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Responsible Innovation in Tech: Learnings from Other Industries

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ABSTRACT

The tech industry has lately been under scrutiny as a result of its business practices that prioritize fast growth at the expense of ethical considerations. In parallel with sustainable business trends rising across the private sector, the tech industry has started to think about ethics and how to innovate responsibly. The last few years have seen the development of ethical tech principles, most notably around artificial intelligence technologies. As the industry is working on operationalizing these principles, most of the conversation is happening in research circles and the change is yet to be implemented by business teams. Those invested in ethics and human rights need to make sure that these principles are translated into responsible innovation practices adopted throughout companies. This paper explores how the tech industry might source best practices from other industries who are further along in integrating social responsibility into their businesses. Namely, these industries are apparel, extractives, and pharmaceuticals. While acknowledging the many differences between the nature of responsible business topics amongst the various industries, it is important to note that there are many similarities in the way responsible business practices are operationalized in companies. This paper aims to identify the critical steps that have been taken by companies in their journey to integrate responsible business practices and the learnings most applicable to the tech industry.

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METHODOLOGY

This paper is the result of extensive literature review related to the responsible business practices, in addition to primary research through interviews with sustainability and corporate social responsibility (CSR) professionals across private sector companies, consulting firms, academia, and NGOs. Additionally, the first section that describes the current state of responsible business in the tech industry draws heavily from the findings of the Closing Gaps in Responsible AI ideation module created by the Partnership on AI.

This paper will describe key challenges that the tech industry is facing today, learnings gathered from other industries, and recommendations for the tech industry based on these learnings. For each section, the same five categories will be used to bucket information: making the business case, organizational structure, company culture, operational processes, and external relations.

THE CURRENT STATE OF RESPONSIBLE BUSINESS IN THE TECH INDUSTRY

Throughout the paper, the “tech industry” will be used broadly to refer to software and internet companies such as Facebook, Google, and Microsoft. Questions of responsible business have taken different shapes and forms for these companies since the 1980s. Issues of hardware supply chain and conflict minerals have given way to data privacy, internet access and equity, and most recently, human rights issues. As they grew in size and power in the last few decades, tech companies have started to have disproportionate effects on people and society and have been presented with new questions about their role in modern day society. The monopolistic structure of the industry has made it imperative for these companies to find answers to these issues. Some of the major social challenges that the tech industry is facing are as follows: data privacy, content moderation, algorithmic accountability and unintended consequences, algorithmic bias, inclusive design, and business models that are based on user exploitation. This paper primarily focuses on challenges related to artificial intelligence (AI) that are faced by tech companies today.

It is important to note some of the characteristics of these issues. First, these problems mostly relate to products and their users, not so much on supply chain or negative environmental consequences. As these products are typically related to the core business of the company, rethinking them might require fundamental changes to the firms’ business model. Second, most issues these companies face are philosophical questions by nature, and most do not have black or white answers. Therefore, defining the problem and developing solutions requires a multi-stakeholder process that includes a variety of voices. These characteristics make these issues inherently difficult and have led companies to treat them as an afterthought. As the industry tries to become more responsible, it is imperative that companies proactively think about these questions before they launch new products or use cases. It is critical that systems are put in place to allow companies to integrate a more responsible mindset into their business operations.

Most of these issues are not regulated by the government. The current general approach in the tech industry is self-regulation in anticipation of governmental regulation. Companies are hoping to prove that they are responsible enough to not need regulation, or they are hoping to help shape regulation in a way that favors them. Despite efforts of self-regulation, the industry is struggling to realize efforts and translate principles into practice. The following section outlines the main challenges faced by companies in implementing responsible innovation practices.

Challenges in making the business case

One of the most difficult challenges that the tech industry currently faces is making the case for responsible business and articulating how it relates to their strategy. The existing structure of shareholder capitalism creates a perceived tension between doing the right thing and doing the profitable thing, causing ambiguity on the business benefits of being socially responsible. As the benefits are not easy to quantify, we find that business leaders whose primary duty is to increase shareholder profit are not committed to being responsible. In fact, the current perception in tech is that "incorporating more responsible AI will result in loss of business,"[1] and "discussing responsible AI at all is considered a liability."[2] As the business case is unclear, there is little push from shareholders or investors to pay attention to issues of social responsibility. Shareholders are uncertain about what is required to uphold responsible business practices.

Another related challenge is that the business models of some of these companies are frequently at odds with human rights. For example, many social media platforms today depend on their ability to keep users on their platform for long periods of time and to expose them to targeted advertising—resulting in exploitation of users. In a 2019 report, Amnesty International argued that "the surveillance-based business model of Facebook and Google is inherently incompatible with the right to privacy and poses a systemic threat to a range of other rights including freedom of opinion and expression, freedom of thought, and the right to equality and non-discrimination."[3] As such, it is difficult to align the incentives of these companies to respect human rights.

Challenges related to organizational structure

Some of the biggest barriers to the integration of responsible business practices are organizational challenges. When looking at tech companies today, one sees uncertainty around roles and responsibilities regarding responsible innovation. Employees often are confused about whose job it is to think about these issues; in most companies, responsible business efforts are often voluntary and not compensated. As one respondent of the Closing Gaps module pointed out, "There are still mixed views among engineers about how this is relevant to their work, how important it is, and whether or not they 'already act responsibly and ethically.'"[4]

As these issues are core to companies' products and users, most, if not all, individuals in the organization need to understand and act upon their responsibilities. However, there is a clear lack of guidance tailored towards different functions, as well as complementing

[1] "Closing Gaps in Responsible AI." *Partnership on AI*, January 21 2020, closing-gaps.partnershiponai.org/game/intro.
[2] "Closing Gaps in Responsible AI." *Partnership on AI*, January 21 2020, closing-gaps.partnershiponai.org/game/intro.
[3] "Facebook and Google's pervasive surveillance poses an unprecedented danger to human rights." *Amnesty International*, 21 November 2019, https://www.amnesty.org/en/latest/news/2019/11/google-facebook-surveillance-privacy/.
[4] "Closing Gaps in Responsible AI." *Partnership on AI*, January 21 2020, closing-gaps.partnershiponai.org/game/intro.

performance metrics. For example, as a Closing Gaps respondent indicates, "[the sales team's] goals and incentives are only measured by sales volume, not by responsible applications."[5] The uncertainty about roles and responsibilities leads to a "fear of voicing concerns,"[6] creating an unhealthy culture, which will be discussed in the next section.

This trend points to a lack of governance within companies regarding responsible business. A Closing Gaps respondent points out, "In the spirit of efficiency, many responsible AI decisions are left up to the individual."[7] Companies that do have a central responsible business team struggle to scale their efforts across the organization: "The team responsible for building and delivering these tools and is small and there are vast number of products to consider and teams to reach."[8] Especially in multinational companies, it's challenging to reach not only the different functions, but also the different geographies where the company operates. Often, responsible business conversations take place at the headquarter (HQ) level and do not reach the teams implementing or selling the products in the field. As human rights abuses often happen in geographies far from technology companies' offices or HQ, the lack of local stakeholders in the conversation is problematic.

Finally, worth noting is the lack of diversity in companies' employee base and the interdisciplinary approaches in work styles. Based on Conway's Law, products reflect the organizations that build them. It naturally follows that tech companies end up developing products that do not account for the various needs of their user base.

Challenges related to culture

The "tech culture" of Silicon Valley requires being fast, being optimistic, being data-driven, and being obsessed with innovation and disruption. These features can be troublesome as they do not align very well with being responsible. For example, the requirement to "fail fast" leaves no time to review products and think about their potential risks. A respondent of the Closing Gaps module remarks on the difficulty of implementing responsible AI: "Leadership is concerned that we are taking too long to go to market."[9] The issues at hand need deliberation which takes time and requires being realistic—sometimes pessimistic—about the implications of technology on society; the optimistic culture of tech hinders these conversations.

The data-driven culture of tech makes it easy to forget that data might not be objective. A Closing Gaps respondent says, "There has been a big push to be data-driven in the last few years, which is a difficult narrative to push back against."[10] The engineering-driven culture also hinders companies' ability to have the interdisciplinary debates that these issues require. Another Closing Gaps respondent describes an alarming consequence: "There is a fear of voicing concerns when they don't fit into a math formula and instead

[5] "Closing Gaps in Responsible AI." *Partnership on AI*, January 21 2020, closing-gaps.partnershiponai.org/game/intro.
[6] "Closing Gaps in Responsible AI." *Partnership on AI*, January 21 2020, closing-gaps.partnershiponai.org/game/intro.
[7] "Closing Gaps in Responsible AI." *Partnership on AI*, January 21 2020, closing-gaps.partnershiponai.org/game/intro.
[8] "Closing Gaps in Responsible AI." *Partnership on AI*, January 21 2020, closing-gaps.partnershiponai.org/game/intro.
[9] "Closing Gaps in Responsible AI." *Partnership on AI*, January 21 2020, closing-gaps.partnershiponai.org/game/intro.
[10] "Closing Gaps in Responsible AI." *Partnership on AI*, January 21 2020, closing-gaps.partnershiponai.org/game/intro.

require an interdisciplinary discussion."[11] All of these characteristics lead to a culture where employees are fearful to voice their opinions and are incentivized to stay quiet when faced with friction.

Challenges related to operational processes

Operationally, there is a lack of structures and processes that guide employees on how to operationalize responsible innovation practices. In other words, employees are finding it difficult to translate principles into their day to day jobs. As one Closing Gaps respondent puts it, "our responsible AI principles are too vague to be actionable."[12] Operational guidelines and structures are needed to make concrete what responsible business looks like on a practical level.

The industry also lacks tools and methodologies to accelerate the adoption of responsible business practices. A study done with tech workers in the UK found that "three-quarters (78%) would like practical resources to help them. Currently, they rely most on their personal moral compass, conversations with colleagues, and internet searches to assess the potential consequences of their work."[13] These resources cannot be reliable in the long term if the industry wants to create a standardized approach to social responsibility.

Challenges related to external relations

The amount of competition and the lack of collaboration in the tech industry today is a marked characteristic of the sector. Especially in the ultra-competitive world of AI, companies are wary to share any information that might reveal their secrets and put them at a disadvantage. As one respondent of the Closing Gaps module says, "We need Responsible AI to become part of software code reviews for all AI products and services, [but] vendors are unwilling to disclose their methods."[14] This opaqueness caused by competition is making it difficult to assess the legitimacy of the industry's responsible innovation efforts.

Finally, companies are not engaging with their stakeholders to a level that is needed. This may be partly due to the confusion on who the stakeholders are and how to reach them. A Closing Gaps respondent says they "don't have a clear picture of which people and communities are impacted by our work."[15] Clearly, the industry needs to partner with groups that can help them engage with their stakeholders.

[11] "Closing Gaps in Responsible AI." *Partnership on AI*, January 21 2020, closing-gaps.partnershiponai.org/game/intro.
[12] "Closing Gaps in Responsible AI." *Partnership on AI*, January 21 2020, closing-gaps.partnershiponai.org/game/intro.
[13] "People, Power and Technology: The Tech Workers' View." *Doteveryone*, May 2019, www.doteveryone.org.uk/report/workersview/.
[14] "Closing Gaps in Responsible AI." *Partnership on AI*, January 21 2020, closing-gaps.partnershiponai.org/game/intro.
[15] "Closing Gaps in Responsible AI." *Partnership on AI*, January 21 2020, closing-gaps.partnershiponai.org/game/intro.

LEARNINGS FROM OTHER INDUSTRIES

Fortunately, the tech industry is not alone in its challenges to integrate responsible business practices; many companies have struggled with questions of responsibility and ethics in the last decades. Although challenges differ by industry, the implementation of solutions bears many similarities. This section will explore some of the best practices that can be sourced from three industries who are further along in their sustainability journey: apparel, extractives, and pharmaceuticals. It is important to note that two of these industries—extractives and pharmaceuticals—are heavily regulated and, therefore, many of their efforts have been to comply with regulation, which is not yet the case with the tech industry. However, it can be argued that tech companies are more wary today of potential regulation given recent investigations and lawsuits that have been brought against them.

The **apparel** industry started its sustainability journey in the late 1990s as companies transitioned from domestic to overseas production; labor practices increasingly came under scrutiny through media exposure. The industry successfully came together to set labor standards for their suppliers and, in doing so, set in place codes of conduct and compliance measures, as well as audit mechanisms to integrate sustainability practices across their businesses. As they matured on their path to sustainability, apparel companies started seeing responsible practices as a competitive advantage.

An intrinsically malignant industry, **extractives** has realized the advantages of prioritizing health and safety to be able to continue their operations. As they were forced to comply with regulations, companies integrated responsible business practices into their operations, as well as their culture. They learned how to engage with local stakeholders and governments to gain social-license-to-operate in different communities across the world. Their journey can offer insights on cultural transformation, as well as stakeholder engagement.

Finally, the **pharmaceuticals** industry has gone through introspection and transition to be more ethical and respectful to the environment, starting as early as the 1960s. Also bound by government regulation, companies had to change their operations to stay in compliance with the law. The pharmaceuticals industry can offer perspectives into how to handle data and create oversight on personal information, as well as ethical decision making through their experience in bioethics.

Learnings related to making the business case

No matter where a company is in their responsible business journey, making the business case for sustainability or social responsibility is always a challenge. As Susanne Stormer, Vice President of Corporate Sustainability at Novo Nordisk points out, "The tension between making profit versus doing good will always exist. The important thing is to understand how to reconcile them."[16] Responsibility for reconciling the two often falls on a company's leadership and the culture they create.

Across the different industries, we see that the main driver for responsible business continues to be risk mitigation. A corporate sustainability representative from an American oil and gas company confirms this: "You do get more traction if you speak the risk mitigation language. You can easily explain the advantages of making things go smoother, meeting milestones faster, and diminishing the potential negative impact of community resistance..."[17] There are two main types of risk that companies try to mitigate by being more responsible: reputational risk and regulatory risk.

According to Marissa Saretsky, responsible business lecturer at the Haas School of Business at UC Berkeley, "A potential financial or reputational impact to the company is often required for the business case to be clear."[18] For example, companies in the apparel industry such as Nike and Gap experienced brand and financial hits after the child labor allegations of the 1990s, leading the companies to take labor conditions much more seriously. Another example comes from the extractives industry, which took strong action on health and safety, as they were visible levers for company action to protect brand image and customer loyalty among other human rights and environmental concerns.

Companies who are more mature in their responsibility journey, have started viewing responsible business practices with a positive lens, in addition to the reactive risk mitigation narrative. For example, some apparel companies are trying to position sustainability as a driver for business as they have realized through stakeholder interviews that intentional material choice can serve as a competitive advantage for their brand. Similarly, extractives companies value "being the partner of choice"[19] for their stakeholders, including governments and local communities. This narrative around gaining trust helps position sustainability as a competitive advantage and not only a risk mitigation tactic. The pharmaceutical industry, on the other hand, is challenged to prove their value-add to society. Susanne Stormer of Novo Nordisk explains, "There was an inherent notion that if you are a healthcare company, you are doing good. That is not so easy anymore. It's important to articulate what value you create and measure that value."[20]

[16] Stormer, Susanne. Personal interview. 7 April. 2020.
[17] Anonymous. Personal interview. 6 April. 2020.
[18] Saretsky, Marissa. Personal interview. 17 April. 2020.
[19] Anonymous. Personal interview. 6 April. 2020.
[20] Stormer, Susanne. Personal interview. 7 April. 2020.

Learnings related to organizational challenges

Across different industries, we see sustainability or CSR teams leading efforts to make their respective companies more responsible. It is critical for these teams to be able to influence their organizations and integrate responsible business practices in different business units. Karan Kumar, who works at a private foundation on supporting the scale and uptake of sustainable alternative materials and has previously worked with apparel companies on corporate sustainability issues, points out, "Sustainability doesn't translate into practice unless you talk to business units. It's the sourcing or product teams that get a bulk of that work done."[21] As mentioned in the previous section, one of the major challenges in integrating responsible business into the organization is making the issues relatable to different functions. Clarifying the roles and responsibilities of each individual and having complementary performance metrics is an important first step. A corporate sustainability representative in an American oil and gas company explained how the firm's guiding document on operational excellence "codifies what every single division needs to do. It is easy to pluck out information from there and reflect it into employees' roles and responsibilities, as well as in their performance management metrics."[22] The lack of a written document describing these specific tasks makes it difficult to keep employees accountable.

Another important learning related to organizational challenges is having a strong sustainability governance structure. As Jesse Nishinaga, Program Director of the Human Rights and Business Initiative at UC Berkeley, points out, "The sustainability team drives the conversation, but a governance structure or board makes the decisions, or at least should."[23] Having an operating committee made up of thematic committees and reporting to the company's leadership and board seems to be the overarching best practice, such as in the case of Marks and Spencer Group.[24]

Learnings related to cultural challenges

When it comes to the company's culture, the role of leadership cannot be overstated. Additionally, we see that employee activism is almost as important as the values set by leadership. According to Susanne Stormer of Novo Nordisk, cultural change "has to be both top-down and bottom-up. You need to make the point to every employee that they should abide by certain principles, but you should also tell them that they can challenge the management."[25] Empowering employees with tools and processes with which they can give feedback and push for change is critical in achieving a responsible business culture that is embraced throughout the organization.

Kelly Melia-Teevan, advisor on corporate sustainability, thinks that culture needs to follow operational changes: "First, you need to define what is good. Culture is about encouraging people to meet

[21] Kumar, Karan. Personal interview. 21 April. 2020.
[22] Anonymous. Personal interview. 6 April. 2020.
[23] Nishinaga, Jesse. Personal interview. 19 April. 2020.
[24] Marks and Spencer Group plc. *M&S PLAN A REPORT 2018.* 2018, corporate.marksandspencer.com/sustainability/report2018.
[25] Stormer, Susanne. Personal interview. 7 April. 2020.

expectations."[26] To her point, if companies do not set up operational procedures correctly and depend solely on the cultural regime of the leadership, norms for responsible business may be harmed when company leaders cycle out.

Learnings related to operational challenges

Among all aspects of change, perhaps most difficult is changing the way things are done day-to-day at a company. Fortunately, the three industries in focus have very practical tips on how to overcome some of these operational challenges. In every company interviewed for this paper, a "Northstar" document serves as the main guideline for responsible business operations. All employees can refer to this guideline document that explains the company's values and desired behaviors. A good example is the *Novo Nordisk Way*, which can be found online.

Once responsible business processes and metrics are put in place based on these guidelines, companies have different ways to ensure that these operations run smoothly. An American oil and gas company explains how they strive for operational excellence within their health and safety priorities: "Accountability mechanisms are embedded into overall management cycles that field operations teams go through. This includes regular audits every few years. Safeguards and insurance mechanisms with redundancies must be built into critical and serious work."[27] Novo Nordisk has a similar system through their "facilitation team" composed of experienced leaders who move between different teams and country offices to ensure that the guidelines are being implemented. They identify areas that can be improved and enable different units to learn from each other. Susanne Stormer says this is their "way of promoting learning from better practices and ensuring consistency."[28]

In order to bring operational changes to life, companies use various tools. According to Marissa Saretsky, "tools can be transformative."[29] For example, the Higg Index, developed by the Sustainable Apparel Coalition, fundamentally changed how apparel supply chains consider and act on their environmental impact. Initially created to help brands understand their suppliers' environmental performance, the tool eventually led to increased transparency and accountability within the industry by creating competition between suppliers via supplier performance data made public for other suppliers to see. Saretsky explains that this only happened "because there was strong uptake by industry peers regarding the use of the tool."[30] A corporate sustainability representative from a hardware company says they are considering transitioning their supply chain operations to a software platform that enables full material disclosure. Software tools can be crucial in changing a company's operations and its mentality. For example, Autodesk's software products have been pushing engineers, architects, and others to make more sustainable decisions

[26] Melia-Teevan, Kelly. Personal interview. 7 May. 2020.
[27] Anonymous. Personal interview. 6 April. 2020.
[28] Stormer, Susanne. Personal interview. 7 April. 2020.
[29] Saretsky, Marissa. Personal interview. 17 April. 2020.
[30] Saretsky, Marissa. Personal interview. 17 April. 2020.

by embedding a sustainability lens to the core product suite.

Finally, companies use a variety of frameworks to help them build more responsible business operations. According to Jesse Nishinaga, "materiality analysis is a useful first step, especially for companies who are new to these topics."[31] It can help engage a company's leaders in topics of social and environmental responsibility by identifying the most important issues for the organization and its stakeholders. Another framework that is widely used by companies for human rights issues is the UN Guiding Principles on Human Rights and Business.

Learnings related to external relations

One of the most important learnings from the three industries in focus is the value of collaboration. According to Marissa Saretsky, this is a critical step that successful companies have taken in their sustainability journey. The best example of industry collaboration can be seen in apparel. Karan Kumar points out that "one of the biggest achievements of the apparel industry has been the idea of pre-competitive collaboration."[32] By identifying the pre-competitive areas of their businesses, apparel companies were able to collaborate and collectively influence their suppliers as well as regulators. This helped the industry set a level playing ground for all players. The extractives industry has also seen the benefits of collaboration. A corporate sustainability representative at an American oil and gas company says, "It took a lot of concerted, collaborated effort to standardize the approach regarding health and safety."[33] In creating a uniform approach, companies realized that a collective commitment to the safety of the industries' workers meant a safer environment for their own workers.
To make concrete progress in responsible business, companies should dedicate resources for meaningful collaboration within their respective industries. Often, industry coalitions can provide ways that ensure collaboration among the different players. Marissa Saretsky explains, "In apparel, initiatives such as the Fair Labor Association and the Ethical Trade Initiative really incited brand to collaborate."[34] These organizations not only provide a platform for collaboration, but also serve to keep companies accountable.

Another critical step that companies have taken is to engage proactively with their stakeholders. A corporate sustainability representative at an apparel company explains that stakeholder mapping exercises have been instrumental in prioritizing issues. In cases where companies are not able to engage with their stakeholders directly, they have built partnerships that help them better understand the communities they affect. Ayesha Khan, a tech and sustainability lawyer who's worked at the UN Global Compact underlines the importance of working closely with local partners, observing that "While most multinational companies with global supply chains are laying out elaborate sustainability strategies, progress on the SDG's still lags behind, indicating a disconnect between corporate head offices and local

[31] Nishinaga, Jesse. Personal interview. 19 April. 2020.
[32] Kumar, Karan. Personal interview. 21 April. 2020.
[33] Anonymous. Personal interview. 6 April. 2020.
[34] Saretsky, Marissa. Personal interview. 17 April. 2020.

manufacturers. Sustainability is still a surface level management tool, which needs to percolate to local partners to have real impact."[35]

[35] Khan, Aysha. Personal interview. 16 April. 2020.

APPLICABILITY OF LEARNINGS AND RECOMMENDATIONS

As mentioned in the first section of this paper, the challenges that the tech industry is facing today are unique in many ways. Questions are often philosophical in nature and answers are gray. Questions of responsibility towards users and use cases are not as easy to define and measure as are environmental issues. Therefore, the tech industry itself needs to dedicate more time to understanding the problems. As Kelly Melia-Teevan points out, "If the problem is not well defined, you can't make a clear ask to employees or shareholders. In oil and gas, for example, the problem is so well defined, it is literally quantifiable. In tech, the problem is still not clearly defined."[36] To caveat, most of the recommendations in the following section assume that the problems are more clearly defined than they are in practice. At the same time, tech companies cannot hide behind a lack of clarity as a means to outsource responsibility and avoid finding solutions.

Recommendations for making the business case

Learnings from other industries suggest that the best way to make the business case for social responsibility is to quantify the risk for the company. It is challenging to apply this learning to tech because the industry has not yet been faced with the same long-term negative financial impacts that other industries have seen. Marissa Saretsky reminds us that the industry "seemingly stormed through the 2016 elections,"[37] when Facebook faced a huge reputational risk with the Cambridge Analytica scandal. Despite the 66% drop in user trust,[38] 19% drop in share price,[39] and the $5 billion fine levied against the company by the FTC[40] as a result of the scandal, Facebook still maintains a $626 billion market cap and over 1.5 billion users on its platform.[41] The lack of alternatives prevents users from making a choice to opt-out of the platform, thereby limiting the business risk to the company. Saretsky points out, "The tech

[36] Melia-Teevan, Kelly. Personal interview. 7 May. 2020.
[37] Saretsky, Marissa. Personal interview. 17 April. 2020.
[38] Weisbaum, Herb. "Trust in Facebook has dropped by 66 percent since the Cambridge Analytica scandal." *NBC News*, 18 April 2018, www.nbcnews.com/business/consumer/trust-facebook-has-dropped-51-percent-cambridge-analytica-scandal-n867011.
[39] Neate, Rupert. "Over $119bn wiped off Facebook's market cap after growth shock." *The Guardian*, 26 July 2018, www.theguardian.com/technology/2018/jul/26/facebook-market-cap-falls-109bn-dollars-after-growth-shock.
[40] Kelly, Makena. "FTC hits Facebook with $5 billion fine and new privacy checks." *The Verge*, 24 July 2019, www.theverge.com/2019/7/24/20707013/ftc-facebook-settlement-data-cambridge-analytica-penalty-privacy-punishment-5-billion.
[41] "Number of Facebook users worldwide from 2015 to 2020." *Statista.com*, www.statista.com/statistics/490424/number-of-worldwide-facebook-users/.

giants dominate much of the market, so the business case is not as easy to make."[42]

Another explanation for the lack of reputational risk is that most users do not care or understand the issues enough to stop using the platforms. Kelly Melia-Teevan explains, "For reputational risk to exist, you need a critical mass of people that care. The negative social impact risk created by tech companies isn't yet well known by the population."[43] It is important to continue educating the public on issues of data privacy, while also acknowledging that it is unrealistic and unfair to expect users to look out for algorithmic fairness in the software products they use. To this end, explainability efforts in the AI space need to continue. As a recent research by the Partnership on AI revealed, "explainable AI in practice falls short of transparency goals."[44]

Another type of risk that has pushed companies to become responsible is regulatory oversight. To date, the lack of regulation for digital technologies eliminates that risk as well. As Microsoft President Brad Smith says, "Almost no technology has gone so entirely unregulated, for so long, as digital technology."[45] There are conflicting views on the need for regulation, but recent lawsuits and accusations around breaches of fair competition signal that governments might take stricter action in the next few years. In anticipation of potential government regulation, a business case can be made for taking preemptive measures to save costs.

In the absence of demand from consumers and regulators, there are two other groups of stakeholders that can help create the business case by pushing companies to be more responsible: employees and investors. Employee activism has been increasingly salient in the tech industry with walkouts and resignations taking more space in the media. These events are hopefully forcing companies to pay closer attention to the risk of losing talent, which is quantifiable. A recent study done with tech workers in the UK found that "more than a quarter (28%) of tech workers in the UK have seen decisions made about a technology that they felt could have negative consequences for people or society. Nearly one in five (18%) of those went on to leave their companies as a result."[46] When we consider that "every technology worker that leaves a company does so at a cost of £30,000,"[47] the cost of not addressing employees concerns can be huge for businesses. This trend signals that continued employee activism within tech companies can create a significant business case for the industry to be more responsible.

Investors can play an important role in pushing the tech industry to be more responsible. While there is no clear indication of this trend in the venture capital (VC) world—arguably the biggest force shaping the tech industry—ESG investing is

[42] Saretsky, Marissa. Personal interview. 17 April. 2020.
[43] Melia-Teevan, Kelly. Personal interview. 7 May. 2020.
[44] "Explainable AI in Practice Falls Short of Transparency Goals." *Partnership on AI*, January 14 2020, www.partnershiponai.org/xai-in-practice/.
[45] Shahani, Aarti. "Microsoft President: Democracy Is At Stake. Regulate Big Tech." *NPR*, 13 September 2019, www.npr.org/2019/09/13/760478177/microsoft-president-democracy-is-at-stake-regulate-big-tech.
[46] "People, Power and Technology: The Tech Workers' View." *Doteveryone*, May 2019, www.doteveryone.org.uk/report/workersview/.
[47] "People, Power and Technology: The Tech Workers' View." *Doteveryone*, May 2019, www.doteveryone.org.uk/report/workersview/.

generally on the rise. Deloitte predicts that by 2025, "ESG-mandated assets could make up half of all managed assets in the US."[48] Furthermore, a recent blog post by BSR highlights, "Preliminary indications are that the COVID-19 pandemic has—if anything—increased investor attention on corporate ESG management."[49] With the benefits of ESG investing becoming more clear, there is hope that investors might expand the definition and criteria of socially responsible investing to include newer issues in the tech sphere.

Finally, for internet companies whose business depends on advertising revenue, advertisers can leverage their power to push these companies to change their behaviors. The #StopHateforProfit campaign launched in June 2020 by the Anti-Defamation League (ADL) and the NAACP has already mobilized a significant number of advertisers to boycott Facebook and other social media companies. [50] Although it's not clear how financially detrimental boycotts like these will become for tech firms, these movements have already begun to move social media companies to improve their content moderation policies and prevent hate speech. The risk of losing the trust of advertisers, or other customers, might be a driving force for tech companies to accelerate their responsible business efforts.

Recommendations related to organizational structure

The learnings from other industries are quite applicable when it comes to organizational structure. Following the footsteps of others, many big tech companies are currently setting up teams that are charged with scaling responsible business efforts and integrating them across business units. In doing so, it will be key to have clear guidance on how these efforts relate to each team and function and what is expected of them. To complement this, updating performance evaluation metrics with metrics for responsible business practices can be helpful.

Especially in the AI space, conversations of ethics and fairness often take place within research teams. Another key function that needs to embrace responsible business practices is product; there needs to be strong collaboration and a shared accountability structure between product and research teams. Additionally, sales teams describe being typically left out of the conversation. Efforts should be made to include sales teams; especially in B2B companies, a lot of responsibility falls on customer-facing functions, such as sales, customer success, and technical consulting. It is precisely these teams who engage with customers on use cases that should be equipped to advise customers on responsible use of the technology. In short, when integrating efforts across the company, responsible business teams need to think about the full product lifecycle and the functions relevant for each phase. It is also important to make sure that in multinational companies, teams from all geographies are included in the conversation.

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[48] Collins, Sean, and Kristen Sullivan. "Advancing environmental, social, and governance investing." *Deloitte Insights*, 20 February 2020, www2.deloitte.com/us/en/insights/industry/financial-services/esg-investing-performance.html.
[49] Hodges, John, and David Korngold. "ESG Isn't Going Anywhere: Investor Expectations in the Age of COVID-19." *BSR Blog*, 22 April 2020, www.bsr.org/en/our-insights/blog-view/esg-is-not-going-anywhere-investor-expectations-in-the-age-of-covid-19.
[50] Yurieff, Kaya. "The Facebook ad boycott is starting to rattle investors." *CNN*, 29 June 2020, www.cnn.com/2020/06/29/tech/facebook-ad-boycott-stock/index.html

Needless to say, training and education will be critical in empowering employees to be an active part of these efforts. However, wide scale organizational change can take a long time and, therefore, embedding "ambassadors" or "champions" in different teams might be a good short term solution. Zvika Krieger, former head of technology policy at the World Economic Forum says, "Empowering people within teams ensures that they have the contextual intelligence, as well as pre-existing credibility needed to be trusted and effective."[51]

Finally, it's important to note that this is not the first time that tech companies are grappling with difficult questions. They have made relative progress on hardware supply chain issues such as conflict minerals, as well as online privacy issues that led to the establishment of the Global Network Initiative in 2008. It would be smart for the industry to learn from these experiences. Our interviews with industry professionals suggest that there is not much collaboration between teams who deal with human rights issues in the supply chain versus the teams who deal with human rights issues vis-à-vis AI. Increased know-how transfer between these teams could help companies adopt a more holistic approach to responsible business, as well as create efficiencies by preventing them from reinventing the wheel.

Recommendations related to culture

When it comes to company culture, the tech industry is fortunate to have many young employees who are value-oriented in their work. They are ready to mobilize and speak up when they do not agree with the actions of their employer. Companies must set up the right structures for employees to be able to voice their opinions without fear of retaliation. Reporting and whistleblowing mechanisms are important tools that can help create a more transparent culture where employees feel safe.

As previously mentioned, the specific tech culture of Silicon Valley has aspects that are at odds with a responsible business mentality. The industry needs to acknowledge this contradiction and compromise some of their cultural norms. A practical suggestion by Zvika Krieger is to congratulate teams not only when a new product is launched, but also when a product is *not* launched because of an ethical concern.[52] "Cues" like this can be useful in giving employees a sense of what is valued in the company.

Recommendations related to operational processes

Learnings from other industries suggest the need for strong operational excellence in implementing responsible business practices. All best practices—including guidelines, metrics, and audit processes—are imperative for the tech industry to adopt. However, it might not be so easy for tech companies to create metrics due to the philosophical nature of the issues they are grappling with. Sasha Radovich, Executive Director at Fashion Positive+ and Senior Consultant at The Uplift Agency points out, "Tech needs to have an ethical lens that is

[51] Krieger, Zvika. "A Practical Guide for Building Ethical Tech." *Wired*, 20 January 2020, www.wired.com/story/opinion-a-practical-guide-for-building-ethical-tech/.
[52] Krieger, Zvika. "A Practical Guide for Building Ethical Tech." *Wired*, 20 January 2020, www.wired.com/story/opinion-a-practical-guide-for-building-ethical-tech/.

inherently philosophical. They are talking about gray areas, rather than zeros and ones that engineers are used to."[53] This will require the industry to come up with new processes that account for the debatable nature of the issues. To that end, a good experiment recently launched is the Facebook Oversight Board that is tasked with taking final and binding decisions around content moderation on its platforms.

Industries dealing with supply chain issues have shown us that specific tools can be transformative. Early examples of ethical technology tools include those offered by EthicalOS and DotEveryone. A recent research led by Digital Catapult on applied AI ethics tools found that "tools that do exist are usually immature and/or inaccessible."[54] The research paper also suggests a framework to think about the different tools and methodologies that exist or are needed in this space. It is clear that the tech industry needs a marketplace of solutions that can help accelerate their responsible business efforts. Funders can help build those marketplaces similar to the way Humanity United has launched the Working Capital Fund, which is focused on tools addressing supply chain issues.

Finally, learnings from other industries suggest using frameworks such as the UN Guiding Principles on Business and Human Rights. As pointed out by the OHCHR, there is a lack of clarity on how to apply the UNGPs in the current tech sphere.[55] A recent blog post by BSR summarizes the challenges in applicability.[56] To this end, the OHCHR has launched the B-Tech project to explore how the UNGPs can be updated to reflect the current needs of the tech industry. In the meantime, the industry should continue creating innovative approaches to assess the human rights impacts of their products and use cases.

Recommendations related to external relations

Based on the learnings from other industries, an area in which the tech industry needs to improve drastically is collaboration. Marissa Saretsky points out that this is "probably one of the big missing pieces in tech right now."[57] A few decades ago, the need to influence suppliers helped the apparel industry work together in an unprecedented way. As most apparel companies worked with the same suppliers, it was imperative for them to join forces. This is obviously not the case in the tech industry where the problem is not so much about "suppliers" but about companies themselves. It could make sense to think about regulators or content providers, such as advertisers, as an alternative target for tech companies to coalesce around.
A little over a decade ago, the tech industry came together to collaborate on issues of online privacy by forming the Global

[53] Radovich, Sasha. Personal interview. 14 April. 2020.
[54] Kinsey, Libby. "Mind the Gap: from AI ethics principles to practices." *Medium*, 10 December 2019. medium.com/digital-catapult/mind-the-gap-from-ethics-principles-to-practices-81aad834ee55.
[55] "B-Tech Project." *United Nations Human Rights Office of the High Commissioner*, www.ohchr.org/EN/Issues/Business/Pages/B-TechProject.aspx.
[56] Allison-Hope, Dunstan. "Human Rights Assessments in the Decisive Decade: Applying UNGPs in the Technology Sector." *BSR Blog*, 11 February 2020, www.bsr.org/en/our-insights/blog-view/human-rights-assessments-in-the-decisive-decade-ungp-challenges-technology.
[57] Saretsky, Marissa. Personal interview. 17 April. 2020.

Network Initiative. One might question why we are not seeing the same level of collaboration this time. A major difference is the issues that led to the formation of GNI were much narrower (e.g., online privacy and handling of government requests), whereas the questions today are much broader. Another important difference, according to Marissa Saretsky, is that "there is significant competition in AI technologies, whereas GNI was less about competitive issues."[58] Companies need to find safe ways that will allow them to open up to each other and identify pre-competitive areas in AI. Especially with transparency moving to the forefront of the AI conversation, companies will need to share more information on the black box of their algorithms. The ABOUT ML initiative, led by the Partnership on AI, is a good example of tools that can increase transparency and remove some of the fear that prevent companies from collaborating with each other.

There is a need for industry organizations that push companies to collaborate and keep them accountable. The last few years have seen an increase in the number of civil society organizations that work on technology ethics, but their success in getting companies to engage has been mixed. Within the next few years, industry organizations that lead the conversation around responsible business in tech are likely to emerge. Industry assessments, such as the Corporate Accountability Index developed by Ranking Digital Rights, will become important tools to help push the industry forward.

Finally, stronger stakeholder engagement needs to be a key priority for the industry. It may be difficult for tech companies to have an employee base that is as diverse as their user base, but there are still substantial improvements to be made. Therefore, partnerships will be incredibly important to better understand stakeholders and local concerns. Sasha Radovich points out, "In tech, companies don't have exposure to their impact on the ground; they can work with stakeholders to understand how they can better solve these issues."[59]

[58] Saretsky, Marissa. Personal interview. 17 April. 2020.
[59] Radovich, Sasha. Personal interview. 14 April. 2020.

Summary of recommendations

Making the business case

1. Quantify the financial risk or gain for the company. In the absence of significant reputational and regulatory risk, employees, investors, and in some cases, customer groups such as advertisers can have powerful leverage to push companies to change

Organizational structure

2. Have guidance for each role, complemented by performance metrics
3. Train and educate all employees; start with “ambassadors” to scale
4. Enable know-how transfer within the organization to learn from existing CSR work

Culture

5. Set up structures where employees can voice concerns, transparent culture
6. Compromise on some aspects of the “tech culture”; implement new cultural cues to signal importance of responsible business

Operational processes

7. Implement guidelines, metrics, and audit mechanisms to ensure integration
8. Create a tools marketplace for the industry; adapt existing frameworks to the unique context of tech

External relations

9. Build stronger industry collaboration by identifying pre-competitive areas
10. Create organizations to push industry forward; reporting schemes and assessments to keep companies accountable
11. Engage with stakeholders; build partnerships to be able to understand local concerns

CONCLUSIONS

The learnings gathered from the apparel, extractives, and pharmaceutical industries can serve as the beginning of a larger transformation in the tech industry towards becoming more responsible. The issues may be difficult and tricky but drawing upon best practices from prior corporate sustainability work can help light the way. For example, the apparel industry provides unique insight into industry collaboration and the use of tools, whereas the extractives and pharmaceuticals industries are a great source of learning for operational processes in responsible business. This paper includes an overview of some of these best practices; it would be useful for further research to go deeper into specific topics.

One of the biggest challenges in implementing responsible business practices in the tech industry today is the lack of a strong business case. Learnings from other industries suggest that true commitment to corporate responsibility exist only when there is significant financial risk or potential gains for a company. The last few years have seen an increase in employee activism and negative consumer sentiment against tech companies, as well as the recent mobilization of advertisers. These trends help clarify the business case for tech companies to be more responsible.

Certainly, the next big step for the tech industry will be to go beyond competitive forces and learn how to collaborate. Other industries have shown the possibility of pre-competitive collaboration that allows companies to create a level playing field for the industry. Tech companies need to urgently come together and agree on a unified approach to cope with issues of responsible business; otherwise, they will have more dire consequences when faced with government regulation.

Finally, in addition to the work that companies must pursue, additional responsibility falls onto the other players in the tech industry: investors, industry and civil society organizations, as well as regulators. These actors must keep pushing the industry forward by creating tools and structures to help companies collaborate and to keep them accountable. Learnings from other industries show that corporate responsibility can only improve as a result of the intentional collaborative efforts of an industry as a whole.

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