

In collaboration with Deloitte and the Markkula Center
for Applied Ethics at Santa Clara University



Ethics by Design: An organizational approach to responsible use of technology

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Foreword



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From AI to blockchain to quantum computing, the explosive growth of new digital technology is a defining feature of the current era. While new technologies can serve as powerful tools to help organizations become smarter and more agile, their deployment must be carefully planned to avoid adverse ramifications.

Most companies today understand the importance of ensuring that the technology they employ is trustworthy (i.e. that it addresses foundational security, privacy and regulatory concerns). Lately, however, many are beginning to acknowledge a range of new *ethical* challenges related to how such emerging and disruptive technologies are designed, delivered and used in ways that may erode fundamental human values (e.g. equality and autonomy), and which require careful judgement to identify and mitigate. While critical ethical thinking about technology may be a new skill set for some, almost everyone agrees that issues such as data privacy and algorithmic bias can pose significant reputational and financial risks if unaddressed. This paper seeks to offer clear principles and practices that organizations can apply across their operations to improve the ethical use of technology.

We believe a comprehensive approach to promoting the responsible, ethical use of technology should consider three critical components: education in how emerging technologies work and what ethical challenges they might pose; the product life cycle and development of the tools needed to help drive ethical outcomes; and the design of organizations, to ensure that the people creating, deploying and using these tools are motivated and equipped to make ethical choices.

This paper focuses on the last component, an area in which research has to date been nascent but which remains no less critical. While certain foundational ethical risks can be mitigated through the establishment of clear operational rules, many others require the capacity for ethical judgement and organizational factors that support translating that judgement into action. As technology is increasingly incorporated into the daily operations of companies across sectors, leaders must prepare their people to be aware of the ethical risks posed by emerging tools, equip them to make ethical choices even in situations in which information is imperfect or ambiguous, and motivate them to act upon that judgement in ways that advance prosocial goals.

Given the immense impact that technology can have on individuals, corporations and society more broadly, institutions have begun to actively identify best practices to ensure its ethical use (e.g. Deloitte's [Trustworthy & Ethical Tech](#) offering and the Markkula Center's [Ethics in Technology Practice](#)). To that end, this paper reflects a collaborative effort between the World Economic Forum, Deloitte and the Markkula Center for Applied Ethics at Santa Clara University, which we hope will offer helpful guiding principles and illustrative examples that can support your firm's journey in navigating the evolving landscape of embedding ethics in technology.

1

Introduction



“

I don't think technology by itself improves people's lives. Unless there's commensurate ethical and moral improvements to go along with it, it's for naught.

Jaron Lanier¹

While stories of ethical failures and calls for ethical leadership in business dominate today's headlines, particularly in relation to the tech sector, the topic is hardly a new one. Ethical discussions pertinent to business conduct date back centuries, and business ethics emerged as an academic discipline in the wake of environmental and anti-corporate protests in the United States in the 1970s. Yet the continued emergence of high-profile corporate scandals throughout the decades attests to the fact that ethical research, debate and instruction have not consistently translated into ethical *behaviour*.

Furthermore, previous generations' leaders have sent mixed signals about the need for ethics in business training and decision-making. In 1970, Milton Friedman famously argued that, "There is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud."² One sociologist reported that getting Harvard Business School to teach ethics in the late 1980s (after receiving a \$20 million grant to do so) was nearly impossible. He commented, "They said, 'We teach people how to put small toys into large boxes so they seem bigger. We put hot colors onto boxes to produce impulsive buying. If you want us to teach ethical behavior, we're out of business.'"³

Today's climate of opinion is considerably different. In 2019, the Business Roundtable moved away from Friedman's doctrine of shareholder primacy, declaring the need to make "a fundamental commitment to all of our stakeholders", to support communities and uphold the environment.⁴ More recently, to mark the 50th anniversary of the publication of Friedman's essay, a chorus of leading economists and business leaders have articulated the need to move beyond a single-minded focus on short-term profits.⁵

This shift in sentiment occurs at the same historical moment as a widespread acknowledgement of the potentially deleterious effects of new technologies on individuals and societies. As artificial intelligence (AI), cloud computing, robotics, 3D printing, the internet of things (IoT) and other advanced technologies penetrate ever more aspects of society, there is a growing consensus that they pose not only *technical* challenges but *societal* ones as well. For example, if left unchecked, AI and social media technologies can promote the spread of disinformation, exacerbate group polarization, become addictive, amplify societal biases, exacerbate wealth inequalities and pose the risk of automating decisions that require human judgement.⁶

As a result, there are increasing calls for the development of suitable ethical norms, governance structures and institutional arrangements to help ensure that the benefits of technology outweigh the risks, that these benefits are distributed fairly and that novel technologies do not undermine human autonomy and self-determination. At the same time,

it will be important to ensure that the evolving legal and regulatory systems do not needlessly impede technological innovation.

These calls have been met with a proliferation of technology ethics statements of principles and guidelines. For example, AlgorithmWatch's AI Ethics Guidelines Global Inventory has compiled no fewer than 160 sets of AI principles and guidelines promulgated by prominent companies and organizations.⁷ Similarly, many companies have adopted codes of business ethics. But issuing a set of guidelines or a code of conduct does not guarantee that more ethical behaviour will follow.

Another signature issue of our time – the revolution in our understanding of human psychology ushered in by Daniel Kahneman, Amos Tversky and their collaborators and followers – offers an underused toolkit to help bridge the gap between ethical *intentions* and ethical *behaviour* within organizations. In realms such as law, economics and public policy, the idealized view of perfectly rational, self-interested economic actors has given way to a more nuanced view of actors characterized by bounded rationality, bounded self-control, bounded self-interest and bounded ethicality.⁸

A major implication explored by the behavioural economics pioneer and Nobel laureate Richard Thaler and legal scholar Cass Sunstein in their "choice architecture" manifesto *Nudge* suggests that – contrary to the classical economics postulates – providing information and offering material incentives are not the only drivers of human behaviour. The *manner* in which information is provided (for example, the choice of frames) or choices arranged (for instance, the choice of defaults) can significantly and systematically affect behaviour. Thaler stated, "A good rule of thumb is to assume that everything matters."⁹ This carries a powerful practical implication: We can harness insights from the social and behavioural sciences to design our operating environments in ways that promote more beneficial and prosocial behaviour and decisions. Consistent with this, in their book *Nudge*, Thaler and Sunstein define a "nudge" to be "any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives".¹⁰

For example, it is often observed that financial literacy training alone does little to change individuals' savings behaviour – perhaps due to bounded cognition and bounded self-control. In contrast, it has been estimated that changing defaults to automatically enroll people in retirement schemes (while giving them the freedom to opt out) results in substantially increased savings.¹¹ Analogously, behavioural scientists who study gender biases in large organizations emphasize that while diversity training does little to move the equality needle,

such design elements as blinded résumés or salient reminders of notable female leaders can yield measurable impacts.¹² The behavioural scientist Iris Bohnet states:

“Instead of trying to debias mindsets, the evidence suggests that we should focus on debiasing systems.”¹³

The corresponding implication in the realm of ethics is that the time-honoured traditions of business ethics classes and corporate ethics training alone are unlikely to move the ethical behaviour needle. Systematic changes to decision-making environments are needed

as well. That is: We would do well to treat ethics not only as a *training* and *education* challenge, but as a *behavioural design* challenge as well.

The behavioural scientist Jonathan Haidt states:

“I certainly think it’s good for business students to take a course on business ethics, but I don’t think that one course will improve ethical behavior years later, when social forces in real work settings overwhelm whatever lessons students learned in class. If we really want to improve ethical behavior in business, we must grab the bull by the horns and change those social forces.”¹⁴

1.1 Three design principles for promoting ethical behaviour

A major theme emerging from decades of research in social psychology is that situational factors drive human behaviour to a considerably greater extent than our intuitions might suggest. Behavioural scientists use the term “fundamental attribution error” to denote our systematic tendency to overestimate the importance of individual personality traits while underestimating the degree to which situational factors affect human behaviour.¹⁵

In addition, a large body of research suggests that individuals are boundedly ethical, meaning that they are subject to systematic ethical “blind spots”, leading them to neglect the ethical dimensions of their decisions. This can lead ordinary individuals to act in ways that diverge from even their own ethical preferences.¹⁶ The practical takeaway is that leaders should resist the natural tendency to focus excessively on rooting out unethical *individuals* while neglecting the need to address the contextual factors that can lead ordinary individuals astray. In short, even the best of ethical intentions can fail to result in ethical actions.

A third major theme in social psychology is that reasoning exerts more power over our actual behaviour than is commonly thought. Rather, reasoning – including ethical reasoning – often follows from behaviour, serving to rationalize or justify it. Jonathan Haidt comments that modern psychology bears out David Hume’s maxim, “Reason is a slave of the passions.”¹⁷

In their essay “Treating Ethics as a Design Problem”, the behavioural scientists Nicholas Epley and David Tannenbaum discuss three “myths” about morality that are consistent with these themes:

1. Ethics are a property of *people*, rather than the broader *context* in which the behaviour takes place.

2. People’s [good or bad] ethical *intentions* lead to [good or bad] ethical *actions*.
3. Ethical *reasoning* drives ethical *behaviour*.

Debunking these myths leads to the realization that:

- Interventions that focus on rogue *individuals* in the midst of *environments* in which unethical behaviour is systematic are unlikely to succeed.
- Good ethical *intentions* can precede unethical *behaviour*. It is wise to have ethical safeguards in place, even when people with good intentions are involved.
- Leaders should resist the temptation to overestimate the effectiveness of ethics educational and learning programmes and underestimate the importance of *contextual changes* for prompting ethical behaviour.

This final point begs the question: How should well-intended leaders and organizations design such contextual changes? Epley and Tannenbaum suggest that programmes, policies and decision environments are more likely to be effective if they are designed to “go with the grain” of human psychology. They call this “ethical design for a human mind” and state:

“Policies that encourage ethical behavior should ... be designed around three basic psychological processes that guide human behavior: **attention**, **construal**, and **motivation** [emphasis added].”¹⁸

Consistent with the core message of Thaler and Sunstein’s *Nudge*, Epley and Tannenbaum suggest that key findings from psychology and behavioural science can be harnessed to serve as design principles to shape decision environments in ways that prompt better and more routine ethical behaviour.

In more detail:

1. **Attention:** Timely reminders, checklists, frequent ethics refresher trainings and other interventions can be developed to help ensure that ethical considerations are top-of-mind at crucial decision points.
2. **Construal:** Mission statements, deliberate choices of ethically freighted language, new employee onboarding sessions and periodic training sessions involving ethical deliberation, and other interventions can be used to promote ethical considerations. For example, encouraging

employees to ask not only “is it legal?” but also “is it right?” promotes the use of an ethical view at critical junctures such as when making a key business decision.

3. **Motivation:** People are often intrinsically motivated to act in ethical ways, particularly when doing so is the cultural norm. At the same time, reward systems that focus on material incentives can “crowd out” such intrinsic motivations. Encouraging prosocial actions, employing social “norm nudge” interventions and other culture-change activities can be used to motivate ethical behaviour.¹⁹

FIGURE 1 Three design principles

Contemporary psychology highlights the power of designing systems that go with the grain of human psychology.

Attention, construal and motivation are three core psychological processes that can be harnessed to serve as **behavioural design principles**.

Attention



Ethical people can behave unethically because their attention is focused elsewhere

► Effective system design prompts people to think about ethics routinely



Building awareness

- Trainings
- Conversation starters
- Blogs
- Pre-mortems



Using organizational nudges

- Timely reminders
- Checklists
- Algorithms that identify ethical risks



Creating shared language

- Mantras
- Mission statements
- Acronyms
- Slogans

Construal



Individuals’ behaviour is influenced by how they interpret their environment

► Effective system design helps people recognize ethical conduct and adjust behaviour accordingly



Drawing on diverse perspectives

- Functionally and socially diverse teams to identify different issues and consider downstream effects



Using frameworks for ethical decision-making

- Modes of moral reasoning or ethical lens
- Principles for responsible use of technology



Engaging stakeholders

- Receiving input from users, customers and others affected by the action or technology

Motivation



People are motivated by more than material incentives – they also have intrinsic prosocial motivations

► Effective system design establishes ethical norms of behaviour



Fostering empathetic relationships

- Rotating assignments
- Conscious community creation
- Narrative integration



Integrating organizational functions

- Rubrics encouraging ethical reflexivity, cross-divisional teams, using mission



Developing organizational introspection

- Historical reviews, self-assessments, acknowledging uncertainty

Source: World Economic Forum, based on Epley, Nicholas, and David Tannenbaum. “Treating Ethics as a Design Problem”; Skeet, Ann Gregg. “Defining Healthy Organizational Culture”

The following sections will discuss these design principles in more detail and provide examples that illustrate their effectiveness. Subsequently, we review examples of the principles in action – both within and outside of technology settings – to

suggest approaches for applying them. Throughout, a collection of case studies drawn from interviews conducted in the second half of 2020 illuminates applications of the principles in greater detail.

Note: The guidance in this paper is generally directed towards professionals in operating roles within companies, namely, executives responsible for framing and implementing their company’s approach to technology ethics. It should be acknowledged that such work inevitably takes place in the context of factors within and outside companies that might constrain or otherwise shape an approach to promoting ethical behaviour. For instance, the degree of regulation in a company’s industry may shape the relevant scope for ethical deliberation. Similarly, the financial obligations inherent in a company’s capital structure may limit what an individual actor can do to influence business operations – even as those financial obligations and operations may themselves be relevant topics for ethically oriented discussion. We note these factors simply to acknowledge the complexity of working on ethics in any existing organizational structure or multistakeholder environment. That said, we hope these principles and applications can be helpful to professionals in these roles.

2

Ethics by design principles



Improving ethics often requires altering the type of situation a person is in, not simply altering the type of people in a given situation.

Nicholas Epley and David Tannenbaum²⁰

We turn to a deeper discussion, with illustrations, of the psychological processes of attention, construal and motivation that are regarded as behavioural design principles. While our primary focus is on the ethical design, development and deployment

of technology, these principles – particularly when used in combination – are broadly relevant to the challenge of prompting ethical behaviour in a variety of contexts. We provide examples from disparate contexts to illustrate the possibilities.

2.1 Attention



Attention operates like a spotlight rather than a floodlight, focusing on a small slice of all possible relevant information ... An otherwise ethical person might behave unethically simply by failing to consider the ethical implications of his or her actions.

Nicholas Epley

Social psychology teaches that attention functions more like a “spotlight” than a “floodlight”. The implied behavioural design challenge involves keeping ethics top-of-mind, particularly with critical employees at important decision junctures.

Refocusing the attention in a timely manner on the ethical implications of the technology helps cut through competing factors that may cause this to be neglected. The need to do so is memorably suggested by the well-known “invisible gorilla” experiment conducted by Christopher Chabris and Daniel Simons.²¹ Participants watched a video of

students playing basketball and were instructed to count the number of times players passed the ball. With the “spotlight” of their attention focused on the act of counting, half of the participants failed to notice a person in a gorilla suit crossing the court. By analogy, the absence of timely reminders might result in well-intended individuals and organizations losing sight of important ethical considerations – the metaphorical “person in the gorilla suit” hidden in plain sight.

Insights from the social and behavioural sciences can serve as a wellspring of ideas for the focusing

of attention. For example, the state of New Mexico found that a timely pop-up message reminding most unemployment insurance claimants to report their past week's earnings accurately resulted in a 35% reduction in overpayments.²² (Note that the timing of the digital pop-up messages illustrates the tactic of focusing attention on ethical behaviour. The content of the messages – highlighting a social norm – illustrates the principle of *social motivation*, to be discussed shortly.) Another behavioural tool is checklists, long used in the aviation profession

and more recently advocated in the medical domain by Atul Gawande. Well-designed checklists that are tailored to specific use cases can help ease cognitive load, focus attention on crucial tasks or issues at appropriate times, and amplify the “voices” of lower-status individuals raising uncomfortable issues.²³ However, checklists, as with any tool, can be misused. Without complementary tactics described later in this paper, checklists can devolve from useful guidance into compliance “tick boxes”.

FIGURE 2 Design principle #1



Attention

Effective system design prompts people to think about ethics routinely

 <p>Building awareness</p> <p>How organizations orient people towards ethics...</p> <p>By imparting familiarity with ethics concepts, employees can more easily recognize ethical issues through:</p> <ul style="list-style-type: none"> – Training to familiarize them with ethics – Internal communications channels such as blogposts and contests – Pre-mortems and post-mortems to avoid systemic ethical failures in a project 	 <p>Using organizational nudges</p> <p>How organizations remind people about ethics...</p> <p>Timely flagging of issues for review by using:</p> <ul style="list-style-type: none"> – Reminders built into existing processes such as sales due diligence, customer presentations and hiring interviews – Technical tools that review algorithms to identify potential ethical issues – Checklists and dashboards 	 <p>Creating shared language</p> <p>How organizations talk about ethics...</p> <p>Weaving values and ethics into declarative cultural elements such as:</p> <ul style="list-style-type: none"> – Mantras and acronyms and other mnemonic devices – Mission statements – Codes of conduct – Intentional names for business functions and teams
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Source: World Economic Forum, based on Epley, Nicholas, and David Tannenbaum. “Treating Ethics as a Design Problem”; Skeet, Ann Gregg. “Defining Healthy Organizational Culture”

Examples of tools and tactics to drive attention

It is not uncommon for firms to establish formal or informal guidelines (e.g. codes of behaviour) and articulate mission statements, and reinforce these using physical or electronically delivered cues and reminders. But given the “spotlight” nature of human attention, such interventions might not go far enough to keep ethics at the forefront of people’s minds and embedded into daily operational processes and decision-making.

A number of companies therefore work with an expanded set of tools to focus attention on ethical issues. These include more innovative approaches to training, promoting active discourse on ethical issues and providing tools to better embed ethics in daily workflows.

Building awareness

By imparting familiarity with ethics concepts, formal training can be an essential first step in helping employees recognize, and later reflect on, ethical issues that might arise in their work. By making

such training mandatory and delivering it at scale (with periodic refreshes), firms can ensure that all employees receive exposure to critical concepts and form a better appreciation of their importance.

Note that in-depth training highlighting the application of ethical principles in real-world business decisions can also promote ethical *construals* – to be discussed shortly. We also note that while leaders should not overestimate the effectiveness of training in isolation from other systematic interventions, it is nonetheless natural to consider both in-depth training (to promote ethical construals) and more frequent reminders and refreshers (to help keep ethics top-of-mind) as part of a comprehensive ethical design strategy.

To enable retention and keep ethics prominent at crucial moments, firms should consider the format, framing and frequency with which educational content is imparted. For example, relying excessively on video chat to deliver lengthy training

can compromise engagement due to phenomena such as “Zoom fatigue”.²⁴ However, infusing training content with storytelling and innovative multimedia tools (even entertainment) can improve engagement and overall effectiveness.

Illustrative examples of innovative ethics trainings and related tools include:

- Dell deploying a training game that was shown to notably increase awareness of the firm’s values²⁵
- Cisco debuting an “Ethics Idol” contest,²⁶ using video content and music to support employee familiarity with firm principles
- Circulating postcards with real-life dilemmas so that people can see “ethics in action” across the company

Continually encouraging conversations involving ethical considerations can also build familiarity with and focus attention on how ethical concepts apply in real-life scenarios. A number of avenues exist, including periodic blogs (which can address multiple topics while supporting updates and broad community engagement, and more generally help keep the issue top-of-mind) and panel discussions (helpful for increasing awareness through showcasing diverse participant perspectives).

One notable example of promoting dialogue is a blog run by Allianz Life’s chief ethics and compliance officer, which has become one of the most-read pages on the company’s internal site.²⁷ The blog shares the challenges faced by the firm’s leadership, while raising awareness of the role of the ethics office and inviting employee engagement in related discussions.

Another example of encouraging dialogue comes from the non-profit sector. NetHope, a non-profit consortium of nearly 60 global non-profit organizations that emphasizes collective action and harnesses the power of technology for the social impact sector, convened an AI Working Group of more than 30 global NGOs.²⁸ This group identified a need for more capacity-building in understanding the challenges and risks that AI poses. The group also realized the need for training in how to make ethical decisions in real-world scenarios. NetHope, in collaboration with USAID and MIT D-Lab, hosted a series of workshops and webinars for non-profits and private-sector partners in 2020 to explore the ethical considerations related to the principle of fairness in AI use cases for humanitarian response, education, health, workforce and agriculture. A toolkit is expected to be published from this effort.

Finally, pre-mortems and post-mortems are tools used to avoid systemic ethical failures in a project.²⁹ Identifying ethical risks – those that can harm other people – before a project begins makes it less likely to

experience the kinds of cascade effects that lead to ethical disasters. These tools help to mitigate against multiple team failures that in isolation would have been minor, but in concert produce an ethical disaster.³⁰

Using organizational nudges

While training and guidance are commonly used to focus attention on ethics generally, new means are emerging that promote attention by flagging, in a timely way, specific issues for human review. By analysing data and systems far faster than humans can, these tools may uncover risks (such as promoting biases or compromising privacy) that could otherwise go undetected or unaddressed. Technology-enabled tools for focusing attention become more practical as many jobs become increasingly digitally mediated. Analytics Ventures³¹ uses algorithmic assessment tools to efficiently review the decision-making processes of algorithms in order to help developers better anticipate potential ethical challenges.

A key attribute of effective nudges is their timeliness. One company built its human rights assessment directly into its due diligence practice for sales, recognizing that the issue needed to be raised at the point of closing the deal and getting it approved in order to be effective.³²

Creating shared language

Businesses have learned to develop new, shared language as a technique for bringing attention to ethical concerns. In one company, the first document a new employee receives is the corporate code of conduct. And some companies decide to start at the beginning, by revisiting and updating their mission statements. NovaCare invited employee input to help define its company values; the resulting shared mission statement and accompanying organizational changes helped to reduce turnover and drive stronger ethical awareness and alignment.³³

One organization arranged its values into an acronym that formed an actual word, to encourage its use as a mantra in the company and so draw attention to ethics. Others give careful consideration to the names they use for newly created teams, aware that such functional titles and groups serve as new declarative cultural elements that can have a lasting effect in drawing attention to ethics.

In industries worldwide, a focus has been placed on ethical issues by introducing the ESG framework. The letters stand for environment, social and governance concerns and most companies now report on these to stakeholders. New business publication lists, metrics³⁴ and disclosure mechanisms³⁵ have emerged, and the acronym has been powerful in keeping ethical issues at the forefront of executives’ minds.³⁶

Consequences of failing to promote attention

Failing to pay adequate attention to ethical considerations can have material adverse consequences. Apple offers one example:³⁷ The social networking app Path was uploading user address-book lists onto its own servers, which seems to have violated Apple's policy.³⁸ While Apple provided clear guidelines to app developers on how best to maintain the privacy of user data, it apparently failed to sufficiently emphasize and enforce these guidelines. Fallout from the incident included significant public and regulatory backlash for the company.

While focusing *attention* on ethics is a necessary consideration, it is not sufficient to drive more consistent ethical behaviour. The manner in which ethics programmes are crafted – for example, whether legality is emphasized over morality – can shape ethical *construals*, to be discussed in the next subsection. Furthermore, ethical *motivations* should be fostered, to be discussed subsequently.

2.2 Construal

“To predict the behaviour of a given person successfully, we must be able to appreciate the actor's construal of the situation – that is, the manner in which the person understands the situation as a whole.

Richard Nisbett and Lee Ross³⁹

To act in accordance with ethical principles, individuals need to interpret their work in ethical terms. That is, they must *construe* their work and environment in terms of ethical (as opposed to economic, pragmatic, legalistic or other) principles.

A simple illustration of the power of cuing ethical construals can be found in a study in which

college students were asked to play a resource-allocation game. Framing the exercise as a “Wall Street Game” rather than a “Community Game” resulted in a material reduction in cooperative behaviour.⁴⁰ Similarly, when the window for military service member re-enrollment in a thrift savings plans was promoted as an opportunity for a “fresh start”, re-enrollment increased by 22%.⁴¹

FIGURE 3 Design principle #2



Construal

Effective system design helps people to recognize ethical conduct



Considering diverse perspectives

How organizations **employ diversity** for ethics...

Stakeholders from different backgrounds will often interpret the same circumstances in different ways. Gather perspectives by:

- Standing up teams with different functional expertise
- Ensuring teams have both social and deep-level diversity
- Providing guides and other tools to solicit internal and external perspectives



Using frameworks for ethical decision-making

How organizations **reason morally**...

Frameworks encourage the application of different ethical lenses by:

- Posing questions using classic ethical paradigms vs. legal or policy frames
- Exploring consistency with the organization's mission and values
- Aligning with specific principles the organization commits to follow



Engaging key stakeholders

How an organization's decisions and products **affect people**...

Weaving values and ethics into declarative cultural elements such as:

- Gathering input from those using the products and services
- Identification of the downstream effects of decisions and products
- Opportunities to identify blind spots and biases missed by product and service developers

Examples of tools and tactics to drive construal

Changing how people construe a situation can affect the behaviour they deem appropriate. In particular, imparting knowledge of ethical concepts and promulgating guiding principles in clear terms (avoiding, for example, highly legalistic language) can promote ethical construals.

Technical tools can make complex datasets and algorithms more intelligible and clarify the implications of their design and deployment. By highlighting potential risks and unintended consequences, such tools can prompt individuals to consider data and algorithms in ethical terms.

Examples of technical tools that aid with construal:

- Database marketing provider Acxiom has a data ethics programme that ensures the data it provides to marketers complies with the ethical data use methodologies and data governance across each participating country. Acxiom also maintains a privacy team in every region so that its tools adhere to data protection rules, cross-border requirements and appropriate use of data⁴²
- Accenture developed chatbots as a resource for employees to anonymously access ethics-related guidance and resources⁴³

Considering diverse perspectives

Considering technology's effects on potentially affected populations – in particular, through a focus on the impacts on vulnerable communities – is an important step in ethical deliberations. Including people with diverse perspectives in discussions of ethically fraught issues can promote ethical construals: Stakeholders from different backgrounds will often interpret the same circumstances in different ways. Promoting dialogue to elicit varying perspectives makes it more likely that organizations confront potential ethical challenges head-on.

There are compelling, research-based reasons to have diverse groups. Research by Kathy Phillips⁴⁴ at Columbia University explored diversity on the surface, which she terms social-level diversity, and differences you can't see, such as opinions and the way people think, which she identifies as deep-level diversity.⁴⁵ She built on research done by Sam Sommers which found that everyone, both those in the majority and those in the minority, changes their behaviour in groups with social category differences.^{46 47} They actually prepare more thoroughly,⁴⁸ work harder⁴⁹ and think about issues more deeply.⁵⁰

Further, Phillips identified a “delusion of homogeneity”.⁵¹ Homogenous groups are overly confident of their ability to arrive at a correct answer and less likely to do so. Diverse groups were more accurate in their understanding of their

ability, and thus more likely to feel confident they had an accurate answer when they did and less certain when they did not. In other words, diverse groups are more in touch with reality.

Some firms have sought to elicit diversity of perspectives through organizational structures and team compositions. Others have opted to appoint designated experts to challenge the thinking of the rest of the organization or lead formal consequence-scanning or ethical risk assessments. Furthermore, organizations have incorporated consultations and engagements with representatives from affected communities into their technology design process. These approaches, not mutually exclusive, can help frame an organization's operational choices in terms of potential risks to stakeholders or the broader society.

Several firms have successfully harnessed diverse perspectives within their organizations to better confront ethical challenges:

- Lockheed Martin⁵² and Microsoft⁵³ created networks of embedded ethics experts charged with ensuring that every operational dimension, from strategy-setting to market delivery, is conducted with the input of an ethical advocate, and that ethical priorities are not overlooked in favour of other factors (such as profit)
- Salesforce periodically convenes an advisory council to solicit internal and external advice on policies and practices on ethical issues related to its business and products⁵⁴
- [Appen](#) promotes diversity and inclusion in the workplace by hiring more than 100 persons with disabilities (PWDs). By championing diversity, Appen has seen continued success with projects that include PWDs in their recruiting efforts

Using ethical decision-making frameworks

Frameworks that encourage people to consider different modes of moral reasoning are becoming more commonplace in business settings. Most of the organizations we spoke to had developed internal sets of principles to guide their decisions, particularly with regard to the responsible use of technology. Use of technology is a typical entry point used by companies to develop customized principles and decision-making frameworks for the organization, which can have spillover effects in bringing ethics into other workstreams. There are also broad frameworks that embody a philosophical ethical view, such as the Markkula Center's Framework for Ethical Decision Making,⁵⁵ and more specific ones such as frameworks that consider the impact on employees in workplaces where AI is introduced.⁵⁶ The United Nations Guiding Principles on Business and Human Rights also offer a foundational framework for ethical decision-making, particularly useful for companies starting out on their “ethics journey”.⁵⁷

Engaging key stakeholders

Increasingly, companies recognize the benefits of engaging key stakeholders – those directly affected by technology and those impacted by its downstream effects. Many have created formal mechanisms for gathering input from these stakeholders.

- Workday convenes customer advisory councils during product development to elicit feedback and address customer concerns before a product is released⁵⁸

- BSR provides human rights impact assessments of business practices to help companies improve the ethics of their operations from a human rights standpoint⁵⁹
- PocketConfidant AI relies on third-party experts to examine the potential ethical implications of its products⁶⁰
- Salesforce provides users of its AI platform with in-app notifications to raise awareness that the use of certain sensitive fields (e.g. age, race, gender) are at risk of contributing to biased outcomes⁶¹

Consequences of failing to promote construal

Encouraging ethical construals helps organizations avoid “ethical blind spots”,⁶² which – left unaddressed – can lead to adverse outcomes downstream.

In one high-profile example, Google developed an AI application called Duplex that was able to credibly approximate human speech patterns when helping people schedule appointments over the phone. This technical accomplishment was met with cheers when unveiled at a developers’ conference. But many commentators expressed concern over possible scenarios in which humans are fooled into believing they are interacting with other humans. The social media theorist Zeynep Tufecki commented:

Google Assistant making calls pretending to be human not only without disclosing that it’s a bot, but adding “ummm” and “aaah” to deceive the human on the other end with the room cheering it ... horrifying. Silicon Valley is ethically lost, rudderless and has not learned a thing.⁶³

After a widespread outcry, Google clarified that the system would have “disclosure built in”. The outcry might have been avoided, or muted, if ethical construals – such as the scenario highlighted by Tufecki – were promoted alongside the development of the technology.⁶⁴

2.3 Motivation



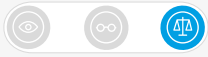
Money ... is very often the most expensive way to motivate people. Social norms are not only cheaper, but often more effective as well.

Dan Ariely⁶⁵

As discussed above, programmes must focus the attention of critical personnel at critical moments to keep ethical considerations top-of-mind; and they must be crafted in terms that promote ethical (and not merely legalistic, economic or compliance-oriented) construals. But this is not sufficient. To bridge the gap between ethical intentions and ethical actions, firms must *motivate* ethical behaviour, both in the pursuit of prosocial goals or opportunities and in avoiding, preventing and mitigating harms.

As noted above, the power of material incentives to influence behaviour is fundamental to classical economics. However, material incentives are not the only driver of human behaviour, and indeed a key finding of modern psychology is that material incentives can sometimes “crowd out” the intrinsic motivations that lead to both superior performance and ethical behaviour in the workplace.⁶⁶

For example, several studies have revealed that financial “carrot and stick” incentive structures are often less effective at motivating employee performance than prosocial or charitable incentives.⁶⁷ Communicating explicit imperatives can also be less powerful than lighter-touch techniques that gently “nudge” human behaviour. For example, an experiment by the British tax agency found that payment compliance rose by 6.8% when taxpayers were informed that they were one of few delinquents in their home towns,⁶⁸ compared with 3.9% when delinquent notices did not mention the community. This is consistent with the unemployment insurance example discussed in the section on Attention, above.



Motivation

Incentives and culture-change activities to encourage ethical and prosocial behaviour



Source: World Economic Forum, based on Epley, Nicholas, and David Tannenbaum. "Treating Ethics as a Design Problem"; Skeet, Ann Gregg. "Defining Healthy Organizational Culture"

Examples of tools and tactics to drive motivation

Motivation is highly influenced by the culture of organizations and can be best sustained through the creation of robust, self-reinforcing incentives and operational structures. The Markkula Center for Applied Ethics has advanced a framework for how "healthy" organizations can act to sustainably motivate ethical behaviour.⁶⁹

First, Markkula posits that organizations should foster relationships that develop individuals' ability to interact well with others. Next, they should support cross-functional collaboration and the integration of strategic and tactical functions. Finally, organizations should develop the capability for introspection and identification of the mental processes that influence the behaviour of people within them. This framework can be used to identify the range of tools and tactics employed in the market today.

Fostering empathetic relationships

Organizations can encourage ethical action through the cultivation of empathetic relationships between different stakeholder groups, both within and outside of the firm. Cultivating such relationships creates empathy within the organization and is important at Chatterbox Labs, which has seen great success by deliberately bringing engineers and data scientists together in meetings to better understand each other's perspectives.⁷⁰ In the case of cultivating empathetic relationships outside of the firm, Wetherill Associates trains employees to bear in mind the customers, suppliers and communities in which they operate when making business

decisions.⁷¹ Other companies rely on rotating employees through positions in different parts of the company.⁷²

Empathetic relationship development can also be encouraged by developing conscious in-person or virtual communities that offer exposure to the good behaviour of peers. By creating opportunities for people to do good and then actively promoting such behaviour, organizations can create a shared sense of community and help establish prosocial cultural norms (e.g. HP's "Champions Recognition Program" showcases employees demonstrating admirable leadership qualities).⁷³ Similarly, NetHope members join a non-profit consortium to benefit from the same resources that individual organizations would not be able to invest in on their own. Furthermore, NetHope members benefit from having access to a community of organizations that are willing to collaborate to solve shared challenges. This network includes more than 60 partners and supporters that contribute resources and expertise.⁷⁴ BT addresses human rights issues by convening a human rights working group – a virtual team of 10–15 people across BT's jurisdictions to share understanding and awareness of human rights impacts. Members of this working group are brought into the development of risk assessments led by the core team. BT found that developing personal relationships helps uncover that moment at which people say, "I'm not really sure about this."⁷⁵

Finally, another way to develop and strengthen supported relationships is through narrative. Personal stories can be a compelling tool in creating cultures

that motivate ethical behaviour, as demonstrated by Adobe's highly trafficked internal blog on which employees share stories and experiences relating to ethical practices with their peers and seek related guidance from them.⁷⁶ Storytelling is a low-investment, high-impact⁷⁷ method used by leaders to establish connections with their team – a pathway for those executives to make a more personal connection with employees.⁷⁸

Integrating organizational functions

Integration and coordination of strategy and tactics can help organizations function better. One way to promote integration is through the cultivation of *ethical organizational reflexivity*,⁷⁹ or the setting of shared expectations, which can help make ethical outcomes easier, or even automatic. For example, a transparently messaged and swiftly executed recall during a 1982 Tylenol poisoning scare sent a clear message from the Johnson & Johnson Chief Executive Officer to employees that public safety should supersede profits.⁸⁰ Another example of integrating organizational functions is the journey of IBM's AI ethics board, which includes executives representing all IBM divisions. The initial version of the AI ethics board was useful for awareness, creating links between divisions of the company, but it did not have enough decision-making power or senior executive participation. Since the board was restructured, it has had more decision-making authority on workforce education, developers' pipeline processes and prospective offerings from the business units. The board's deliberations are more easily and promptly implemented across the company.⁸¹ This is an example of extrinsic means of encouraging ethical behaviour being designed into the organization, without relying on the kinds of material incentives that crowd out intrinsic motivations, mentioned above. A commitment to considering systemic changes to drive ethical behaviour is a core tenet of the Markkula Center's ethical leadership practice.⁸²

Convening teams that are representative of diverse communities (e.g. Aerojet Rocketdyne's "Ethics Champion" initiative, which convenes employees across the firm to collaborate on ethics issues)⁸³ can help support relationships by promoting a shared understanding of organizational ethical issues through different points of views and driving stronger buy-in for shared values. Establishing clear roles

Consequences of failing to promote motivation

Motivation is imperative in translating awareness and understanding into action. Organizations that fail to bridge this gap through the right balance of intrinsic and extrinsic incentives can experience ethical outcomes that are at odds with stated values.

In one notable case, well-reputed Danske Bank acquired AS Sampo Bank and failed to adequately assimilate that target into its highly

and decision-making rights also enables ethical advocates to affect operational decision-making.

Finally, organizational coherence, or the alignment of operational priorities with a firm's mission or values, can promote integration, as Delta demonstrated when discontinuing NRA member discounts that were at odds with its stated values in the wake of the Parkland school shooting.⁸⁴ The Markkula Center offers one simple approach to help companies develop this practice.⁸⁵

Developing organizational introspection

Firms should cultivate the ability to reflect upon the factors motivating organizational behaviour and to assess whether those factors and the resulting behaviour are sufficiently ethical. The emphasis of a shared history and desired legacy can be a powerful force to prompt such reflection. For example, Canon encourages employees to consider how their daily actions align with the firm's history and founding philosophy of "all people, regardless of race, religion, or culture, harmoniously living and working together into the future".⁸⁶ Another organization with a long history and legacy is the Coca-Cola Company. As part of its digital transformation, Coca-Cola is starting to embed ethical beliefs and principles into its business and technology solution practices.⁸⁷

Systematic assessments of organizational responses to ethical issues (such as the quarterly affirmation required of Allstate senior vice-presidents that their teams have upheld company values)⁸⁸ can also help prompt such reflection by identifying tangible, actionable opportunities for improvement, as well as areas of strength, in a way that empowers and motivates leadership and individuals to develop their behaviour positively.

Finally, leadership should help organizations manage for an uncertain future by anticipating and reflecting upon potential future risks that may be ethically unacceptable, as Twitter and Square did when announcing that all employees would be permitted to work from home "forever" to remain safe during the COVID-19 pandemic and should feel empowered to "work where they feel most creative and productive", despite uncertainty about the operational challenges a fully distributed workforce might cause.

ethics-oriented culture and infrastructure. This led to a permissive environment, which the latter exploited to launder substantial funds for Russian and ex-Soviet customers. Danske Bank, motivated by the profits the acquired entity was generating, did not adequately investigate and was ultimately implicated in the wrongdoing.⁸⁹

2.4 Summary

Efforts to sustainably drive ethical behaviour in technology-producing and technology-enabled firms benefit from an integrated approach that:

- Raises awareness of important principles and keeps them top-of-mind
- Cultivates “cognitive toolkits” involving training, ethical frameworks and judiciously chosen language to help employees consider their work in ethical terms.
- Harnesses the power of both intrinsic and extrinsic motivations to drive actions that are aligned with core principles.

Leaders should also be aware that people in the organization may be at different levels in terms of their own moral reasoning maturity or feel they don't have the influence to address an ethical issue. Alternatively, people might mislabel the challenge

they are experiencing as it relates to using ethics – saying, for example, that they didn't realize there was an ethical issue present when in reality they identified the issue but struggled to figure out what to do about it. The organization-wide rubric recommended in our discussion of the motivation pillar is one way to account for the variances in how Epley's model is used, as are some of the tools, such as consequence-scanning, that we found companies using.

The foregoing examples, while illustrative, are not applicable to every company. A range of specific firmographic factors (e.g. maturity, size, sector and reliance on technology) collectively determine how a specific organization can best craft an ethics programme that harnesses the psychological processes of attention, construal and motivation. In the next section, we will explore the overall findings of our research and offer a set of recommendations for the path forward.

3

Findings

Our team, with representatives from the World Economic Forum, Deloitte and the Markkula Center, spoke with 13 companies in the late summer of 2020. Seven were Fortune 500 companies, and the interviews were conducted with executives in seven different countries. These conversations, and the history of available examples, revealed how business leaders in 2020 are influencing the business environment to encourage responsible use of technology and build organizational capacity to act with ethics. The success certain companies are experiencing in managing their cultures and the organizational environment to promote ethics is encouraging; it validates the utility of Epley's framework and reveals new understanding at the firm and sector levels about how executives can create these conditions. It also supports statements made by business leaders about the necessity for businesses to reflect the needs of a

set of stakeholders broader than just shareholders, and commitments not only to financial targets but also to societal goals.⁹⁰ Corporations are, indeed, building their capacity for "ethical organizational reflexivity",⁹¹ the tendency to engage in ethical behaviour and deliberations more routinely.

Our research found fewer current market players focusing on construal (as compared to attention or motivation); however, of those firms who have targeted this space, most have concentrated on developing tools to better analyse their processes and solutions for ethical risks. More can be done to empower practitioners with frameworks and guidance and to institutionalize the practice of including diverse perspectives (e.g. technical, cultural or socioeconomic) in decision-making that sufficiently consider ethical consequences.



3.1 The importance of integrating attention, construal and motivation

Because the pillars of Epley's framework target different aspects of the intention-action gap (from building awareness, to construing relevance, to motivating action), it stands to reason that they should build on and reinforce each other. Our hypothesis that organizations will probably experience more sustainable ethical outcomes from integrating and co-promoting the pillars of Epley's framework was confirmed.

First, it is evident from several high-profile examples that failing to integrate the pillars may contribute to ethical performance failures.

Boeing has been a leader in the airline industry for decades, and currently splits the large passenger aircraft manufacturing market with France's Airbus.⁹² Two deadly crashes of its recently introduced 737 MAX airliners, however, have revealed significant process flaws and cultural conditions that allowed cost and speed-to-market to supplant quality and safety as priorities in the manufacturing process. In the words of a Boeing engineer who filed a formal complaint, "I was willing to stand up for safety and quality, but was unable to actually have an effect in those areas ... Boeing management was more concerned with cost and schedule than safety or quality."⁹³

Amazon's adverse experience with its Rekognition facial software⁹⁴ reflects a failure to promote both construal and motivation. Fixated on the functionality of its solution rather than the potential consequences of its deployment (construal) and driven by the desire to capitalize on such a differentiated, profitable offering (motivation), Amazon began selling this software to US government agencies, despite having access to research that indicated the potential for the software to reflect racial and gender biases. Ultimately, a public outcry resulted in Amazon banning the use of the app by law enforcement until appropriate regulations were put in place.⁹⁵

Second, we found evidence in the examples provided by today's business executives across industries and in companies of varying size and maturity, that organizations acting in ways that draw on each of Epley's pillars can, indeed, create situations that make ethical behaviour and deliberations more routine.

At Microsoft, the decision to create a work group within the engineering function and call it Ethics and Society⁹⁶ activates each of Epley's pillars, as

did many other examples at Microsoft, which is not surprising to find in a large, well-established company. The name of the group – as well as the presence of readily accessible ethics experts – prompts employees to construe their work in ethical terms. The very existence of such a group draws attention to ethics and makes the connection between Microsoft and broader society hard to miss. A specialized team dedicated to helping fellow employees sort through ethical dilemmas is a commitment to supporting construal. And there is a not-so-gentle nudge to work with the group as employees do not want to be identified as resisting working with the ethics team. At a smaller and newer company, DataRobot, there is a practice of tracking mentions of the company and its products in the context of ethics in the media.⁹⁷ This is one practice that, again, activates all of the pillars – by measuring ethics mentions, employee attention is drawn to it, and it helps employees see how their work contributes to ethics. Over time, metrics will motivate employees to continue with this attention.

To activate each of Epley's pillars does not imply that a single action must activate all three. As the examples shared in the section above illustrate, discrete activities using a single pillar are also effective. There was a systematic approach to embedding ethics in organizations with a variety of ethics procedures, designed to tap all of the pillars. In some companies, ethics criteria were placed in the context of the country in which business was being conducted. One company described delivering "small ethics pills" through presentations, questionnaires and design thinking. Several described piloting ethics practices in one part of the company and then scaling them across the organization, recognizing that this developed both learning capacity and ethics practices. Suade Labs' choice to add a new horizontal role to ensure communications across departments is one example of the ways in which a company's structure can support this effort.⁹⁸ Similarly, Workday launched a cross-functional task force as part of its AI Ethics Initiative, which included representatives from Product and Engineering, Legal, Public Policy and Privacy, and Ethics and Compliance.⁹⁹ The group worked together to develop the company's machine learning ethics principles, as well as operational controls to support the principles. Finally, the Markkula Center's Ethics in Technology Practice provides approaches that address each of Epley's three pillars.¹⁰⁰

3.2 Getting construal right is the most challenging

Operationalizing ethics is hard work. While companies found a number of creative ways to draw attention to ethics and nudge people with reminders throughout work processes, construal emerged as the most challenging task. A first step is framing issues in ethical rather than, for example, purely legal or regulatory compliance terms. But even once this framing is done arriving at a decision that reflects the organization's ethical commitments remains a challenge. For many companies, the tools they are using are nascent and underdeveloped, or not yet linked to values in a coherent manner.

Some companies invested heavily in developing the rubric, or framework, to be used to make decisions, but struggled with how to make this useful. Others were moving to implement solutions, while acknowledging that they did not fully understand the problems they were trying to solve.

"Harms Modeling – Azure Application Architecture Guide"¹⁰¹ captures Microsoft's construal model, while doing an admirable job of drawing attention to the harms and providing motivation to employees as well. The language of harms suggests a utilitarian overlay, but within Microsoft's principles, other

modes of moral reasoning are present. They speak explicitly to fairness, as well as some individual protections that indicate a commitment to human rights, such as privacy and transparency. Their principle of accountability is defined in terms of responsibility to society, evoking a common-good view. Microsoft's commitment to inclusion of all people, regardless of ability, adds an often-overlooked set of stakeholders and has contributed to a relatively recent commitment to accessibility in technology design.¹⁰²

Within the guide, Microsoft notes types of harms to be identified in a "harms modelling" activity, similar to that of security threat modelling. This activity helps employees map the types of exercises that need to be completed at the beginning of the product development process. By listing the harms, attention about ethics and human biases are raised. Within the definitions of each, employees are guided back to the principles Microsoft has identified, to be used in determining if a product, feature or policy is ethical. Some less obvious ethical considerations, such as skill degradation, are thus raised in a way that reinforces learning about them while using them to make decisions.

3.3 Instituting ethical reviews and assessments is becoming standard

As they work to cultivate ethical cultures, a growing number of companies are adding steps to their product and service development processes that serve as "gates" for ethics. These steps are intentional assessments that apply specific principles and the process of responding to question sets aimed at uncovering the ethical implications of technology. This practice also activates each of Epley's principles. Developers' attention is drawn to ethics and construed against ethical principles. By making it part of an established process, companies remove barriers – and even motivate employees – to behave ethically.

In many organizations, this takes the form of some type of self-assessment, such as that developed by the Markkula Center for Applied Ethics.¹⁰³ Many assessments are designed to focus on a specific business need or product development, where an assessment for ethics might be one part of the process.

At DataRobot, an impact assessment for ethics is now performed for each project, requiring AI product and capability developers to ask themselves, essentially, "What are the positive outcomes of this work and how could it go wrong?" and honing in specifically

on the aim, or goals, of developing that capability.¹⁰⁴ Microsoft's list of harms serves a similar function. In addition, the company instituted impact assessments used in product development. A senior leader at Microsoft explained that assessments and other tools are mechanisms for reinforcing the company culture in language, which he identified as an opportunity for leadership. Tools such as assessments solidify the emerging language. Of their impact assessment, he told us, "It asks engineers questions like 'Is this a sensitive use?' We ask very deep questions about what harms could be created by this tech we're creating. These could be subtle harms. We are not always creating a model that has very overt bias and is going to exclude a bunch of the population or misidentify people. One example is neural text-to-speech. It can sound like any human on earth. Can you imagine the ways this could be used very badly? We went through fairly deep assessments – e.g. interviewed voice actors – put gates around how the tech gets to be used and limited its customizability and production."¹⁰⁵

By refocusing attention, promoting ethical construal and lowering motivational barriers, such procedural interventions enable an organization-level embrace of what Daniel Kahneman calls "slow thinking" about ethical issues.¹⁰⁶ This can be a tangible progress

even if it falls short of a fully fledged adoption of new metrics to quantify adherence to ethical principles in replacement of previous metrics such as speed-to-market or growth goals. We can term this *responsible growth*, to accompany responsible use of technology, or even more broadly, *responsible metrics*. This gives organizations the freedom to define success in their own terms and signal to investors and markets about the goals they are setting, the time horizon they are setting them for and the stakeholders they serve. Some emerging business reporting mechanisms

are supporting this shift.¹⁰⁷ Given that market forces have been driving towards measuring ethics for some time, as captured by ESG measures and the UN's Sustainable Development Goals, we support the adoption of new metrics and accounting practices to institutionalize this change. Perhaps most significantly, companies have stories about projects they have decided *not* to pursue because of ethics. IBM, Amazon and Microsoft's decisions not to sell facial recognition to police departments are examples.¹⁰⁸

SIDEBAR 1

Salesforce

In August 2020, James Guszczka, US Chief Data Scientist at Deloitte Consulting, spoke with Paula Goldman, the Chief Ethical and Humane Use Officer at Salesforce. Below are some highlights of their conversation, lightly edited for clarity. The full conversation can be found [here](#).

When asked to describe the Office of Ethical and Humane Use at Salesforce, Paula Goldman said, "This is something of a new function for tech, and it promotes two things. The first is integrating ethical considerations as top-of-mind as we create our technology products. The second is creating policy for how customers use our products. But ladder up, it's about culture: It's about integrating these considerations into the day-to-day way in which we do business and creating a culture of ownership in which all of our employees, and hopefully our community, owns these issues and has a way to participate, and where we're driving these issues in a very conscious way."

Goldman says that Salesforce created the organization because the tech industry has been at an inflection point. "I think there is a recognition by Salesforce leadership that it is a responsibility for us to really think about the social concerns around technology, and to include these considerations as part of our processes and operations. Those concerns keep getting louder from all elements of society. From civil society, to our employees who really care about it, to our community. And a lot of my work is about creating channels for listening and for that input to be fed into our decision-making."

James Guszczka asked Goldman if the organization has been good for business. She agreed. "Absolutely

... I could cite study after study that talks about how consumers really care about the ethics of the companies that they're purchasing from. I know our customers really care about it. I think that Salesforce has a brand reputation of taking a stand on issues and really caring about the community and caring about stakeholder capitalism. It actually matters for our business. It's very positive for us."

Guszczka noted that, in ethical deliberations, there will often be specific outcomes with which specific people disagree and wondered if forums should be created for those debates. Goldman agreed, saying, "Ethics involves looking at all the different angles on a potential problem or issue. And then it really comes down to values and which values you prioritize in making decisions. One of our four core values at the corporate level is Equality. And we weigh that really, really heavily when we make decisions."

Guszczka asked to what extent diversity is an important input in these deliberations. Goldman replied, "The Office of Ethical Use is part of the Office of Equality at Salesforce. This is because diversity and inclusion are crucially important. Thinking about who products are being built for, who they might unintentionally exclude, how product use and product design can protect vulnerable populations, especially now that we're in the middle of a racial justice crisis and a pandemic, which are disproportionately affecting people of colour and people of lower incomes. These are the most important questions, from my perspective. In my mind, there is no tech ethics without thinking about the who and bringing in the perspectives of folks that are most impacted by these problems."

3.4 Employees look to senior leadership to provide ethics frameworks

Given employees' desire to be trusted to behave ethically, the role for senior leadership has never been clearer. Leaders bear unique responsibilities to promote ethical construal in their organizations.

First, they have the opportunity to ground the vision, purpose and values of the corporation, its foundational declarations, in ethical contexts. Importantly, they must also connect the loftier,

strategic view of the company to the work being done within it in a way that continues to encourage company employees to approach decisions using ethics. Both steps are crucial.

If the foundational documents of the organization are not yet crafted with ethics in mind, the first step is to revisit them. A shared language is being created, and it is when speaking this language that conversations leading to decisions will happen. In the words of one executive we talked with, “You need a language as a force multiplier. That’s the culture being manifested, that’s language. How do you create that language? That’s a leadership problem ... language changes how you think.”¹⁰⁹ Furthermore, even mature organizations can revisit their core missions in ways that promote ethical behaviour. Satya Nadella’s 2015 articulation of Microsoft’s fresh company mission, “To empower every person and every organization on the planet to achieve more”, is a prominent example.¹¹⁰

In the materials shared with us, companies have shifted from zero-sum and competitive phrases of vision and purpose, such as “winning” or “being best” in a category, attribute or skill, to more holistic and generative language, that is, language that supports a growth mindset,¹¹¹ the belief that

capacities and talents can be improved over time, and motivate more deliberate, thoughtful action. More enterprises are referring to responsible technology or AI development and documenting their organization’s use of value-sensitive design¹¹² or developed principles on use of data such as IBM’s Principles for Trust and Transparency.¹¹³

Linking the high-level language enterprises use about themselves to business practices is a task for the senior leadership team. Values and principles must be carefully and specifically defined. For example, IBM first defined its key principles broadly and then went on to spell out what they meant in terms of responsible use of specific technology; what does it mean, for example, to trust the decision (or the recommendation) of an AI system? The company focuses on four pillars of trust in AI: fairness, robustness, explainability and transparency.¹¹⁴

Leadership teams do not need to do this in a vacuum. Indeed, examples were shared in which business leaders partnered to co-create guidelines with developers. Several of the companies participating in this research elected to have their chief executive officer or founder participate, another signal that ethics has the attention of leaders.

SIDEBAR 2

Microsoft

In March 2016, Microsoft released the Tay chatbot to the general public as an experiment in “conversational understanding”. The hope was that the more Tay engaged in natural conversations with people on the internet, the “smarter” it would get. Unfortunately, a group of American pranksters quickly [trained](#) Tay to utter misogynistic, racist and authoritarian remarks. As a result, Microsoft withdrew Tay from the market within 24 hours.

This episode was pivotal in Microsoft’s efforts to articulate and operationalize its principles of responsible AI. Prompted by the Tay episode, Microsoft formed its AI, Ethics and Effects in Engineering and Research (AETHER) committee, as well as its Office of Responsible AI (ORA).

Microsoft’s [Responsible AI Champs](#) programme exemplifies the organization’s multifaceted efforts to bridge the gap between AI ethics theory and practice. “Champs” from multiple geographies and work groups serve as resources and conduits for awareness, advice, assistance and escalation. This organizational construct makes it more likely that employees will keep ethical issues top-of-mind, view their work through an ethical lens and avoid succumbing to groupthink or organizational pressures to suppress potential ethical issues. In short, the

programme helps the organization move from talking the ethics talk to walking the ethics walk.

Leaders such as Steve Sweetman, John Montgomery and Mira Lane credit Satya Nadella’s efforts to [create a growth mindset culture](#) with creating the environment in which such programmes could take root and flourish. In 2015 – less than 12 months before the Tay episode – Nadella articulated a fresh company mission, one designed to change the culture from the Steve Ballmer [era](#) of stack rankings and zero-sum leadership styles. Nadella declared that Microsoft’s mission was “To empower every person and every organization on the planet to achieve more”. Drawing on the “growth mindset” work of the influential Stanford psychologist Carol Dweck, Nadella stated that Microsoft’s culture would reflect “the belief that everyone can grow and develop; potential is nurtured, not predetermined, and anyone can change their mindset”. Microsoft employees would be encouraged to be “learn-it-alls”, not “know-it-alls”.

Consistent with the growth mindset culture, Nadella [sent an email](#) to the Tay development team shortly after the debacle. In it, he said, “Keep pushing, and know that I am with you ... (The) key is to keep learning and improving.”

3.5 Ethics deepens relationships with customers

The executives we spoke to were well aware of the critical role that ethics plays in building and sustaining customer relationships; this is illustrated by the example of companies deciding not to sell facial recognition technology to police departments. Companies across the board identified the expectation of customers for them to behave ethically as something they understood and accepted. A range of tools were used to gather customer input that affected ethical product design and responsibility – from customer inclusion panels to customer community dialogues and stakeholder gatherings. Alternatively, some corporations identified the choices their clients were considering, such as significant layoffs, and grappled with contributing to a choice they perceived to be unethical.

What emerged was a tiering of relationships with customers based on the degree of trust between the enterprise and the client. Some companies explicitly rank customers based on the degree of trustworthiness they experience in the relationship, affording those more trusted customers access to early versions of products, inviting their feedback as part of the design process. As one executive noted, “We want to find bugs [by working] with people who won’t nail us to a wall.” The reciprocity in the relationship appears here as well. This same company was reluctant to take on customers operating without forethought, such as those who feel they have “got to sprinkle some AI on it” when building capabilities, rather than proceeding with care.

There was enough clarity on this point to signal implications for enterprises that develop customer relationship management tools. Future refinements will need to account for the complex range of relationship types and reflect the ethics “gates” that are becoming part of building those relationships. They will also need to account for the fact that companies understand they are responsible for how customers are using their products. To know this requires capturing new information about the competency and ethical orientation of the client.

Larger companies are doing this for themselves. One uses a trust score to measure the success of an AI feature from an enterprise user’s perspective. This score is a multidimensional metric that consists of statements to which users respond and that reflect their level of trust, including, for example, whether an AI feature helps with job efficiency and effectiveness; and understanding how and when the feature should be used in the customer’s job role.

This finding suggests that customers now join employees, who have been vocal proponents of ethics in the technology industry in particular,¹¹⁵ in seeking *communities of trust*, marketplaces with identifiable, repeatable standards. New entrants to the market glean that there is an expectation for ethics. IBM AI Ethics Global Leader Francesca Rossi told us, “We’re not starting a new company. We have to work with the attitudes of the people who work in the company. But even clients are asking more about what we are doing about bias, ethics. Clients are requesting this.”¹¹⁶

3.6 Diversity is fundamental

Our research was conducted in the third quarter of 2020, so it is not surprising that diversity, equity and inclusion were part of many conversations. “Diversity” is a business term with wider application in 2020 – with a meaning that goes beyond gender, race and sexual orientation and now includes perspectives, geographies, levels of organizations and the variety of societal stakeholders. The ESG (environment, social and governance) metrics, as defined by the World Economic Forum community, reinforced this evolution.¹¹⁷

What is clear now is that these diverse voices are invited into the process of determining what constitutes responsible use of technology and ethics more broadly. A number of organizations identified their commitment to groups affected by their enterprise at “every step of the process, from problem definition to feature development and iteration, programming and reviewing trade-offs”. A significant

majority of the companies interviewed mentioned a special commitment to vulnerable populations.

Driven by a commitment to stakeholder capitalism, Salesforce regularly takes stands on issues for its communities.¹¹⁸ As part of this, Salesforce placed the Office of Ethical and Humane Use within the Office of Equality. This signals its belief, according to Paula Goldman, Chief Ethical and Humane Use Officer, that who the technology is being designed for is a key ethical consideration.¹¹⁹

Companies have also moved to consolidate their hiring, orientation and other human resource practices to institutionalize ethics.¹²⁰ It is clear that this needs to be done. In spite of concerted efforts to speak to a diverse representation of executives in the interview pool, we could not achieve diversity on a number of dimensions.

DataRobot provides an AI platform that automates and accelerates the steps from data to value for machine-learning pipelines. The organization, which was founded in 2012, aspires to be an iconic company by democratizing data science and machine learning for the right reasons. Its Chief Executive Officer and co-founder, Jeremy Achin, understood early on that ethical and responsible AI was essential to the company's success. In 2019, the company formed a Trusted AI function, led by Ted Kwartler, who reports directly to the chief executive officer. This team aims to inform stakeholders, from data science practitioners to those affected by AI, and to create and use technology that is unbiased, fair and benefits society. The team operationalizes trust by providing industry thought leadership, improving governance and creating trust signals that are used by AI systems.

DataRobot views trust from two angles: technology and people. From a technical perspective, the company looks at 11 fairness and bias measures that assist data scientists in evaluating their algorithms and models. From a human perspective, DataRobot views contractual trust as the foundational and lowest form of trust and long-term relationships as the highest form of trust.

It assigns an AI success manager and a customer-facing data scientist to every customer. DataRobot also conducts impact assessments for every project with every customer. It asks questions such as, "What is the full range of outcomes – both good and bad?" It then helps customers apply risk-management strategies that become ongoing activities through the product life cycle.

From an internal perspective, DataRobot's Trusted AI function uses several techniques to help its teams keep ethics top-of-mind. For example, there is a trust slide in every customer presentation. There are weekly internal meetings in which DataRobot employees talk about ethics. The Trusted AI team has an open-door policy that makes it easier for employees to talk about sensitive topics with ethical issues. As a data-driving company, DataRobot measures its share of voice in the public ethics debate generated from the thought leadership content that it publishes. Lastly, the Trusted AI team is responsible for important features and items in its product backlog. This integration between its ethics and product teams in order to jointly enhance its products creates a unified goal of building more impactful and ethical AI products.

3.7 Ethics is a discrete business function

The titles of the executives we spoke to reflect the emergence of business units dedicated to ethics. We spoke to leaders with titles incorporating words such as: "ethics" itself; ethical concepts, such as "human rights"; virtues, such as "trusted"; or principles, such as "privacy". Where permanent units may not yet exist, bodies such as AI ethics review boards are becoming more commonplace.

Most companies we spoke to use some type of centralized ethics decision-making body in the organization, and some have multiple entities. These boards or committees are typically nested within parts of the organization, but some are more comprehensive. We also received data on an increasing number of chief AI officers, some of whom are focused on matters of ethics.¹²¹

Where ethics departments are placed points to strategic and cultural realities, as noted with the Salesforce example just mentioned. Some organizations view ethics as sufficiently integral to their brand reputation that they place ethical leadership in organizational positions where it signals its influence and its integration with other strategic goals.

Prior research¹²² points to conditions that support the application of ethics in business, such as an acknowledgement of the interaction corporations have with society, a climate of trust built on a belief that individuals can use their moral autonomy to make decisions ethically, and specific ethical deliberation practices. When combined with the mix of cultural elements identified in the first finding, and also with opportunities to introduce, use and institutionalize ethics, patterns emerge¹²³ that reveal a practice of managing culture for ethics.

3.8 Ethical literacy develops as the company matures

Our research confirms the findings from earlier work on understanding how ethical literacy and orientation evolves in organizations. As companies mature, they develop more sophisticated moral reasoning capabilities. They also recognize that the nature of this kind of critical thinking is ongoing; companies are never done with their ethics work.

Aspects of the growth mindset culture are implicit in the cultures of many organizations, including those where very public missteps have been made. The key is if, and how, a company institutionalizes the learning from these stumbles into new standards. Several companies spoke about security along similar lines – that it was initially seen as a hassle, but now is an integral part of development – and feel ethics is reaching the same point.¹²⁴ Further, they can see that integration contributes to the development of new capacities in AI.

Organizations that advise businesses developing these capacities, such as Chatterbox Labs, indicate that the level of maturity of an organization's ethics work is an important area of study.¹²⁵ As companies mature, hiring practices and other ways in which ethics is institutionalized, take hold.

As companies become more adept at working with ethics, they make additional organizational changes beyond the initial new role or ethics function. In addition to centralized committees, companies intentionally distribute ethics responsibilities throughout the organization, creating a climate of trust.¹²⁶ One executive leading data and analytics at a Silicon Valley company told us, "Being able to think for yourself rather than follow the guidelines. I think that helps people understand and apply the principles, more than being told." Microsoft's Champs effort is one example.¹²⁷ And Paula Goldman, at Salesforce, discussed the need to develop programmes and even unique taxonomies for designers, researchers and engineers across the company.¹²⁸ The idea that ethics needed to be

cultivated from the top down and the bottom up in organizations was also regularly expressed, as well as the need to educate not only the broader employee population but also senior leadership. We heard a number of ethics professionals speak with pride about how capably their senior team could express ethical intent and action, something these professionals had dedicated time and resources to accomplish.

The means for gathering input and engaging stakeholders external to the company also become more robust as companies mature. Microsoft's use of a community jury¹²⁹ is one such example, where product teams work collaboratively with a group of individuals affected by the technology being created. To hold these juries, Microsoft brings together product teams, a neutral researcher to moderate and a set of stakeholders representative of the diversity of the community in which the technology will be deployed. The diversity sought is specific to the technology. For example, Microsoft has a privacy index used to screen stakeholders, to ensure it has a group participating with a range of privacy sensitivities.¹³⁰

The jury format allows for an exchange of expertise and perspectives, representing the attributes of ethical deliberation – involving those affected, considering downstream effects, using consensus where possible and sharing the reasoning behind decisions when appropriate. Participants hear expert testimony from the product teams, use the proximity of direct contact with users and identify areas of agreement in building common ground to address challenging problems.¹³¹

Regardless of where companies fall on the ethical maturity spectrum, our research confirms that ethics has broken out of its legal silo as a ride-along to compliance, and is now a robust part of human resources, product development, and customer and investor relations.

SIDEBAR 4

VMware

VMware software powers the world's complex digital infrastructure. The company's cloud, app modernization, networking, security and digital workspace offerings help customers deliver any application on any cloud across any device. The company's culture and values are expressed through the acronym EPIC2: execution, passion, integrity, customers and community. VMware celebrates employees in its annual EPIC2 achievement awards. This honour is given to employees who best exemplify these values through their actions.

Integrity and ethics are embedded in everything they do, from the company culture to its product

development processes. To help operationalize ethics into the organization, VMware's ethics and compliance team is creating an ethical decision-making framework called DECIDE to help employees determine solutions when faced with ethically ambiguous situations. The DECIDE model is a systematic process to evaluate potential solutions through multiple ethical lenses, driving an appreciation of diverse perspectives, and enhancing ethical problem-solving capabilities. As with its AI code of ethics, which was created in a grass-roots manner, VMware prioritizes ethics and its EPIC2 values at every level from its leadership to its 32,000-strong global workforce.

3.9 Summary

Silicon Valley companies have attracted considerable unwanted attention in the area of ethics in recent years.¹³² Some Silicon Valley technology companies identified how difficult culture change can be in entrepreneurial environments. But this challenge is not unique to Silicon Valley – those hurdles were also identified by long-standing consumer products companies.

This reality is encouraging companies to begin carefully sharing more information about techniques and processes to embed ethics, creating communities of trust. After several decades in which Silicon Valley, in particular, became more tight-lipped, the kind of “co-opetition” – collaboration while competing – that was a hallmark of the region’s early days¹³³ is resurfacing.

More straightforward guidance on how to integrate ethics into companies must be provided, however, if companies are to feel confident that ethics is fuelling innovation and

adding long-term value – and not the opposite. One executive told us, “When people can be creative, they welcome the opportunity to make sure the technology is beneficial and innovative. When in a role where processes are well-defined and you have used those processes for many years, you may be a bit more resistant to a revision of those processes. If it’s not easy to integrate, they will resist.” Her company blunts this concern by using an internal microsite for AI ethics so that anyone in the company can see what is being done on AI ethics. As an executive in another company assured us, “No engineer (at our company) wants to be in a place where they have missed the mark in terms of doing well.” This is consistent with Epley’s discussion of the power of behavioural design interventions that cultivate, rather than crowd out, employees’ intrinsic prosocial motivations. It also supports the emerging sense one gets listening to these companies that ethics is a force for good.

4

Recommendations

Our conversations with World Economic Forum partner organizations crystallized some existing trends in managing cultures for ethics and provided a richer understanding of the myriad ways in which corporations are weaving ethics into everyday workflows.

1. Invest in each of the dimensions of Epley's framework – attention, construal and motivation – and consider how those investments work together. Companies should activate a mix of cultural elements to increase the likelihood that they will get employees' attention, help them use ethics and provide incentives to do so. Executives can activate aspects of culture that range from structure provided by the organizational chart, to what is said, what is done and the beliefs that are shared within the company supporting these choices.¹³⁴ The matter of which dimension to address first is less important because most tools and tactics will likely touch on aspects of each dimension.
2. Use assessments to gain an understanding of how mature the motivation level in the organization is presently. These should be used as a benchmark to track the progression of people acting in ways that are simplistic – to get what they want or avoid getting in trouble, as opposed to being more consistent with the organization's values and purpose. Ultimately, employees should move from following rules to having a level of comfort in creating them.
3. Implement some form of regular organizational introspection. Companies are using mixes of surveys, focus groups and assessments that examine ethical cultures both broadly and with a specific focus on the use of certain technologies.
4. Check for the conditions that encourage ethical behaviour to take root: an organizational sense of responsibility to society as an actor that both influences and is influenced by it; the distribution of moral autonomy throughout the company to create a climate of trust; and the use of ethical deliberation practices.¹³⁵
5. Use ethical deliberation practices wherever possible by using data and information, involving those affected by decisions, considering the downstream effects and publicly sharing motivations behind decisions.¹³⁶ Engage a diverse set of stakeholders, both internal to and external to the company.
6. Develop a rubric for ethical decision-making. Whether this is a set of principles or guidelines unique to a specific technology, such as AI, or used more comprehensively when the company makes decisions, its existence activates each aspect of Epley's recommended approach. Make sure the rubric is consistent with the organization's mission and values.
7. Teach these practices to members of any centralized ethical deliberation bodies, and train them on the organization's rubric as well.
8. Look for new opportunities to introduce ethics and do not shy away from opportunities to use challenging moments to do so. Organizations are primed for ethics in such moments.
9. As the challenges pass, capture them in the organization's memory, and return to them to reinforce the learning and create conditions that promote innovation. This can foster more routine ethical construal.
10. Institutionalize your commitment to ethics in hiring, orientation, training and evaluation protocols.

Conclusion

We live in an era marked by the rapid penetration of Fourth Industrial Revolution technologies in ever more aspects of business and society. This makes it imperative that the organizations developing these technologies not only contemplate the ethical implications but also actively encourage routine ethical behaviour as these technologies are designed, developed, distributed and deployed.

Contemporaneous with these technological and societal developments is a revolution in our understanding of human psychology and the drivers of human behaviour ushered in by such psychologists and behavioural economists as Daniel Kahneman, Amos Tversky and Richard Thaler. Thanks to this, it is now possible for organizations to *scientifically* approach the challenge of promoting ethical behaviour, going beyond traditional approaches that rely largely on ethics education.

Intuition and traditional “best practices” might suggest the need to root out ethical “bad apples”, encourage good ethical intentions and provide intellectual tools for sophisticated ethical reasoning. A more psychologically informed approach focuses less on individual “bad apples” and more on the “barrel” – the environments that can lead ordinary people to engage in behaviour contrary to their own ethical commitments. Effective programmes focus on the creation of ethical *systems* that prompt more routine ethical deliberations and behaviour by adopting design elements that “go with the grain of human psychology”. Specifically, the fundamental psychological processes of attention, construal and motivation can be harnessed as design principles in the creation of ethical systems.

Richard Thaler commented that a “mantra” is at the heart of his book *Nudge*: “If you want to get people to do something, make it easy. Remove the obstacles.”¹³⁷ This approach supports the formation of policies that highlight what is meant by good behaviour and that provide people with opportunities to do good things for other people, consistent with the idea of ethical contagion.¹³⁸ Organizations seeking to promote ethical behaviour should teach people to recognize and reason about ethical issues, and also make systematic changes that make ethical behaviour easier.

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