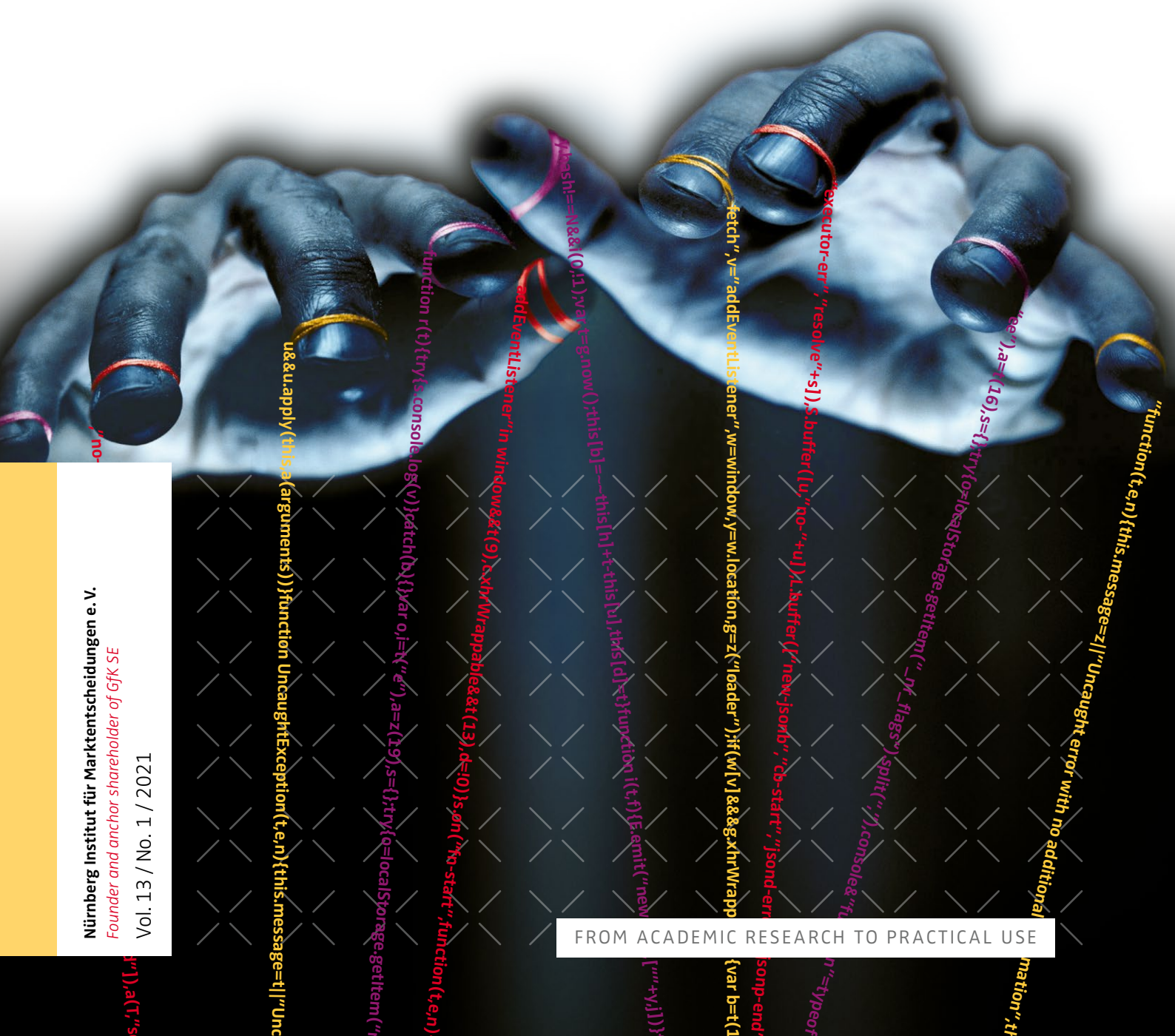
MARKETING
INTELLIGENCE
REVIEW

NIM Nuremberg Institute for Market Decisions

The Dark Sides of Digital Marketing

UNINTENDED EFFECTS › MARKETING DYSTOPIA › PRIVACY › ALGORITHMS › THE ILLUSION OF FREE CHOICE › AUTOMATED DECISIONS › AUGMENTED INTELLIGENCE › METRICS GONE WRONG



FROM ACADEMIC RESEARCH TO PRACTICAL USE

Nürnberg Institut für Marktentscheidungen e. V.
Founder and anchor shareholder of GfK SE
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FROM ACADEMIC RESEARCH TO PRACTICAL USE

NIM Marketing Intelligence Review

For managers and decision makers interested in › current marketing topics and new research results.

Our goal is to provide › accessible, relevant insights from academic marketing research. We focus on › one topic per issue and continue to provide our readers with ideas on how modern marketing research findings can improve marketing decision-making.

Its publisher, the › Nuremberg Institute for Market Decisions, (Nürnberg Institut für Marktentscheidungen e.V., formerly GfK Verein), is an interdisciplinary, non-commercial research institute. Its research focus are market decisions, both by consumers and marketers.
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Editorial

During the pandemic, we are consuming digital services like never before. Aren't they just so convenient? But convenience comes at a price. Even Big Tech is getting more alert of the monster it helped create. In his talk at the Computers, Privacy & Data Protection Conference in January 2021, Apple chief executive Tim Cook acknowledged that the insatiable data hunger from evermore applications "degrades our fundamental right to privacy first and harms our social fabric by consequence ... If we accept as normal and unavoidable that everything in our lives can be aggregated and sold, then we lose so much more than data. We lose the freedom to be human."

An uncomfortable truth is that the marketing discipline is deeply implicated: Our desire to provide ever more sophisticated targeting of advertising, ever more personalized offers, or ever more automated services feeds the data hunger described by Cook. Digital marketing has brought an age of unparalleled insight into our customers' behavior, leading to many positive outcomes for both customers and companies. But it also has a dark side, one that we may have chosen to ignore for too long.

In this issue, we take a closer look at this dark side: What are unintended consequences of excessive use and the automatized processing of personal data? Do algorithms really act in consumers´ best interest? Do they help us make better decisions, or has freedom of choice become a mere illusion? What is the role of data driven algorithms in the spread of fake news and the polarization of societies? Rest assured, we do not only point the finger at the dystopian consequences of digital marketing, we also present ideas about how to mitigate some of these harmful effects for individuals, for companies and for society.

Join us on our trip to the dark sides of digital marketing and back. We hope our articles provoke reflection and inspire you to examine your own behavior as a consumer of digital services and the role your business might play in creating the reality we live in.

Happy Reading!

Caroline Wiertz

London, January 2021

The Dark Sides of Digital Marketing

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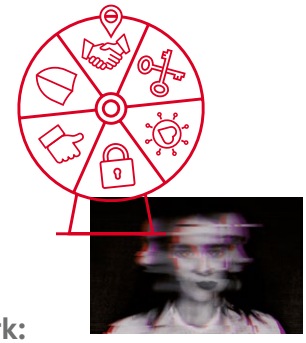

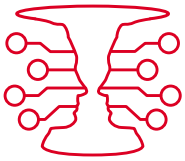

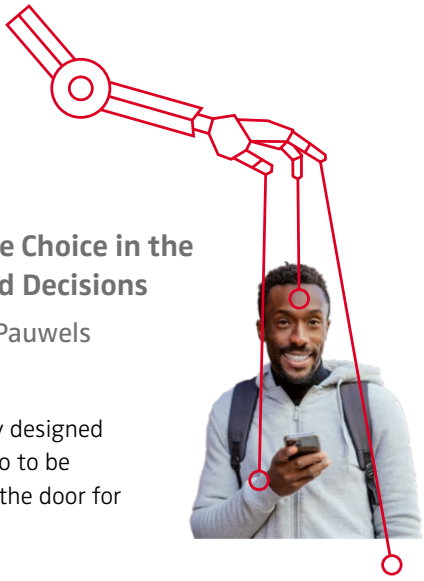

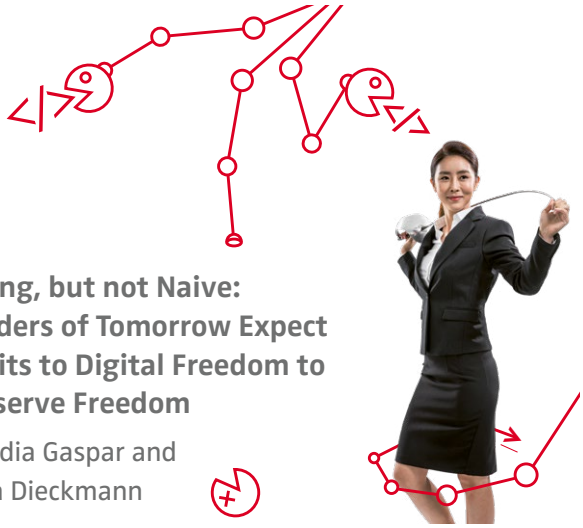

Executive Summaries

Illuminating the Dark: Exploring the Unintended Consequences of Digital Marketing

Caroline Wiertz and
Christine Kittinger-Rosanelli

Our relationship to technology is deeply paradoxical. On the one hand, we buy and constantly use more devices and apps, leaving our traces in the digital space. On the other hand, we increasingly fear the dark sides of being dependent on technology and of data abuse. Inadequate knowledge and errors make it difficult to predict unintended consequences, and often problems emerge due to deliberate choices to pursue some interests while ignoring others. Hot topics include data privacy, potentially biased or discriminating algorithms, the tension between free choice and manipulation, and the optimization of questionable outputs while ignoring broader effects.

Fighting unintended consequences should get to the roots of the problems. As for personal data, users should get more control over what they share. Further, more transparency can help avoid dystopian outcomes. It concerns the use of data, in particular, by algorithms. The high concentration of power of a few global players should also be watched closely, and societies need to be critical towards their actions and objectives. Even seemingly noble motives come at a price, and this price needs to be negotiable.

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Marketing Automation: Marketing Utopia or Marketing Dystopia?

Klaus Wertenbroch

Automated and personalized interactions may increase the relevance of marketing offers, but they also have less-positive economic and psychological consequences for consumers. Machine learning–based prediction algorithms can approximate individuals' preferences and their willingness to pay at ever greater levels of precision, and companies can use this knowledge to charge higher individual prices. Typically, consumers freely hand over all the information necessary to reveal their preferences, and it seems they underestimate the value of their personal data. And there is another discomforting aspect of giving away personal data: It means giving up privacy and, as a result, losing autonomy. Preventing negative outcomes is typically a task for regulators, but finding solutions can be difficult. Therefore, companies need to address consumer concerns in their policies as well. To avoid dystopia, managers need to take consumer psychology into account and resist the temptation to maximize short-term profits at the cost of consumers. Avoiding marketing dystopia is in the best interest of all market participants – at least with a longer-term perspective.

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Algorithm-Based Advertising: Unintended Effects and the Tricky Business of Mitigating Adverse Outcomes

Anja Lambrecht and Catherine Tucker

Some algorithms may have similar discriminatory tendencies to humans. The presented study investigates gender bias in social media advertising in the context of STEM careers. Results suggest that advertising algorithms are not gender-biased as such, but that economic forces in the background might lead to unintended, uneven outcomes. Spillover effects across industries make reaching some consumer segments more likely than others. A gender-neutral strategy is less likely to reach women because women are more likely to react to advertising. Therefore, targeting them is more expensive and economic forces unintentionally favor men. One potential solution could be running separate campaigns for men and women to target both demographic groups equally. However, anti-discrimination legislation in many countries does not allow companies to target employment ads to only one gender. So ironically, laws that are designed to avoid discrimination actually rule out a fairly simple way to correct the bias in online targeting on Facebook and other platforms, illustrating further need for policy guidance in this area.

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Metrics Gone Wrong: What Managers Can Learn from the 2016 US Presidential Election

Raoul Kübler and Koen Pauwels

In the 2016 presidential election, the vast majority of available polls showed a comfortable lead for Hillary Clinton throughout the whole race, but in the end, she lost. Campaign managers could have known better, if they had had a closer look at other data sources and variables that – like polls – show voter engagement and preferences. In the political arena, donations, media coverage, social media followership, engagement and sentiment may similarly indicate how well a candidate is doing, and most of these variables are available for free.

Validating the bigger picture with alternative data sources is not limited to politics. The latest marketing research shows that online-consumer-behavior metrics can enrich, and sometimes replace, traditional funnel metrics. Trusting a single 'silver bullet' metric does not just lead to surprises, it can also mislead managerial decision-making. Econometric models can help disentangle a complex web of dynamic interactions and show immediate and lagged effects of marketing or political events.

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Ghosts in the Dark: How to Prepare for Times of Hyper-Privacy

Felipe Thomaz

Even the dark web has its bright sides because it can be used as an unregulated testbed for technologies that will eventually appear on the surface. Also, it is a useful place to study consumer privacy and have a view of what the surface world might look like under an extreme level of consumer data protection. In such a world, even our best customers might look like never-before-seen individuals, until they decide to reveal themselves. If there is trust, and a worthwhile value exchange, consumers might be willing to share their data and not enact all of the hyper-privacy available to them. To seize the opportunities, companies should take stock of their customer relationships, hone their data needs, and learn what information is critical, advantageous, or irrelevant for their context. They should implement initiatives that drive choice carefully, in a trustful relationship.

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Instead of People Using Technology, Technology Is Using People

Interview with author and media theorist Douglas Rushkoff

The progress of artificial intelligence and new technologies triggers hot debates about the future of human life. While fans of the singularity say that artificial intelligence will become smarter than human beings and should take over the world, for others, such a vision is a sheer nightmare. Douglas Rushkoff is clearly part of the second group and takes a passionate pro-human stance. He explains why giving too much way to technologies is a mistake and why humans deserve a place in the digital future. Already today, technologies have a much stronger impact on our lives than most of us would believe. For him, being human is a team sport, and he asks for a more conscious use of technologies while keeping rapport with other people. To safeguard the humanness in a tech world, he advises to carefully select the values we embed in our algorithms. Rather than serving perpetual growth, technologies ought to help people reconnect with each other and their physical surroundings.

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The Illusion of Free Choice in the Age of Augmented Decisions

Fabian Buder, Koen Pauwels and Kairun Daikoku

In our augmented world, many decision situations are designed by smart technologies. Artificial intelligence helps reduce information overload, filter relevant information and limit an otherwise overwhelming abundance of choices. While such algorithms make our lives more convenient, they also fulfill various organizational objectives that users may not be aware of and that may not be in their best interest. We do not know whether algorithms truly optimize the benefits of their users or rather the return on investment of a company. They are not only designed for convenience but also to be addictive, and this opens the doors for manipulation. Therefore, augmented decision making undermines the freedom of choice. To limit the threats of augmented decisions and enable humans to be critical towards the outcomes of artificial intelligence–driven recommendations, everybody should develop "algorithmic literacy." It involves a basic understanding of artificial intelligence and how algorithms work in the background. Algorithmic literacy also requires that users understand the role and value of the personal data they sacrifice in exchange for decision augmentation.

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Young, but not Naive: Leaders of Tomorrow Expect Limits to Digital Freedom to Preserve Freedom

Claudia Gaspar and Anja Dieckmann

In a recent survey, about 900 "Leaders of Tomorrow" from more than 90 countries all over the world shared their opinions about "the impact of new technologies on human freedom of choice." They take a very clear stance against unlimited freedom of speech on the Internet. The majority thinks platforms that until now have often taken a "hands off" approach, rejecting content filtering by claiming they are "just the messenger," should be obliged to prevent and censor hate speech and fake news on the Internet. Platforms are expected to work hand-in-hand with state institutions to better prevent online manipulation and abuse and to protect personal data. The Leaders of Tomorrow also advocate that personal data should be controlled by their owners when they are used by online platforms. Applications that lack transparency and cannot be influenced by the customer are met with the highest extent of objection.

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Inadequate knowledge and errors make it difficult to predict unintended consequences, but often problems emerge due to deliberate choices to pursue some interests while ignoring others.

Illuminating the Dark: Exploring the Unintended Consequences of Digital Marketing

Caroline Wiertz and Christine Kittinger-Rosanelli

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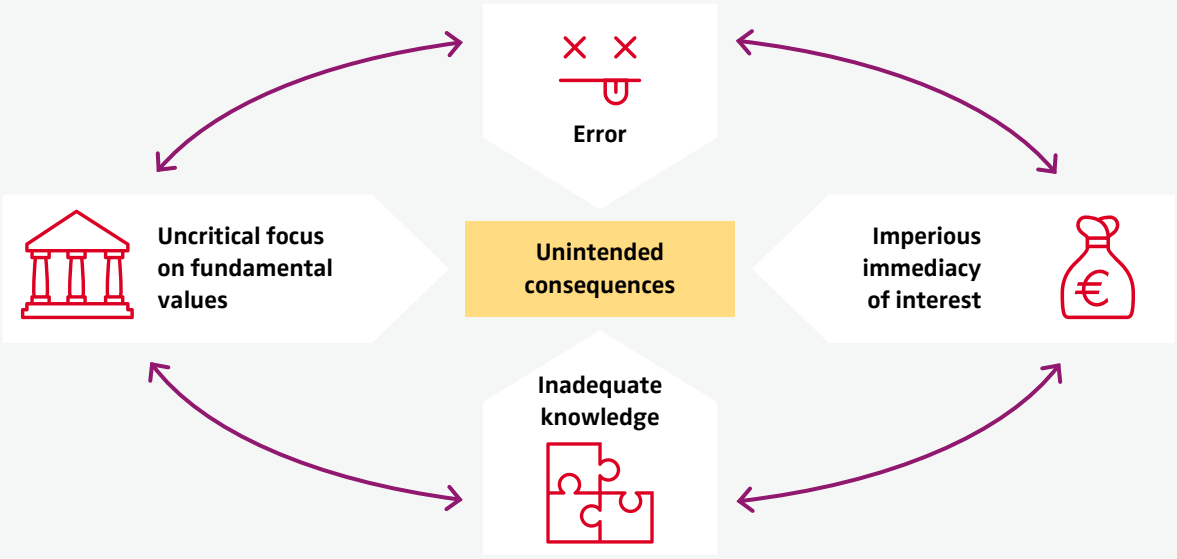
The rise of the dark side. ⚔ Our relationship to technology is deeply paradoxical. On the one hand, we buy and constantly use more technological devices and apps, leaving our traces in the digital space. On the other hand, the dark sides of how these digital traces can be used and abused are increasingly evident and concerning to many. Unregulated fake news, fueled by algorithms that constantly present users more of the same, spread without much restriction on social media and have ultimately facilitated the storming of the Capitol in Washington, D.C., by fierce supporters of the former US president. Even the most ridiculous conspiracy theories get amplified and make fighting the current pandemic less effective. But fake news and conspiracies are only two of the many problems that inspire and challenge researchers, fiction, movies, regulators and – well, yes – even Big Tech, the obvious beneficiaries of the world´s digitalization. Other problems are data privacy, hate speech or the question of free choice. Are humans still in control of their actions, or are we becoming puppets on the strings of global players with motives we do not even know?

This state of affairs and potentially dystopian future developments were not intended. ⚔ Sir Tim Berners-Lee, the inventor of the World Wide Web, built it on the utopian promise of giving all people access to the best information at any time. Social media were supposed to connect the world and enable community between long-lost friends and strangers alike. User-generated content would equalize the information differential between traditional content producers and consumers. These new technologies would enable companies to achieve true customization and build authentic individual relationships with their many customers.

FIGURE 1 › Why social action leads to unintended consequences



In many ways, this utopian vision has actually been achieved: Wikipedia is the world's largest, freely accessible, user-generated knowledge resource; Facebook connects almost three billion people; and even small companies can reach out to customers all over the world in a more targeted way than ever before. Yet, we are also increasingly grappling with the unintended consequences of these technological advances.

Why unintended consequences arise ⤫ To help us think about unintended consequences, it is useful to ask why and how they arise in the first place. In his classic essay in the American Sociological Review in 1936, the sociologist Robert Merton describes four main causes of the emergence of unintended consequences of social action, which are still relevant today (see Figure 1).

› **Inadequate knowledge** ⤫ Being able to develop some sort of "foreknowledge" to anticipate unintended consequences requires a detailed understanding of all potential effects of an action, and in particular, of the interplay between these effects and other forces. The marketing industry's steep adoption of sophisticated advertising and marketing tech during the past decade has created increasingly complicated decision environments for marketers. For example, automated digital advertising markets or artificially intelligent products that interact with networks of other products make it almost impossible to have the knowledge required to fully understand and predict all potential outcomes. Even worse: As Kozinets and Gretzel point out in a recent commentary in the Journal of Marketing, most marketers are not machine learning or data analytics experts but mere users of complex technologies and artificial intelligence (AI). Therefore, they are only able to observe and interpret outputs, often not understanding how they were produced. As a result, marketers are unable to learn from them. If we already struggle to understand some of the intended outcomes of our marketing actions, how can we expect to predict the unexpected ones?

› **Error** ⤫ A second source of unintended consequences is error, which Merton discusses in the sense of bias and logical fallacies. One of the most paradoxical features of the digital marketplace is that while numbers and data abound, insight often does not. For example, observational rather than experimental data are too often used to make

If we already struggle to understand some of the intended outcomes of our marketing actions, how can we expect to predict the unexpected ones?

causal claims for advertising and other marketing effects. But what true uplift is attributable to a campaign if we cannot compare it to a control group? As Blake and his colleagues demonstrate in a well-known study published in 2015, eBay found out that the return of advertising spent on their Google search advertising was in fact negative after designing a quasi-experiment in which they halted search advertising in some geographical areas but not in others. This came as a surprise to eBay's executives, who believed, based on prior observational data, that search advertising was effective in driving traffic to their marketplace. Confusing correlation and causation can lead to potentially dangerous inferences about why we observe certain phenomena. For example, think about the ongoing debate on vaccines and adverse health effects: Are they caused by the vaccine, or did the two events merely co-occur? The result of misattribution of causality is not only suboptimal decision making but also incorrect prediction. If we falsely attribute the causes, we cannot accurately predict the consequences – intended or otherwise.

› **Imperious immediacy of interest** ✕ A third source of unintended consequences is a sole focus on the intended immediate consequences of an action at the expense of considering long-term potential consequences. For the longest time, Facebook's relentless focus on growth and disruption was captured by their infamous internal motto "Move fast and break things." By focusing on this immediate strategic imperative, Facebook neglected many other consequences of the platform they were building, such as data protection and consumer privacy, the potential to manipulate opinion, consumer mental health, and so on. These consequences were possibly not important enough to stifle growth. As another example, YouTube's recommendation algorithm is designed to optimize a user's time spent on the platform. The longer a user stays, the more YouTube learns about their behavior and the better they can monetize their platform. That is the consequence of immediate interest. But an unintended consequence could be the creation of so-called "rabbit holes": The recommendation algorithm may suggest increasingly extreme content to keep a user interested. It is noteworthy that the consequence of immediate interest often relates to a commercial objective, whereas the unintended consequences often affect wider societal issues. In contrast to inadequate knowledge and error, which make it difficult to predict unintended consequences, the immediacy of interest makes it unimportant or uninteresting to do so. It is a choice.

› **Uncritical focus on fundamental values** ✕ The fourth source of unintended consequences is in some way also the result of choice. In this case, further consequences might not be considered when an action seems to be a logical and mandatory consequence of fundamental values. The reluctance of many social media platforms to regulate content is a good example here. Freedom of speech is an important fundamental value in democratic countries, and in particular in the US. US-based social media companies are extremely uncomfortable with the idea of accepting any sort of editorial responsibility over the content shared by their users. Yet, allowing anybody to say anything can result in incredible distortions to our sense of reality and our ability to judge what is "true." This can have dangerous consequences, as we are seeing with the proliferation of conspiracy theories that are causing untold damage to our societies – ranging from undermining the vaccine roll-out against COVID-19 to Trump supporters storming the Capitol. Of course, having private tech companies become the regulator of free speech can also have dangerous consequences. The problem with fundamental values is that they are rarely questioned – because they are so fundamental. If that is the starting position, there is indeed no room to even consider the unintended consequences that might arise as a result.

Some current battlegrounds of digital marketing ⤫ Let´s now have a closer look at some of the complex battlegrounds of digital marketing and how inadequate knowledge, errors, shortsighted choices and an uncritical focus on fundamental values can produce outcomes we do not want.

› **Algorithms: Friends or foes?** ⤫ We increasingly rely on algorithms to either make automated decisions for us or assist our decision making. Because these algorithms are often black boxes, we basically entrust many decisions to mechanisms we mostly do not understand. This comes in handy if we can save time and effort to reach certain goals, but this convenience also comes at a price: loss of autonomy. Buder and his colleagues (p. 46) argue that algorithms fulfill various organizational objectives that users may not be aware of and that may not be in their best interest. We cannot be sure if algorithms truly optimize the benefits of their users or rather the return on investment of a company. The options an algorithm suggests are only a subset of all possible choices; yet, we will never know what these other possible choices are. In these settings, free choice is a mere illusion. Even worse, narrowing down options can open the door to discrimination or manipulation.

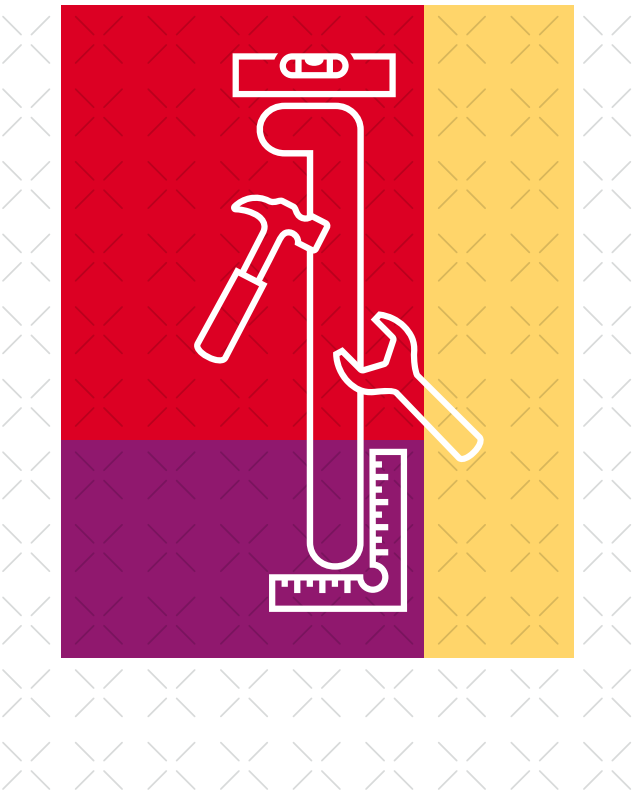
Examples of algorithmic racial or gender discrimination abound, but even if an algorithm itself is non-discriminatory, market forces can lead to biased outcomes: Lambrecht and Tucker (p. 24) found discriminatory effects of Facebook advertising. In their study, women received information about STEM careers less often than men, even if they were targeted equally: a problem that seemed fairly simple but turned out to be almost impossible to fix. This is a typical example of inadequate knowledge leading to unintended consequences. The world of interconnected algorithms has become so complex that acting in consumers` best interest is tricky, even with the best motives.

» *Once a metric has been defined as relevant, a lot of focus and effort concentrate on improving on this metric.* «

› **Data privacy: The price of personal data** ⤫ Consumers are used to accessing free and very convenient digital services. Free email and messaging, free social media, free apps, free search and information, and customized offers are integral parts of our daily routines. We chat with friends, post our pictures, measure our performance, navigate to desired locations and buy the interesting products that make it to our screens as if by magic. But there is catch. Free isn´t really free: We pay with the traces and data we leave behind online, often without being aware of it. In his article, Wertenbroch reports results of a study showing that consumers underestimate the monetary value of the personal data they provide (p. 18). This is an example of error leading to unintended consequences. Companies in the data business can take advantage of this underpricing and accumulate profits at the expense of consumers. Regulators such as the European Union try to protect consumer privacy with legislation like the GDPR, with limited success. Regulation is necessary but can also undermine competition for data and hence prevent a fair price for data.

› **The power of metrics** ⤫ In our data-driven world, everything comes down to seemingly undisputable numbers, metrics and benchmarks. In this issue, Kuebler and Pauwels (p. 30) take a closer look at the 2016 US presidential election and analyzed why democratic election managers trusted in the wrong metrics (indicating a comfortable lead for Hillary Clinton) and hence made devastating mistakes in their campaign. We often have multiple data sources to choose from, and finding the right mix of data and metrics for sound decision making can be challenging. As the famous saying goes, "garbage in, garbage out." Managers should therefore be critical of the metrics that guide their decision making and use common sense and alternative data sources and metrics to counter check results.

Another problem is the agenda-setting power of metrics. Once a metric has been defined as relevant, a lot of focus and effort concentrate on improving on this metric. In our interview (p. 42), Douglas Rushkoff points out that a greater part of humanity is working on making our social media feeds more persuasive than on making clean water



more accessible. This is a striking example of unintended consequences caused by the imperious immediacy of interest. But even if we agree on what is important, numbers and metrics can be misleading. In his recent book, Tim Harford observes that data "may be a pretty decent proxy for something that really matters." If what matters is complex, the proxy might miss out on relevant aspects, leading to critical gaps between what we're able to measure and what we actually want. For example, if marketers decide that high engagement with content is important, the focus will be on improving metrics such as the number of clicks or shares. These objectives become an incentive to produce content that is attention-grabbing and evokes strong emotions – leading to an environment in which facts and cool-headed information have less chance to spread. Is this really the world we want to create? This brings Albert Einstein's famous quote to mind: "Not everything that can be counted counts, and not everything that counts can be counted." In the age of algorithms, everything needs to be broken down into numbers; therefore, the problem of unintended consequences due to simplified, incomplete or simply wrong metrics is more striking than ever before.

› **The limits of freedom** ✕ "Personal freedom ends when another one´s freedom begins" is a common rule to define what is acceptable and what isn´t. Following this common-sense advice turns out to be quite complicated in the digital space. Is hate speech acceptable, and is there a limit? Where is the line between preventing fake news and allowing the freedom of speech? In their article, Gaspar and Dieckmann (p. 52) report the results of a survey of a selected group of "Leaders of Tomorrow," who would clearly be willing to limit digital freedom to preserve overall freedom. But the matter is delicate, as the discussion following Trump´s Twitter ban has shown. Twitter started out with labeling his tweets on election fraud as "disputed claims." After the Capitol riots, Trump´s account was temporarily and then permanently suspended, and YouTube and Facebook closed Trump´s accounts as well. While killing these communication channels was generally welcomed with relief, the decision was criticized not just by Trump supporters. This controversy is an unintended consequence of the uncritical focus on fundamental values, in this case, free speech. Discussions about who should decide which content gets censored are necessary and overdue. There is common ground that it shouldn´t be up to Marc Zuckerberg or Jack Dorsey to decide what is acceptable and what isn´t. In democracies, other routines, procedures and authorities will be required to prevent the abuse of power and pave the way for totalitarian societies.

How to fight unintended consequences and digital dystopia ✕ As we have seen, challenges abound, but possible solutions are complex, and there is a danger that the action of solving one problem can lead to unintended consequences on its own. How can we fix unwanted effects of digital marketing without causing a flood of follow-up problems?

› **Respect and foster privacy** ✕ At least in Western democracies, there is a widespread consensus that privacy needs to be safeguarded and that the current state of privacy protection needs to be improved. Customers should be able to decide which of their personal data should be accessible and to which organization. The European Union's GDPR is generally praised as a first and necessary step toward this goal, but regulation alone won´t be sufficient. It is considered too slow, too complicated and not a means to handle the quasi data monopolies of big companies like Google, Apple or Facebook. In his article, Thomaz (p. 36) expects that these companies themselves will start initiatives to give privacy back to consumers for strategic reasons, as consumers have increasingly more options to escape their grasp. Indeed, Tim Cook of Apple announced just recently that the company is thinking

FIGURE 2 › How to fight the unintended consequences of digital marketing

Solutions

- Transparency
- Control over personal data
- Balanced goals and metrics
- Human values

Unintended consequences

- Loss of freedom
- Manipulation
- Discriminating algorithms
- Loss of privacy
- Biased metrics
- Short-sighted goals

along these lines. And technical solutions for more sharing of personal data, more consumer control and more transparent use are in sight. Tim Berners-Lee, keen to "fix" the World Wide Web, is working on the project "Solid," which might provide a solution for just that (see Box 2).

› **Act transparently and mobilize the crowd** ✕ Transparency is another much-stated request in the field of digital marketing. It not only concerns access to personal data but also how these data are further used and processed, in particular by algorithms, apps and devices. Even if transparency is no universal cure, it can help uncover many of the causes of unintended consequences stated above and help avoid them. Increased transparency will make it easier to spot discriminatory algorithms, problematic metrics and unbalanced goals of companies. Decisions on what constitutes "fake news" should be transparent and based on agreed upon principles to prevent the abuse of power. Complex systems need complex monitoring. The chances to avoid and detect undesired unintended consequences increase when different stakeholders join forces. When "the crowd" is allowed to watch more closely what is happening behind the scene, counteraction can be more effective.

› **Think more holistically** ✕ Technology is often praised for being able to optimize processes and outcomes, but whether the right things are optimized is increasingly questioned. The call for more balanced and holistic thinking is not limited to digital marketing. During the last years, especially the young generation has not only been challenging "Wall Street Thinking" and the excessive use of the natural resources of our planet, but also the power of Big Tech. While technology is regarded as part of the solution for many problems, there is also rising skepticism as to whether technology is just serving short-term economic goals of companies and their shareholders. The high concentration of power of a few global players

» *Decisions on what constitutes "fake news" should be transparent and based on agreed upon principles to prevent the abuse of power.* «

BOX 1

The Solid project – A solution for the data privacy challenge?

Tim Berners-Lee created the Solid project to give back consumers control over their data – and, as such, give them more power. The solution he developed are "pods," which stands for personal online data stores. Pods give individuals access and control over their own data by collecting them and keeping them safe within the pod. Pods are like small data vaults, and Solid acts as the bank. Companies can use this bank to help facilitate access to the data in a pod. If permission is granted, they would get a secure link to process a specific task, just accessing the data that are actually needed for that task. The important difference to today's dominant model is that companies can link to the data in a pod, but they cannot collect them.

In the UK, the National Health Service is currently working with Berners-Lee on a pilot project for the care of dementia patients. The ultimate vision is to create a decentralised marketplace in which consumers, rather than companies, are empowered and enjoy data sovereignty.

is certainly worrying, and societies need to be alert and critical towards their actions. The price we are paying for convenience needs to become apparent and negotiable.

Many recent events have put the potential dark sides of digital marketing in focus. Whether or not we are determined to address the causes of these unintended consequences comes down to deciding in which world we want to live. Not only Big Tech, but also other companies, institutions, governments and individual consumers need to ask themselves what they truly value. If humanness is what we as a society want, we might need to become more thoughtful about what true problems technology will be able to solve. Technology is not our enemy. But it is for us to ensure that it serves our emotional and social needs – and not just the financial needs of a few dominant players.

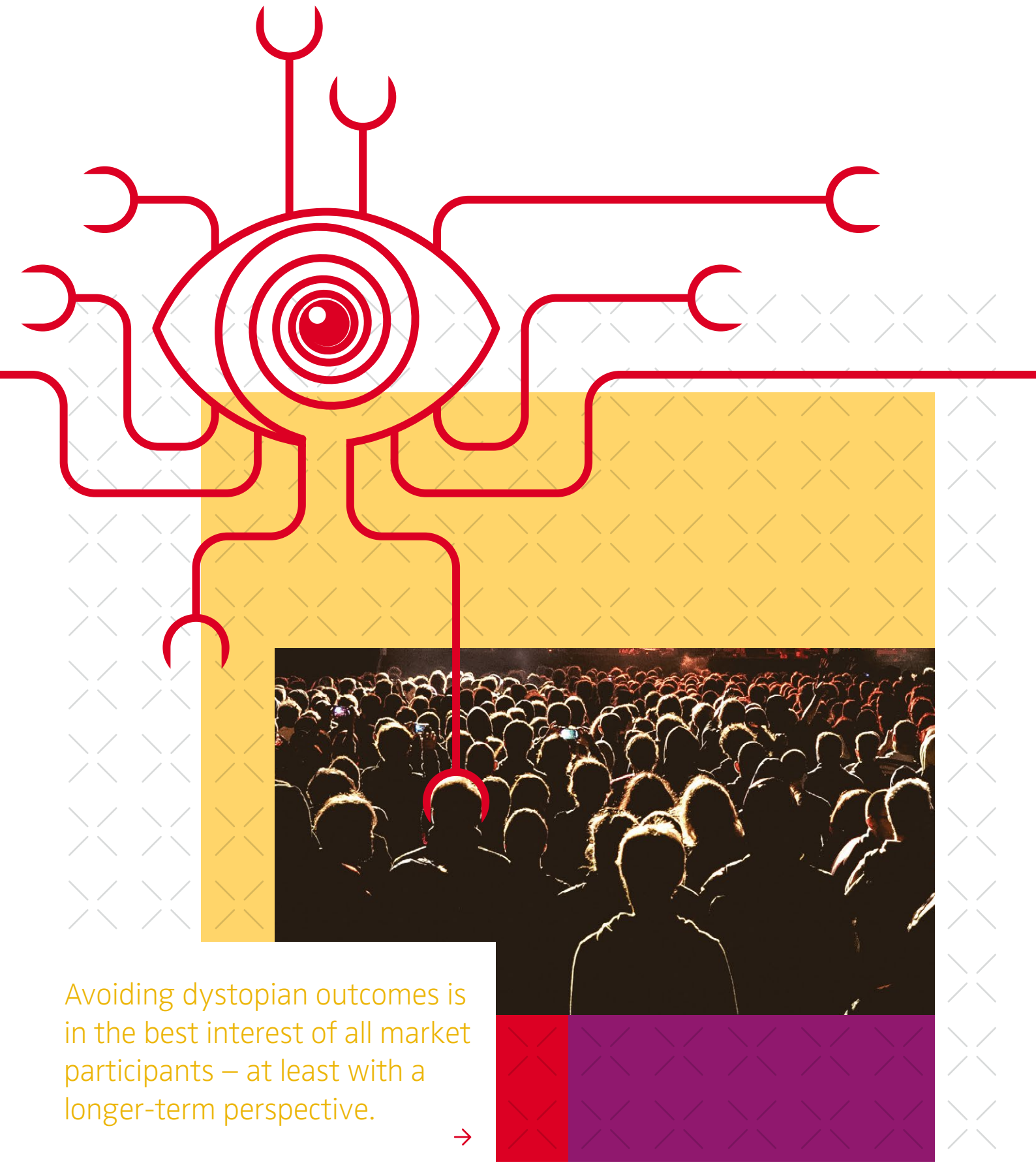
FURTHER READING

Blake, Tom; Nosko, Chris; & Tadelis, Steven (2015): "Consumer Heterogeneity and Paid Search Effectiveness: A Large-Scale Field Experiment", Econometrica, 83 (1), 155-74.

Hartford, Tim (2021): "The Data Detective: Ten Easy Rules to Make Sense of Statistics", Riverhead Books, New York

Kozinets, Robert V; & Gretzel, Ulrike (2021): "Commentary: Artificial Intelligence: The Marketer's Dilemma", Journal of Marketing, 85 (1), 156-159.

Merton, Robert K. (1936): "The Unanticipated Consequences of Purposive Social Action", American Sociological Review, 1 (6), 894-904.



Avoiding dystopian outcomes is in the best interest of all market participants – at least with a longer-term perspective.

Marketing Automation: Marketing Utopia or Marketing Dystopia?

Klaus Wertenbroch

KEYWORDS

AI, Algorithms, Free Choice, Marketing Automation, Personalization

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Marketing Utopia – Individual real-time access to consumers for convenient and relevant offers Marketing has undergone revolutionary changes in the last decade. Virtually all processes involved in marketing can now be automated, from segmentation and targeting to service provision, advertising, distribution, retailing, and pricing. The ability to track individuals' behavior online and to merge multiple data sources into "big data" sets increasingly allows marketers to target consumers individually. Machine learning-based algorithms can tailor product offers, advertisements, and prices to individuals in real time: Utopia has become real for marketers. Such personalization boosts companies' profitability from more accurate price discrimination, and consumers enjoy convenience and offers tailored to their needs. However, automating and personalizing interactions may also have less positive economic and psychological consequences for consumers, among them higher individual prices and threats to their perceived autonomy.

Higher individual prices for consumers Companies can maximize profits when every customer pays a price for a product that is close to his or her willingness to pay (WTP). In the past, individual WTP was impossible to determine, often allowing consumers to shop for less than they would be ready to pay. Today, machine learning-based prediction algorithms can approximate individuals' preferences and their WTP at ever greater levels of precision, and they can create personalized offers reflecting this knowledge. In one experiment, recruiting company ziprecruiter.com found that it could increase profits by more than 80% when switching from its historical uniform pricing to algorithm-based individualized pricing, using more than a hundred input variables, by which it could characterize each of its customers.

BOX 1

Consumers underprice their private data

What's adequate compensation for consumers' private data? Geoff Tomaino, Dan Walters, and I conducted several experiments to investigate the price consumers demand for their private information. In a series of experiments, we compared how much several thousand participants on Amazon's MTurk and Prolific demanded for the same private data in exchange for money or for goods or services. Consumers with rational preferences for privacy should want equal compensation in both conditions. However, across all experiments consumers systematically valued their private data less when they were asked to trade it for goods [as measured by how much money they wanted for these goods] than when they were asked to sell it for money. Of course, e-commerce companies usually collect consumers' private data in return for services and not in return for money.

FIGURE 1 > The monetary value consumers associate with providing three hours of their personal GPS data in exchange for goods or for money (in £)

Results from one of our experiments, n = 140, similar results in follow-up experiments

Uber's route-based pricing reportedly uses machine learning to determine route- and time-of-day-specific prices that take various demand conditions into account. Uber could easily use customers' ride histories and other personal data, along with information that machine learning can extract from linking different riders' data, to derive even more personalized prices. While these possibilities help companies advance their profit and shareholder value maximization objectives, they are alarming for customers. Personalized price discrimination may benefit consumers with a lower WTP who might otherwise be priced out of the market, but, overall, consumers likely end up paying prices closer to their WTP, leaving them with less surplus, especially consumers with a higher WTP.

Automating and personalizing interactions may also have less positive economic and psychological consequences for consumers, among them higher individual prices and threats to their perceived autonomy.

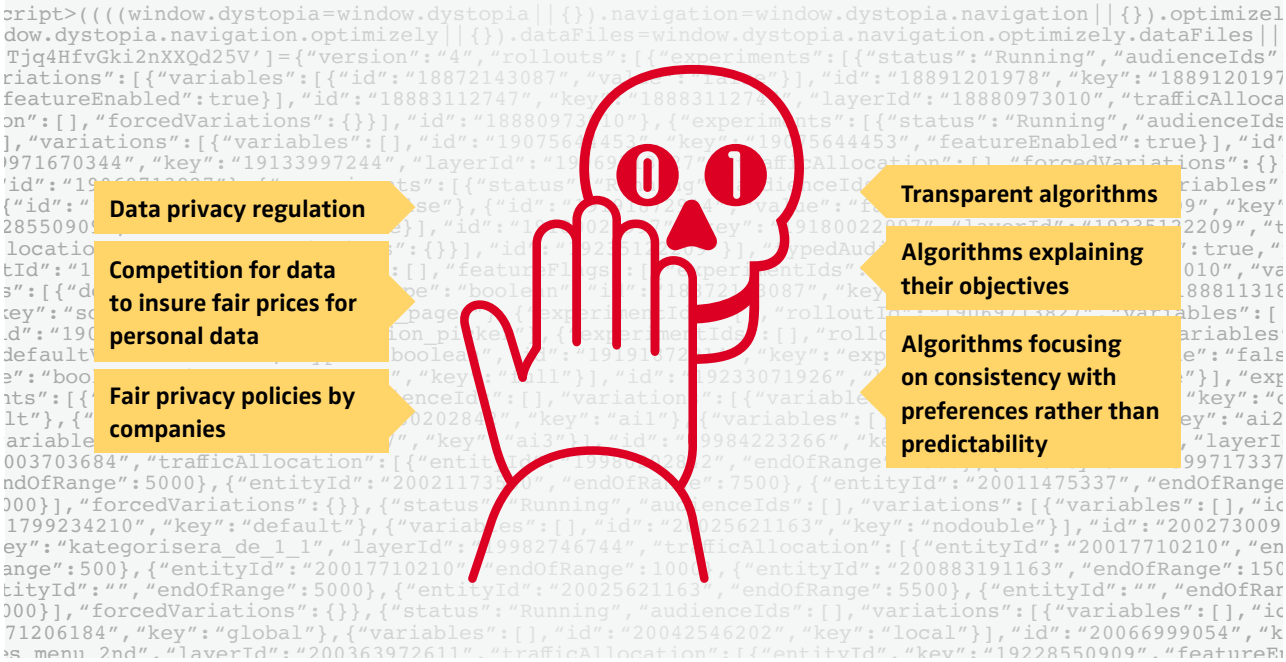
Low compensation for personal data Typically, consumers freely reveal all the information necessary to infer their preferences and WTP. Wouldn't charging for such data allow consumers to be compensated for the downsides of personalization? Companies argue that they aptly compensate consumers with better offers and free services like YouTube videos, social networking, etc., whereas critics argue that companies do not compensate consumers enough. In several laboratory experiments, applying strict criteria of rational choice theory, we found that consumers tend to systematically underprice their private data when they barter it away for goods or services as opposed to selling it for money (see Box 1 and Figure 1). Consider consumers using Google or Facebook. Consumers pay for these services with private data, which these companies collect and use to generate profits as advertising platforms. It seems that consumers undervalue their private data in such non-monetary exchange settings because they do not view their data as a marketable resource, even though they are handing the data over to for-profit companies. This allows companies to extract extraordinary profits and gain market power at consumers' expense. The unprecedented valuations of the dominant technology companies, to which consumers turn over their private data, are perhaps a reflection of this uneven exchange. Markets for personal data may not work efficiently, at consumers' expense.

Loss of autonomy For consumers, there is another discomforting aspect of giving up their privacy: less autonomy. As human beings and consumers, we value being autonomous in our choices, free from external influence imposed by other agents and expressing our own free will. But autonomy requires privacy. Without privacy, we become predictable, which, of course, is the goal of prediction algorithms, used to predict anything from individuals' credit defaults or insurance claims to responses to advertisements and purchase probabilities. In further experiments, Rom Schrift, Yonat Zwebner, and I found that consumers act as if they experience a threat to their autonomy when they understand that algorithms can predict their choices. Participants who were told that an algorithm could predict their choices, rather than just calculate how consistent their choices would be with their preferences, ended up choosing less preferred options to re-establish their sense of autonomy. Consumer acceptance of prediction algorithms may thus depend on whether marketers frame them in ways that preserve users' perceived autonomy in their choices.

Surrendering to a black box Another concern with decision-making algorithms is their "black-box" nature. Often, the mechanisms behind algorithms are too complex to be "explainable" or cannot be made transparent for competitive reasons. Not knowing how and why an algorithm decides to block desired financial transactions or grant credit card limits worries regulators and antagonizes many consumers. GDPR Articles 13 through 15 require companies to provide customers with "meaningful information about the logic involved" in such automated decisions. In another set of experiments, we found that goal-oriented explanations, informing customers why algorithmic decisions were put in place, can make up for the lack of a mechanical explanation. We showed in an actual marketplace setting that explaining the goals of an algorithm can be more satisfying to customers than purely informing them about a negative outcome. Explaining goals implies that customers are treated fairly.

The complex challenge of mitigating marketing dystopia Preventing dystopian outcomes is typically a task for regulators, but finding solutions can be difficult. Companies need to address consumer concerns in their policies as well. Figure 2 and the following points summarize possible measures.

FIGURE 2 › Measures to prevent marketing automation dystopia



› **Regulation to support competition** ✕ To protect customers and prevent companies from using their market power to charge higher prices or collect personal data without adequate compensation, regulators may attempt to both protect consumer privacy and encourage competition. Ironically, competition to provide consumers with better, more personalized offers at competitive, less discriminating prices requires sharing consumers' personal data between companies. Thus, privacy poses a policy conundrum: On the one hand, policy makers have to protect consumer privacy to limit opportunities for companies to monopolize their markets by extracting value based on personal data. Yet regulation such as the European Union's GDPR may stifle competition, which requires sharing private data across companies, implying less privacy. Paradoxically, we may not be able to have both privacy and competition. If we protect privacy, we undermine competition. If we protect competition, we undermine privacy.

› **Transparency by companies** ✕ Given the difficulties regulators face, companies themselves should take data privacy issues seriously. Instead of opposing attempts by consumers and regulators to protect privacy and to counteract the unlimited collection and use of private data, they should incorporate rules in their policies that give consumers authority over their data. Being transparent about how personal data is collected and used as well as providing consumers with a better understanding and control over their data can help restore faith in automated

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Participants who were told that an algorithm could predict their choices, ended up choosing less preferred options to re-establish their sense of autonomy.

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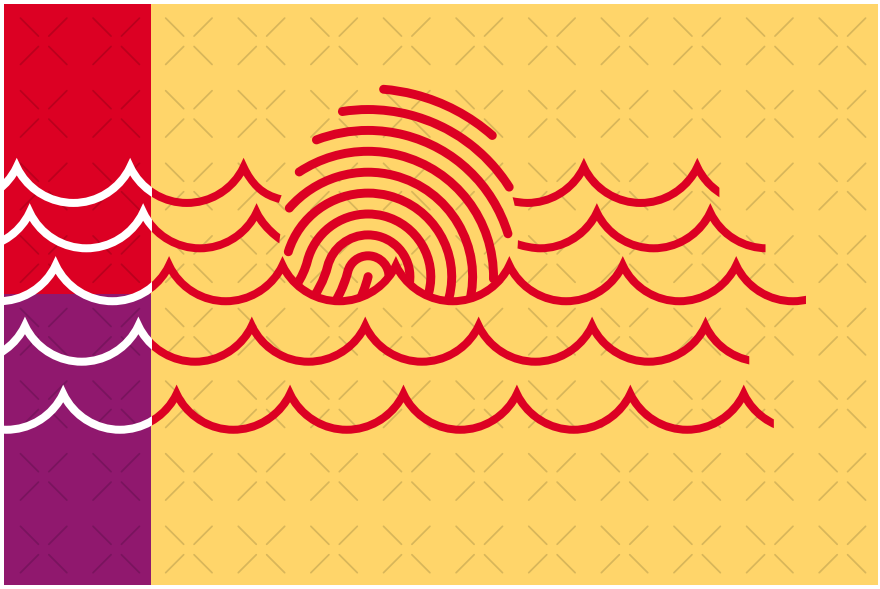

marketing routines. This may limit price discrimination opportunities but will protect brands and profits in the long term.

› **Frame algorithms in positive ways** ✕ Even if many algorithms are suspicious to consumers, they can be more efficient and accurate than humans and improve our lives. To exploit this potential, companies need to address concerns and design algorithms in ways that help consumers (re)establish trust and prevent reactance. Rather than emphasizing that algorithms predict individual behavior, marketers should present them as tools that enable consumers to act consistently with their preferences. Making algorithms transparent can further reduce skepticism. If this is not possible, explaining the goals of algorithms can also reduce fears associated with AI-driven decisions.

Considering all the effects of marketing automation, avoiding marketing dystopia is in the best interest of all market participants – at least with a longer-term perspective. To avoid dystopia, companies need to take consumer psychology into account and resist the temptation to maximize short-term profits at the cost of consumers. ✕

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FURTHER READING

André, Q.; Carmon, Z.; Wertenbroch K.; et al. (2018): "Consumer Choice and Autonomy in the Age of Artificial Intelligence and Big Data," Consumer Needs and Solutions, Vol. 5 (1-2), 28-37.

Dubé, J.-P.; & Misra, S. (2017): "Scalable Price Targeting," NBER Working Paper 23775, http://www.nber.org/papers/w23775.

Carmon, Z.; Schrift, R.; Wertenbroch, K.; & Yang, H. (2019): "Designing AI Systems That Customers Won´t Hate," MIT Sloan Management Review, https://mitsmr.com/2qY8i35.

Tomaino, G.; Abdulhalim, H.; Kireyev, P.; & Wertenbroch, K. (2020): "Denied by an (Unexplainable) Algorithm: Teleological Explanations for Algorithmic Decisions Enhance Customer Satisfaction," INSEAD Working Paper No. 2020/39/MKT, http://dx.doi.org/10.2139/ssrn.3683754.

Algorithm-Based Advertising: Unintended Effects and the Tricky Business of Mitigating Adverse Outcomes

Anja Lambrecht and Catherine Tucker

KEYWORDS

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Algorithms are everywhere ⨯ In the digital age, algorithms are often praised as powerful tools that help people and organizations make better decisions and accomplish their objectives more effectively. It is typically assumed that they function purely fact-based and would produce unbiased and objective outcomes. However, there is more and more evidence that algorithms might lead to outcomes that resemble the discriminatory tendencies of humans. For example, Amazon had to cancel plans for the implementation of an AI-driven automated recruiting tool because the system turned out to favor male over female applicants. Apple's algorithms associated with their newly launched credit cards in 2019 sparked an enquiry. The system had offered men much higher credit limits than women, even if they were married, sharing all their bank accounts.

Biases in automated advertising ⨯ Biased algorithms can also be observed in advertising. In an eye-opening study, computer science professor Latanya Sweeney investigated the role of race in Google ads. She searched for common African-American names and recorded the ads that appeared with the results. She then searched for names that are more common among whites. The searches for black-sounding names were more likely to generate ads offering to investigate possible arrest records. Apart from racial discrimination, other findings also document gender biases. In our own study related to online advertising, we investigated such effects in the context of STEM (science, technology, engineering, and mathematics) careers. We sought to understand how Internet and social media algorithms determine whether advertising content gets seen more by men or women and why. Our results suggest that advertising algorithms are not gender-biased as such, but economic forces that govern them might lead to unintended uneven outcomes.

Algorithms may have discriminatory tendencies which might be more difficult to correct than expected.

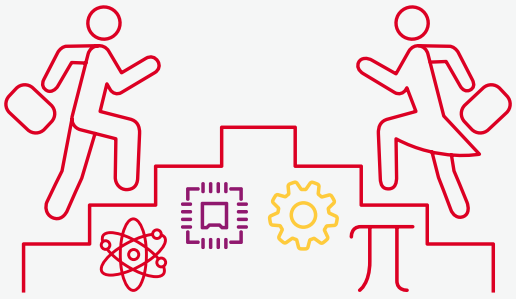
BOX 1

Researching the effect of algorithms on the science gender gap

There is a chronic shortage of graduates going into science or engineering (STEM) around the world. That shortage is even more acute among women. In the US, only one in seven engineers is female, while in the UK, that number drops to a meager 6% of the STEM workforce. This shortage is concerning both to policy makers as well as companies.

One theory that we explored is that part of the problem can lie in how information about STEM opportunities is disseminated among women in the first place and whether it is similarly easy to reach men and women with ads for STEM careers. In our field study using Facebook ads we sent messages about STEM careers to a cross-section of men and women aged between 18 and 65 in 191 countries. The ad was intentionally not targeted toward a specific demographic group of consumers (see Figure 1).

FIGURE 1 › Example of STEM ad and the used ad-targeting settings in each country



STEM careers – information about STEM careers

Location	People who live in this location		
	United States		
Age	**18 +**		
Gender	**All**	Men	Women

We then analyzed the data reported by Facebook for advertisers. We found that across all advertising campaigns:

- **20% more men than women saw the ad.**
- **In particular, women aged 25–34 were 40% less likely to see the STEM ad than their male counterparts of the same age.**

Examining possible explanations The fact that women were so much less likely to see the ad was surprising, as no characteristic of the campaign had specified such an imbalance. Therefore, we investigated possible reasons.

The first question was whether the algorithm might have learned its behavior from women simply not clicking on ads as much as men. If that were the case, the advertising algorithm may have concluded that it was more economical to show ads to men. However, it turned out that women tended to click more often than men. Thus, that could not be the reason for the uneven display of ads.

Second, we asked whether the algorithm might have faced some sort of capacity constraint in that insufficient female eyeballs were available to see ads. However, women are similarly active to men on social media.

Third, we examined whether possibly the algorithm was reflecting underlying patterns of discrimination against women in specific countries. However, data from the World Bank revealed no relationship between the educational and labor market opportunities for women and whether STEM ads were displayed to them in the study.

BOX 2

Advertising auctions on Facebook and other platforms

On Facebook's online advertising platform – similar to other online advertising platforms – different advertisers compete with each other to get their content in front of the same set of eyeballs by placing "bids." They specify the amount of money they are willing to pay if their ad is displayed to a user and the user clicks on it. When a user loads a page, Facebook then runs an instantaneous real-time auction in the background to determine which ad gets shown, using ad quality and relevance and estimated action to determine the price (see Figure 2).

Advertisers who want to make sure that they are very likely to show the ad to a specifically targeted user need to specify higher bids. If advertisers have high expectations that displaying their ads will convince users to buy their products, they are more likely to bid highly for this specific user or segment of users. At the same time, this advertiser might not even advertise to consumers who are unlikely to make purchases. As a result, the price for displaying an ad can vary strongly across different consumers or segments of consumers.

Many reports confirm that women are more likely to click on an ad and make a purchase, which holds for a large variety of goods, including tech products. Research suggests that women drive as much as 90% of all consumer purchasing. Therefore, displaying ads to women is more expensive than displaying ads to men. Looking at Facebook's recommendations to advertisers on which bids to make across different gender and age segments, it turns out that indeed, for targeting women, higher bids are recommended: On average, the advertising platform suggests that advertisers bid $0.05 more to advertise to women than men.

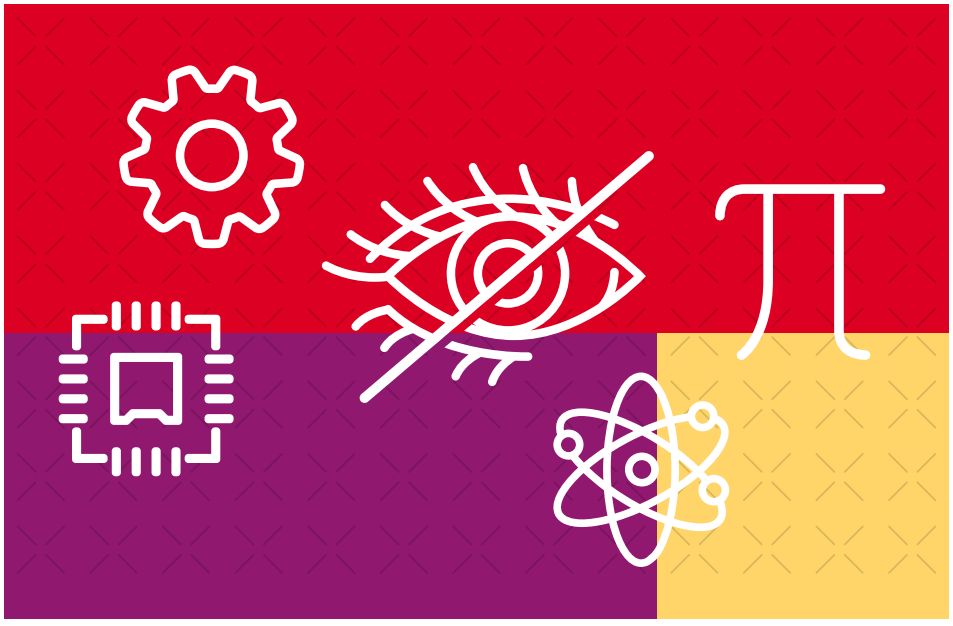
FIGURE 2 > How automated real-time auctions on Facebook and other platforms work

> *The fact that women were so much less likely to see the ad was surprising, as no characteristic of the campaign had specified such an imbalance.*

Last, we turned to explore whether underlying economic mechanisms might be causing the imbalance in the display of STEM ads across genders, and we found an explanation in the way advertising auctions on Facebook and other platforms work (see Box 2).

Economic mechanisms: The actions of other advertisers interfere ⨯ The implication of higher bids by competing advertisers is that when advertising indiscriminately across genders, such as was the case in the campaign for STEM careers, advertisers are more likely to get their ads in front of males than in front of females. The algorithm does not intend to discriminate, but spillover effects across different industries mean that they are more likely to reach one segment of the population than another. The higher price for female views results from the higher likelihood of women, especially those aged 25 to 34, to convert each view of an advertisement into an actual purchase. This means that for an advertiser with a gender-neutral strategy, it is more difficult to reach women. Economic forces might unintentionally favor men.

Mitigating insidious algorithms is tricky ⨯ Finding solutions to this kind of problem is challenging for two reasons. First, the issue is caused by the unintended interaction between different independent economic participants who each have their own advertising strategies. Second, employment laws in most countries do not yet adequately stipulate how targeted advertising fits within existing discrimination frameworks. Some seemingly simple solutions might not work properly.



› **Separate campaigns?** ⤫ At first sight, one potential solution could be for advertisers to run separate campaigns for men and women to make sure they can reach both demographic groups equally. We set up a campaign that would do exactly this. However, Facebook prevented us from even running this campaign. The reason was that in the US, federal law prevents companies from targeting employment ads to only one gender. So ironically, a law that was designed to avoid discrimination actually ruled out a fairly simple way to correct the bias and made it harder for advertisers to fix unintentional uneven outcomes.

› **Transparency?** ⤫ Another popular approach to preventing apparent instances of discrimination has been to focus on algorithmic transparency, whereby algorithmic codes are made public. Transparency might be helpful to counteract discrimination if it is hard-coded into an algorithm. However, in the particular context of our STEM campaign, algorithmic transparency would not have helped regulators to foresee uneven outcomes. It would likely have revealed an algorithm focused on minimizing ad costs for advertisers, which is reasonable. Without appropriate knowledge about the economic context and how such cost minimization might affect the distribution of advertising, such "transparency" would not have been particularly helpful.

› **Equal advertising distribution across groups?** ⤫ Therefore, algorithmic transparency and gender neutrality will not suffice in addressing unequal gender outcomes. The highlighted tension illustrates the further need for policy guidance in this area. One potential solution is for platforms to offer advertisers the option for a specific campaign of distributing ads equally across specified demographic groups.

Policy makers should be watchful ⤫ These results should be concerning to policy makers and platforms, as disseminating information can be important to ensure equal opportunities for access. The key allocation mechanism that dictates the distribution of information does not reflect the desirability of information dissemination; instead, it is the return on investment of advertising across all industry sectors. Advertising allocation decisions by a retail sector selling household products may affect communication opportunities and costs in the sector offering job opportunities. Groups that policymakers may worry about not receiving the same information – in our study, women, compared to men – might be more costly to engage. ⤫

» *Algorithmic transparency and gender neutrality will not suffice in addressing unequal gender outcomes.* «

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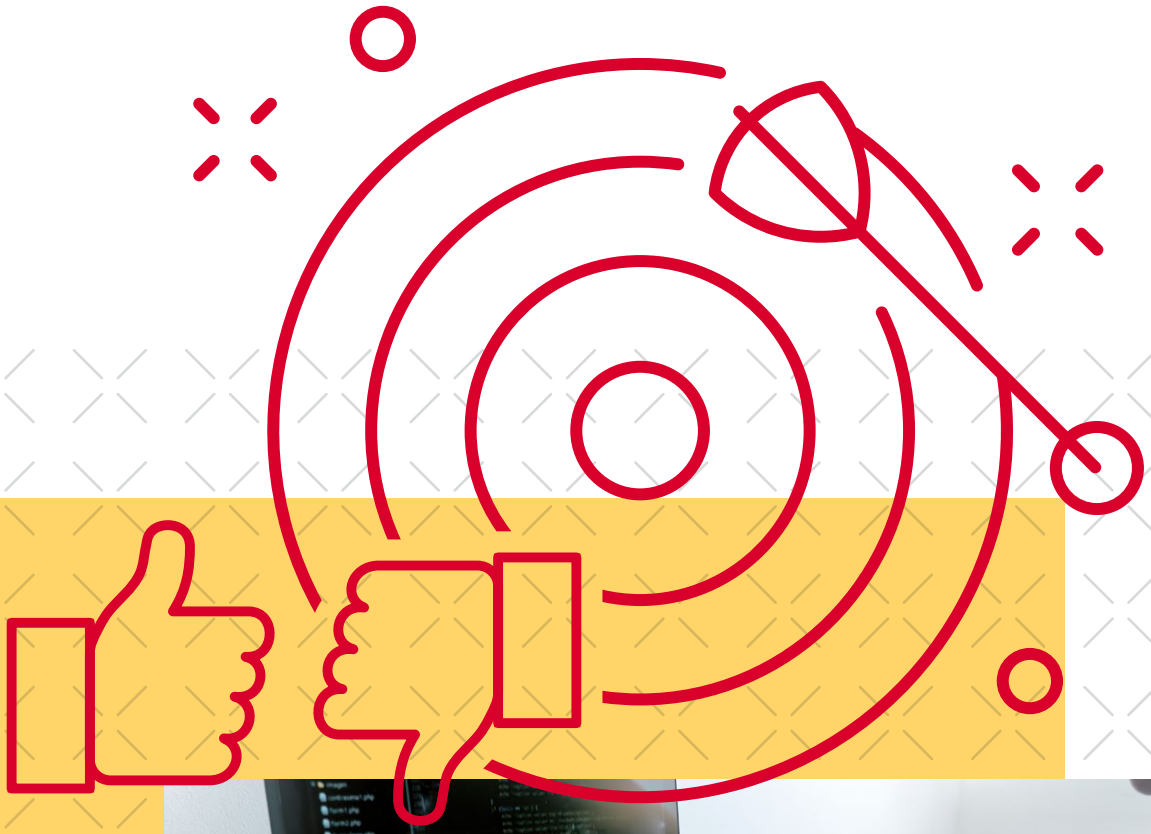
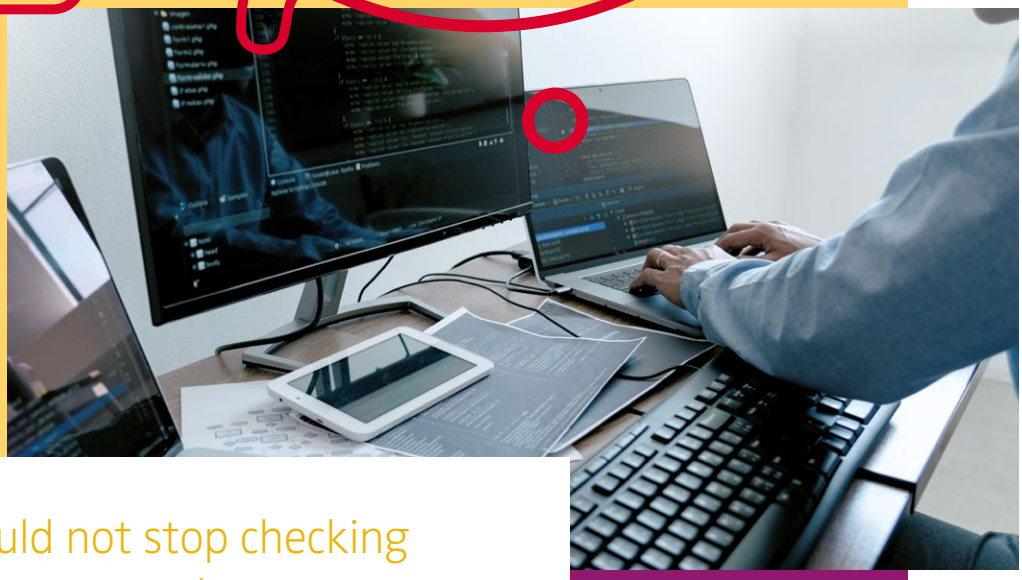
FURTHER READING

Lambrecht, A.; & Tucker, C. (2019): "Algorithmic Bias? An Empirical Study of Apparent Gender-Based Discrimination in the Display of STEM Career Ads", Management Science, Vol. 65(7), 2966-2981. https://doi.org/10.1287/mnsc.2018.3093

Sweeney, L. (2013): "Discrimination in online ad delivery", ACM Queue, Vol. 11(3), 10:10–10:29.





Managers should not stop checking alternative data once a data source confirms their preconceptions or indicates that a strategy is working great.

Metrics Gone Wrong: What Managers Can Learn from the 2016 US Presidential Election

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KEYWORDS

Metrics, Dashboards, Decision-Making, Polls, Probabilistic Models, User-Generated Data

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The age of data – boon or bane? In the last decade, we witnessed an explosion of data availability. Humankind creates more data each day than we did in the last 20,000 years altogether. Despite all this data, it's not its size but what you do with it that matters. Marketers often start from the available data to brainstorm potential uses, instead of asking the right questions, and then dig in deep: how do we find the adequate answer, which type of data do we need, where do we get this data, and how do we access, process, and combine this data with our existing insights? This leads to important issues such as "Which source is reliable?" or "Which data is richer in information?" Don't stop once a data source confirms your preconceptions or indicates your strategy is working great – check alternative data sources to ensure your conclusions are valid. Our analysis of the 2016 US presidential election illustrates what could happen if you don't.

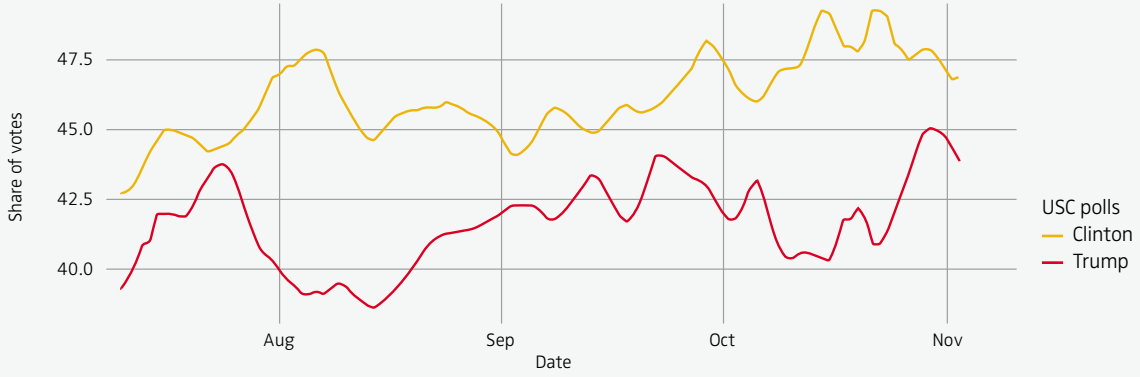
Let the user speak – the power of alternative data sources Could any campaign manager have known better? Given that campaign managers – like marketing managers – often base their decision-making on a limited set of performance metrics, finding the right polls or marketing metrics becomes essential. How about looking at other data sources and variables that – like polls – show voter engagement and preferences? In the political arena, donations, media coverage, social media followership, engagement, and sentiment may similarly indicate how well a candidate is doing. In addition, most of these variables are available for free and can easily be "harvested" (Figure 3).

BOX 1

The 2016 US presidential election: The false comfort of being in the lead

Remember the morning of November 9, 2016, waking up to the "surprise" that Donald Trump would become the 45th US president? The vast majority of national and state polls showed his opponent, Hillary Clinton, in a comfortable lead throughout the whole race. Campaign managers could choose from almost 100 different polls, of which 80% predicted a comfortable win for Hillary Clinton. Figure 1 shows the averaged polls across all publicly available polling.

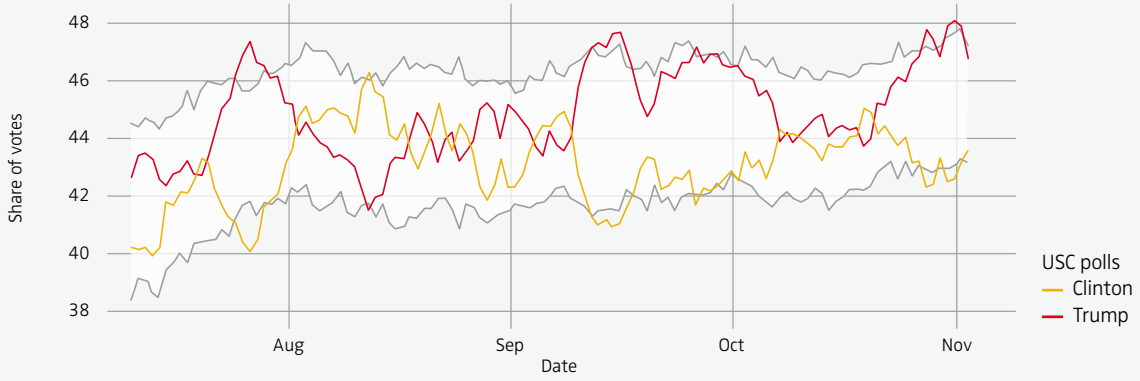
FIGURE 1 > Summary of traditional polls



Traditional polls for Trump and Clinton by Polltracker

In contrast, Figure 2 depicts the probabilistic polls by the University of Southern California (USC), showing a tight race – the overlapping confidence intervals between the grey lines – with Trump ahead for most of the campaign period, including the final weeks. A key difference between the USC poll and most of the other polls was that participants were not only asked to indicate their favorite candidate but also to indicate how likely they were to vote. Weighting these two factors makes the information richer and paints campaign managers a more accurate picture of the impact of important events. For instance, and clearly visible in the chart, many Clinton-leaning voters indicated a lower likelihood to vote after Clinton's "Basket of Deplorables" leaked video (September 12th) and FBI director Comey's letter to Congress about the FBI investigation into Clinton's emails (October 28th). But wait, didn't Clinton win the popular vote in the end? Yes, and Figure 2 shows a resurgence of Clinton in the last days, bringing us back into the area of insignificant difference between the candidates` probabilistic poll numbers. This information is not commonly displayed by most polling institutes, but it is the key to combating over-optimism.

FIGURE 2 > Probabilistic polls



USC probability weighted polls – 95% confidence intervall in white

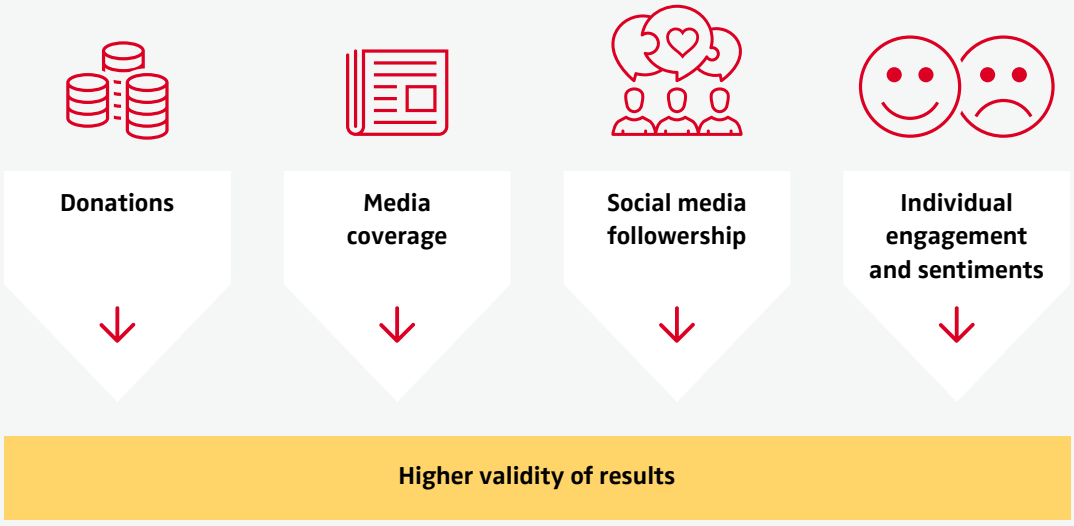
Trusting a single "silver bullet" metric does not just lead to surprises; it can also mislead your decision-making.

While the majority of traditional polls painted an overly optimistic picture for Hillary Clinton, the majority of user-generated data clearly indicated that the predicted landslide win of the democratic candidate was in jeopardy. Donations still may have comforted the Democratic campaign managers, as Clinton received much more in donations than her rival throughout the whole campaign. The amount of news media coverage in the 4 months prior to the election, however, showed a different picture. To obtain this information, we conducted a text mining and topical analysis of tweets by 56 major US news outlets prior to the election. This data clearly shows that Trump dominated the media and received much free publicity from the center and left-of-center media. Also, the left and left-leaning media focused more on the inter-party rivalry between Clinton and Sanders, while the right and right-leaning media focused more on highlighting Trump's strengths and the weaknesses of his democratic opponent.

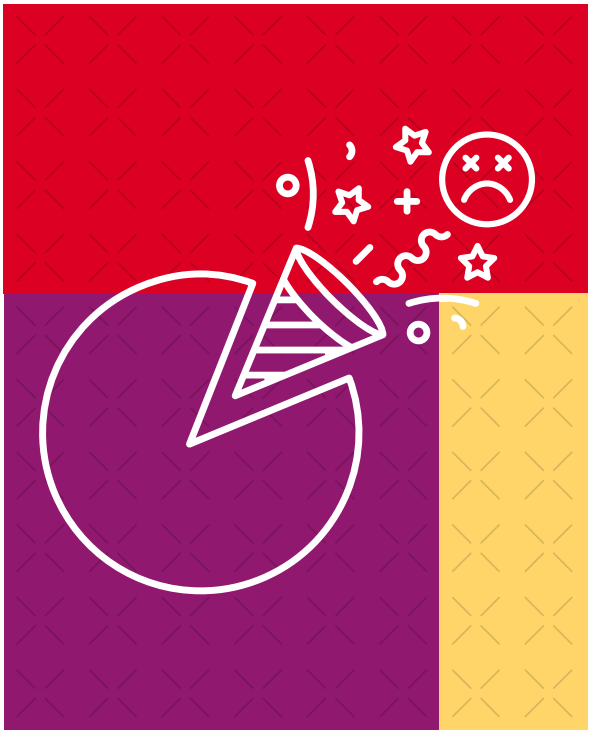
Social media deliver an even clearer picture. Throughout the whole campaign, Trump showed substantially more followership and higher growth than Clinton, again indicating that Trump enjoyed more momentum than indicated by the majority of the traditional polls (Figure 4).

A topical analysis of what users posted or commented on the two candidates' social media pages reveals that the majority of social engagements were in favor of Donald Trump. Not only was user sentiment better for Trump, but the amount of disinformation spread trying to hurt Hillary Clinton was equally high on both of the candidates' pages.

FIGURE 3 > Alternative variables and data sources for ensuring higher validity of metrics



» *Combining different data that is linked to a similar outcome helps to predict the actual outcome and to drive it with appropriate action.* «



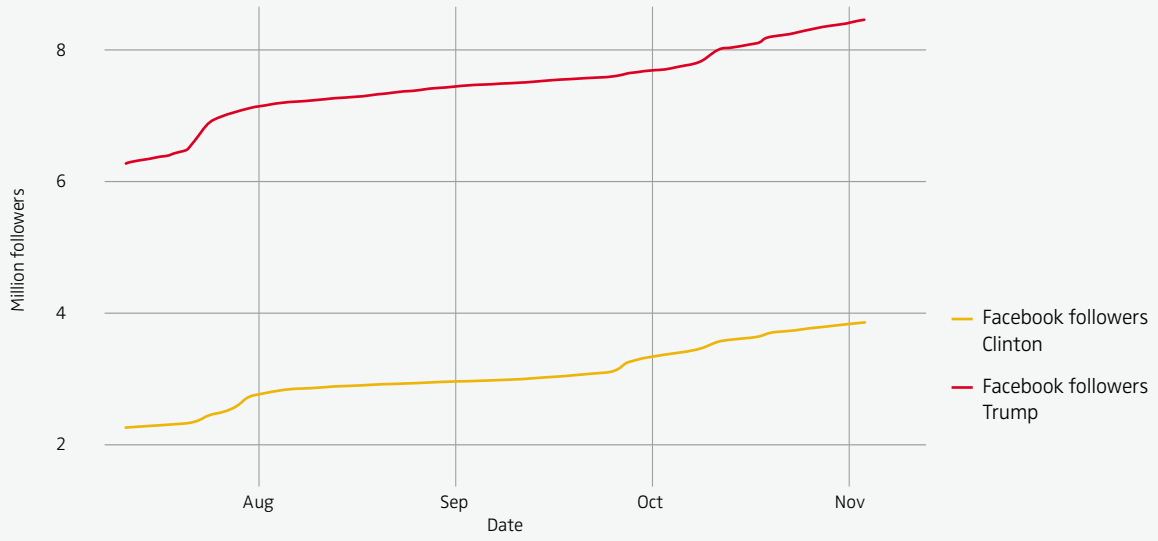
Blinded by the wrong numbers: A jeopardy for sound decision-making × Validating the bigger picture with alternative data sources is not limited to politics. The latest marketing research shows that online consumer behavior metrics can enrich and sometimes replace traditional funnel metrics. Trusting a single "silver bullet" metric does not just lead to surprises; it can also mislead your decision-making. Econometric models can help disentangle a complex web of dynamic interactions and show immediate and lagged effects of marketing or political events. Our model for the 2016 election clearly showed the impact of external events, user-generated content, campaign actions, and media coverage for both candidates, explaining the poll gap between the two candidates at different points in time.

Don't be fooled by data – Lessons for marketers ×

- **Assess numbers and forecasts critically** × A key lesson from the 2016 elections for marketers is to stay as critical of numbers and forecasts as possible. Therefore, we recommend a healthy dose of skepticism when assessing insights presented to you. One way to do so in the avalanche of data is to verify existing insights and to check validity against alternative data sources. Combining different data that is linked to a similar outcome – in our scenario data on voter preference – helps to predict the actual outcome, to explain it and to drive it with appropriate action. As pointed out in our example, such data may be gained from users directly online – e.g., reviews, social media comments and posts, online forums, and other sources, such as statistical databases.

- **Rely on marketing theory to evaluate suspicious or contradicting "evidence"** × Another key challenge arises if the gathered data does not give a unanimous result. In this case, management's key responsibility is to use its expert judgment. A first step in the right direction is to check for face validity. Does the algebraic sign of the estimated effect ring true to you? As humans, we have the uncanny ability to integrate many different signals, from anecdotes and feelings to current data and the interpretation of past events. While an econometric analysis is typically better at pinpointing the magnitude and the duration of an effect, managers can easily tell whether it should be positive or negative. In many cases, simple marketing theory can be tremendously helpful. For example, if you find that your intended marketing performance variable increases when you increase prices, you may be skeptical about having the right measure at hand. Similarly, simple correlation analyses may help you to understand how variables work together and behave

FIGURE 4 › Number of Facebook followers of Hillary Clinton and Donald Trump



together. Again, a first face validity control may be helpful to screen out suspicious effects that go against marketing theory or your own experience.

› **Use dashboards based on econometric modeling** Finally, marketers are well advised to develop company- or brand-specific dashboards, which should be based on econometric models. Relying on established procedures and the help of econometric methods, such as vector autoregressive models, not only may help managers to identify and track key performance variables but may also be helpful to understand which data sources bring meaningful information to a decision-maker's table: As suggested by Pauwels in his 2014 book, "It's not the size of your data, but what you do with it."

Using such approaches to continuously monitoring your company's data environment and controlling the reliability and validity of available data for decision-making will finally enable you not to be blinded or overwhelmed by the richness of data available to you. In other words: To avoid being lured into the dark side of decision-making, shed some light on your data, and think critically about its utility. Then your marketing will be great again – seriously great!

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FURTHER READING

Kübler, R. V.; Colicev, A.; & Pauwels, K. H. (2020): "Social Media's Impact on the Consumer Mindset: When to Use Which Sentiment Extraction Tool", Journal of Interactive Marketing, Vol. 50, 136-155.

Kübler, R.; Pauwels, K.; & Manke, K. (2020): "How Social Media drove the 2016 US Presidential Election: a longitudinal topic and platform analysis". https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3661846

Pauwels, K. (2014): It's Not the Size of the Data – it's how You Use it: Smarter Marketing with Analytics and Dashboards. Amacom.

Marketing managers should expect less access to data and therefore invest in trustful relationships where customers voluntarily opt for less privacy.

Ghosts in the Dark: How to Prepare for Times of Hyper-Privacy

Felipe Thomaz

KEYWORDS
Dark Web, Privacy, Privacy Calculus, Privacy Paradox, Personalization

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A hidden digital romping ground is thriving in the dark ⚔ The web is a dynamic, complex, and rapidly evolving environment, with literal fortunes made and lost as the waves of change give rise to different business models. However, this complexity is deeper than immediately obvious. Apart from the surface web that most of us experience every day, there is a separate, hidden layer called the dark web. Here the websites are unindexed, access is only possible via Tor, a specialized browser, and communications are usually encrypted. Every aspect of the dark web is designed to provide privacy to its users. If you've heard of the dark web before, then it might have been in discussions related to the number of illicit businesses operating there. It is the home of hackers, drug markets, data brokers, and human traffickers. However, it also serves as a safe haven for whistleblowers, activists, and journalists, as well as citizens from countries where communication is either restricted or monitored. Altogether, it is a place built for individuals who are exceptionally incentivized to be digitally invisible.

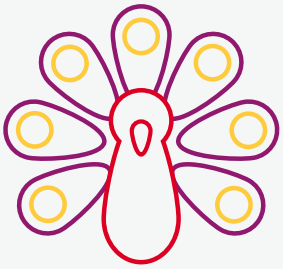
The dark web – a dorado for privacy ⚔ However, the dark web has its bright sides because it also exists as an unregulated testbed for technologies that we will eventually experience on the surface: WhatsApp, as an example, provides similar end-to-end encrypted communication, and surface-web consumers start gaining experience with bitcoin, whereas, in the dark web, they use it for a shadow economy with a GDP larger than Peru's, along with several other cryptocurrencies. That provides us with a useful place to study consumer privacy and have a view of what the surface world might look like under an extreme level of consumer data protection. And the extent of that protection is astonishing. When I investigated my own digital footprint

FIGURE 1 › Marketing to Ghosts and Buffs

Ghosts

Consumers who generally deny access to their personal digital information.

- Explicit data collection on permission
- Transparency
- Anonymized aggregate profiles
- Mass-personalization



Buffs

Consumers rendering their digital essence "naked" by willing to give permission to track, record, use, and share information like purchase and site visit histories.

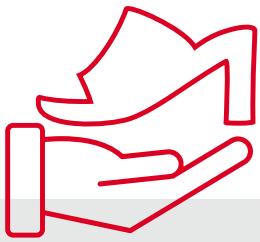
- Similar to today's digital consumers
- Implicit data collection like tracking
- Hyper-individualized profile
- Hyper-personalization

on the surface web, I found close to 5000 tracked variables across data aggregators, ranging from absurd guesses to oddly specific details that have been accumulated over the past decade. Conversely, the average "persistent" dark web user – one that decides to keep the same persona for more than a single burst of use – had eight data points. Yet, most smart dark web users who forego this persistent personal branding could choose to leave essentially zero trace of their existence. And with that, they become invisible. Ghosts.

The dark web's privacy – a nightmare for marketers This reality should be terrifying to anyone relying on the modern marketing machinery that fuels much of today's business growth and competitive edge, as all of it relies on abundant information. Lookalike matching, collaborative filtering, precision targeting, audience controls: all of it disappears if everyone is a ghost. Even our best customers will look like never-before-seen individuals until they decide to reveal themselves, by logging in or entering ID information, for instance. And as a result, marketers would be reduced to pre-information-age tactics, reliant on population averages, and at best, using unsupervised machine learning techniques, like clustering.

The privacy calculus: Ghosts or Buffs? But not everything is ghosts, doom and gloom. Ghosting is a consumer choice. This choice between privacy and disclosure is called the privacy calculus. If there is trust and a worthwhile value exchange, consumers might be willing to share their data and not enact all of the hyper-privacy available to them, continuing to give marketers a full view of their behaviors and preferences. We call these customers "Buffs" (see Figure 1). For Buffs, marketers will have the full modern array of marketing and predictive analytics available, and, provided they are doing their jobs well, one can imagine that this can only lead to higher profitability and retention rates.

Nudging consumers against the ghosting option to share behavioral information and preferences To explain how consumers can be convinced to be less secretive, I like to use an analogy. The exercise is simple: First, imagine your ideal lover/partner. This person knows you inside and out. Somehow, they always say the right thing and intuit exactly what you need, when you need it. That is one set of behaviors and one type of relationship. Now consider an alternative: This person has gone through your rubbish bin to try to figure out what you've been up to. They opened

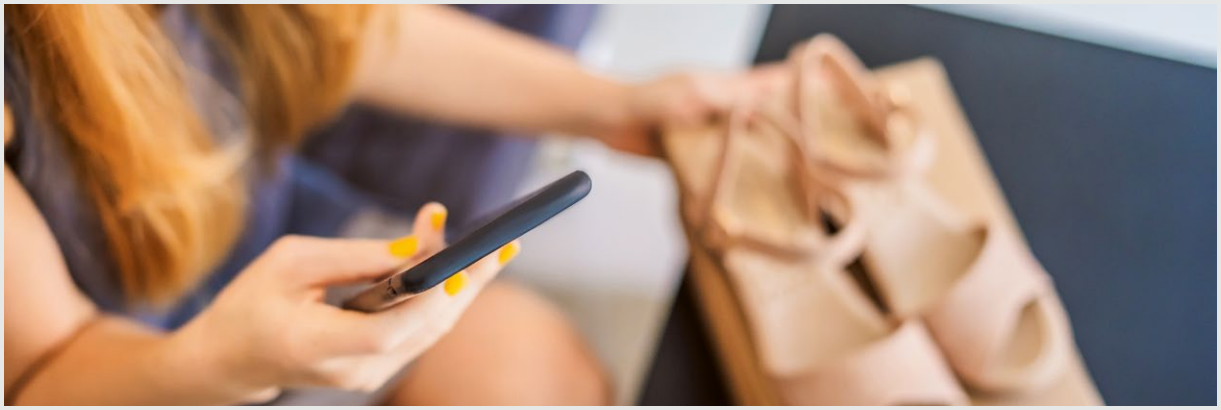


BOX 1

Soft hyper-personalization: Act like a caring partner, not a stalker

If you run a shoe retailer, you are well within your right and within the expectation of remembering your customer's shoe size, as well as their color/brand/designer preferences. You might have less of a defensible claim to their credit card statements, social media private communications, and geolocation history. And here you run the risk of losing them altogether, both in terms of cash and data flow, and that is a blow to your financial position as well as your competitive ability. But note that the other side of the coin is damaging as well: By not acting on information you are expected to know, you might look like a very imperfect partner. You might have experienced such a situation yourself, if you have diamond/platinum airline status but still have to enter your personal information. Every. Single. Time.

This captures the personalization paradox: Customers desire personalization and privacy, but personalization requires the reduction of privacy. The answer to this deadlock lies in part in the analogy above: We have to operate within the bounds of a caring relationship. The second part of the answer lies in what I call "soft hyper-personalization." In this approach, you do not make explicit, loud, obvious personalization choices. So, in your digital shoe shop example, you would not greet a customer "Hello, [Name], I see you are in [Location]." Instead, your environment would gently shift to focus on known individual preferences, over-indexing on likely product needs, and using information to change assortment/language/offers. The goal is to create a sense of fit, ease, and functionality at scale. Customers choose you because everything just "works so well," but they do not necessarily realize that each customer is seeing their own version of the service.



your mail behind your back and once showed up uninvited to your parent's house. They know where you are right now and likely where you're going next.

That's probably enough to give a sense of these two relationships; and based on experience, I can guess that we have moved from "Where do I find this magical person?" to "Someone call the police!" But for us, it is important to look at the details and ask why. The first person stayed within the boundaries of the relationship, likely accruing information little by little and over many interactions where they were expected to learn this information. And all of this was accomplished in the process of providing something of value. The other person, however, completely ignored relational boundaries and norms. They know things that they shouldn't, and they acted on that knowledge. This is the crazy lover/

FIGURE 2 > Key players on the path to hyper-privacy

Customers
Privacy paradox: want more privacy but keep sharing their data

Legislators
Highly motivated with limited success

Companies
Implement hyper-privacy for strategic reasons

partner, who should be rightfully feared. Yet, we might allow our brands to become the crazy lover in the pursuit of profit and in fear of missing out – but for how long? In a world where consumers can opt out of the Buff position, a caring relationship is much more promising (see Box 1).

Will the hyper-private web become a reality soon? Thankfully, the hyper-private web will never exist, or it is decades away, right? Well, that depends entirely on three groups: customers, legislators, and companies (see Figure 2). Customers could bring about a hyper-private surface web very quickly by adopting different behaviors and using specific technology. However, individuals seem unwilling to modify their digital behaviors or deploy new tech en masse. Furthermore, we also know that individuals claim to want more privacy but still share information freely when asked, which is called the privacy paradox. So, ghosting will most likely not become a mass-phenomenon too quickly.

The second group, legislators, appear highly motivated to enshrine privacy in regulation. However, their processes are slow, lack technical know-how, and are enforceable only within their national boundaries: altogether, a poor combination for meaningful change.

That leaves companies themselves as the most likely group to bring about hyper-privacy, and the reasoning behind it is strategic. Large, incumbent companies who already own significant amounts of data and who have established strong customer relationships are exceedingly incentivized to create a hyper-private environment where new challenger brands simply cannot generate valuable data assets easily and cheaply. Small losses of data to incumbents translate into massive losses to challengers, and privacy creates a significant barrier to entry. Anecdotally, significant players like Google, Apple, and Facebook have recently positioned themselves as privacy-first companies, sometimes losing advertising revenue to make it happen, moves that are pro-consumer but also highly profitable.

Manage customer choice and go for a meaningful "share of data" So, it appears that we have a rapidly approaching dark-surface web that is hyper-private and full of ghosts. Marketing managers should therefore expect access to data

to decrease by default. Everyone will need to work with less, both in primary and secondary data sources. And with the lower data availability, the cost of acquiring data from suppliers and partners will increase.

If the Ghost/Buff position is a consumer choice, then companies must worry not only about market share but also their share of meaningful and actionable first-party data. Just imagine that you've lost your CRM data assets, and cannot replace them, but your competitor is somehow intact. How long until they have an overwhelming competitive advantage? To seize the opportunities, companies should take stock of their customer relationships, specify their data needs, and learn what information is critical, advantageous, or irrelevant for their context. They should ensure that their brand is not the "crazy lover" and implement initiatives that drive choice carefully in a trustful relationship, as highlighted in Box 1. The Buff version of service that runs on full information will be more functional than a restricted, less-smart version for Ghosts. The difference in functionality will serve as an incentive for customers to move from Ghost to lifelong Buff.

If there is trust and a worthwhile value exchange, consumers might be willing to share their data.

FURTHER READING

Thomaz, F.; Salge, C.; Karahanna, E.; & Hulland, J. (2020): "Learning from the Dark Web: Leveraging Conversational Agents in the Era of Hyper-Privacy to Enhance Marketing", Journal of the Academy of Marketing Science, Vo. 48 (1), 43-63.

Instead of People Using Technology, Technology Is Using People

Interview with Douglas Rushkoff, author and media theorist

The progress of AI and new technologies triggers hot debates about the future of human life. While fans of the singularity say that AI will become smarter than human beings and should take over the world, for others, such a vision is a sheer nightmare. Douglas Rushkoff is clearly part of the second group and takes a passionate pro-human stance. In our interview, he explains why giving too much way to technologies is a mistake and why humans deserve a place in the digital future. Already today, technologies have a much stronger impact on our lives than most of us would believe. For him, being human is a team sport, and he asks for a more conscious use of technologies while keeping a rapport with other people. To safeguard humanness in a tech world, he advises carefully selecting the values we embed in our algorithms. Rather than serving perpetual growth, technologies ought to help people reconnect with each other and their physical surroundings. Whether we use technology or whether it is the technology that uses us depends on the choices we make.

MIR ✕ ***In this issue, we take a closer look at the dark sides of digital marketing, a topic you have been researching almost since the Internet emerged. In your most recent book "Team Human", you argue that digital technologies, social media, and AI-powered applications are actually anti-human. How can tools that are generally praised for empowering people and making our lives more convenient be anti-human?***

Douglas ✕ Under the pretense of solving problems and making people's lives easier, most of our technological innovations just get people out of sight or out of the way. We no longer have control of programming the technologies; instead, the technologies are programming us. We are strategized and optimized by the leading tech-companies towards purposes we don't even know.

Why do you believe that the technologies are programming us?

Technology users are subjected to a constant assault of automated manipulation. America's leading universities teach and develop "persuasive technology," which is then implemented on platforms from e-commerce sites and social networks to smartphones and fitness wristbands. The goal is to generate "behavioral change" and "habit formation," most often without the user's knowledge or consent. According to design theory, people don't change their behaviors because of shifts in their attitudes and opinions. It works the other way around: People change their attitudes to match their behaviors. In this model, we are more like machines than thinking, autonomous beings. Or at least we can be made to work that way.

Photo: "EDL Photography"

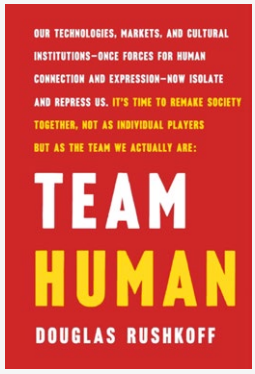
← **DOUGLAS RUSHKOFF**

ABOUT DOUGLAS RUSHKOFF

Douglas Rushkoff is the author of a dozen books on media, technology, and culture, including Team Human, Throwing Rocks at the Google Bus, Present Shock, Life Inc., and Program or Be Programmed. He made the documentaries Generation Like, Merchants of Cool, and The Persuaders, and wrote the novel Ecstasy Club and the graphic novels Testament and ADD. He is a columnist for the blog Medium.

Rushkoff studies human autonomy in a digital age, and his work explores how different technological environments change our relationship to narrative, money, power, and one another. He is a research fellow of the Institute for the Future and founder of the Laboratory for Digital Humanism at CUNY/Queens, where he is a Professor of Media Theory and Digital Economics, named one of the "world's ten most influential intellectuals" by MIT. His book Coercion won the Marshall McLuhan Award, and the Media Ecology Association honored him with the first Neil Postman Award for Career Achievement in Public Intellectual Activity.

https://rushkoff.com/



THE INTERVIEWER

The interview was conducted by Christine Kittinger in November 2020.

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We are strategized and optimized by the leading tech-companies towards purposes we don't even know.

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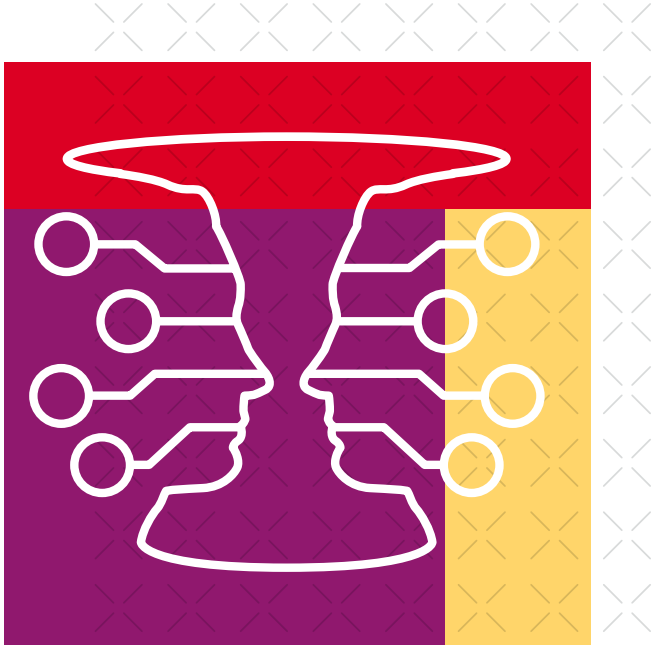
So, the problem is that we no longer make active choices but go along with whatever the technology programs us to do?

Right, just as architects of physical environments use particular colors, soundtracks, or lighting cycles to stimulate desired behavior, the designers of web platforms and phone apps use carefully tested animations and sounds to provoke optimal emotional responses from users. Every component of a digital environment is tested for its ability to generate a particular reaction, be it more views, more purchases, or just more addiction. New mail is a happy sound; no mail is a sad one. The physical gesture of swiping to update a social media feed anchors and reinforces the compulsive urge to check in – just in case.

Most people don't seem worried too much, though. They enjoy and use the services without feeling manipulated. What's the problem, if users are happy?

The problem is that helping people is no longer the main agenda of the tech companies. Technologies are seen as mere investments that require growth and growing share prices. Users and their behaviors are optimized to reach these goals. The addiction algorithms of slot machines are built into newsfeeds, in order to make engagement more addictive and make us act against our own better judgment. Technology is optimizing us instead of us using the technologies to our advantage. What is happening is that figure and ground get reversed as with Rubin's vase. What should be the figure has become the ground.



In your book, you call the outcome of this optimization the attention economy.

Yes, instead of helping us leverage time to our intellectual advantage, the Internet was converted to an "always-on" medium, configured to the advantage of those who wanted to market to us or track our activities. Going online is no longer an active choice but rather a constant state of being. And every time I swipe my smartphone, it gets smarter about me, and I get dumber about it.

Are people aware enough that everything they do online is tracked and how this affects their choices?

I don't think so. Facebook will market your future to you before you've even gotten there. They'll use predictive algorithms to figure out what's your likely future and then try to make that even more likely. They'll get better at programming you and reducing your spontaneity. And they can use your face and name to advertise through you, that's what you've agreed to. I didn't want Facebook to advertise something through me as an influencer where my every act becomes grist to marketing. Therefore, I left Facebook in 2013, but most people have fallen for this "fear of missing out" that platforms like Facebook are cultivating.

So, you argue that humans lose some deeply human traits like being spontaneous, creative, or unpredictable. Do you also see collective damage?

Yes, the big tech-companies are extracting all the value from the system. They take the data and make us do what is best for them. Take Uber, for instance. Uber helping people get rides in towns is only a means to a much larger goal in its business plan. They are investing heavily in establishing a platform monopoly and getting ready to leverage that monopoly into other domains like delivery, drones, or logistics. The prosperity of all the people who used to be in the cabbie industry ends up sacrificed for the growth of this company. And just like Uber, other heavily funded tech companies suck money out of our economy and store it in the fat of share price. That's not business; that's value extraction.

What about artificial intelligence? Don't you think algorithms and AI can solve many problems better than humans can?

When we assume that our problems are fixable by technology, we end up emphasizing very particular strategies. We improve the metrics a given technology can improve but often ignore the problems the technology is unable to address. We move out of balance, because our money and effort go toward the things we can solve and to the people who can pay for those solutions. We've got a greater part of

What is happening is that figure and ground get reversed as with Rubin's vase. What should be the figure has become the ground.

humanity working on making our social media feeds more persuasive than we have on making clean water more accessible. We build our world around what technologies can do.

Do you think we should abandon social media and back off from augmented and automatized decisions altogether to remain human?

No, technology may have created a lot of problems, but it is not our enemy. Neither are the markets, the scientists, the robots, the algorithms, or the human appetite for progress. But what we have to do is balance these elements with our more organic, emotional, and social needs. It's not a paradox. Both sides can be united, if we wish.

In your book, you suggest that people need to become more human to resist the toxic effect of digital technology. What should we do?

We should stop thinking about our utility value, because machines will always have more utility value than a human being. It starts with our approach to public education. We should educate our kids more about the essential dignity of human beings and less that they have to be useful to have a place in society. Once we learn to maintain a basic rapport with one another, that's when the human conspiracy can begin. When we breathe together with other people in a room, have eye contact, and have conversations, we start to experience power and the dignity of ourselves and of other people. Once you touch that core of dignity in yourself, it is much harder to be controlled by anyone or anything.

We are in the middle of the second wave of the COVID-19 pandemic, not the best times for building rapport. Do you think the traumas of lockdowns, job-losses, illnesses, and deaths will spark a countermovement?

Douglas: COVID-19 has forced us into a harsh, anti-social world. We have to sort of dehumanize in order not to transmit the disease. But after that, we have the chance to rehumanize more than ever – we've got to reconnect with each other in ways that re-establish local resilience, local business, local manufacturing, cottage industries, circular economics: all the stuff we can't do right now because we're stuck in this cycle of disinfecting ourselves.

This rehumanization would be part of what you see as a renaissance period. Which changes do you expect or hope for?

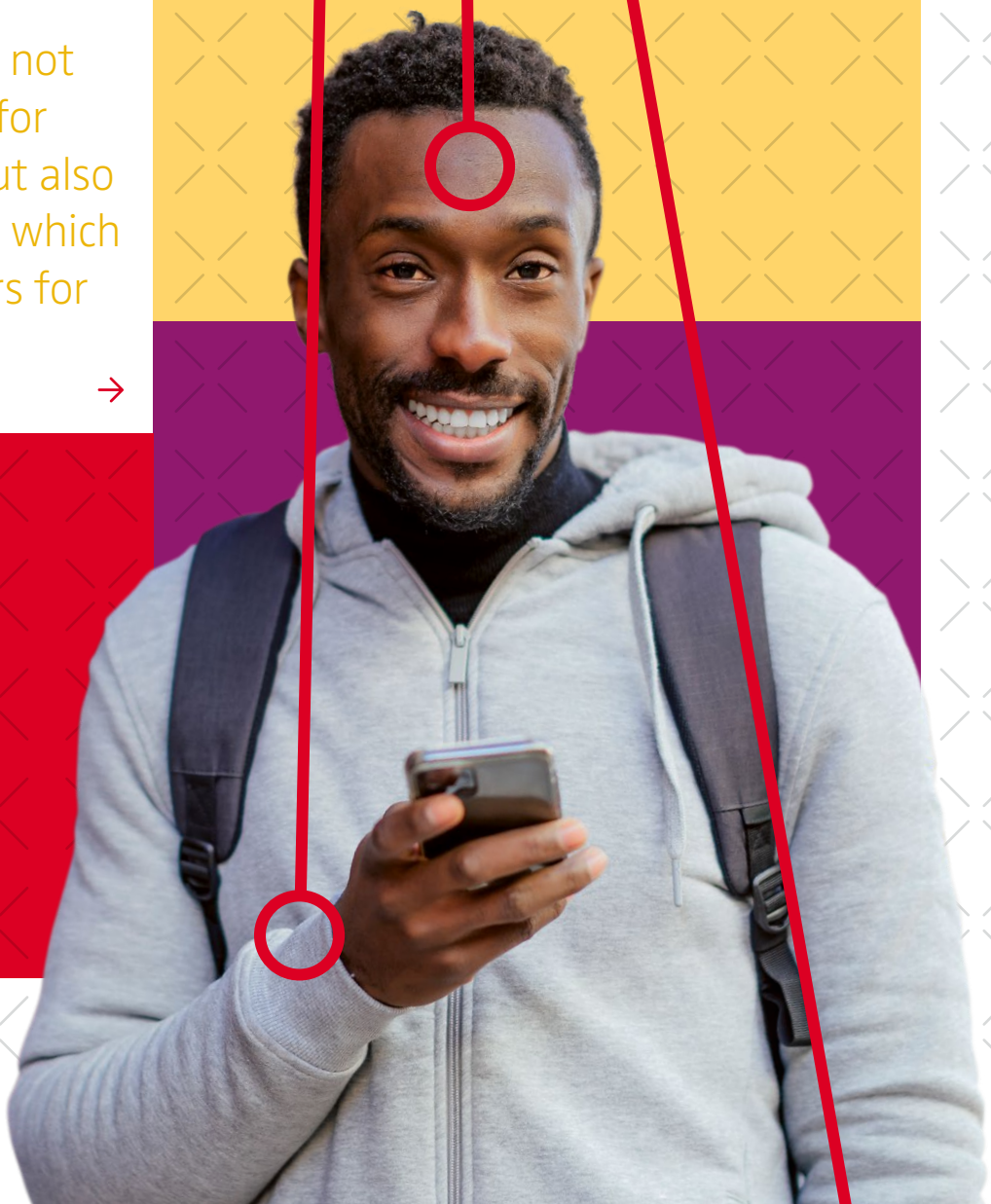
A renaissance is really the retrieval of old values and their rebirth in a new context. I think that a new form of collectivism will replace the individualism that emerged in the last Renaissance in the middle ages. The established value system ultimately allowed investors to pursue short-term profits and venture capitalists to establish incontestable and extractive platform monopolies. Now, we are discovering a spirit of collective sensibility that is multidimensional and participatory. It is reflected in the Occupy Wall Street and Fridays for Future movements, and it's the distributed economy aspired to by the open-source and blockchain movements, to name just a few.

So, you're positive that technologies and humans can coexist while humans remain the subjects in control and not the objects for optimization?

The future is open and up for invention. It is not something we arrive at but something we create through our actions in the present. Even the weather, at this point, is subject to the choices we make today about energy, consumption, and waste. I encourage people to stop hiding in plain sight. We must take a stand and insist that human values are folded into each and every new technology. We have to stand up and be seen. However imperfect and quirky and incomplete we may feel, it's time we declare ourselves members of Team Human.

Thanks for your very clear words, Douglas, and for making us aware of the threats we are facing and of ways out. We're in!

Algorithms are not only designed for convenience but also to be addictive which opens the doors for manipulation.



The Illusion of Free Choice in the Age of Augmented Decisions

Fabian Buder, Koen Pauwels, and Kairun Daikoku

KEYWORDS
Augmented Intelligence, Decision-Making, AI, Algorithms, Free Choice

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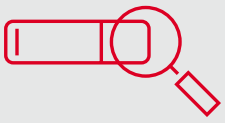
The Age of Digital Convenience The age of digitalization has created new opportunities for individuals, organizations, local governments, and countries to cooperate and mutually benefit from each other. Technologies such as smartphones and mobile Internet have enabled global networks and extended opportunities for individual and collective engagement and cooperation. Further, tasks that formerly meant tedious, long-lasting work or that could not be accomplished at all have become possible and even trivial with the extensive use of constantly improving technologies. However, more convenience has led to a growing reliance on these types of technologies in human decisions. In the augmented world in which we live, a growing number of decisions are designed by smart technologies – with unforeseen consequences for individuals and societies. Augmented decision-making undermines the freedom of choice. This is the price we pay for convenience.

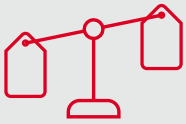
Human Decision-Making in an Augmented World The concept of augmentation or enhanced intelligence emphasizes cooperation between humans and machines, in contrast to the sometimes negatively evaluated concept of autonomous artificial intelligence (AI). While smart algorithms filter through data, identify patterns, and make recommendations, humans plan, think, and make the final decisions. Augmented intelligence is often considered as the future of decision-making for knowledge workers like doctors, managers, and pilots. However, in our everyday lives, examples of augmented decisions are already omnipresent. Who determines what you see in your social media newsfeed, which movies and series you watch, and which products you buy? And think about the first thing you do when you plan to travel to a new destination. Most likely, you are using the

BOX 1

The two sides of augmented decisions



› **Search engines** help users find what they need by filtering and sorting the online world. However, at the same time, search engine providers earn money by selling ads to businesses that nudge users to buy things that might not be optimal choices from the users' perspectives.



› **Price comparison portals** for all kinds of products and services allow users to find the lowest prices for products and services. However, they highlight offers or sort the results by default according to other criteria like commission optimization that may be more useful to the provider than to the customer.

› **Navigation apps** make it easy for users to find the places they want, from the best restaurants to shops and specific services. However, the information on the map is curated by the algorithm behind it. The first places users "find" on the map often have paid the provider for the placement. In addition, how do we know whether the routes we take are actually the best options and are not just maximizing the likelihood of walking past a shop that pays the app provider for more traffic?

› It is convenient when **streaming services** recommend movies we might like. But which criteria do they use? How do they, for instance, weigh their own productions compared to other content? What other considerations play a role when a movie or series is recommended?

map app on your smartphone and not a classic road map. Following the route that the app suggests is usually the most convenient option.

Augmentation provides clear benefits in decision-making processes: AI helps reduce information overload, filter relevant information, and limit an otherwise overwhelming abundance of choices. The algorithms behind the services create a convenient world, freeing humans for more enjoyable tasks than gathering information, framing options, and weighing alternatives for decisions. The recommendations and nudges of smart algorithms help humans to save time and still make choices that match their preferences. But this is only one side of the coin.

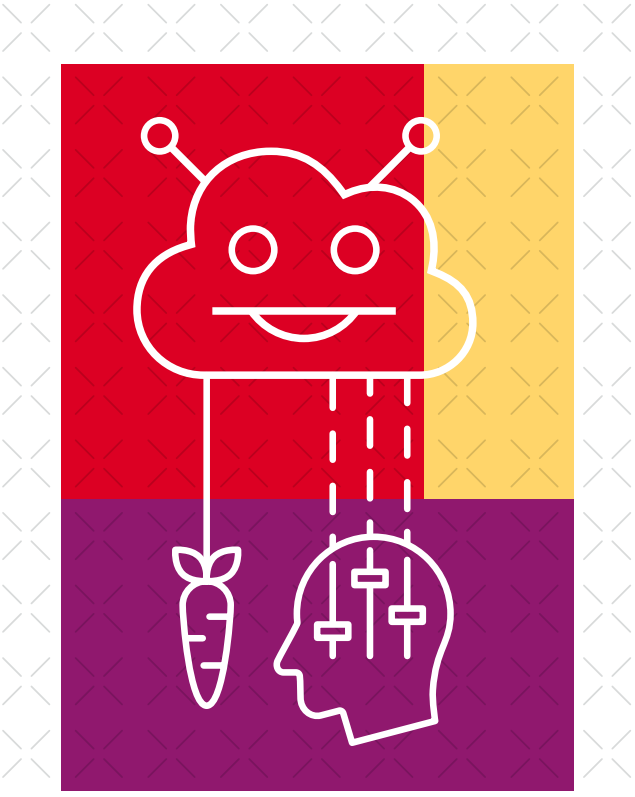
The dark side of digital convenience ⤫ There is a darker and often invisible side of the coin as well.

› **Loss of freedom of choice** ⤫ Augmented intelligence frees us from many chores, but it also limits free choice. We rely on our technologies, often unaware that we do no longer get the full picture but instead a reality that might be curated for a specific purpose. In such cases, freedom of choice becomes an illusion. Humans have become accustomed to "doing everything" on their smartphones, and this tendency is reinforced by the apps and services of organizations such as Facebook, Google, and Netflix. Tech companies use technology as a vehicle to construct individual subjective reality, the internal space that frames our decision-making. Most of the information that humans base their decision on is filtered and pre-sorted by algorithms, which use huge amounts of user data to produce highly individualized recommendations to nudge us towards certain options (see Box 1).

Whenever we opt for convenience, we should take into account its dark sides as well.

While such algorithms make our lives more convenient, they also fulfill various organizational objectives that users may not be aware of, and that may not be in their best interest. We do not know whether algorithms augmenting human decisions truly optimize the benefit to their users or rather the return on investment for a company. In other words, producing a positive user experience is often a means to an end, not an end in itself.

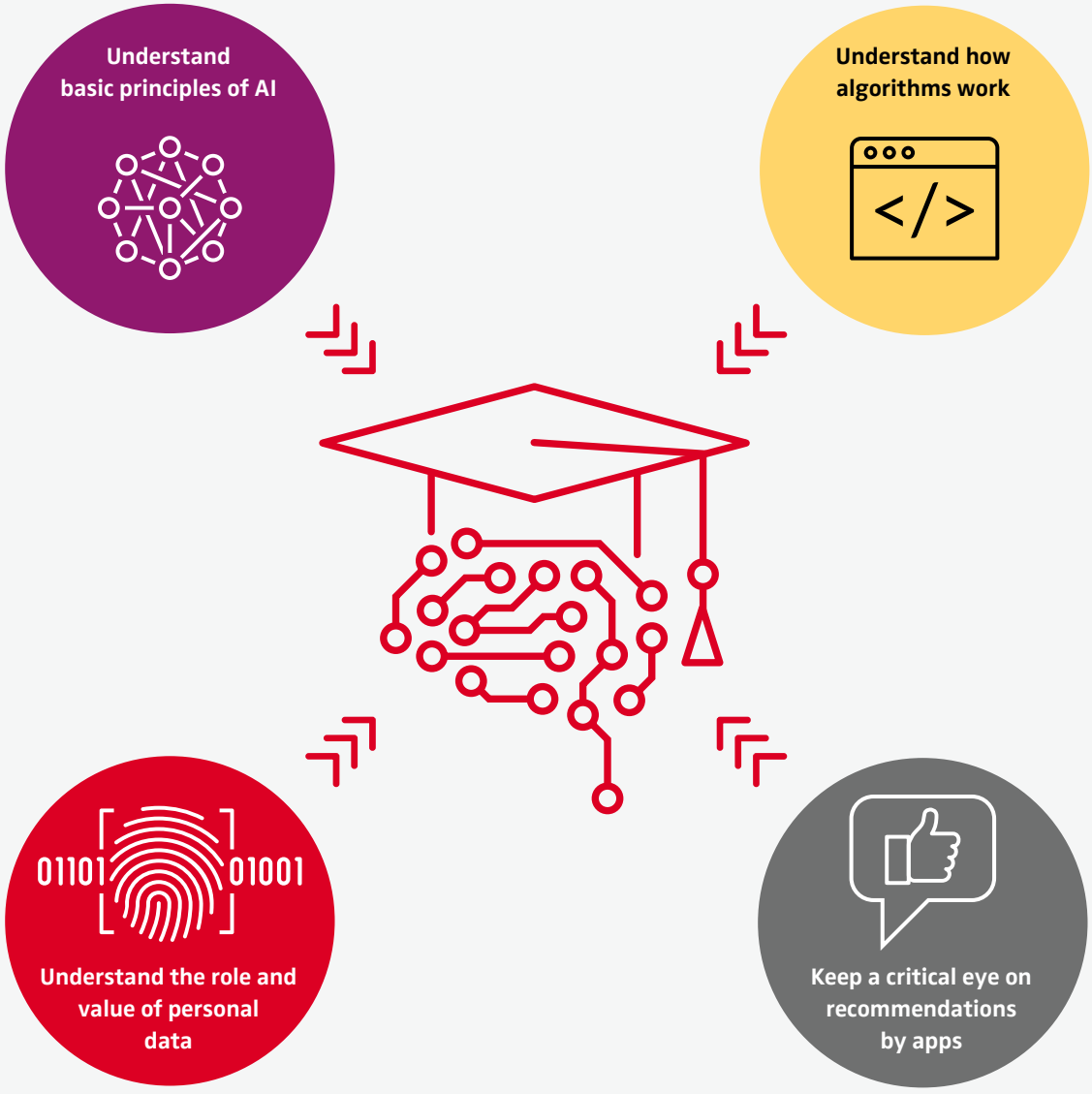
Polarization of beliefs A potential cause of harm to societies and democracies is the emergence of information bubbles, enabling and strengthening the polarization of beliefs. Biased outcomes shape our identities, our view of the world, our social relationships, and most importantly, the decisions we make. For instance, YouTube alone accumulates in total more than one billion hours of watch-time a day, and 70% of this time comes from watching recommended videos. Smart algorithms instantaneously and simultaneously recommend millions of videos to its users. At the same time, they test how to best retain user attention. Once a user continues to view another video, the recommendation was successful, and the algorithm has controlled the user's decision-making process. Under these carefully designed circumstances, humans may lose the ability to consciously choose between freely exploring or stopping to explore the content on the platform. Free choice is competing against smart algorithms that track and use individual preferences, while the user cannot control or does not fully understand the purpose and functionality of these algorithms. If such an algorithm learns that conspiracy videos are optimizing user attention, it may continue to recommend such videos until even radical conspiracy theories become a kind of shared reality for users. What they consume affects how the users think and behave. Even though users decide what they watch, YouTube's algorithms, and also Facebook's and Twitter's, have a large influence on what content – and what ideas and opinions – get amplified or silenced.

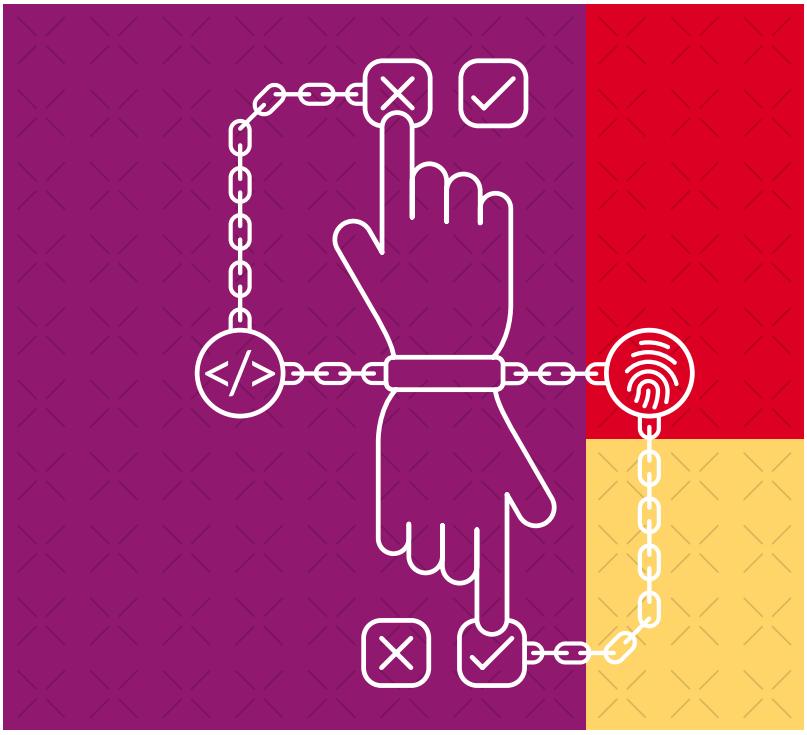


Addiction and manipulation As we have become accustomed to the quick, entertaining, and convenient services offered by digital platforms, we have also adopted a practice of unintentionally fueling the process. We allow the collection of huge amounts of personal data that is used to personalize the user experience of digital platforms. From an individual perspective, this may seem innocuous. Being nudged by an algorithm to pay too much for insurance or to occasionally buy a rather unnecessary product may seem to be a fair price for the convenience of the digital services. However, from a holistic perspective, it seems more harmful, and the consequences go way beyond creepy personalized ads. The main purpose of new technologies is no longer enabling engagement, growth, and connection but instead is capturing and retaining user attention for monetization and profit maximization. To reach these goals, algorithms are not only designed for

Augmented intelligence fueled with personal user data has created a world of convenience, and in exchange, humans have sacrificed freedom of choice.

FIGURE 1 > How to develop algorithmic literacy





convenience but also to be addictive, and this opens the doors for manipulation even wider. The experience they provide is simultaneously utopian and dystopian.

Strategies to Increase freedom of choice ⤫ Augmented intelligence fueled with personal user data has created a world of convenience, and in exchange, humans have sacrificed freedom of choice. There are, however, some measures we can take to counteract the dark sides and keep freedom of choice less illusionary.

› **Develop algorithmic literacy** ⤫ In an AI dominated world, everybody needs to develop what is called "algorithmic literacy." It involves a basic understanding of AI and how algorithms work in the background. Algorithmic literacy also requires that users understand the role and value of the personal data they sacrifice in exchange for decision augmentation. This understanding should enable humans to be critical towards the outcomes of AI-driven recommendations and to information preselected by algorithms (Figure 1).

› **Make decisions more consciously** ⤫ Most decisions involve some level of risk, but risks differ between fully automated, augmented, and purely human decisions. Individuals should develop an awareness of their risk tolerance toward the different options when they want to reach certain goals and make more conscious decisions about what to share, watch, and consume.

Smart technologies will play an even greater role in a world where the Internet of Things makes every object a sensor and part of the network. Imagine, for example, how evolving smart personal assistants – the future descendants of today's Alexa and Siri – may one day automate everyday decisions like which products to purchase for us. Or imagine how augmented and virtual reality may change the way we interact with information. There will be even fewer options to check and question what we see and consume. A growing number of devices will make us even more dependent on algorithms. Whenever we opt for convenience, we should, therefore, take into account its dark sides as well. ⤫

↓

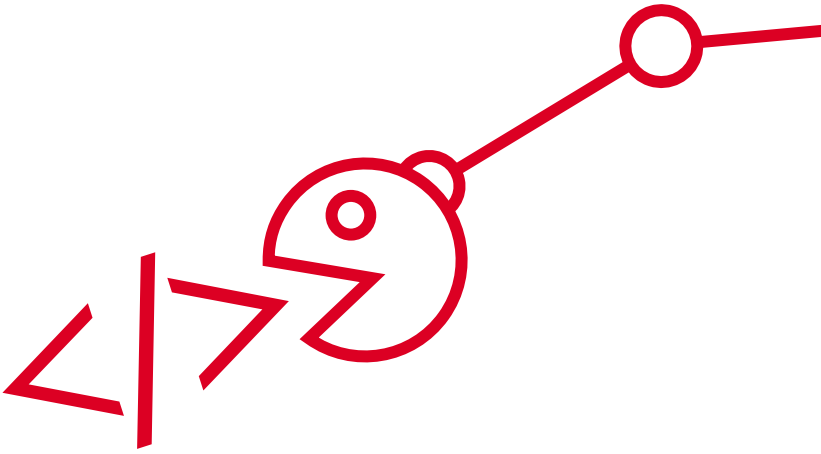
FURTHER READING

Carrington, V. (2018): "The Changing Landscape of Literacies: Big Data and Algorithms", Digital Culture & Education, Vol. 10, pp. 67–76.

Harris, Tristan and Aza Raskin (2019): "Down the Rabbit Hole by Design", Your Undivided Attention (Podcast).

Ricciardi, Victor and Douglas Rice (2014): "Risk Perception and Risk Tolerance", John Wiley & Sons, Inc.

Thompson, Kelly (2020): "YouTube's plot to silence conspiracy theories", Wired, September 18, https://www.wired.com/story/youtube-algorithm-silence-conspiracy-theories/



Young but not Naive: Leaders of Tomorrow Expect Limits to Digital Freedom to Preserve Freedom

Claudia Gaspar and Anja Dieckmann

KEYWORDS

Freedom of Choice, Internet, Social Media, Algorithms, Survey, Leaders of Tomorrow

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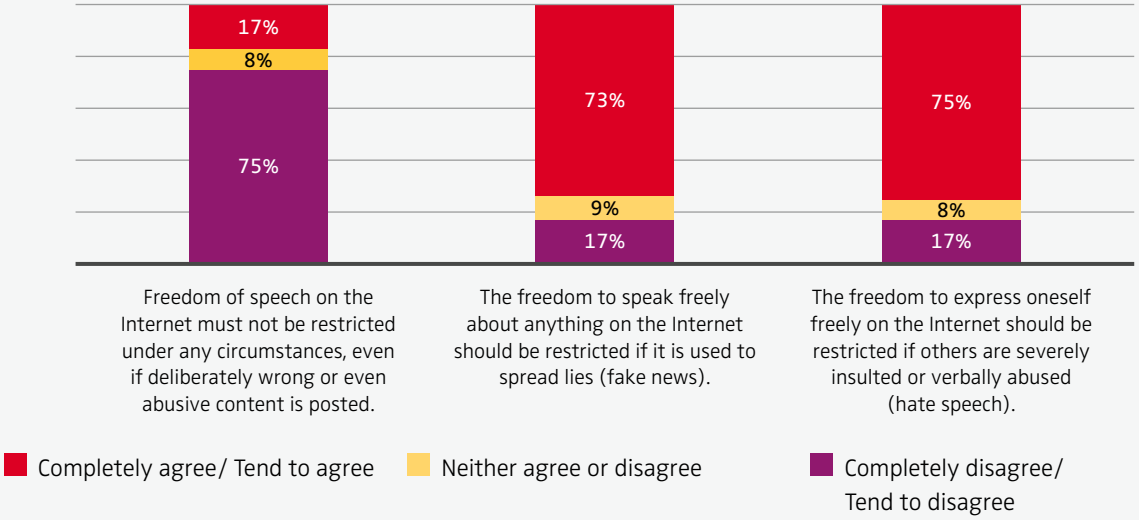
The downsides of unregulated online freedom ⤫ In the year 2020, the downsides of unregulated online freedom have become more obvious than ever before: There have been various examples of online bullying, fake news – which in times of a global pandemic have caused unprecedented harm – and populist propaganda, which shaped, for instance, the American presidential election. This has put pressure on social media platforms to abandon their laissez-faire approach, rejecting responsibility for online content by claiming they are "just the messenger," instead of preventing hate speech and fake news on the Internet. While such demands are not new, in our survey, they come from an unusual corner: digital natives.

Against unlimited freedom of speech on the Internet ⤫ Where should the boundaries of freedom of speech on the Internet be drawn? The Leaders of Tomorrow take a clear position against unlimited freedom of speech on the Internet and demand restrictions against hate speech and fake news (Figure 1). Women view the limiting of hate speech as particularly favorable. They agree more strongly than men with the statement that the freedom of the Internet should be restricted to prevent it, while there is no striking difference to men regarding the statement about fake news. One reason for the gender difference may be that hate speech is not only more prevalent against women but frequently takes the form of sexual harassment.

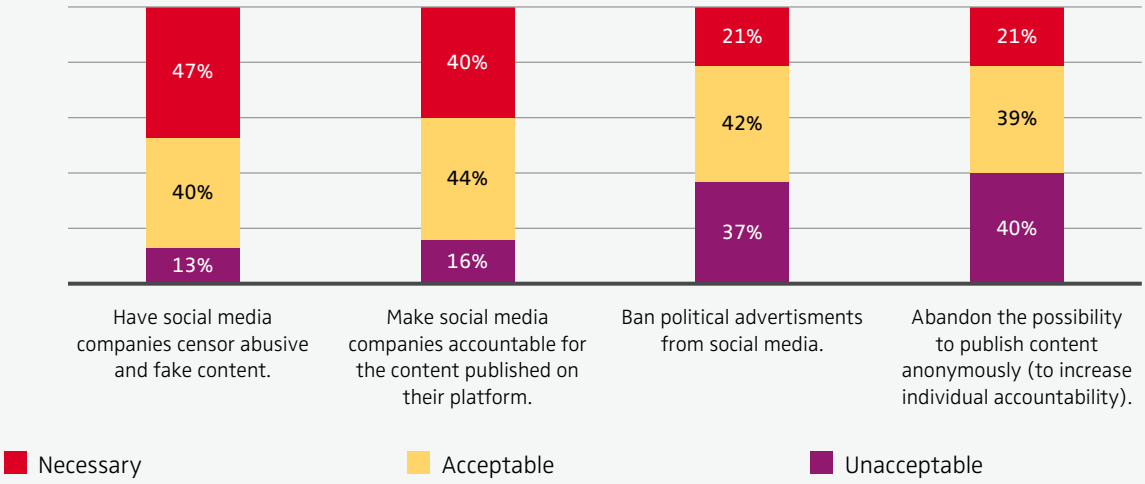
Results of a survey indicate that even digital natives do not embrace new technologies unquestioningly, but with some skepticism and caution.

FIGURE 1 > The Leaders of Tomorrow take a very clear position against unlimited freedom of speech on the Internet



Social media companies should be held responsible × A variety of measures against malevolent behavior on the Internet are currently discussed in the media, and all raise considerable controversy. The Leaders of Tomorrow see social media companies in particular as being responsible for curtailing malevolent behavior (Figure 2). Almost 90% say that it is at least acceptable to have social media companies censor abusive and fake content, and more than 80% would even make them accountable for it. Compared to their clear position on the responsibility of social media companies, they are more reserved about a general ban of political advertising in social media: 63% consider such a ban – as

FIGURE 2 > The Leaders of Tomorrow think that social media companies should be obliged to prevent and censor abusive content on the Internet



BOX 1

The ''Voices of the Leaders of Tomorrow'' survey

The St. Gallen Symposium is a yearly conference taking place at the University of St. Gallen (Switzerland). At the two-day event, key decision-makers from the fields of economics, politics, science, and society meet and exchange with the next generation of leaders. These ''Leaders of Tomorrow'' qualify either through a global essay competition aimed at graduate students, or they attend based on their professional or academic merit through a strict hand-selection process. Most likely, this selected group will have a significant influence on future economic developments and societies. The entire conference is organized by the university's International Students' Committee, a team of 35 students who pause their studies for 10 months to engage in the realization of the intergenerational dialogue at the conference.

Each year, the Nuremberg Institute for Market Decisions and the St. Gallen Symposium join forces and ask this group of young talent – mostly aged under 30 and therefore digital natives – about their views regarding a topic of current interest. In February 2020, 898 promising young people (62% male, 38% female) from more than 90 countries all over the world accepted the invitation to share their opinions about ''the impact of new technologies on human freedom of choice.'' In this article, we summarize their views concerning the ''dark sides'' of online freedom. The full report, ''Human freedom and choice in the light of technological change'' is available at nim.org and symposium.org.

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Most Leaders of Tomorrow support the idea that data collection by platform providers should only be allowed with explicit consent.

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recently included in Twitter's business policies – at least acceptable. Finally, despite possible detrimental consequences for minorities in many parts of the world, 60% of the Leaders of Tomorrow even consider abandoning online anonymity to increase individual accountability at least acceptable.

Personal data should be controlled by its owners Young people are sometimes accused of being too generous or even careless with their personal data. Questions such as whether the collection of this data should be allowed or forbidden by default, or to what extent users should be remunerated for it, have been topics of heated discussions. Data breach scandals have further fueled the debates. It seems that these discussions have left their mark: Most Leaders of Tomorrow support the idea that data collection by platform providers should only be allowed with explicit consent. Furthermore, they take a skeptical view on different smart digital applications that companies may use (Figure 3). ''Selective pricing'' – offering customers different data-based prices for the same products to maximize profits – and ''choice architecture'' – steering consumers in the direction desired by the company without disclosing this strategy – were rated particularly poorly. Three quarters assessed these measures as rather unfair or even not tolerable. The majority flips, however, when personal data is used for different purposes: 54% find the use of individual location data to optimize

»

Balancing the opportunities of disruptive technologies like AI with retaining more than a mere illusion of free choice will be an important challenge for the future.

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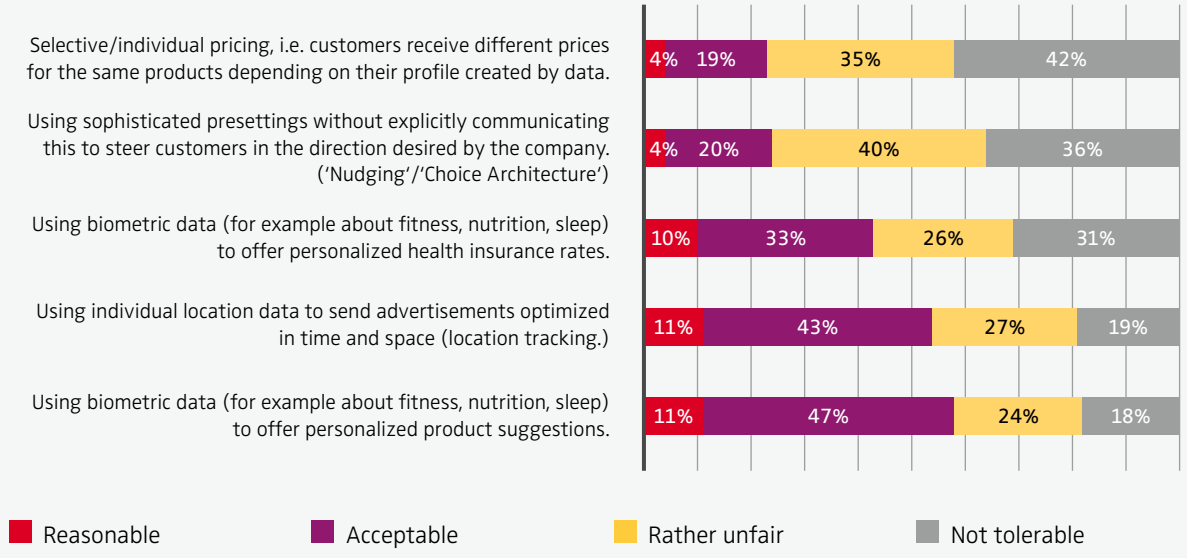
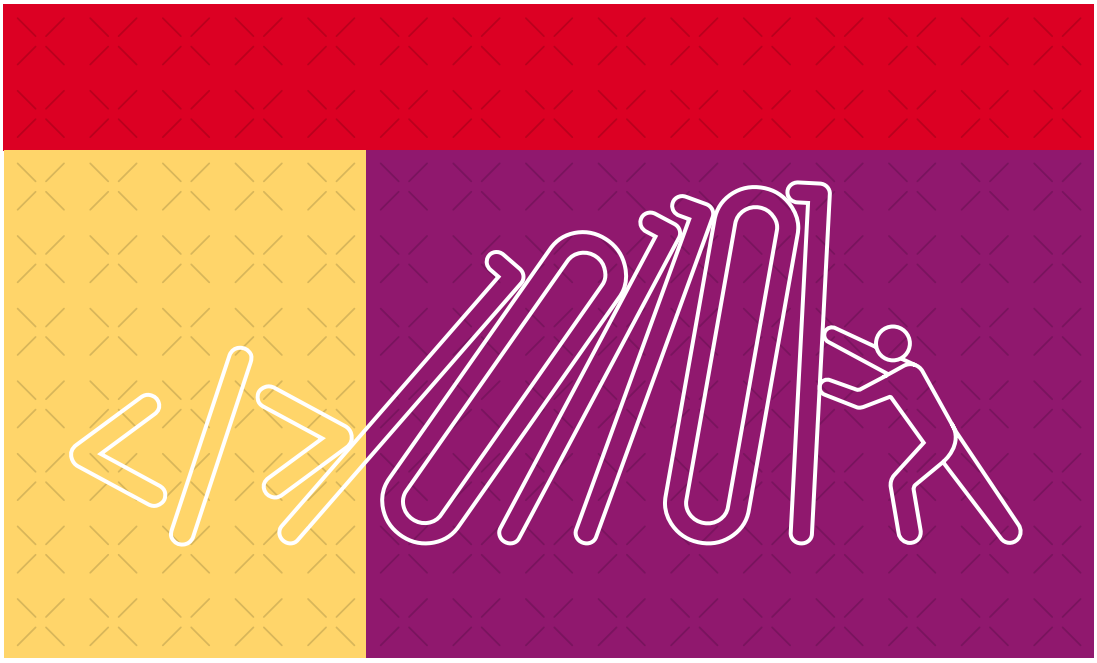
FIGURE 3 › The Leaders of Tomorrow take a critical and differentiated stance towards companies' usage of personal data by means of new technologies



advertisements reasonable or at least acceptable, and 58% would accept that biometric data is used for personalized product suggestions. But these are narrow majorities. Even for these measures, the share of votes against is quite high.

Against technology that limits users' freedom of choice ✕ Of the above-mentioned applications, those that lack transparency and cannot be influenced by the customer are met with the highest extent of objection. The question of who is in control of personal data matters to the Leaders of Tomorrow, and their position is clear: They want to stay and feel in control. This is a common theme in the survey results and becomes apparent in the answers to other questions as well: Mobile technology and filtering algorithms are also not unanimously appreciated for their convenience, but they spark skepticism because they restrict, patronize or simply interfere with a person's free choice.

Have we reached a turning point? ✕ In many areas, we have already become used to simply following recommendations that technology makes for us. We are, for example, fine with receiving information about "reality" that is no-longer shared and objective but is customized and tailored for each of us, and many of us enjoy the convenience of preselected choice options offered by algorithms. This raises the important question of whether we are still guiding technology



or if technology has started guiding us. The Leaders of Tomorrow are very aware of the new types of constraints and dependencies that come with increasingly sophisticated technologies. Apparently, the younger generation is keeping an eye open for threats looming behind new technological developments – and it demands changes that give control back to the users. They also see the risks arising from the behavior of people who are abusing the freedom of the Internet and the power of new technologies – and they want to see these risks mitigated by governments and companies as well as individual actors. Taken together, the survey results indicate that they do not embrace new technologies naively and unquestioningly but with some skepticism and caution. Such a critical stance appears helpful when defining the scope with which new technologies should be allowed to take control in our daily lives. Balancing the opportunities of disruptive technologies like AI with retaining more than a mere illusion of free choice will be an important challenge for the future. Whether the new generation of leaders will be up to it remains to be seen.

FURTHER READING

Gaspar, C.; Dieckmann, A.; Neus, A. (2020): Voices of the Leaders of Tomorrow: Human freedom and choice in the light of technological change. Nuremberg Institute for Market Decisions & St. Gallen Symposium

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