** that are necessary for realizing the outlined vision and offer a glimpse of what it might become, look, and feel like. But these should not be mistaken for being the Metaverse. For example, there is hardware in the form **technological devices** such as augmented reality (AR) and virtual reality (VR) headsets (e.g., Oculus Quest), sensors, and projectors (e.g., HoloLens for holoportation) that allow us to experience and interact with virtual objects, events, people, and entire 3D worlds. There is also **software powering virtual platforms** that enable users to play, socialize, or co-work with other avatars in 3D or 2D worlds (e.g., AltspaceVR, Microsoft Mesh, Roblox, Fortnite). And **blockchain technology** facilitates payment rails and the trade in virtual goods in the Metaverse economy.

A recent Bitkom research study found that German companies are divided regarding the metaverse: while 40% of German employers currently have no interest in it, 45% plan investments in the Metaverse within the next five years (Rohleder, 2022). However, several **challenges** remain to be solved before the Metaverse can be realized, and it is not at all clear when or how they will be. For example, right now, virtual platforms are being developed by different tech companies and are mostly independent from each other. Accordingly, individuals cannot move seamlessly from AltspaceVR to Roblox or other platforms with their avatar. Connecting different virtual worlds in a network requires **interoperability**, i.e., common technological standards for the design of virtual worlds as well as communication within and between them. However, the Metaverse is currently being built by private businesses, not by publicly funded research labs, universities or military units, as it was the case when the Internet was developed. Today's protagonists of parallel worlds focus more on promoting their own vision rather than a shared one. Furthermore, the **computational resources** required

» *The Metaverse is a massively scaled and interoperable network of real-time rendered 3D virtual worlds that can be experienced synchronously and persistently by an effectively unlimited number of users with an individual sense of presence, and with continuity of data, such as identity, history, entitlements, objects, communications, and payments.* «

Matthew Ball, author of the book "The Metaverse"



for the envisioned real-time rendering of rich virtual worlds in which a theoretically unlimited number of users interact are simply not yet available. Especially bearing in mind **climate change and energy scarcity**, one could question whether the immense amount of energy needed to realize even parts of the Metaverse can be justified. Thus, the arrival of a 3D Internet is **not to be expected any time soon**. However, the precursors of the Metaverse in the form of AR, VR, and hologram technologies, virtual platforms, and the vision of building a parallel world already affect businesses and their stakeholders today.

IMITATING REALITY: DIGITAL TWINS

Besides creating extended or alternative realities, technology is also increasingly being used to **imitate and simulate reality**. “Digital twins” are virtual representations of physical entities that can be used, for example, to monitor and understand the physical entity better and to optimize the effectiveness and efficiency of it and to optimize its effectiveness and efficiency. While digital twins originated in the field of manufacturing, they can **enhance the management** of a variety of business assets throughout their lifecycle, including non-tangible assets such as processes (Dietz & Pernul, 2020). For example, in hospitals, digital twins have been applied to **predict workflows, suggest optimization, and forecast the impact of innovations**.

A central requirement for the creation of a digital twin is **data** about the physical entity and its environment. The more accurately the data reflects the physical entity, the more accurate (and useful) is the digital twin. This makes the creation of digital twins for complex, variable systems quite challenging. However, researchers have already created digital twins to better understand and predict human behavior, for example, by inferring personality traits from social media data (Sun et al., 2021).

RELEVANCE FOR CORPORATE COMMUNICATIONS

A prerequisite for successful communication between companies and stakeholders is a shared understanding of reality. The technologically enabled diversification of reality will therefore challenge corporate communications in multiple ways:

- Parallel worlds will affect **where stakeholders communicate and what they expect** from corporate communications. For example, in the third quarter of 2022, the online gaming platform Roblox had 58.8 million daily active users (a 24% year-on-year increase), about half of whom were under the age of 13 (Roblox, 2022). This shows that consumers, employees, and citizens of tomorrow are growing up with different experiences and expectations regarding virtual collaboration and communication (e.g., being able to



modify and collaboratively build virtual environments). In **virtual stakeholder communication**, holograms, AR, and VR have the potential to make virtual communication and collaboration more realistic, effective, and enjoyable.

- ▶ **New communication channels and formats** enabled by 3D technologies (AR, VR, holograms) and virtual platforms provide opportunities to enhance existing communication activities, for example, by making abstract ideas more tangible. However, these new technologies also pose major challenges for content production as 3D worlds may require different types of content or strategies, or communicators may lack the necessary skills. The range of experiences in parallel worlds will in future only be limited by the creativity of its designers and users.
- ▶ New platforms will also change the demands when it comes to **monitoring public communication and discourses with strategic significance**, managing debates, and building relationships.
- ▶ Accurately imitating relevant communication processes and simulating different scenarios with parallel world technologies is a powerful tool for **planning real-world interactions**. Building **digital twins of different stakeholders** may help communication professionals to simulate the effect of different communication activities

or management decisions. Additionally, digital twins could be explored for enhancing **event management** (for instance a digital twin of the Tour de France) and for **product presentations** in online shops.

- ▶ On a more general level, the media hype about the **Metaverse** might increasingly put pressure on communication leaders to position themselves with regard to this topic. Here, a profound assessment of what already exists and what might become available will help communicators to provide sound internal advice and raise realistic expectations among key stakeholders.

RECOMMENDATIONS FOR COMMUNICATION LEADERS AND PROFESSIONALS

The growing importance of parallel worlds requires communications leaders to build the strategic competencies required to understand, shape, and navigate the field. It is important to deconstruct the buzz and hype pushed by many agencies and platform providers. Identifying the core challenges and opportunities of the emerging trend for corporate communications is by no means easy. Here are some starting points:

- ① **Form realistic expectations of the Metaverse:** The vision is fascinating and, if it were to be realized, the Metaverse would revolutionize parts of our lives and the economy. But many hurdles

remain to be overcome. A “corporate Metaverse” with fragmented virtual worlds and different technological standards (as is currently pursued by Meta, etc.) will not be able to unfold a disruptive force similar to the Internet revolution.

- ② **Build experiences and competencies in parallel worlds:** While the Metaverse will not arise in the near future, AR, VR, holograms, and virtual platforms such as Roblox, AltspaceVR or Microsoft Mesh will not leave corporate communications unaffected. Exploring these potentials early

on could give communications a valuable head start. Testing and building empirical knowledge are essential in this respect.

- ③ **Build a data infrastructure and explore digital twin use cases:** The basis for imitating and simulating communication processes with digital twins is high-quality data that accurately describes physical entities or interactions. Communicators can build the relevant data infrastructure to explore possible use cases for digital twins.

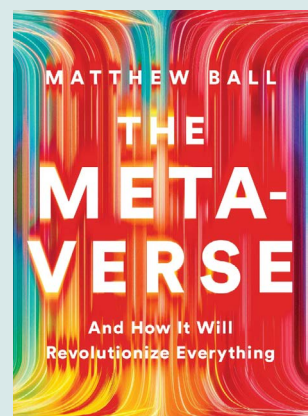
QUESTIONS FOR REFLECTION

- ▶ How could immersive technologies (e.g., AR, VR, holograms) enhance existing communication activities? What virtual platforms offer relevant communication or listening opportunities for your company, and how can you start exploring them?
- ▶ What are the current and future expectations of relevant stakeholders? Who possesses the required hardware for immersing themselves in parallel worlds?
- ▶ What are the implications regarding cybersecurity issues, dependencies on tech companies, or change management?
- ▶ What success measures are there for activities in the area of parallel worlds?

READING RECOMMENDATION

Matthew Ball: The Metaverse – And how it will revolutionize everything (2022)

The book provides a brief history of developments leading up to the (vision of) the Metaverse, discusses how it might be realized and how it will impact businesses, and draws parallels to the development of the Internet. Matthew Ball is a Canadian entrepreneur, investor, and essayist who used to be the head of strategy at Amazon Studios.



REFERENCES

- Arenas, N., & Silver-Malyska, T. (2021). Imagining the unimaginable: Best practices for returning to work post-COVID-19. *Benefits Quarterly*, 37(1), 45–47.
- Amaral, N. B., Chang, B., & Burns, R. (2022). Understanding consumer stockpiling: Insights provided during the COVID-19 pandemic. *Journal of Consumer Affairs*, 56(1), 211–236.
- Ball, M. (2022). The Metaverse: and how it will revolutionize everything. Liveright.
- Berente, N., Gu, B., Recker, J., & Santhanam, R. (2021). Managing artificial intelligence. *MIS Quarterly*, 45(3), 1433–1450.
- Buhmann, A., & Fieseler, C. (2021). Tackling the grand challenge of algorithmic opacity through principled robust action. *Morals & Machines*, 1(1), 74–85.
- Cheng, Y., & Jiang, H. (2022). Customer–brand relationship in the era of artificial intelligence: understanding the role of chatbot marketing efforts. *Journal of Product & Brand Management*, 31(2), 252–264.
- Cialdini, R. B. (2021). *Influence: Science and practice*. Harper Collins.
- De Marzo, G., Gabrielli, A., Zaccaria, A., & Pietronero, L. (2022). Quantifying the unexpected: A scientific approach to Black Swans. *Physical Review Research*, 4(3), 1–10.
- Dietz, M., & Pernul, G. (2020). Digital twin: Empowering enterprises towards a system-of-systems approach. *Business & Information Systems Engineering*, 62(2), 179–184.
- Duan, Y., Edwards, J. S., & Dwivedi, Y. K. (2019). Artificial intelligence for decision making in the era of Big Data– evolution, challenges and research agenda. *International Journal of Information Management*, 48, 63–71.
- Dubois, D. J., Kolcun, R., Mandalari, A. M., Paracha, M. T., Choffnes, D. R., & Haddadi, H. (2020). When speakers are all ears: Characterizing misactivations of IoT smart speakers. *Proceedings on Privacy Enhancing Technologies*, 255–276.
- Elsberg, M. (2017). *Blackout: Tomorrow will be too late*. Penguin.
- Elliott, A. (Ed.) (2022). *The Routledge social science handbook of AI*. Routledge.
- EMFD. (1996). Training the fire brigade: Preparing for the unimaginable. The European Foundation for Management Development.
- Enholm, I. M., Papagiannidis, E., Mikalef, P., & Krogstie, J. (2022). Artificial intelligence and business value: A literature review. *Information Systems Frontiers*, 24, 1709–1734.
- Floridi, L., & Chiriatti, M. (2020). GPT-3: Its nature, scope, limits, and consequences. *Minds and Machines*, 30(4), 681–694.
- Fügener, A., Grahl, J., Gupta, A., & Ketter, W. (2021). Cognitive challenges in human–artificial intelligence collaboration: Investigating the path toward productive delegation. *Information Systems Research*, 33(2), 678–696.
- Galbraith, J. K. (1998). *The affluent society* (5th ed.). Houghton Mifflin Harcourt.
- Garritzmann, J. L., Neimanns, E., & Busemeyer, M. R. (2021). Public opinion towards welfare state reform: The role of political trust and government satisfaction. *European Journal of Political Research*, <https://doi.org/10.1111/1475-6765.12501>
- Gulbrandsen, I. T. (2022). Strategizing communication and artificial intelligence (Research project description). Roskilde University.
- Holmes, J. (2015). *Nonsense: The power of not knowing*. Crown Publishing.
- Huang, M. H., Rust, R., & Maksimovic, V. (2019). The feeling economy: Managing in the next generation of artificial intelligence (AI). *California Management Review*, 61(4), 43–65.
- Hurwitz, J., Morris, H., Sidner, C., & Kirsch, D. (2020). *Augmented Intelligence – The business power of human-machine collaboration*. Routledge.
- Kaldewey, D. (2022). Was bedeutet Systemrelevanz in Zeiten der Pandemie? [What does systemic relevance mean in times of the pandemic?]. *Berliner Journal für Soziologie*, 32(1), 7–33.
- Kaplan, R., Leonard, H., & Mikes, A. (2020). The risks you can't foresee: What to do when there's no playbook. *Harvard Business Review*, 98(6), 40–46.
- Lynn, M. (1991). Scarcity effects on value: A quantitative review of the commodity theory literature. *Psychology & Marketing*, 8(1), 43–57.
- Lynn, M. (1992). The psychology of unavailability: Explaining scarcity and cost effects on value. *Basic and Applied Social Psychology*, 13(1), 3–7.
- Mazzucato, M. (2021). *Mission economy: A moonshot guide to changing capitalism*. Penguin.
- Mehta, R., & Zhu, M. (2016). Creating when you have less: The impact of resource scarcity on product use creativity. *Journal of Consumer Research*, 42(5), 767–782.
- Mollick, Ethan (2022, December 14). ChatGPT Is a Tipping Point for AI. *Harvard Business Review*. <https://hbr.org/2022/12/chatgpt-is-a-tipping-point-for-ai>
- Ratten, V., & Hodge, J. (2016). So much theory, so little practice: A literature review of workplace improvisation training. *Industrial and Commercial Training*, 48(3), 149–155.
- Reckwitz, A. (2020). *The society of singularities*. Wiley.
- Roblox (2022, November 9). Roblox reports third quarter 2022 financial results. <https://ir.roblox.com/news/news-details/2022/Roblox-Reports-Third-Quarter-2022-Financial-Results/default.aspx>
- Rohleder, B. (2022, October 26). Auf dem Weg ins Metaverse – wo steht die deutsche Wirtschaft? [On the way to the metaverse – where does the German economy stand?]. Bitkom Research. <https://www.bitkom.org/Presse/Presseinformation/Metaverse-deutsche-Wirtschaft-gespalten>
- Roux, C., Goldsmith, K., & Bonezzi, A. (2015). On the psychology of scarcity: When reminders of resource scarcity promote selfish (and generous) behavior. *Journal of Consumer Research*, 42(4), 615–631.
- Sarasin, P. (2021). 1977: Eine kurze Geschichte der Gegenwart [1977: A brief history of the present]. Suhrkamp.
- Schuetz, S., & Venkatesh, V. (2020). Research perspectives: The rise of human machines: How cognitive computing systems challenge assumptions of user-system interaction. *Journal of the Association for Information Systems*, 21(2), 460–482.
- Stewart, M. C., & Arnold, C. L. (2017). Defining social listening: Recognizing an emerging dimension of listening. *International Journal of Listening*, 32(2), 85–100.
- Stieglitz, S., Mirbabaie, M., Möllmann, N. R., & Rzycki, J. (2022a). Collaborating with virtual assistants in organizations: Analyzing social loafing tendencies and responsibility attribution. *Information Systems Frontiers*, 24(3), 745–770.
- Stieglitz, S., Zeffass, A., Ziegele, D., Clausen, S., & Berger, K. (2022b). Communications Trend Radar 2022. Language awareness, closed communication, gigification, synthetic media & cybersecurity (Communication Insights, Issue 14). Academic Society for Management & Communication. www.academic-society.net
- Strich, F., Mayer, A.-S., & Fiedler, M. (2021). What do I do in a world of artificial intelligence? Investigating the impact of substitutive decision-making AI systems on employees' professional role identity. *Journal of the Association for Information Systems*, 22(2), 9.
- Sun, J., Tian, Z., Fu, Y., Geng, J., & Liu, C. (2021). Digital twins in human understanding: a deep learning-based method to recognize personality traits. *International Journal of Computer Integrated Manufacturing*, 34(7–8), 860–873.
- Tadmor, C., Hong, Y., Chao, M., Wiruchnipawan, F., & Wang, W. (2012). Multicultural experiences reduce intergroup bias through epistemic unfreezing. *Journal of Personality and Social Psychology*, 103(5), 750–772.
- Taleb, N. (2010). *The black swan: The impact of the highly improbable* (2nd ed.). Random House.
- Thienen, J. von, Meinel, C., & Nicolai, C. (2014). How design thinking tools help to solve wicked problems. In H. Plattner, C. Meinel & L. Leifer (Eds.), *Design thinking research: Building innovation eco-systems* (pp. 97–102). Springer.
- Ulfert, A.-S., Antoni, C. H., & Ellwart, T. (2022). The role of agent autonomy in using decision support systems at work. *Computers in Human Behavior*, 126, 106987.
- Weinstein, M. (2022). *The power of scarcity: Leveraging urgency and demand to influence customer decisions*. McGraw Hill.
- ZDF Politbarometer (2022, November 11). Bewertung der Corona-Maßnahmen von August 2020 bis Oktober 2022 [Evaluation of COVID-19 measures between August 2020 and October 2022]. ZDF/Forschungsgruppe Wahlen.
- Zerfass, A., Hagelstein, J., & Tench, R. (2020). Artificial intelligence in communication management: A cross-national study on adoption and knowledge, impact, challenges, and risks. *Journal of Communication Management*, 24(4), 377–389.
- Zerfaß, A., & Lautenbach, C. (2022). Business-Modelle für Kommunikationsabteilungen. Grundlagen und Erfahrungen aus einem Pilotprojekt [Business models for communication departments. Foundations and experiences from a pilot project]. *PR Magazin*, 43(6), E1–E8.
- Zerfass, A., & Link, J. (2022). Business models for communication departments: A comprehensive approach to analyze, explain and innovate communication management in organizations. In B. Birmingham & T. Voges (Eds.), *Proceedings of the 25th International Public Relations Research Conference*, Orlando, Florida, USA, March 2022 (pp. 187–201). IPRRC.
- Zhao, J., & Tomm, B. M. (2018). Psychological Responses to Scarcity. *Oxford Research Encyclopedia of Psychology*. <https://oxfordre.com/psychology/view/10.1093/acrefore/9780190236557.001.0001/acrefore-9780190236557-e-41>.
- Ziegele, D., & Zerfass, A. (2021). Stress resilience: Researching a key competence for professionals in communication management. *Journal of Communication Management*, 25(4), 335–352.
- Zittoun, T., & Gillespie, A. (2015). *Imagination in human and cultural development*. Routledge.

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The Academic Society initiates practical, forward-looking research projects. These extensive, multidisciplinary studies are designed to support the ongoing professionalization of corporate communications. In the past years, more than 25 research projects have been carried out in areas such as virtual corporate

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The Academic Society is part of the Günter Thiele Foundation for Communication & Management, an independent non-profit entity dedicated to advancing science and knowledge transfer in the field of corporate communications.

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