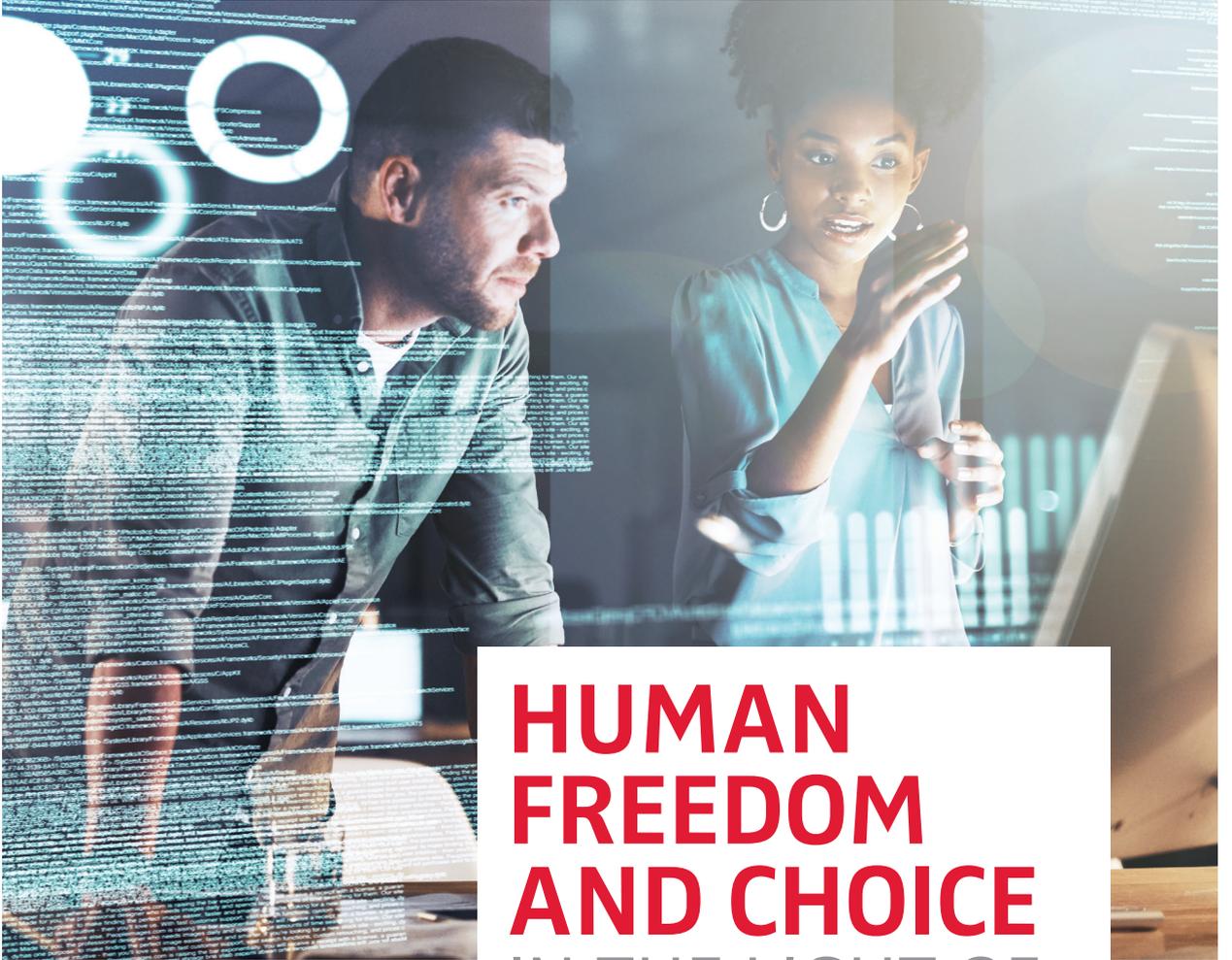


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VOICES OF THE LEADERS OF TOMORROW



**HUMAN
FREEDOM
AND CHOICE**
IN THE LIGHT OF
TECHNOLOGICAL
CHANGE



About the Nuremberg Institute for Market Decisions (NIM)

The Nuremberg Institute for Market Decisions (formerly "GfK Verein") is a non-profit and interdisciplinary research institute dedicated to the systematic investigation of consumer and market decisions. The institute is also the founder and anchor shareholder of GfK SE.

At the interface between science and practice, the NIM explores how market decisions are changing due to trends, new technologies, and new sources of information. Our goal is to deepen the understanding of consumer decisions as well as those of marketing executives, and to use this knowledge to help improve the quality of market decisions.

The NIM fosters the dialogue and cooperation with experts from science and practice, with innovators and startups who are particularly interested in market decisions and market insights. Research results are shared and discussed by the NIM through publications, conferences and lectures with its members, and the professional public.

About the St. Gallen Symposium

The St. Gallen Symposium is the world's leading initiative for intergenerational debates on economic, political, and social developments. We bring together key decision makers, thought leaders, and brilliant young minds to address current challenges and opportunities on transforming ideas into action. Since 1969, we have fostered healthy debates and created an outstanding community for exchange. We are a student-run initiative combining excellence with innovation: A unique and extraordinary experience.

The Leaders of Tomorrow are a carefully selected, global community of the most promising young talent. Each year, 200 academics, politicians, entrepreneurs and professionals around 30 years or younger are invited to challenge, debate, and inspire at the symposium. By questioning the status quo and representing the voices of the next generation, the Leaders of Tomorrow are at the very heart of the St. Gallen Symposium, making the conference a unique experience. Leaders of Tomorrow qualify either through our global essay competition aimed at graduate students, or they attend based on their professional or academic merit through a strict hand-selection process. After the symposium, they join our Leaders of Tomorrow Alumni Community counting over 2,000 members worldwide.

Nuremberg Institute for Market Decisions

Nürnberg Institut für Marktentscheidungen e. V.
Founder and Anchor Shareholder of GfK SE
Steinstraße 21, 90419 Nuremberg, Germany
Tel.: +49 911 95151-983
E-mail: hello@nim.org
<http://www.nim.org>

St. Gallen Symposium

P.O. Box 1045
9001 St. Gallen, Switzerland
Tel.: +41 71 22720-20
E-mail: info@symposium.org
<http://www.symposium.org>

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Topic	Page
Introduction	2
Overview: Participant statistics	3
Key insights	4
Perspectives on individual freedom	6
Inherited constraints: Freedom as an intergenerational problem	8
Freedom in the digital sphere: Trade-offs between restrictions and preservation	10
Technology and human agency: Decisions between convenience and control	17
Looking ahead: Technological change and the future of freedom	21
Concluding remarks	26
References	27
Sample and survey methodology: Recruitment of the Leaders of Tomorrow	28

HUMAN FREEDOM AND CHOICE IN THE LIGHT OF TECHNOLOGICAL CHANGE

When the Iron Curtain fell, the global rise of freedom and democracy seemed unstoppable, like a natural course in human development. Today, thirty years later, things look different. The think tank Freedom House has, for 14 years in a row, recorded an alarming decline in global freedom, highlighting developments from the USA, to (not only Eastern) Europe, and all the way to India (Freedom House, 2020).

At the same time, freedom in the digital sphere – a central pillar of the cyber-utopianism embraced already by the early computer pioneers (Turner, 2008) – is being challenged. Utopian views of the Internet survived the dot-com bubble and even experienced a resurgence with Web 2.0, which offered unprecedented transparency, usability and accessibility resulting in greater opportunities for everybody to get involved (as highlighted by, e.g., Rushkoff, 2002). However, skeptical views also grew louder, pointing out the “dark side of Internet freedom” (Morozov, 2011) and its vulnerability to authoritarian abuse. And indeed, taking advantage of liberty and openness of the Internet, fake news, hate speech, and political manipulation have caused damage around the globe, with the Cambridge Analytica scandal (Graham-Harrison & Cadwalladr, 2018) marking just one low point in this troublesome development. Consequently, calls for greater regulation can even be heard from Big Tech’s executive levels (Liao, 2019).

In the face of such disquieting developments around the globe, it is high time to revisit the concept of freedom and let the younger generation have their say on what freedom means to them, and what their worries and hopes are, with a particular focus on freedom and rapid technological change. The study gives voice to a selected group of future top talent: The “Leaders of Tomorrow” from the network of the St. Gallen Symposium. Nearly 900 Leaders of Tomorrow from all over the world accepted the invitation to share their opinions about freedom and especially about the impact of new technologies on human freedom.

Due to unforeseen circumstances, the focus of the present report became even more topical due to the COVID-19 crisis that has affected human societies all around the world. Almost everywhere, we witness restrictions of individual freedom to reduce the number of infections and heated discussions about how far democratic governments should be allowed to go in their fight against the virus.

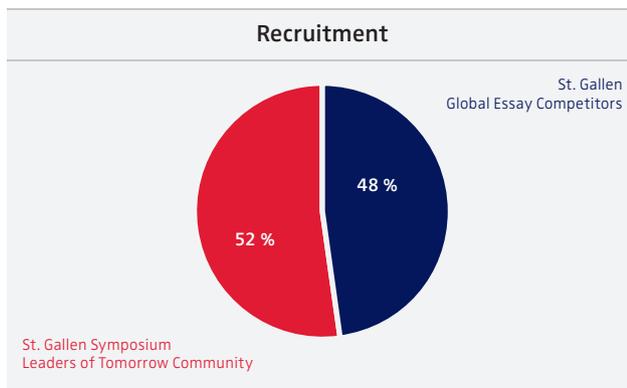
As the Leaders of Tomorrow represent top talent of the younger generation, who will certainly shape future economic developments and societies around the globe, the findings of this report will help the economic and political leaders of today to better understand the demands, opportunities and challenges in a rapidly changing world.

Claudia Gaspar and Dr. Anja Dieckmann,
Nuremberg Institute for Market Decisions

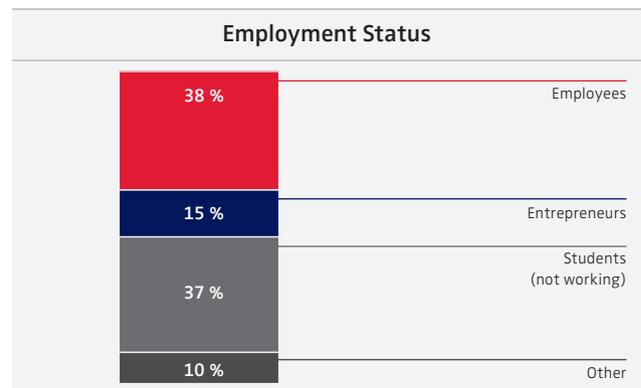
OVERVIEW: SAMPLE AND SURVEY METHODOLOGY

Online survey conducted in February 2020 with 898 Leaders of Tomorrow ...

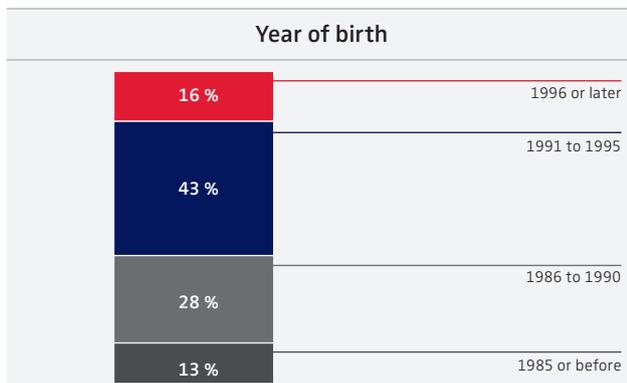
... personally invited through the network of the St. Gallen Symposium



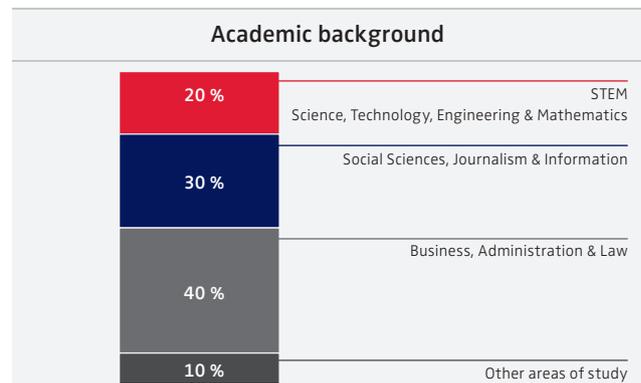
... both students and (young) professionals



... mainly from Gen Y (Millennials)



... with a great variety of academic backgrounds



... from more than 90 countries all over the world



KEY INSIGHTS

84%

of the Leaders of Tomorrow

blame the elder generation for having granted themselves too much freedom at the expense of the younger generation, mainly in terms of environmental exploitation for the benefit of economic growth to increase their own wealth

Call for a new social contract between generations on sustainability, fairness, and the limits of freedom

From the perspective of the Leaders of Tomorrow, unrestricted individual freedom is not a viable solution for societies around the world. They take a clear stand against a purely egocentric interpretation of freedom and emphasize the need to show consideration for others, mostly valuing the welfare of society over individual freedom.

Maximizing short-term profits, previous generations have caused environmental and financial damages for which the next generations will have to pay. Their short-term thinking has become a pertinent concern for the vast majority of the Leaders of Tomorrow. The leaders of today would do well to address this concern proactively and start an honest dialogue.

75%

of the Leaders of Tomorrow

recommend restricting the freedom to express oneself freely on the Internet if others are severely insulted or verbally abused

Restrictions demanded for protecting personal data and preventing manipulation and verbal abuse in the digital sphere

Platforms are expected to work hand-in-hand with state institutions to better prevent online manipulation and abuse and to protect personal data. Most Leaders of Tomorrow see state institutions in the lead for changing the rules of the game towards greater protection of data privacy and security, but technology providers are under obligation as well. The Leaders of Tomorrow also advocate that personal data should be controlled by its owners when it is used by online platforms.

The Leaders of Tomorrow take a very clear stance against unlimited freedom of speech on the Internet. The majority thinks that 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.

67%

of the Leaders of Tomorrow

consider algorithms that filter the online content they see as a restriction of their freedom of information

Pushback against technology that limits users' freedom of choice; users want to stay and feel in control

Technological developments are viewed with ambivalence by the Leaders of Tomorrow. Mobile technology and filtering algorithms are not unanimously appreciated for their convenience but also spark skepticism because they restrict, patronize or simply interfere (e.g., by distraction) with a person's free choice.

Collecting personal data by companies is viewed with particular suspicion when used in new technologies and tools over which customers do not have the slightest control.

High readiness to delegate certain decision tasks to AI, but this varies considerably with the type of decision

Artificial intelligence (AI) support is embraced for a wide range of jobs. The willingness to delegate responsibility and decision making varies according to the nature of the job. This willingness is lowest for the delegation of selecting job candidates and highest for granting customers discounts or setting surcharges. The option of making the final decision oneself from a shortlist created by the AI is more often preferred than the reverse option. Apparently, the Leaders of Tomorrow feel more in control in this scenario.

53%

of the Leaders of Tomorrow would involve AI in the process of selecting job candidates

89%

of the Leaders of Tomorrow would involve AI in the process of granting discounts or setting surcharges for customers

Technology's overall impact on freedom is seen with some concern; transparency and ethical principles built into technologies may drive future business models

Most Leaders of Tomorrow are cautiously optimistic about the general impact new technologies will have on freedom in the world. However, more than a third of these Digital Natives fear more threats than opportunities.

When evaluating technology-related scenarios in the near future (5 years from now), there is a discrepancy between predictions and dreams: the most desirable scenarios are not necessarily the most likely ones. These gaps may indicate opportunities for promising future business models. The largest gaps between strong desirability and low probability concern morally motivated future business scenarios based on transparency, data privacy, ethical principles, and protection against discrimination.

93%

of the Leaders of Tomorrow see threats of technology's impact on freedom in the world, more than a third fear more threats than opportunities

92%

of the Leaders of Tomorrow have a big desire for new business models that guarantee transparency and data privacy, but just 44% consider it likely that this will happen

PERSPECTIVES ON INDIVIDUAL FREEDOM

From a philosophical perspective, freedom is an exceptionally complex construct. An universal understanding hardly exists. The specific interpretations and ideals have always been shaped by cultural and historical factors. The discourse on necessary defenses of – but also limitations to – individual freedom and the needs of society as a whole, have spanned all of recorded history and given rise to many different schools of thought. Over several millennia, philo-

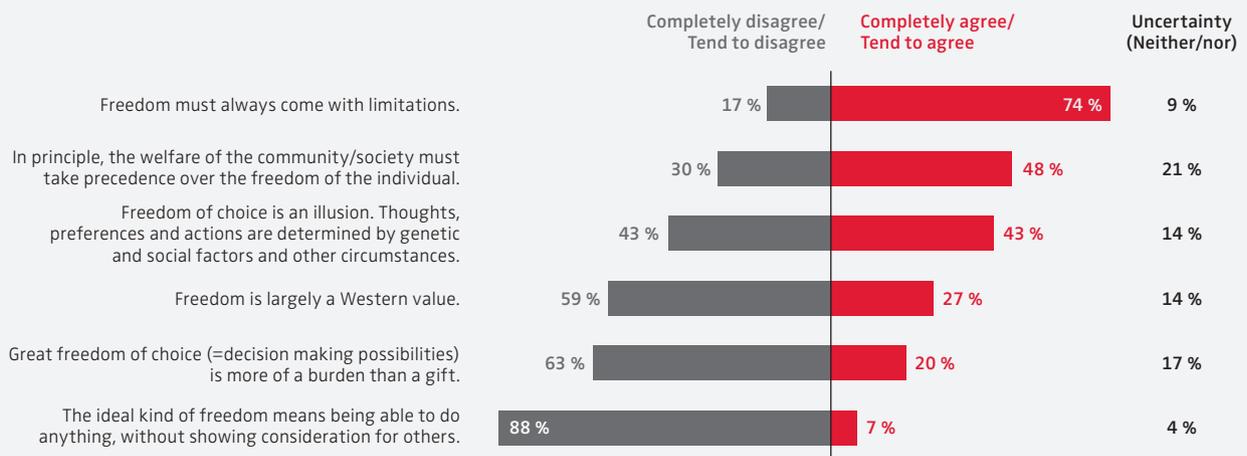
sophical as well as physical battles have been fought to advance the freedom of the individual against threats of oppression or censorship by more powerful institutional actors like kings, states, religions or – more recently – corporations, through the rule of law. Especially in modern times, there has been a widely shared understanding that individual freedom of speech and action is positively connoted. In recent years though, an awareness of the destructive aspects

of not only unlimited markets but also of unbounded individual freedom has also emerged: Examples are behaviors that damage the environment, the dark sides of the Internet, or elites who visibly allow themselves abundant freedoms to the detriment of other world regions and younger generations – culminating a few months ago in the clash of the boomer and younger generations on various social media platforms with the “OK boomer” meme (Romano, 2019).

FIGURE 1

The Leaders of Tomorrow take a clear position against a purely egocentric interpretation of freedom and in favor of limits and responsibility towards society; they don't consider freedom a Western but a global value

What does freedom mean to you? | Top2box versus bottom2box



n = 898; “Leaders of Tomorrow – Wave 2020”

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A purely selfish conception of freedom, emblematic for the 80s and 90s of last century (Andersen, 2012), seems to have served its time. Given the new opportunities but also new threats heralded by technology, it may be high time to rebalance freedom of the individual and the individual's responsibility and constraint required by living in a shared world.

Need for limits

When it comes to individual freedom in general, the Leaders of Tomorrow's understanding is clearly characterized by consideration for others. The agreement to the different statements shows a clear ranking with a purely egocentric interpretation in the last place, and statements in favor of limits and responsibility for society in the leading positions.

At the very top of the ranking, with an exceptionally high degree of approval and very low uncertainty, is the need for limits. The Leaders of Tomorrow are convinced that boundaries are inseparably linked to freedom. Responsibility towards society comes next, with nearly half of the respondents agreeing that the welfare of society should take precedence over freedom of the individual. But there is also almost a third disagreeing, and the level of uncertainty is high here. More than 20% could not make up their minds whether to agree or disagree with this statement. More than 20% could not make up their minds whether to agree or disagree with this statement. Given the trade-off inherent to this item, between society and individual, and the potential for abuse by undemocratic forces, the high level of uncertainty is understandable.

Freedom is of course not only freedom from restrictions and chains, but also freedom to act and decide on your own responsibility. In many of today's societies with their abundant options, freedom

of choice could paradoxically become a burden when important decisions must be made day after day, always combined with the doubt whether another decision would have been better – at least this has been suggested by some research (Schwartz, 2004). However, the Leaders of Tomorrow apparently do not perceive it this way: Most respondents disagreed with the statement that freedom may be more of a burden than a gift. This means that freedom in terms of free choice is not perceived as pressure but seems to be appreciated by the Leaders of Tomorrow. This applies to Western (West Europe and North America) respondents as well as to those from other regions (all other countries in the sample) (68% disagreement by Western vs. 60% by non-Western respondents).

On the question of whether "Freedom is largely a Western value" – indicating that the current concern and discussion about freedom may be culturally distorted – there is clear opposition. Freedom, from the perspective of most Leaders of Tomorrow, seems to be considered a global value, that is, an issue of worldwide relevance. More detailed analyses show that respondents from West Europe and North America show a less clear position in this respect than other world regions (52% disagreement by Western vs. 64% by non-Western respondents).

Is freedom an illusion?

The most philosophical statement about freedom – "freedom of choice is an illusion" – led to the biggest polarization between respondents. More than 40% of the Leaders of Tomorrow agree with the idea that freedom of choice is an illusion and that one cannot escape the influences of the environment and genes. Just as high is the percentage of those who reject this statement and 14% are undecided. The item of course addresses a very difficult, sophisticated question.

And cultural, philosophical, or religious background may influence the answers. Civilizations from as far back as Ancient Greece, with its famed philosophers, have struggled to define the concepts of freedom and free will. Their ideas ranged from being free from outside coercion, to following nature, to following the will of a deity (Long & Sedley, 1987). Yuval Noah Harari argued in his article "The myth of freedom" in *The Guardian* (2018) that free will may be a myth, inherited from theology, to justify "why God is right to punish sinners for their bad choices and reward saints for their good choices."

Neuroscience, too, has long challenged the conception of free will. In his famous experiments, Libet (1985) showed that unconscious brain activity preceded voluntary movements approximately half a second before the participants became aware of their intention to move. This suggests that decisions may be made at an unconscious level first, and our perception that actions are taken by our free will comes about in retrospect. Behavioral scientists followed up on Libet's findings and demonstrated that the belief in free will has implications for social behavior. For instance, those who do not believe in truly free will tend to violate social rules more often (e.g., Vohs & Schooler, 2008), and, vice versa, are more forgiving towards offenders (e.g., Shariff et al., 2014).

In view of the rapid development of new intelligent technology and the debate about its sometimes claimed superiority over human decisions, the question of what can boost or constrain human free will is going to take on a completely new relevance.

INHERITED CONSTRAINTS: FREEDOM AS AN INTERGENERATIONAL PROBLEM

When talking about freedom and its limits, one intergenerational issue stands out: The climate crisis threatens the freedom of future generations. In face of this crisis, young people around the globe have joined forces in an environmental movement of unprecedented dimensions. Given how long the threat of rising CO² levels for the planet's temperature has been known, their concerns about their future need to be put into context with earlier destructive behavior of prior generations. Similar discussions, on a smaller scale, have also been

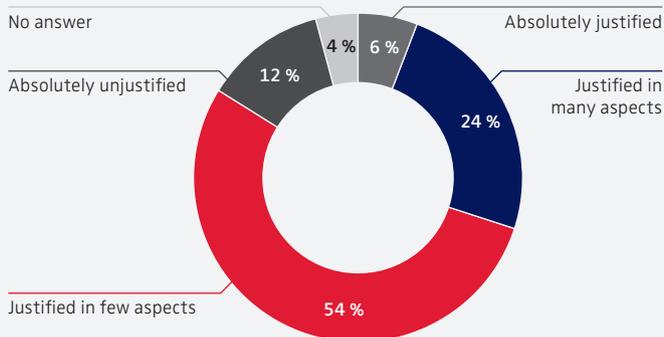
held on financial decision making and overspending at the expense of younger people. The Leaders of Tomorrow are part of the younger generation. Do they blame the older generation? The answer is clear: Most of them do. More than 8 out of 10 say that the accusation "The elder generation has granted themselves too much freedom at the expense of the younger generation" is justified – at least in a few aspects. Just 12% consider it unjustified. In open statements that participants could add to explain their answers, sometimes the accusations

are accompanied by reflections about the situation of the older generation and the understanding that it is easy to judge in retrospect – admitting that the younger generation can also be oblivious to the future costs of present behavior. And sometimes they even grant the older generation some credit for certain achievements for today's standard of living. However, many participants – even those who considered the accusation true in just a few aspects – blame them heavily in the open explanations of their accusations. The main reasons

FIGURE 2

The vast majority of the Leaders of Tomorrow blame the elder generation for having granted itself too much freedom at the expense of the younger generation

Sometimes the older generation is accused of having granted itself too much freedom at the expense of the younger generation. What do you think of this accusation?



Main reasons for the accusation according to open-ended answers

- > environmental exploitation, degradation, pollution: **28 %**
- > prioritization of economic growth and their own wealth (wealth inequality, capitalistic world, debt burden, unfair pension and healthcare system): **14 %**
- > general short term thinking, lack of thinking about the future generation / consequences: **12 %**

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for these accusations are environmental exploitation, degradation and pollution, prioritization of economic growth and their own wealth, general short-term thinking or a lack of consideration for the future generations and the consequences of their actions. It seems to be

time for the older and younger generations to agree on a new social contract on sustainability, fairness, and the limits of freedom.

BOX 1

The Leaders of Tomorrow accuse the elder generation of having granted itself too much freedom – some exemplary quotes

“Older generations have knowingly passed on the bill for many of the most profound societal issues, including climate change, demographic shifts, and inequality, and have instead reaped the short-term gains from their under-investment or downright destructive policies. They’ve set the forest ablaze, dancing around the campfire, in the knowledge that they wouldn’t have to deal with the consequences.” (Employee, USA)

„Older generations cared more about keeping their status rather than building a better future for everyone. We also, as a newer generation do the same thing, but for other reasons, mainly the hyper-connected world and meaningless interactions that we have today.” (Entrepreneur, Chile)

“Depletion of natural resources due to which there is scarcity for the younger generation. Pollution, forest fires, melting of ice, holes in ozone layer are all standing witnesses of the freedom older generation exercised.” (Student, India)

“Economic exploitation of resources and uncontrolled consumption has degraded the planet to a point beyond full repair and built an unsustainable concept of international development. Their freedom to produce and consume, has resulted in the younger generation’s most pressing and unsolvable challenge in the history of the human race.” (Employee, USA)

“They granted themselves too much debt at the expense of the younger generation. If freedom is a euphemism for debt, then sure.” (Entrepreneur, Singapore)

“[...] There has been a certain degree of nearsightedness in the way older generations have carried out rampant environmental damage, however, a blame game is not the solution for anything. We can learn from our past mistakes and live more responsibly and act more consciously as a global community.” (Student, Japan)

FREEDOM IN THE DIGITAL SPHERE: TRADE-OFFS BETWEEN RESTRICTIONS AND PRESERVATION

Free speech on the Internet

While individual freedom has always been a heavily debated topic, the rapid emergence of digital technologies has raised a number of new issues. The tension between freedom and digital technologies has many faces. Nobody would deny that the Internet enables communication across the globe without boundaries of time and distance and thus extends individual freedom.

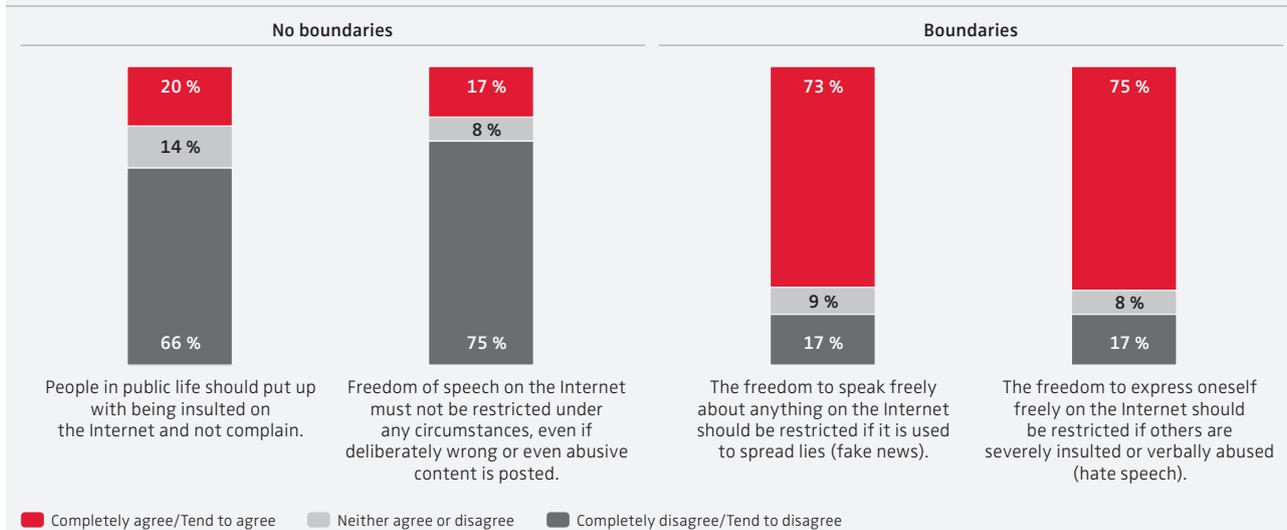
The list of benefits is long: circumvention of state censorship, citizen journalism, access to information and education for all, whistleblowing, availability of scientific data and general open-source content are important examples. Furthermore, the Internet has created worldwide networks, communities and collaborations independent from direct personal exchange. This also means that everyone has the opportunity to be read by many other people

and thus to become a potential “mass medium”, which was previously reserved for “official” media organizations. But it is a double-edged sword: It also enables destructive forces, malevolent entities or individuals to post extremist propaganda, child pornography, live streaming of attacks and massacres, bullying, lies and hatred – shielded by the comfortable anonymity of the Internet. While criminal actions can be prosecuted by law, the general regulation of freedom

FIGURE 3

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

Personal freedom in the context of digital technologies. Please tick whether you < agree or disagree > with the following statements. Prespecified statements on freedom of speech on the Internet



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of speech on the Internet is a controversial issue. Where should the boundaries of freedom of speech on the Internet be drawn? The Leaders of Tomorrow's general advocacy of limits translates into concrete recommendations here: They take a clear position against unlimited freedom of speech on the Internet and clearly recommend restrictions against hate speech and fake news. Paradoxically, to preserve the freedom of the digital sphere, freedom may need to be restricted.

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 (81% agreement by women vs. 72% by men), while there is no striking difference to men regarding the statement about fake news (75% agreement by women vs. 73% by men). One reason for the gender difference may be that hate speech is not only more prevalent against women, it also frequently takes the form of sexual harassment, as summarized in a recent report published by the European Parliament (Wilk, 2018). Saif from the St. Gallen Knowledge Pool is keen to make the public aware of this aspect of hate speech (see quotation).

Communication skills

Pasthtana from the St. Gallen Knowledge Pool has a particularly comprehensive perspective on the problem of hate speech. She sees it as a question of humanity that should be taught from childhood (see quotation). However, this is probably not only a question of good will but also of new skills. The Internet has taken freedom of expression to a new global level and this requires new communication skills and the awareness of the effect of words on others. Currently it seems that the opposite is true. The sensitivity for the right tone appears to be lower than in face-to-face contacts and there is a danger of a brutalization of communication. Here is a comment from a participant of the survey: "I think it is clear that the freedom to threaten and target people without any repercussions is a dangerous situation and creates a false sense of 'Internet cowboyism' where people can truly post outrageous things which in no way would be permitted in normal public dialogue. Freedom only goes so far as in that it does not infringe on the freedom of others, and that is clearly on collision course here."

"[...] I'd like to draw attention to the negative side of free expression on Internet, especially against women on social media; obviously in developing countries like Bangladesh and from South East Asia. To be very frank, there is no such definite solution rather than building awareness on how negative comments by men toward women will eventually haunt back to their own family and friends, which they don't see according to their short-term vision." (Saif, Entrepreneur, Bangladesh)



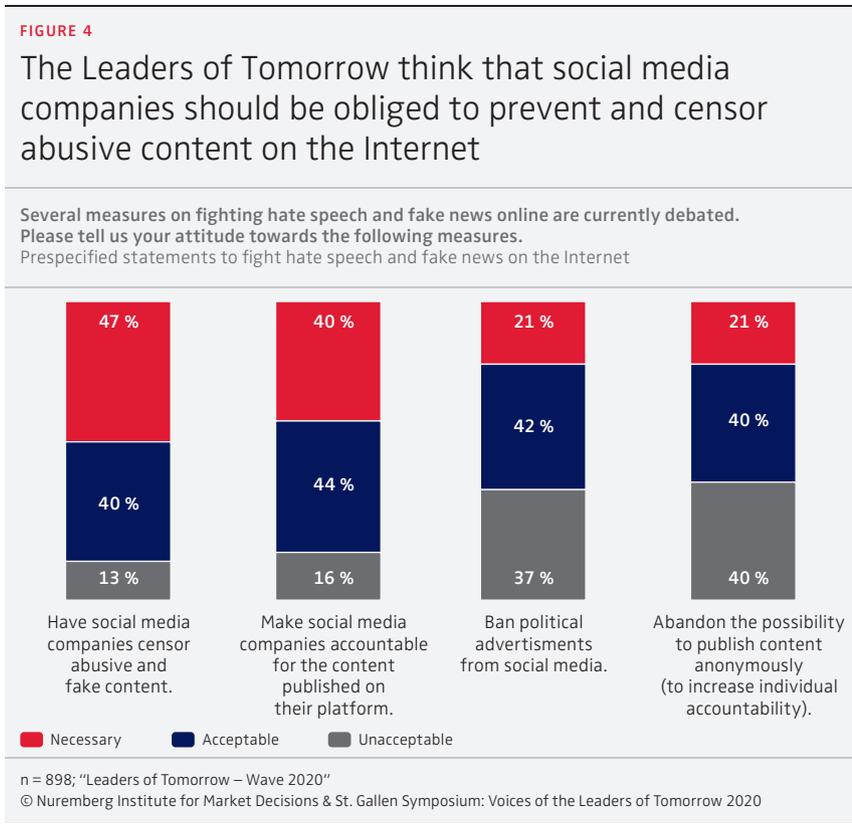
"Humanity should be taught as a course; people should understand humanity is all about expressing yourself without hurting those around you. Humanity should be practiced and preached in younger classes." (Pasthtana, Activist, Afghanistan)



A variety of measures against malevolent behavior on the Internet are currently discussed in the media, and all raise considerable controversy. Which of them would the Leaders of Tomorrow be willing to accept in order to prevent the abuse of freedom on the Internet? They see social media companies in particular as responsible for curtailing malevolent behavior. 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. So the majority thinks that platforms that until now have often taken a “hands off” approach, rejecting content filtering by claiming they are “just the messenger”, should instead be obliged to prevent and to censor hate speech and fake news on the Internet. While such demands are not new, they come from an unusual corner: Digital Natives. Compared to their clear position on the responsibility of social media companies, the Leaders of Tomorrow are more reserved about a general ban of political advertising in

social media: 63% consider such a ban – as recently announced by Twitter (Kelly, 2019) – at least acceptable. Only the option of revoking the possibility of online anonymity receives less acceptance. In some regions of the world, revealing identities would have serious and dangerous consequences, be it due to censorship of free speech, persecution of sexual orientation or gender identity, or believing in the “wrong” – or perhaps no – deity. When online anonymity is threatened by new legislation, Internet activists regularly jump to its defense – so passionately that such conflicts have been labeled “Nymwars” (e.g., York, 2011). Nevertheless, 60% of the Leaders of Tomorrow consider abandoning online anonymity to increase individual accountability at least acceptable.

Members of the St. Gallen Knowledge Pool who were asked a short series of open-ended questions also contributed their thoughts. Some of their ideas for measures against hate speech and fake news are shown on the next page.



How can we save the benefits of free expression on the Internet while limiting the damage by malevolent players?



“To save the benefits of free expression on the Internet in our time of technological advancement, we would need to leverage on artificial intelligence to easily identify fake news and hate speech before it is used to cause damage.”

(Elijah, Chef / Social Entrepreneur, Ghana)



“Technology companies should improve their community policies and implement more efficient mechanisms to curb fake news and hate content from their platforms. These companies should work uninfluenced by local governments but in sync with human rights organizations.”

(Chirag, Travel Tech Entrepreneur, India)



“Short-term regulatory policies will not shift the culture around Internet usage and its ethics. This must emerge as a longer-term project implemented by public and private institutions through the education system to teach people the benefits of free expression when employed ethically and the consequences, they derive from abusing it.” *(Jesse, Researcher,*

Analyst, Author on Foreign Policy in the Middle East, China)



“The question is one of enforcement of and respect for existing laws. [...] Regulation must on the one hand build on technology such as Facebook where most of these infringements take place but also foster human responsibility and not lay off such a crucial government task (law enforcement) to private companies.”

(Benedikt, FinTech Entrepreneur Switzerland)



“[...] Social media platform themselves should aggressively promote strategic digital contents that build awareness to fight the mindset that is shrinking the benefits of free expression. The idea here is to create the „safe spaces“ in a more organic way rather than any imposed ban which threatens free speech.” *(Saif, Entrepreneur, Bangladesh)*

Privacy and control

Data has been named the new oil of the digitalized world (The Economist, 2017). In the course of digitalization, more and more data is being produced and 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: More than half of the respondents fully agree that data collection by platform providers should be prohibited by default and only be allowed with explicit consent; another 32% at least tend to agree. And two thirds of the respondents even support the idea that users

should get paid in exchange for their data. These opinions are very much in line with what musician and entrepreneur will.i.am wrote in 2019 for The Economist Open Future initiative on the role of markets, technology and freedom in the 21st century: "Personal data needs to be regarded as a human right, just as access to water is a human right. The ability for people to own and control their data should be considered a central human value. The data itself should be treated like property and people should be fairly compensated for it."

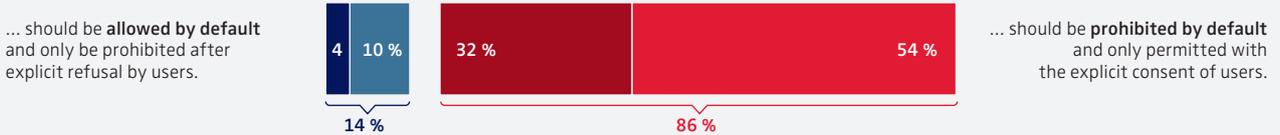
On the other hand, many of the respondents are likely to become future business leaders who may want to profit from Big Data and personalized services themselves. How does that fit in with this position? A closer look at the subgroup of entrepreneurs among the respondents shows that there are indeed

FIGURE 5

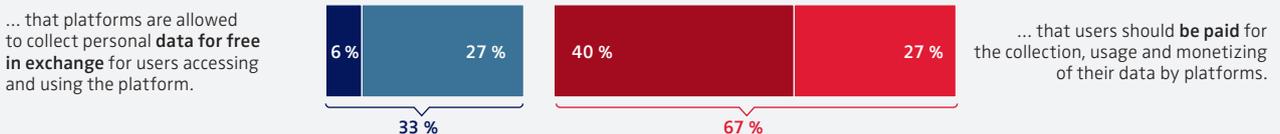
The Leaders of Tomorrow want personal data to be controlled by its owners and remunerated when it is used by online platforms

What do you think about the collection of personal data on the Internet?

That providers and platforms on the Internet collect data from users of their sites ...



I think it is justified ...



■ Completely agree with the left ...
 ■ Tend to agree with the left statement
 ■ Tend to agree with the right statement
 ■ Completely agree with the right ...

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differences between them and the rest of the respondents: They express significantly higher levels of agreement with the interests of the companies and platforms. Nevertheless, the general tendency observed for the entire sample is also reflected in their answers. Thus, reservations against permissive handling of personal data seem to be the prevailing attitude among the Leaders of Tomorrow.

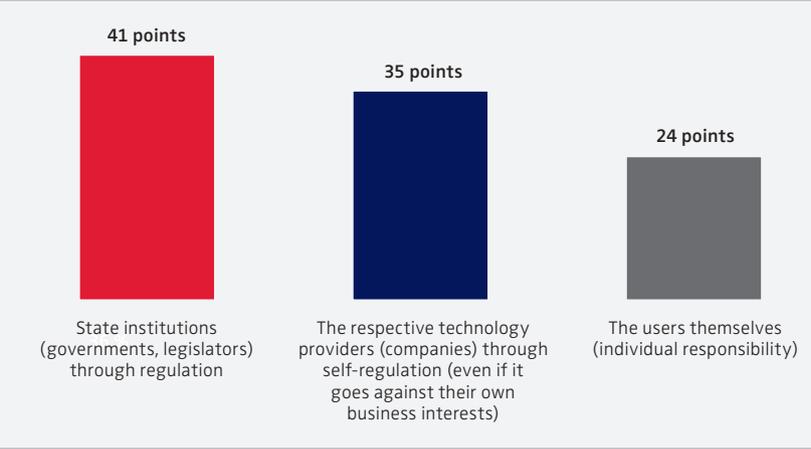
But whose responsibility is it to ensure that personal data is not used to harm users of social networks? The respondents were asked to distribute points to express the extent to which they viewed different players as being in charge. Most responsibility is assigned to state institutions (41 points on average), closely followed by the platform providers (35 points), and the users themselves follow at some distance with 24 points on average. This looks like a vote for more regulation by governments and legislators; the Leaders of Tomorrow expect state institutions to take the lead in protecting data privacy and security. It should be noted, however, that most respondents distributed their points across the different players, indicating shared responsibility – everyone needs to do their part to protect personal data from abuse.

To put it in concrete figures: Nearly nobody awarded 91 to 100 points – which would have been the equivalent to (almost) sole responsibility – to just one of the parties (see table 1). 0 points, which means no responsibility, were also rarely assigned. However, more than half of the respondents awarded a maximum of 20 points to the users, while state institutions and technology providers mostly received between 21 and 50 points. State institutions in particular frequently received more than 51 points.

FIGURE 6

The Leaders of Tomorrow expect protection of personal data as a shared responsibility, with state institutions in the lead

Who should be responsible for ensuring that personal information (data) from social networks users is not being used to their detriment? | Average distribution of 100 Points to the following parties, depending on the extent of their responsibility



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TABLE 1

Almost no one assigns full responsibility for data protection in social media to just one player

Please distribute 100 points among the three parties according to their responsibility that personal information (data) from social networks users is not being used to their detriment.

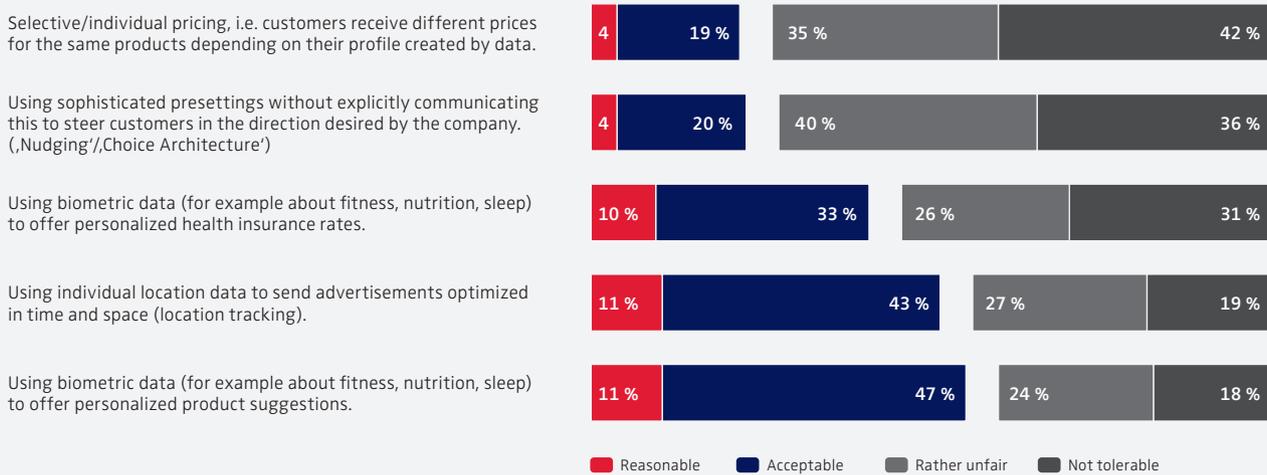
	State institutions	The technology providers	The users
Average score (sum = 100)	41 points	35 points	24 points
Distribution of the points			
0 points	2 %	6 %	13 %
1 to 20 points	17 %	22 %	55 %
21 - 50 points	54 %	64 %	38 %
51 - 70 points	21 %	11 %	5 %
71 - 90 points	6 %	3 %	2 %
91 to 100 points	2 %	0 %	0 %

Basis: all respondents (n=898)

FIGURE 7

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

To what extent do you think these measures are reasonable or acceptable? | Prespecified statements



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Whatever the Leaders of Tomorrow may think about the collection and protection of personal data, technological literacy is a necessity for companies in order to survive in a rapidly developing business environment.

When it comes to different smart digital applications that companies may – in the future or already today – use in relation to their customers, the Leaders of Tomorrow again take a skeptical view about what is reasonable and what is not acceptable. But their assessments are also differentiated.

"Selective pricing" (i.e., customers receive different prices for the same products depending on their profile created by data) and "Choice Architecture" (i.e., the strategic use of sophisticated default settings – without explicitly communicating this – to steer customers or users in the direction desired by the company) were rated particularly poorly. Three quarters assessed these measures as rather unfair or even not tolerable.

Just a quarter consider them as acceptable or reasonable – with the latter at merely 4%. Perhaps these measures were rated so poorly because there is no realistic chance to control them from the customers' end. Using biometric data to offer personalized insurance rates – which allows a certain level of control because it presupposes that the users release their data – is also rejected as unfair or not tolerable, but only by a modest majority of nearly 60%.

The majority flips when personal data is used for different purposes: 54% find the use of individual location data to optimize 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.

In view of the fact that these are not only Digital Natives but many will also likely run their own companies one day,

these reserved assessments are surprising and important to know. It can be observed that the answers of today's entrepreneurs among the Leaders of Tomorrow are less reluctant than those of the students and employees. Nevertheless, the Don'ts outweigh the Do's for them as well.

TECHNOLOGY AND HUMAN AGENCY: DECISIONS BETWEEN CONVENIENCE AND CONTROL

Smartphone ubiquity

A very tangible example of modern technology can also reveal insights into the tension between technology and freedom: The smartphone is, without any doubt, the most important technological device of the young generation, and it affects freedom in different ways. On the one hand it naturally extends individual freedom and convenience because it enables people to communicate whenever they want and with whomever they want, independent of

time and space. In this way freedom of communication is promoted – nobody would deny this. But on the other hand, smartphones potentially also constrain freedom. To be reachable at any time could also be perceived as a restriction of freedom. The Leaders of Tomorrow are remarkably split on this issue: More than 44% see being always reachable as a restriction of their freedom, while 37% disagree. For the statements on “time-consumption” and “concentration-killing”, however, there is much more consent: These seem to represent

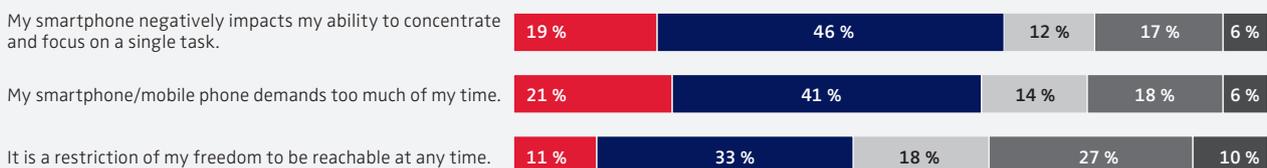
bigger problems in terms of restrictions imposed by mobile phone usage. The Leaders of Tomorrow are aware of them and obviously find it difficult to maintain (self-)control in terms of resisting the permanent attraction (and distraction) of the technical devices. Finally, when it comes to judging how dependent they are on the technical devices, half of the respondents admit feeling lost without their smartphone and nearly 60% would consider it a deprivation of their freedom if someone took their smartphone away.

FIGURE 8

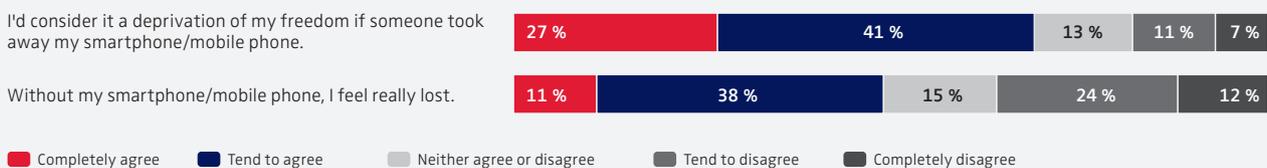
The Leaders of Tomorrow are aware of the constraints and dependencies important technologies like smart and mobile phones impose on them

To what extent do you agree or disagree with the following statements? | Prespecified statements

Constraints



Dependence



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It is interesting that the detrimental effect on smartphone use on concentration is seen as such a problem by so many Leaders of Tomorrow. This may be best described as an addiction that people are aware of, but still cannot seem to overcome or control to the extent they wish. Indeed, some authors argue that our always-on lifestyle together with the infinite access of information have led to “information obesity” (Brabazon, 2013; Carmody, 2010).

The online magazine *Minds & Machines* recently even wrote an article about sovereignty in the digital age: “[...] for many of us, even temporarily disconnecting from technology requires herculean effort. And yet an increasing number of people are undertaking that effort, precisely because the ceaseless torrent of information feels so oppressive and paralyzing. Digital technology seems to have resuscitated the age-old debate about positive and negative freedom: the freedom to access the world’s information and communicate with anyone has given way to demands for a freedom from dependency on our devices” (Psychology of Technology Institute, 2019).

The Philosopher and former Google designer James Williams (2018) goes even further. He has called for “freedom of attention” to things that really matter without being thwarted by technology. This perception of technological devices as a disruptive factor in life is likely to present providers with new challenges but also with new opportunities. An initial response to this challenge is now provided by one of the mobile operating systems with a downtime feature allowing users to set time limits on the use of certain applications.

AI, algorithms and human choice

Sophisticated algorithms and artificial intelligence are some of the most important and promising technological developments of our time, especially in a business context. Algorithms can improve the targeting of communication and offerings of companies and platforms, often even to the point of individualization. AI is a branch of computer science that deals with the simulation of intelligent behavior in computers or the ability of a machine to imitate intelligent human behavior. In other words, it can not only support human work and decision-making processes but could eventually replace them altogether. Thus, AI is the first field that threatens to compete with humanity in a domain long considered unreachable for machines: making intelligent decisions.

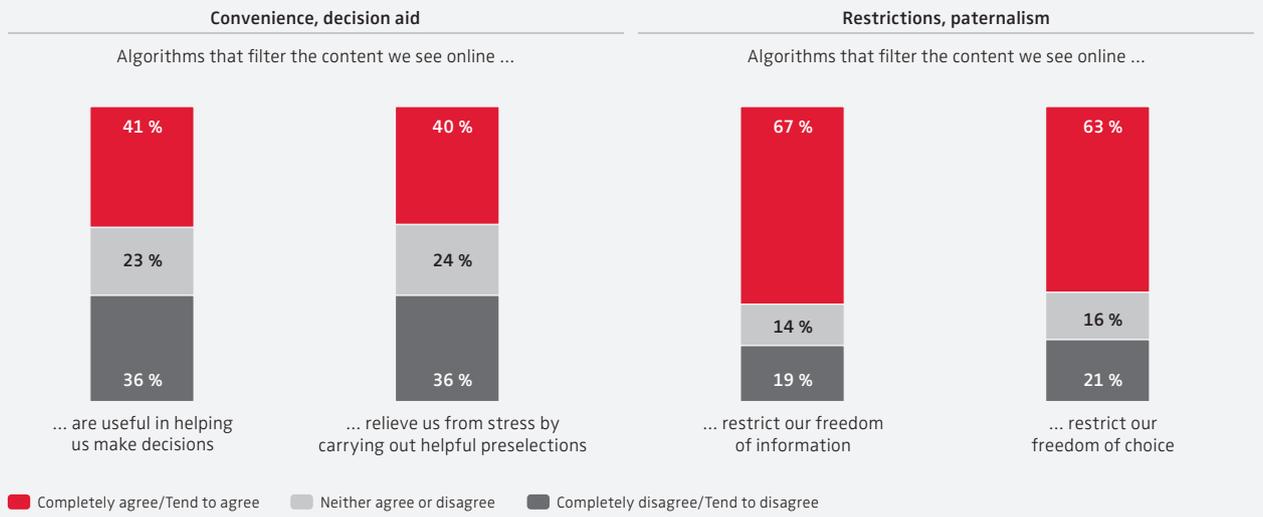
Most people are already used to social networks applying algorithms to filter content for users, online shops track order history and user behavior to make product suggestions, and search engines tailor results to stored individual profiles. The basis for that is data, very often on a level of detail and in amounts that many people are not aware of, which is analyzed and used for predictions by algorithms that most people do not understand.

Many algorithms are aimed at influencing online search and shopping decisions (which ultimately also impacts offline behavior). They do not exert control through authoritarian power, do not impose prohibitions or laws, but they subtly create different realities (bubbles) and thus influence human decisions.

FIGURE 9

Most Leaders of Tomorrow consider algorithms that filter online content as constraining and patronizing, while the evaluation of convenience aspects is polarized

Various aspects of personal freedom in the context of digital technologies and their possibilities.
Prespecified statements on algorithms that filter the content we see



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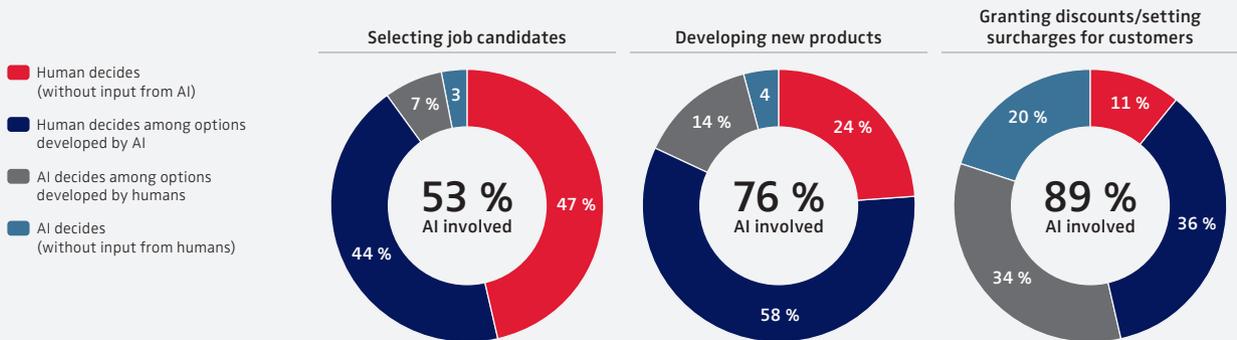
How do the Leaders of Tomorrow see the issue of freedom in the context of this new technology? Do they consider algorithms that filter the content they see on the Internet more as a tool of convenience, more as a patronizing instrument, or both? First and foremost, they see restrictions in their freedom of information and freedom of choice in algorithms that filter content, a kind of "algorithmic paternalism". Two thirds of them agree to corresponding statements, just 20% disagree. In contrast, convenience aspects such as decision support by preselection and customized suggestions polarize clearly: Half of the respondents seem to distrust the quality of the algorithm-based pre-

lection or do not consider them to be really helpful. Or maybe they simply do not want to have a shortlist created for them but prefer to decide for themselves from a bigger, unbiased spectrum of options. Another quarter of the respondents are not sure whether they consider the algorithms to be beneficial or not.

FIGURE 10

Most Leaders of Tomorrow would involve AI to a large degree in various business tasks, rising from a lower level in HR tasks to a higher level for product development and even more so for automated pricing

Artificial Intelligence (AI) means that companies are now able to automate various tasks. To what extent should companies automate?
Prespecified statements



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In an article for Forbes, Bernard Marr (2017) introduced his topic by stating: "When it comes to the possibilities and possible perils of artificial intelligence (AI), learning and reasoning by machines without the intervention of humans, there are lots of opinions out there. Only time will tell which one [...] will be the closest to our future reality."

In the present study, the Leaders of Tomorrow were asked to recommend which of various tasks should be delegated fully or partially to AI by companies. The following response options were available: 1) Humans decide without input of AI, 2) AI develops a number of options and humans decide between these options, 3) humans develop a number of options and AI decides among them, or 4) AI decides without input from humans. The variation of the answers is very high. The AI is granted least authority in matters of personnel and human resources. Especially the hiring decision itself should be made by only a person – at least according to about half of the Leaders of Tomorrow.

However, more than 40% think that AI can preselect options. The power of influence by creating options seems to be perceived as smaller than by making the final decision. But as the development of options creates a shortlist and narrows the scope of possibilities, the perceived level of control exerted by making the final decision may be overestimated or – to put it bluntly – be only an illusion of control. When it comes to the task of developing products, far more Leaders of Tomorrow suggest that AI should be granted influence. Just a quarter of the respondents would do this creative task without the support of artificial intelligence, while nearly 60% would use it for the development of options. So, creating the shortlist is the preferred type of AI assistance again.

The greatest extent of AI involvement is recommended for a third task, granting discounts or setting surcharges for customers. Every fifth participant even thinks that these decisions should be left entirely to AI. And similar percentages think that AI should select among

human-developed options (34%), or that humans should select among AI-developed options (36%). Thus, 9 out of 10 respondents would rely on the AI for this task. Maybe the high level of overall agreement that AI should be involved in decision making in this case can be explained by the fact that AI is already widely – and successfully – applied in a similar task, namely for programmatic buying in online advertising. Thus, it does not need much imagination to conceive of applying AI solutions to automatic pricing. The interesting questions for the future will be to see which decision tasks are best left to humans, which to AI, and in which ways the two can best cooperate.

LOOKING AHEAD: TECHNOLOGICAL CHANGE AND THE FUTURE OF FREEDOM

A first look at the assessment of the future impact of technologies on global freedom in general reveals the following key findings: Most of the Leaders of Tomorrow have neither a naïvely optimistic nor a fatalistic, negative view. In a nutshell: The overall attitude is cautiously optimistic. But this also means that nearly all of them worry about some threats as well. More than a third even fear more threats to freedom than opportunities.

This is surprising at first because the leaders of tomorrow are a generation that can be considered Digital Natives. The time of unreserved techno-optimism seems to be over: The younger generation apparently is keeping an eye open for threats looming behind new technological developments.

Citations of selected St. Gallen Knowledge Pool members, who describe their expectations about main opportunities

and threats caused by new technologies, illustrate and may clarify some of their worries as well as their hopes and visions (see next pages).

FIGURE 11

Most Leaders of Tomorrow are cautiously optimistic about the impact of new technologies on freedom in the world, but more than a third fear many threats

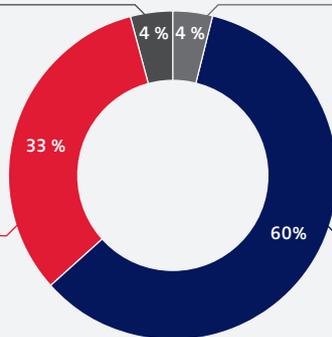
How will digital technology impact freedom in the world in general?
Prespecified statements

The rapid technological change will lead to less freedom in the world.

The rapid technological change will lead to more freedom in the world.

The rapid technological change creates **some opportunities** for freedom but also bears **many threats** against freedom in the world.

The rapid technological change creates **many opportunities** for more freedom but also bears **some threats** against freedom in the world.



Which threat do you consider the most challenging, what role does technology play, and how would you suggest tackling the issue?



"Losing control of who is the host of technology and getting too comfortable with technology leading change" [is the threat I consider the most challenging].

(Lari, Entrepreneur / business owner, Finland)



"There will be new kinds of inequalities, not only wealth. Knowledge inequality has always existed, but the Internet is exaggerating its effects."

(Nicolas, Software Entrepreneur, Argentina)



"I would say the most pressing challenge is the political manipulation of the Internet for personal gains. The case of Cambridge Analytica is a perfect example of how technology's political manipulation can cause an infringement of personal information safety."

(Abdiweli, Co-founder, Youth and Child Network for Human Rights, Somalia)



"While it [AI] can improve the production capabilities of a company, it also poses a threat to the jobs of millions of people. I'm in particular concerned about 'Deep Fakes'. [...] We need to develop AI that can detect deep fakes. [...]."

(Chirag, Travel Tech Entrepreneur, India)



"Political Manipulation is the worst of them all. [...] It is important to understand that political freedom should be exercised and our online space should be free of any manipulation. Best way to establish (this) (are) online cyber political rights." (Pashtana, Activist, Afghanistan)



"AI is, inherently, biased. It functions within the implicit bias humans impute into AI systems. [...] These biases could be (and already are) translated into threats to freedom including surveillance and political manipulation." (Jesse, Researcher, Analyst, Author on Foreign Policy in the Middle East, China)

Which challenge do you consider the most promising for technology to address and thus promote freedom in the world, and how?



"Technology can play a vital role in increasing economic growth of a developing country as it touches almost all the touchpoints of a thriving economy starting from social inclusion, increased health and education services and improved governance hence a healthy economic growth."

(Saif, Entrepreneur, Bangladesh)



"The access to and dissemination of information through digital tools enables citizens to act more consciously and responsibly. Digital technology can further give citizens the opportunity and capability to participate more actively in the development and decision making of their community. Combined, this will lead to the empowerment of individuals in our societies leading to less centralized power structures and decision making. Empowerment comes thus with the freedom to act."

(Valerie, Political Entrepreneur, Germany)



"Technology may in my opinion address income and wealth inequality by overcoming notions of scarcity in a post-material economy, allowing citizens of the world to prosper and educate themselves, free of the economic coercion laborers face today."

(Benedikt, FinTech Entrepreneur Switzerland)



"Technology can end global poverty and hunger. [...] technology can build consumer chains, build demand and support systems for small scale farmers (and) entrepreneurs."

(Pashtana, Activist, Afghanistan)



"Technology has introduced new pathways of human prosperity, economic growth, and inter-generational harmony in our international community. [...] Technology can help good governance by building resilience societies by fighting against exclusion and helping to foster inclusion."

(Abdiweli, Co-founder, Youth and Child Network for Human Rights, Somalia)



"People in the rural areas, they don't have quality education, poor health centers, less information on climate changes, less knowledge on animal management and entrepreneurship skills and if technology is introduced in the rural areas all these services would only be available at their fingertips."

(John, Executive Director, South Sudan)

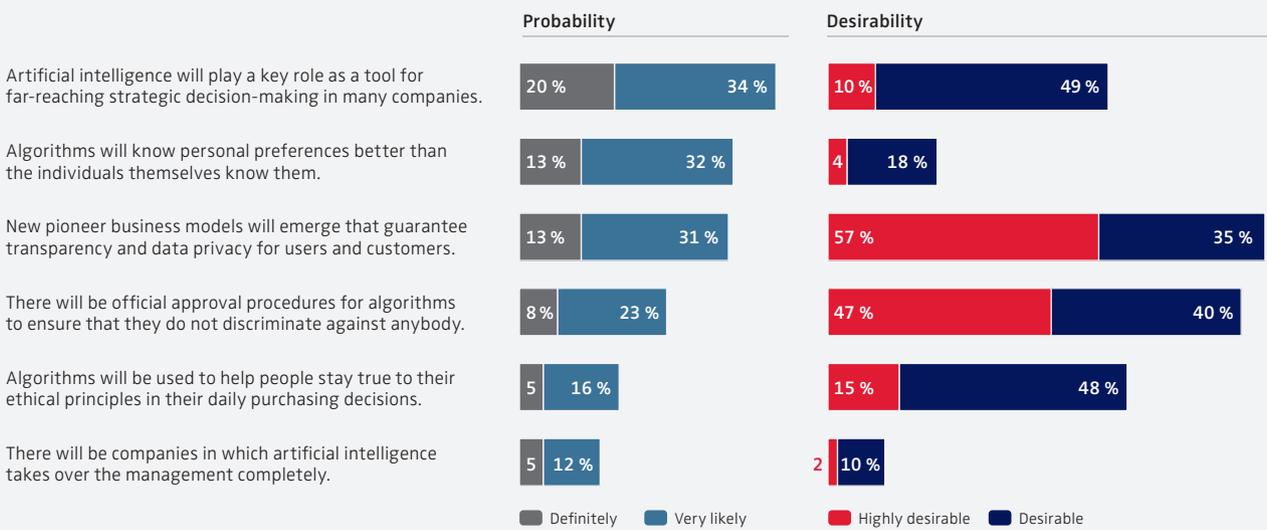
When presented with future scenarios about algorithms, AI or new business models, it is interesting to compare what the Leaders of Tomorrow predict will occur with what they hope or wish for. The highest probability of occurrence is attributed to the scenario that artificial intelligence will play a key role in many companies as a tool for far-reaching strategic decisions. More than 50% of the respondents consider it to be very likely or certain. A similar share regards this idea to be “highly desirable” or at least “desirable”. The lowest probability is assigned to the scenario of absolute management control by the AI. Less than 20% consider this likely, and the desirability is even lower. Both figures are lowest in the respective rankings. These two scenarios match in terms of probability and (un-)desirability: The Leaders of Tomorrow wish for a strong AI support and expect it to come true, but they do not want to lose complete control to AI and do not consider this scenario probable either.

In contrast, their predictions and their dreams diverge for the other scenarios. That algorithms will know people’s preferences better than the individuals themselves is considered relatively probable but is desired only by very few. Vice versa, three scenarios that address ethical aspects are much more desired than expected. Among these, the scenario that algorithms help people stay true to their ethical principles ranks relatively low in terms of desirability. Probably this is again a matter of distrust against too much control by technology: Some may find the idea uncomfortable that AI takes over moral decisions from humans and see it as a transgression of boundaries that should better remain in place.

FIGURE 12

There is a mismatch between the predictions and the dreams of the Leaders of Tomorrow: the most desirable scenarios are not necessarily the most likely ones

Forecasts and desires 5 years from now: What do you think the future will hold and what is your ideal vision of the future?



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The mismatch between predictions and dreams can be seen even more clearly when visualized in a matrix. The upper left quadrant is filled with unfulfilled dreams of the Leaders of Tomorrow: Concepts and ideals that they consider very desirable but cannot imagine being realized in near future. These seem to be ideal connecting points, so to speak, for promising future opportunities for courageous and visionary entrepreneurs.

moral principles are important for the Leaders of Tomorrow. To put it in a nutshell: Morality in terms of honest consideration for others has the potential to be a guiding principle for future generations of business leaders when it comes to developing and designing technologies with inherent trade-offs between convenience and efficiency on the one hand and human freedom of choice on the other.

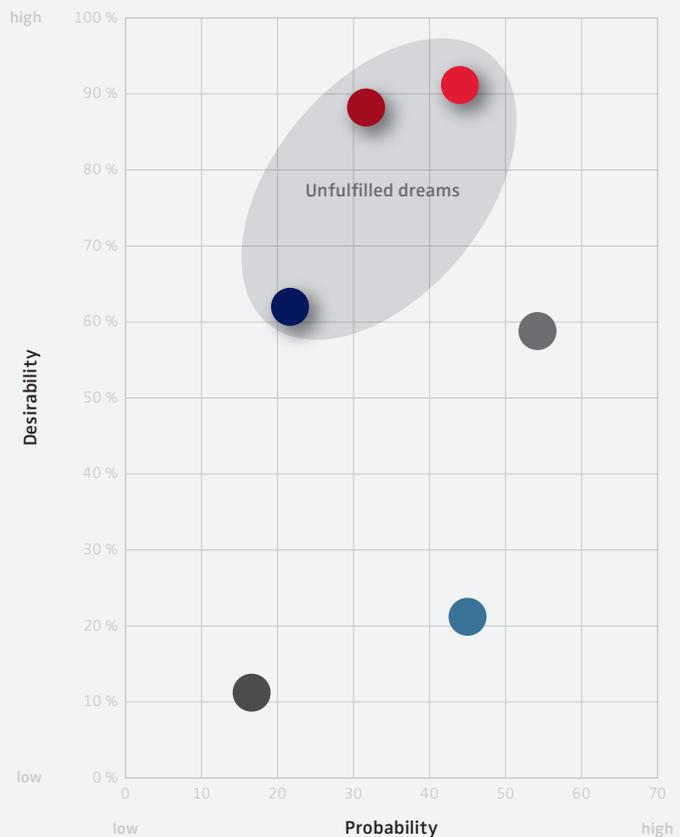
All these desired scenarios have a common basis: A strong vote in favor of greater morality in future business procedures and models. Apparently, transparency, respect for data privacy and

FIGURE 13

The Leaders of Tomorrow have a strong desire for greater morality in future business models and procedures

Forecasts and desires 5 years from now: What do you think the future will hold and what is your ideal vision of the future? | Top2Boxes of 5-point-scales

- New pioneer business models will emerge that guarantee transparency and data privacy for users and customers.
- There will be official approval procedures for algorithms to ensure that they do not discriminate against anybody.
- Algorithms will be used to help people stay true to their ethical principles in their daily purchasing decisions.
- Artificial intelligence will play a key role as a tool for far-reaching strategic decision-making in many companies.
- Algorithms will know personal preferences better than the individuals themselves know them.
- There will be companies in which artificial intelligence takes over the management completely.



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CONCLUDING REMARKS

Mankind has a long history of co-evolving with technological and cultural inventions. And changes in technology have impacted freedom in very different ways, including how we access, share and analyze information. But until a few decades ago, most of the technology mankind had invented was either about “artificial muscle” or increasing efficiency of carefully designed processes. Technology, to a large extent, was “dumb”. It might have given us easier access to information, but we did not expect it to act on the information itself in non-trivial ways. We did not expect our technology to make its own decisions, or unduly influence our own.

Looking at our constant but somewhat oblivious use of technology today, a wise saying seems to have come true: “First we shape our tools, and thereafter, our tools shape us.” In many areas, we have already become used to simply following recommendations that technology makes for us – raising important questions on whether we are still guiding technology or if technology has started guiding us. Many of us seem fine with receiving information about “reality” that is no-longer shared and objective, but customized and tailored for each of us.

According to the present study, however, we may have reached a turning point: The Leaders of Tomorrow are very aware of the new types of constraints and dependencies that come with these increasingly sophisticated technologies – and demand changes that give back control 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 want to see these risks mitigated by states, companies and individual actors.

Nevertheless, for some business tasks there is relatively widespread acceptance for handing at least part of the decision processes to AI, such as preparing a short-list from which a human makes a final decision. But what initially appears like a low-risk job for an AI – preparing a short list of options but leaving the final decision to a human – might actually create a dangerous “illusion of control”, leading us to believe that we maintain unrestrained freedom of choice.

How humans can use the opportunities of disruptive technologies like AI while 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. But this study revealed that, for a start, the Leaders of Tomorrow do not embrace new technologies naïvely 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 over control in our daily lives. This topic requires a broader societal dialogue, to which we hope to contribute a small piece with the current study.

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SAMPLE AND SURVEY METHODOLOGY: RECRUITMENT OF THE LEADERS OF TOMORROW

898 Leaders of Tomorrow from around the globe

The study was targeted at the 'Leaders of Tomorrow' a carefully selected, global community of very promising young talent.

Each year, 200 academics, politicians, entrepreneurs and professionals around 30 years or younger are invited to challenge, debate and inspire at the St. Gallen Symposium.

A total of 100 Leaders of Tomorrow qualify to participate in the St. Gallen Symposium through the St. Gallen Global Essay Competition on an annual basis. The St. Gallen Symposium has invited students from all fields of studies and corners of the world to share their views on a topic of greater magnitude each year since 1989. During the last 30 years almost 30,000 thought-provoking essays from more than 1,000 universities in over 120 countries have been submitted.

The other part of the Leaders of Tomorrow are hand-selected exceptional young entrepreneurs, politicians and professionals (the so-called "Knowledge Pool") who, together with the students qualifying through the essay competition as well as former attendees, form the Leaders of Tomorrow community of the St. Gallen Symposium.

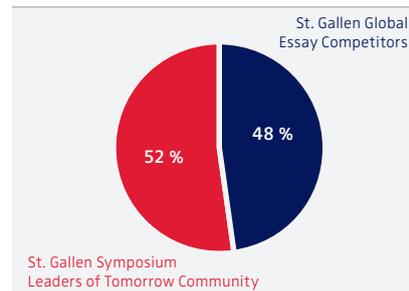
St. Gallen Global Essay Competition participants

For the Voices of the Leaders of Tomorrow report, students from 245 universi-

ties, who have competed in the St. Gallen Global Essay Competition were personally invited to take part in the study by the St. Gallen Symposium. While this year COVID-19 prevented the symposium, this did not interfere with the survey for this Report. The survey took place well before the postponement, when the essays for the Global Essay Competition had already been turned in.

St. Gallen Symposium Leaders of Tomorrow Community

The St. Gallen Symposium team selected participants through their worldwide community of young talent who attended past symposia as Leaders of Tomorrow.



Conducting the survey

The online survey was conducted in English in February 2020. A total of 898 Leaders of Tomorrow participated in the survey with an interview time of about 30 minutes. The survey demanded an intensive reflection on freedom in general and in the context of new technology from the respondents. As an incentive all participants will receive a digital copy of the report. Participants from

the St. Gallen Symposium Leaders of Tomorrow Community, who already attended past symposia, additionally had the chance to win one of three fully paid visits to the 50th St. Gallen Symposium.

Giving voice to a unique group of global talent

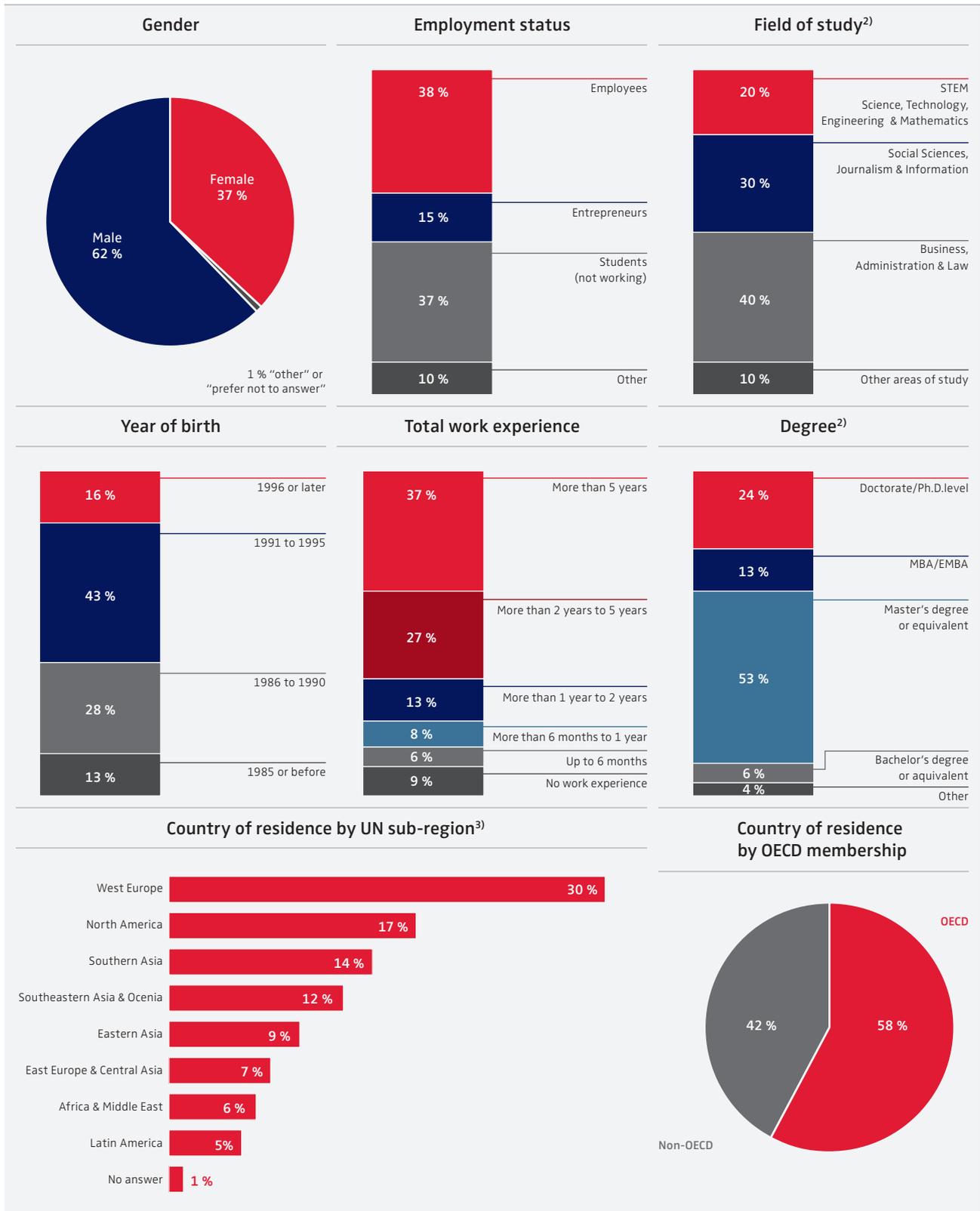
Since we cannot know for certain today who will take on relevant positions of leadership and responsibility in the future, this survey cannot claim to be "representative" in the traditional sense of population sampling – neither of all future leaders in general, nor of the regions in which the participants live.

However, we captured a broad and international group of participants from the Leaders of Tomorrow community that allows a very interesting and unique snapshot of a carefully selected group of young and qualified individuals from more than 90 countries around the world.

To understand how an increasingly globalized world is developing, it is important to have this broad participation from across regions and countries and from both developed and emerging or developing economies.

With active and very vocal participants coming from all around the world, this study can certainly give a voice to a culturally and economically diverse set of contexts, values, desires and mental models, something that is necessary to reflect the truly global and increasingly multi-polar world we live in.

Leaders of Tomorrow – Wave 2020



1) Possibly studying in parallel 2) Current field of study/degree for students or field of study of highest degree/highest degree held for non-students
 3) Regions follow United Nations sub-region scheme; the more common term "Middle East" was used for what is formally called "Western Asia"



Nürnberg Institut für Marktentscheidungen e. V.

Founder and Anchor Shareholder of GfK SE

Steinstraße 21

90419 Nuremberg, Germany

hello@nim.org

www.nim.org