MOST

| **M**	**O**	**S**	**T**
Model and incentivize inclusive leadership	Operationalize DEI throughout the business	Share DEI data, metrics, and goals	Transform pathways into tech for under-represented talent

Important Recommendations

1.

Increase your personal DEI expertise.

2.

Establish DEI as a business imperative.

3.

Support DEI with funding, metrics, strategies, and accountability.

4.

Redesign systems, including hiring, retention, and promotion systems, to remove bias.

5.

Apply both a DEI framework and an ethical framework to the design of products and services.

6.

Support industry-wide DEI reporting standards and share anonymized data.

7.

Set public goals.

8.

Advocate for computer science (CS) to be required in all schools.

9.

Build systems capacity to create more CS teachers at all levels, and invest in CS faculty within colleges of education.

10.

Invest in organizations that connect talent from underrepresented groups to tech careers.

Operationalize DEI throughout the business
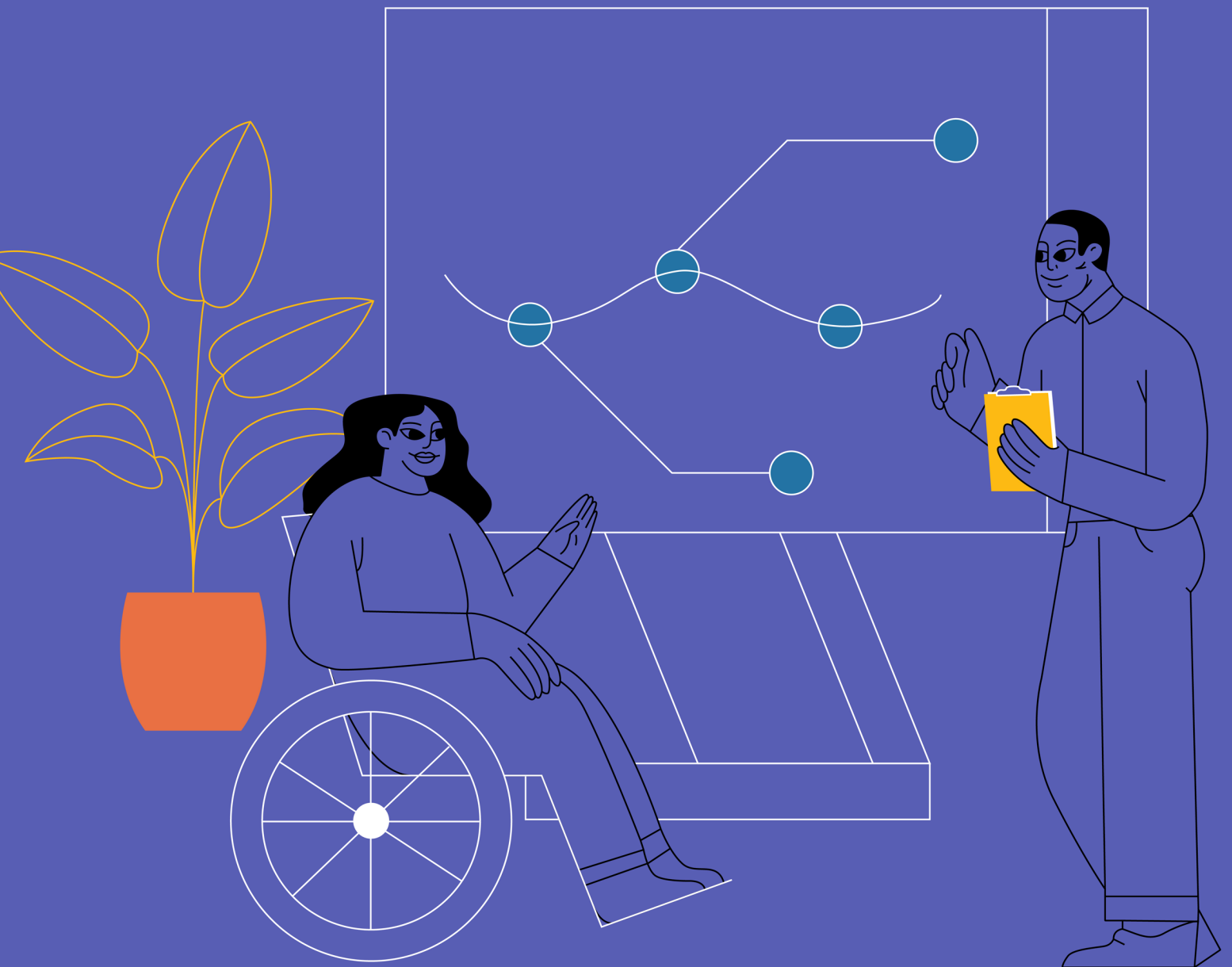
CEOs must approach and resource DEI like any other business imperative. Companies won't move the needle on DEI until they introduce systemic efforts, led by top leadership, that drive accountability for DEI throughout the company.

Systems have the power to change behaviors *at scale*. Of course, not all systems are created equally or impact different groups equally. That's why a paradigm shift requires us to:

→ Redesign systems with the specific objective of minimizing bias and maximizing equity.

→ Ensure the people building and operating within those systems are equipped to interrupt their own biases, identify bias in others, and redesign systems to serve all groups.

When aiming to operationalize DEI throughout a business, be aware that your strategy is unlikely to succeed if you are not also building an inclusive culture. This is an iterative process of changing systems, removing institutional barriers, and changing individual behaviors.

ACTION 3 →

Support DEI with funding, metrics, strategies, and accountability.

ACTION 4 →

Redesign systems, including hiring, retention, and promotion systems, to remove bias.

ACTION 5 →

Apply both a DEI framework and an ethical framework to the design of products and services.

CONTEXT (ROOT CAUSES AND THE WHY)

Unconscious and conscious bias harms career outcomes for underrepresented groups. Stereotypes coalesce into standards and expectations that systematically advantage a particular group (predominantly but not exclusively White men) at the expense of other groups.[86] These standards and expectations are expressed in performance-management processes—feedback, ratings, promotions, compensation, succession planning—that may be biased against underrepresented groups, especially because managers' (biased) subjective assessments tend to play a big role in these processes.[87] Therefore, the *direct root cause* of slower career advancement for underrepresented groups may be the bias that is consciously or unconsciously baked into performance-management processes and systems.[88]

LITMUS TEST

If you want to know if your DEI strategy has truly been operationalized at your company, ask any middle manager to tell you the actions they take on a regular basis, and in the last three months, to implement your company's DEI strategy. If they have no significant actions or outcomes to report, this tells you that your DEI strategy isn't being operationalized.

HIGH LEVERAGE POINTS FOR OPERATIONALIZING DEI THROUGHOUT THE BUSINESS

RECRUITING SYSTEMS In recruiting systems, many structural barriers and systemic biases combine to exclude underrepresented groups. Companies should embrace *inclusive hiring*, which means taking special care to source, screen, and short-list candidates without bias related to age, race, gender, religion, sexual orientation, and other personal characteristics unrelated to job performance.[89] Leaders should focus on policies to increase the number of qualified and diverse candidates on final interview slates, such as the Mansfield Rule, conducting structured interviews, introducing work sample tests for recruitment, and/or implementing unbiased criteria for evaluation. Once these new systems are in place, it's critical to monitor effectiveness and reward successful behavior. This may include monthly or quarterly readouts to acknowledge managers and recruiters who achieve the most inclusive candidate slates.

MIDDLE MANAGERS Middle managers are the gatekeepers for DEI in many ways, yet they often lack support from upper management to carry out DEI initiatives or integrate DEI into their day-to-day jobs. In addition, DEI initiatives are still largely voluntary for busy middle managers. Without proper incentives, this group is likely to opt out of DEI initiatives that may not produce clear, short-term ROI.

> **"Research suggests employees leave managers, not companies... Even if an organization has excellent policies and programs in place, these will be of little good for employees whose managers do not allow them access to these policies or programs. Change efforts must include educating managers about bias and ways to address it."** [90]

It is vital to acknowledge and reinforce behaviors of middle managers who are effective in their DEI efforts.

DEI DATA INFRASTRUCTURE Creating a robust DEI data infrastructure allows you to collect, track, and report DEI data. Data demonstrates where you are, how far you have to go, and where you should focus your DEI resources. It empowers leaders to make informed decisions, define strategy, and track progress at a team level. Don't skimp on it.

PRODUCT INCLUSION Building inclusive products is best achieved by diverse teams with multiple experiences and backgrounds having a say at every stage of the design process. Those diverse teams must proactively integrate product inclusion principles into every stage, including ideation, user research, and product testing.
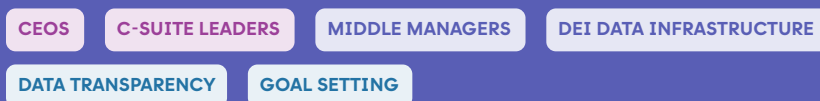
ACTION 3

Support DEI with funding, metrics, strategies, and accountability.

Companies must approach DEI with the same level of strategic thinking, resourcing, and accountability as any other business priority. As the Gender and Diversity KPI Alliance states,
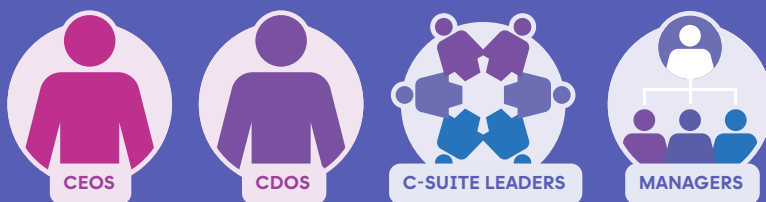
> **"You can't manage what you can't measure, and... what you measure tends to be improved. This is just as true for DEI as for any financial measure that corporations track. It is important to measure the right things; measurement focuses on monitoring results, not effort. The number of DEI policies is not a key metric. Rather, the value is in whether actual progress is made."** [91]

To measure progress on equity and inclusion, however, companies need to track more than representation.[92] Without tracking inputs into critical processes affecting equity and inclusion, such as employee development and performance evaluation, it is difficult to change culture. Companies should, for example, keep track of patterns in task assignment and role distribution and analyze formal feedback to ensure consistency in length and quality.[93]

HIGH LEVERAGE POINTS

| CEOS | C-SUITE LEADERS | MIDDLE MANAGERS | DEI DATA INFRASTRUCTURE |

| DATA TRANSPARENCY | GOAL SETTING |

CHANGE AGENTS

| CEOS | CDOS | C-SUITE LEADERS | MANAGERS |

IN SUMMARY

3.1. Create DEI data infrastructure to equip teams and leaders with data to make informed decisions, define strategy, and track progress.

3.2. Set internal goals and track implementation of strategic actions (best practice requires goal setting at entry-level, mid-career, and leadership levels).

3.3. Create incentives for C-suite leaders, managers, and others to achieve DEI goals.

3.4. Direct a pay audit for underrepresented groups, starting with gender and race, to close gaps.

How to do it

3.1. CREATE DEI DATA INFRASTRUCTURE TO EQUIP TEAMS AND LEADERS WITH DATA TO MAKE INFORMED DECISIONS, DEFINE STRATEGY, AND TRACK PROGRESS.

CEOs and leaders must clear obstacles that limit internal DEI data collection, and make it accessible to those who need it to drive change. Take the following steps:

A. **Build an internal data infrastructure.** This includes a consistent mechanism for collecting and sharing demographic data at the pipeline, interview, hiring, promotion, and attrition stages. Human Resources Information Systems (HRIS) have tools to support data collection and sharing.

B. **Make DEI data around representation, hiring, promotion, and attrition available to managers** with more than 20 employees, subject to legal data thresholds and considerations.

C. **Ensure that your data is as current as possible.** While annual snapshots such as data reported in Diversity Annual Reports are helpful to track macro progress over a year, they don't allow leaders to actively diagnose opportunity areas and take action to improve the experiences of certain demographics.

BUILDING YOUR COMPANY'S DEI DATA INFRASTRUCTURE

Example of how hiring data can be reported, taken from a company's diversity data dashboard.

SHOWS Hires by demographic group as a percentage of the total number of hires in your organization since January 1, 2020.
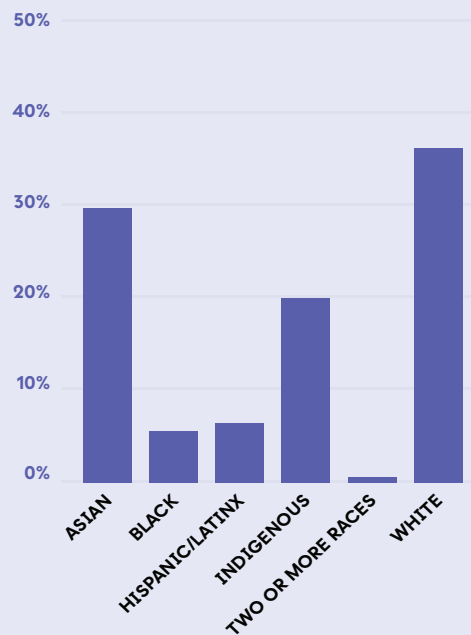
N-COUNT Number of hires made since January 1, 2020.

USE TO Track hiring efforts by demographic group in the context of overall hiring. Hiring is a critical indicator of future trends.

LOOK OUT FOR If your year-to-date (YTD) hire percentage is less than the total representation figure of your organization for any given group, it's unlikely you'll increase overall representation for that group over time.

AIM TO Progressively increase percentage of hires for underrepresented groups.

HIRES YTD

A bar chart titled "HIRES YTD" with a vertical axis from 0% to 50% in 10% increments. Bars by demographic group: Asian ~30%, Black ~5%, Hispanic/Latinx ~6%, Indigenous ~20%, Two or More Races ~1%, White ~36%.

3.2. SET INTERNAL GOALS AND TRACK IMPLEMENTATION OF STRATEGIC ACTIONS (BEST PRACTICE REQUIRES GOAL SETTING AT ENTRY-LEVEL, MID-CAREER, AND LEADERSHIP LEVELS).

A. Decide what to track, establish your baseline, and set meaningful benchmarks (**SEE ACTION 3.1** and **RECOMMENDATION 4**). Make sure that you include groups that are so small that they are often erased from data (e.g., Indigenous groups) and set goals for increasing both representation and inclusion.[94]

B. Once leaders know their existing baseline, companies can set goals around implementation of key processes in hiring, employee development, flex work, leave, etc. You will not be able to interpret your outcome (representation) data if you do not know what interventions you intended to implement, and whether those interventions were properly implemented.

C. Goals should be both challenging and salient, and include targets for individual managers, groups or lines of business, and the organization as a whole.

CASE STUDY: 50:50 THE EQUALITY PROJECT AT THE BBC [95] — GOAL SETTING AT THE ORGANIZATIONAL LEVEL[96]

In 2016, BBC presenter Ros Atkins set a goal of equal representation of women and men on his nightly news program. At the end of each show, the production team would take two minutes to count and record the gender split of guests. Each month, they reported their numbers. In January 2017, the first month of counting, women made up 39% of contributors on Atkins' show. Three months later, they made up 51%.

Atkins spread the idea to other shows and content teams across the BBC that were interested in gender parity. His method aligned with the EAST theory of behavior change—that to stick, change should be Easy, Attractive, Social, and Timely.

EASY

The 50:50 team shared specific instructions, guidelines, measurement templates, and checklists with all participating programs to provide as much support as possible. Atkins worked with colleagues to create a list of women experts on various topics.

ATTRACTIVE

The project remained voluntary, and participating teams were praised for signing up. Atkins appealed to people's interests by emphasizing that 50:50 would increase the quality and popularity of their shows. Team data was shared across the company to promote accountability, recognize success, and encourage competition.

SOCIAL

Atkins scaled 50:50 by targeting influential core programs that would encourage others. He spread the word that teams were doing well, which helped turn gender parity in content into a new social norm. People were made to feel that they were part of something bigger than themselves.

TIMELY

The goal of equal gender representation was tied to a monthly reporting time frame, and included a daily tally to maintain motivation. Moreover, Atkins started the project after the BBC experienced two scandals around gender pay equity, which made it more relevant. The Director-General of the BBC announced a company-wide 50:50 participation challenge, creating another timed goal.

By 2019, more than half of participating teams—and 74% of those monitoring data for at least 12 months—had hit their 50:50 goal. In a survey, audiences noticed more women on BBC programs. And the number of participating teams has continued to rise.

The full case study can be found in *Goals and Targets for Diversity, Equity, and Inclusion: A High Leverage Point to Advance Gender Equality in the U.S. Tech Industry* by Iris Bohnet and Siri Chilazi.

3.3. CREATE INCENTIVES FOR C-SUITE LEADERS, MANAGERS, AND OTHERS TO ACHIEVE DEI GOALS.

Involving managers at all levels to take ownership of DEI goals by counting, comparing, and tracking progress is a promising strategy to increase DEI.

A. **Include assessment of progress toward goals** in the performance review process.

B. **Link progress toward representation goals with compensation,** specifically of senior leaders and the C-suite.

C. **Provide nonfinancial rewards,** like awards; celebrate best practices of teams, managers, and individuals; and reward small wins and progress toward larger goals.

D. **Consult managers and others on goal-creation and DEI objectives** to achieve buy-in. Managers' actions will likely determine whether a DEI goal is reached. Research suggests that directly engaging managers on diversity-related programs increases ownership of DEI goals.[97]

E. **Require each C-suite leader to create their own DEI objectives and key results,** and hold them accountable through a formal quarterly DEI business review process.

Note: Action 3.3 also appears in ACTION 7: SET PUBLIC GOALS.

3.4. DIRECT A PAY AUDIT FOR UNDERREPRESENTED GROUPS, STARTING WITH GENDER AND RACE, TO CLOSE GAPS.

Conducting an audit to identify potential disparities in pay is essential and requires collecting the right data, which can be resource-intensive. Keep in mind, however, that while a pay audit is a great starting point, a traditional pay equity analysis won't capture disparities created by bias in performance evaluation and advancement practices. For example, there may be few employees from underrepresented groups who advance to senior leadership at all. Comparing compensation only within title levels will create an important, but incomplete, picture of equity in your organization. Because of this, consider conducting adverse impact analyses around promotion and performance metrics.

Here are some quick tips for a successful pay equity audit:[98]

A. **Examine pay practices and policies** across all business units and locations to identify any variability in the criteria used for pay decisions and the discretion given to individual decision-makers. Look at representation within each compensation level, including management, rather than relying on average compensation data, which can be skewed by outliers. Analyze intersectional data where possible.

B. **Jobs in different units or departments may be comparable.** Consider the skills, responsibilities, effort, and working conditions required of a job—not just its title.

C. Identify and assess the factors other than race and gender that may justify pay differentials (e.g., seniority, performance assessments, etc.), then prioritize bias-mitigating action in those areas of your DEI strategy. Correct unwarranted disparities.

CASE STUDY: PAY EQUITY AT MICRON TECHNOLOGY

Micron Technology is a computer memory and data storage company headquartered in Idaho, with approximately 40,000 employees globally.

When Sanjay Mehrotra joined Micron as President and CEO in 2017, he committed to making diversity, equality, and inclusion (DEI) a business imperative. Late that year, an in-house study intended to identify and address pay disparities between men and women found instances in which team members' pay disparities could not be explained by performance or other justifiable factors. In response, Micron remediated the pay of those team members who had been earning relatively less than their peers in comparable jobs with similar performance and based in the same location. By late in 2018, Micron had attained global gender pay equity for base pay.

In 2020, Micron launched six DEI commitments, including a renewed commitment to equitable pay for all team members. Using a data science and artificial intelligence (AI) tool called Syndio to evaluate team member compensation and recommend ways to eliminate pay gaps, Micron expanded its global pay-gap analysis to include potential disparities in cash bonuses and stock awards. The company also added team members with disabilities to its global analysis and, in the United States, veterans and Black and Hispanic/Latinx team members.

Through these concerted efforts, Micron achieved comprehensive global pay equity in base pay, bonus, and stock awards among these underrepresented groups in March 2021. In full transparency, the company shared its entire pay-equity methodology with team members and with its Board of Directors, as well as externally in its DEI Annual Report. Micron also includes specific pay-equity-related metrics in its bonus plan.

Micron's success in achieving global pay equity is proof of what's possible when DEI is firmly embedded into business strategy.

ACTION 4

Redesign systems, including hiring, retention, and promotion systems, to remove bias.

Despite inclusive values held by many people in companies, organizational processes, systems, and structures often contain unconscious and unintentional bias. Those issues must be identified and systems should be redesigned. The point is not to fix people from underrepresented groups by encouraging them to behave more like people from majority groups, but to fix the biased system itself. Start-ups can build in best practices, introduce training, and create inclusive systems right from the beginning.

HIGH LEVERAGE POINTS

RECRUITING SYSTEMS   MIDDLE MANAGERS   DEI DATA INFRASTRUCTURE   PRODUCT INCLUSION

CHANGE AGENTS

CEOS   CDOS   C-SUITE LEADERS   MANAGERS   TEAM MEMBERS   START-UPS

IN SUMMARY

4.1. Invest in middle managers' success, train them to be inclusive leaders, then hold them accountable for meeting DEI goals.

4.2. Design recruiting and interview systems to drive out bias.

4.3. Design talent development, feedback, and promotion systems to minimize bias and reward inclusion.

4.4. Reduce bias in task assignment and work allocation. Introduce a process to spread stretch assignments beyond favored groups.[99]

4.5. Improve sponsorship, allyship, and mentorship opportunities, and ensure the opportunities you personally provide are balanced among different communities.

4.6. Use ERGs to support employee development, create community, and contribute to business objectives, but not as a substitute for a DEI strategy.

4.7. Evaluate what works and what does not, and iterate accordingly.

How to do it

4.1. INVEST IN MIDDLE MANAGERS' SUCCESS, TRAIN THEM TO BE INCLUSIVE LEADERS, THEN HOLD THEM ACCOUNTABLE FOR MEETING DEI GOALS.

Managers are essential to the success of DEI goals and are often the decision-makers when it comes to hiring and developing talent. Managers must be trained to identify and *disrupt* biases in interactions and within institutions.

BUSTING "THE MYTH OF TALENT"

The "myth of talent" describes talent as innate brilliance and a fixed asset that people either have or don't have. This is simply not true:

> **Talent grows with exposure, repeated practice, and the experience of being stretched and challenged.[100, 101]**

The myth of talent includes the implicit assumption that only the graduates of a few elite private universities are truly brilliant, talented, and worth hiring. We see this myth in action in tech and other industries when companies hire within a small insular ecosystem of institutions that are wealthy, socially prestigious, and demographically homogeneous.[102]

If we shift the way we think about talent, we will shift the composition of the workforce.

A. **Manager training to disrupt bias** should cover hiring, feedback, evaluation, meeting facilitation, task assignment, mentorship, sponsorship, and managerial relationships.

→ Training should include how to have difficult/courageous conversations about bias in the real world. Managers must develop the skills to encourage, give, and receive feedback about people's lived experiences, and to encourage discussion that can inform future behavior.

B. **Training should be active and participatory,** more like educational and dynamic workshops, not perfunctory or framed as HR compliance. For this reason, online modules should not replace workshops that engage participants in face-to-face conversations.[103]

C. **Training must be combined with:**

→ **Ongoing support,** such as participation in communities of practice, conferences, and events; regular team conversations about DEI; and invitations for feedback.

→ **Process change.** When new behavior patterns get encoded in processes, they are more likely to stick. For example, unconscious bias training can ask hiring managers to be aware of bias. But it's more effective if that training is supported by a standardized interview process to ensure all candidates are asked the same questions and interviewers assess each answer against a predetermined grading rubric. This process supports the de-biasing of interviews and does not only rely on individual interviewers to be aware of their biases. For concrete resources that help managers create high-performing, diverse technical teams, see Supervising-in-a-Box Series: Full Series from NCWIT.[104]

D. **Ensure managers have access to the relevant demographic data** for their teams so they have full visibility into the problem they are trying to solve. Once leaders know their existing baseline, companies can help managers set goals at the team level for hiring, employee development, flexible work and leave, etc. Managers should be assessed on progress made against these goals as part of their performance review (**SEE ACTION 4.3**). Partner with professional societies and organizations to create pathways for people of color, particularly women of color, into leadership positions.

CONTEXT (ROOT CAUSES AND THE WHY)

People come to tech careers in many ways, not just by graduating with a CS degree from an elite school. Requiring a minimum GPA to apply or restricting recruiting to elite institutions reinforces structural barriers already in place for people from underrepresented groups.

> **Overreliance on referrals from current employees or people in a leader's network can reinforce exclusion.**

Approximately 50–70% of jobs in the U.S. are found through informal networks.[105] Black job seekers are less likely than White job seekers to know someone at a company who can contact the employer on their behalf, which accounts for much of the disparity in job offers.[106]

4.2. DESIGN RECRUITING AND INTERVIEW SYSTEMS TO DRIVE OUT BIAS.

A. Incentivize diversity over speed-to-hire. Time-to-hire is a common metric companies use to measure progress in recruiting.[107] But there is often a trade-off between diversity and speed—if you want change, recruiters must be incentivized to look longer and harder. This might require limiting reliance on referrals and removing "use it or lose it" policies that take away head count if a position is not filled by a certain date. It might also include a policy to wait to begin interviews until two weeks after posting a job, giving recruiters and hiring managers time to focus on outreach and building a diverse pipeline. Adding more time for candidate outreach, and creating time-based gates at each stage can give qualified candidates from all groups the opportunity to progress through the process at the same rate. For example, set a time frame for conducting first and second interview rounds and extending an offer (versus extending an offer to the first candidate to complete the process).

B. Focus on skills, not degrees. Some companies are removing the requirement for a four-year degree for jobs where candidates have the equivalent skills and experience.[108] This model, also known as competency-based hiring,[109] increases the pool of candidates from all groups and helps reduce the impact of inequity in the U.S. education system. Companies leading the way in this space include Canadian-based Shopify, which has never required a college degree;[110] Google, with their new career certificate program;[111] and IBM. In an open letter sent to the then-incoming Biden Administration in January 2020, IBM reported that it had removed bachelor's degree requirements for over 50% of its U.S job openings in an effort to focus on "new collar jobs"— newer career paths that require a specific set of skills but not necessarily college degrees.[112] In surveying employers about what they value in candidates, researchers at Harvard Business School found that relevant work experience trumps a four-year degree in many cases.[113]

REVISE JOB DESCRIPTIONS TO FOCUS ON RELEVANT SKILLS AND ELIMINATE BIAS

Job descriptions and ads often include requirements that are not essential to successful job performance or can actually be learned on the job. Research shows that the language in job ads affects candidates' perceptions of job appeal, and that this is mediated by perceptions of belonging (e.g., job language that invokes masculine stereotypes reduces women's anticipated belonging and job appeal).

TIPS AND TOOLS FOR WRITING BETTER JOB DESCRIPTIONS

→ NCWIT Tips for Writing Better Job Ads[114]
→ Use augmented writing software like Textio and Gender Decoder to identify biased language[115]

INTERVIEWING FOR SKILLS

There are multiple ways you can structure your interview process to assess a candidate's skills and potential success in a role. One inclusive way is to create cohort hiring days that focus solely on testing the practical application of skills by simulating real work problems in a supportive environment.

→ **Create a cohort of candidates who can identify with one another** so they are not the only one in the room. This helps create a sense of community among candidates and minimizes stereotype threat. Tech recruiting teams have had success bringing together women engineering candidates to interview together.
→ **Give candidates a practical task** that they would come across in the actual role and ensure the competencies you want to test for are built into that task (e.g., problem-solving, leadership, etc.).
→ **Assign an "interviewer" to act as a mentor/support person** rather than a traditional assessor. This approach helps candidates feel comfortable and simulates the type of support that would be available from a manager or a colleague when at work.

C. Build bias-checking procedures, systems, and practices into your interviewing and selection process.

→ **Structured criteria/rubrics should be used for hiring,** and audited for bias. If a job description is well-written, it should translate into a useful rubric. Similarly, consider ending the use of unstructured interviews, which can compel the interviewer to rely on false signals linked to building rapport. Instead, implement a structured process using tools that are proven to predict future performance.[116]

→ **Avoid using terms like "culture fit"** [117] **and "professionalism."** [118] This language is often coded in that it assumes an unspoken standard for what constitutes the "correct," "professional" style based on the communication and behavioral norms of the majority group. Companies can provide training to help rethink and replace coded language.

→ **Introduce facilitators at hiring committee meetings to identify bias** or the use of statements like "culture fit" or "professionalism," manage power differentials, interrupt groupthink, and ensure feedback discussions are substantive and specific. It is also advisable to have a guide to structure the post-interview debriefs that decide whether to hire a candidate.

→ **Introduce a policy requiring diverse candidate slates for open roles.** A diverse candidate slate is an iteration of the Rooney Rule [119] and ensures that at least 30% of candidates interviewed for any open role are from underrepresented groups. This rule is based on the finding among behavioral science researchers that if a hiring pool has just one woman or minority candidate, there is statistically no chance that they'll get hired.[120]

THE MANSFIELD RULE

The Mansfield Rule "measures whether law firms have affirmatively considered at least 30% women, lawyers of color, LGBTQ+ lawyers, and lawyers with disabilities for leadership and governance roles, equity partner promotions, formal client pitch opportunities, and senior lateral positions." [121] This rule is based on the finding among behavioral science researchers that if a hiring pool has just one woman or minority candidate, there is statistically no chance that they'll get hired.[122] **Researchers have found that members of underrepresented groups must make up at least 30% of the pool to disrupt bias.**

The Mansfield Rule requires firms to participate in regular knowledge-sharing during the course of a 12-month certification period, on the principle that by working collectively and sharing best practices and lessons learned, firms can move the needle faster than if they work in isolation to reach their goals. The results of implementing this rule have had a measurable effect on the legal industry. Among the 117 law firms that have adopted the rule:

1. **For underrepresented racial and ethnic lawyers, Mansfield 1.0 firms (early adopters of the rule) diversified their management committees** at more than *30 times* the rate of non-Mansfield firms during the 2017–2019 time frame. Non-Mansfield firms, on average, only saw an overall increase in management committee racial diversity of one-tenth of 1% (0.13%) over the same time frame.

2. **The racial and ethnic diversity of non-Mansfield firms' partner nomination committees** *declined* since 2017, while Mansfield 1.0 firms *increased*, achieving an overall increase of nearly 4% during the 2017–2019 time frame. And, importantly, statistical modeling predicts this number will continue to climb for Mansfield firms.

3. **Racially diverse lawyers at early-adopter Mansfield firms are progressing into the partnership at a statistically higher percentage** than they were pre-Mansfield. 1.0 firms also leaped ahead of non-Mansfield firms during the 2017–2019 time frame. They reached 10.5% racially diverse partners in 2019, while non-Mansfield firms were at 9.1%. This variance is meaningful since all large law firms, on average, only increased by 0.2% each year with regard to racial diversity in their partnerships based on broader data from 2007–2019.

4. **Women lawyers at early-adopter Mansfield firms are progressing into leadership**—as part of management committees, partner review committees, and the partnership as a whole—at a statistically higher percentage than they were pre-Mansfield.

THE MANSFIELD RULE (CONTINUED)

In addition, of Mansfield 1.0 firms:

94% reported their candidate pool for pitch teams became more diverse.

79% reported their lateral partner hiring pool was more diverse.

76% said their equity partner promotions pool was more diverse.

57% elected or appointed a higher percentage of diverse lawers into office managing partner roles.

Prior to participating in the Mansfield Rule, only 12% of firms tracked their candidates for leadership roles and 25% tracked their candidates for lateral partner hiring; now, 100% are tracking these candidate pools.

The tech industry should similarly adopt policies inspired by the Mansfield Rule.

D. Leverage organizations that develop talent from new sources and nontraditional talent pools.[123]

→ **Partner with local organizations** that act as talent scouts, working with traditionally disconnected talent to pursue careers in tech. This includes community colleges, workforce training institutions, and community-based organizations.

→ **Invest in apprenticeships**/other paid training opportunities for traditionally disconnected populations and create a clear pathway to full-time employment. Track the conversion rate of interns to permanent hires by race, gender, and other underrepresented groups.

→ **Invest in industry intermediaries** like LA-Tech.org.[124] PledgeLA,[125] and Reboot Representation [126] that can build out pathways into tech jobs in your company's local area. This type of investment builds social networks to mirror the organic ones that currently exist for many in the tech industry employees.

FIRST-GENERATION COLLEGE STUDENTS AS A PROXY FOR SOCIOECONOMIC STATUS

Project Basta is a nonprofit organization that aims to bridge the gap between employers and first-generation college students of color. They recommend tech companies do the following to make the industry more accessible to first-generation college students:

1. **Deprioritize or eliminate GPA** as an initial filter for candidates.

2. **Examine and expand short list of schools** to include campuses with high numbers of first-generation college students and pressure-test lists of preferred majors. Do those majors exist everywhere?

3. **Incentivize recruiters to think differently** and train them to evaluate a resume that may not include traditional markers of success. Consider allowing students additional ways to present themselves outside of a traditional resume (e.g., a short video or work product).

4. **Find internal champions outside of HR/diversity teams** (ideally, experts in the field for which they are hiring) and pilot recruiting experiments to create proof points. Don't be overwhelmed by the enormity of the problem. Instead, start small-scale with a willing team and introduce, for example, an experiment to interview a cohort of women in the tech organization using nontraditional methods (perhaps similar to a hackathon). Experiment. Iterate. Scale.

5. **To bridge the gap** between students who attend schools/majors that do a better job at preparing students for tech careers and those who don't, **provide all candidates with structured preparation opportunities ahead of interviews,** provide more transparency into the hiring process, and provide resources to bridge the gap of coursework that may be missing for students not attending those schools.

USE MARKETING TO CHANGE PERCEPTIONS ABOUT WHO BELONGS IN TECH

Many communities are unaware of the opportunities to work in tech companies, which means children in those communities—who are influenced by the media and their families—do not consider careers in tech.[127] Thoughtful and targeted advertising and employer brand campaigns may demonstrate a commitment to diversifying the tech workforce. Messaging should include not only possible jobs and careers, but also the pathways toward those careers, such as which middle and high-school courses will prepare them for relevant college majors.

→ **Join with other tech companies to launch ad campaigns** that target specific markets, from print (e.g., magazines like *Highlights for Children,*[128] *Ebony,*[129] *or Latina Style*[130] for adults) to television (e.g., programming on Univisión[131]) to radio (e.g., WomensRadio[132]), and in places like billboards, theaters, and public transportation systems.

→ **Identify relevant and credible social media influencers** with large followings on platforms used by your target audience, and ask them to endorse content, such as blogs, or like a Facebook page with information about pathways to tech careers.

→ **Help educators looking for role models to kindle interest** among their students. Create marketing materials showing employees in your company from diverse backgrounds to establish interest, confidence, and beliefs that students can be successful.[133] Sponsor a local or national radio or television station to share profiles of relevant careers and professionals (e.g., the NCWIT-Televisa Foundation TECHNOLOchicas program).

→ **Sponsor students from undergraduate programs** from which you typically hire talent to visit classrooms and talk about what it's like to pursue a CS major.

TECHNOLOchicas—a partnership between NCWIT and media company Televisa's cultural division, the Televisa Foundation—is an initiative intended to broaden awareness among Latinas and Latinx families about opportunities and careers in tech. The campaign features stories about Latinas in tech that aired as part of talk shows, telenovelas, and radio broadcasts. Thousands of public service announcements have aired and been featured in broadcast television, local events, social media platforms, and online videos. TECHNOLOchicas ambassadors inspire Latina youth at events, workshops, and interviews, and organize outreach activities in their communities.[134]

TECHNOLOchicas is funded by Apple, the Computing Alliance of Hispanic-Serving Institutions (CAHSI), Dell EMC, Google, Microsoft, Sphero, and Univisión.

E. Use over-the-counter algorithmic hiring products with caution and only under certain conditions. Machine learning (ML) is a subset of artificial intelligence (AI), and enables computers to learn how to solve problems or complete tasks by themselves. ML has recently become commonplace in recruiting tools—almost every Fortune 500 company uses some type of ML. From a DEI perspective, this technology offers both the opportunity to root out human bias, and the risk of automating and amplifying it. Research demonstrates that automated hiring systems often discriminate against women, military veterans, formerly incarcerated people, people with disabilities, and others.[135] Optimizing for fairness throughout the talent-recruiting pipeline is arguably the most important defense against algorithmic bias in recruiting.

A key problem with ML is that it's frequently a "black box." This means ML takes input data and produces outputs without showing the steps or rationale that lead to a decision. Moreover, these inputs are based on data that reflects how things are—which means the machine is learning our existing biases and replicating them. Without transparency, it's extremely difficult to ensure algorithmic hiring is unbiased. Some explainable AI using LASSO methods and decision trees avoids this. When HR departments don't use explainable AI, we recommend they run relatively simple A/B product testing when introducing ML into recruitment processes. For example, before signing up wholesale to any new ML tool to screen resumes and CVs, HR teams should conduct analytical comparisons.

The recruiting team should manually screen 1,000 CVs, then feed the same 1,000 CVs through the proposed ML recruiting screen. Compare the CVs that successfully pass the screen test for demographic outcomes (e.g., women or underrepresented groups). What are the differences in DEI outcomes when the screen is completed by humans or ML? Remember, there is both human and algorithmic bias—both require oversight and insight.[136]

TESTING RECRUITMENT MACHINE LEARNING FOR BIAS
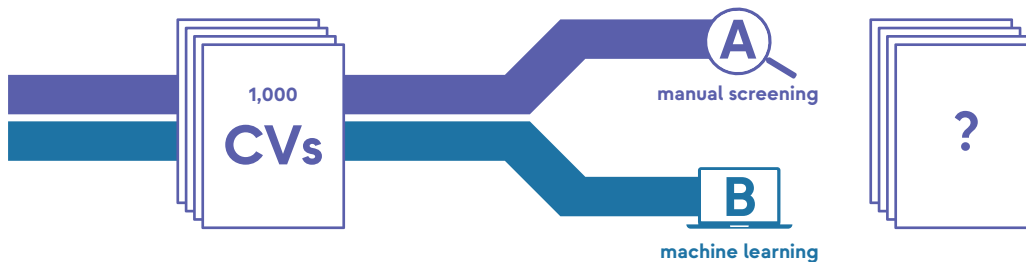
In summary, we suggest using ML and AI recruiting products with caution. Be aware of legal and statistical precedents to ensure algorithmic fairness, and proactively work to combat AI-generated bias.[137] Also be aware of questionable marketing claims used to sell unproven and sometimes unethical AI recruiting products to HR teams.[138] We recommend reviewing the Brookings Institution's brief [139] on AI, and Deloitte's Trustworthy AI Framework [140] (SEE ACTION 5.3 for how to address potential bias in your AI and ML technology).

4.3. DESIGN TALENT DEVELOPMENT, FEEDBACK, AND PROMOTION SYSTEMS TO MINIMIZE BIAS AND REWARD INCLUSION.

A. Reduce bias

→ **To reduce bias in performance rating instruments,** companies should use standard and specific rubrics and checklists for evaluation, and ensure that those rubrics are not themselves based on gendered or racialized notions of what constitutes good leadership.

→ **To reduce bias in the performance review process,** companies can use multiple sources of feedback (e.g., 360-degree evaluations) and formal practices rather than vague impressions. Examples include the evidence-based Structured Free Recall Intervention and having manager-peers review each other's name-redacted evaluations (see NCWIT's Talent Management Supervising-in-a-Box [141]).

→ **To reduce bias in group discussions around performance,** companies can use facilitators or take other actions to avoid groupthink, support genuine deliberation, and work against the inhibiting effect of power and personality differences.

PERFORMANCE REVIEWS AND PROMOTIONS

Bias in performance evaluations negatively impacts the career advancement prospects of women and people of color in myriad ways. For example, research about Harvard Business School graduates found that women and people of color receive less frequent and lower-quality feedback than majority group members.[142] Often, this arises from a manager's well-intentioned fear of saying the wrong thing or appearing overly harsh.

The result is that women and people of color lose the opportunity to improve their performance. Compared to their male peers, women get feedback that is less precise, contains less constructive criticism and more negative remarks about their personalities, is not connected to objective and observable business outcomes, and is therefore harder to act on.[143, 144]

Moreover, women are criticized while men are praised for the same behavior, and they face a double-bind wherein they are more likely to be deemed "unlikable" and otherwise penalized when they demonstrate competence and success.[145] In women's evaluations, success is attributed to luck or team effort more often than it is in men's evaluations.[146]

Even some types of self-evaluation are less fair to women and people of color. Self-promotion tends to be an unquestioned part of performance evaluation, but as Siri Chilazi, a research fellow at Harvard Kennedy School points out:

> **"Women [147] and people of color [148] tend to evaluate their performance less favorably than equally performing men and White people, respectively. Self-promotion can also lead to social costs for women." [149, 150]**

NCWIT's "Unconscious Bias, Performance Evaluation, and Promotion Fact Sheet"[151] highlights more findings from the vast body of research on this topic, and explains how unconscious bias is more likely under certain conditions.

B. Value and reward inclusion

→ **Ensure performance evaluation criteria and weighting systems** reflect that DEI is as important as other business imperatives. For example, introduce a specific assessment for all employees to evaluate their contribution to making the company more diverse and inclusive, which can take into account ERG leadership and/or their contribution to representation, hiring, and other DEI goals.

→ **Define attributes of inclusive behavior** and evaluate managers against these behaviors.

→ **Link team members' compensation to demonstration of inclusive leadership** and make demonstration of inclusive leadership skills a prerequisite for promotion.

4.4. REDUCE BIAS IN TASK ASSIGNMENT AND WORK ALLOCATION. INTRODUCE A PROCESS TO SPREAD STRETCH ASSIGNMENTS BEYOND FAVORED GROUPS.[152]

A. Ensure that people from underrepresented groups have access and support to take on stretch assignments and high-visibility projects.

B. Engage in NCWIT's suggested steps to support development, including:

→ **Assess selection criteria and curriculum** [153] for high-potential employee or leadership development programs.

→ **Consciously increase opportunities** for people from underrepresented groups to have greater visibility for their work.[154]

→ **Establish patenting learning communities** [155] to make patenting processes transparent [156] and increase diverse innovation. Patenting rates among women are extremely low. Patenting learning communities are organized groups where members can access advice and support to increase participation of women in the process.

→ **Counteract stereotype threats and other biases** by actively encouraging underrepresented employees to take on new roles and growth assignments.[157]

CAREER DEVELOPMENT AND ADVANCEMENT: WORK ALLOCATION

People can build their talents through exposure and stretch assignments. Unfortunately, extensive research on what's known as "performance support bias" [158] has shown that supervisors often allocate work in a way that results in women [159] and people of color [160] having fewer stretch or challenging opportunities and experiences that are critical for career progression.[161] Moreover, women are more likely to be asked to do, and to volunteer for, non-promotable tasks that take time away from promotable work.[162, 163]

TASK ASSIGNMENT ASSESSMENT

NCWIT Task Assignment Toolkit[164] recommends asking the following:

1. Are some team members assigned more frequently to highly visible tasks or projects?

2. Are other talented team members missing out on these assignments, perhaps because they are quieter or because their potential has been overlooked?

3. Are some team members more frequently assigned to high-risk projects? Why or why not? Examine criteria used for assigning tasks.

4. Make explicit your criteria for assigning tasks for each project and ensure they are relevant to those projects. For example, supervisors sometimes avoid assigning important projects to team members who work flexible hours, even if that schedule would not impair their ability to do the job.

TOP TIPS

→ Watch for patterns where team members perform stereotypically gendered roles. Research illustrates that women more frequently take notes or take on "office housework" (e.g., organizing logistics, social events, etc.).

→ Avoid or interrupt comments like "women are more social" or "men are better problem-solvers." These comments reflect a misunderstanding of gender-difference research and exaggerate its findings.

→ Avoid the glass cliff phenomenon of giving projects that are more likely to fail to employees from underrepresented groups.

4.5. IMPROVE SPONSORSHIP, ALLYSHIP, AND MENTORSHIP OPPORTUNITIES, AND ENSURE THE OPPORTUNITIES YOU PERSONALLY PROVIDE ARE BALANCED AMONG DIFFERENT COMMUNITIES.

A. **NCWIT found that women tend to be over-mentored and under-sponsored.**
The distinction is important because,

> **"Mentoring helps traverse the organizational maze but sponsoring helps to change it."** [165]

In short, mentors advise, while sponsors use their social capital to actively cultivate opportunities for sponsorees. Senior leaders can serve as role models, open doors to new opportunities, offer support during setbacks, and provide honest feedback.[166, 167]

B. **Leaders in mentor and sponsor roles should receive training and resources**
to play these roles effectively, and must be in a position to champion and advocate on behalf of their mentees/sponsorees. It's important that companies recognize and reward employees who play these important roles by making it part of their performance evaluation.

4.6. USE ERGS TO SUPPORT EMPLOYEE DEVELOPMENT, CREATE COMMUNITY, AND CONTRIBUTE TO BUSINESS OBJECTIVES, BUT NOT AS A SUBSTITUTE FOR A DEI STRATEGY.

ERGs and Business Resource Groups (BRGs) contribute to substantial DEI outcomes and—if their voice is valued—can create innovative product solutions. The cultural impact of successful ERGs cannot be overstated. Underrepresented groups in tech often report that it is *only* the community created by their respective ERGs that enables them to stay at a company. ERGs also provide people from underrepresented groups with opportunities to develop their leadership and technical skills by giving them visibility to leadership and the C-suite they may not have in their day jobs. ERGs are often significant repositories of untapped business knowledge, but typically lack budget, resources, authority, and allies, leaving members to feel that they are taking on additional work for little or no professional reward.[168] Therefore, ERGs should be properly resourced with structured lines of communication to leadership.

Consider the following when looking to strengthen the position of ERGs in your company:

A. **Support your ERGs** with sufficient resources (budget) and skills training. Provide ERG leads with access to leadership development programs.

B. **Allocate an executive sponsor** to each ERG, who can advocate for ERGs at a leadership level.

C. **Ensure that ERG leads have face time** with the executive team, ideally on a quarterly basis.

D. **Recognize and reward employees' contributions** to ERGs in performance reviews and/or by compensating ERG leads with an annual equity award.

E. Where appropriate, **link ERG objectives to company DEI strategic outcomes**.

F. **Create avenues for ERGs to voluntarily contribute** to business and product initiatives without transferring accountability to them. (Accountability must still remain with the relevant business team.)

4.7. EVALUATE WHAT WORKS AND WHAT DOES NOT, AND ITERATE ACCORDINGLY.

It is in the tech industry's DNA to test and evaluate products to see what works, learn from what doesn't, pilot, and iterate. To stay ahead, the tech industry must apply its characteristic rigor to the practices, procedures, and product innovation that will drive DEI outcomes—and then share what worked and what didn't.

AI is an obvious place to apply A/B testing and evaluation methods. For example, instead of just rolling out a new AI tool to all, one company ran all applicants through their traditional system and, in parallel, through an AI tool they were considering. They learned that the AI tool decreased the diversity of the finalists, so the company decided not to use it. Any new hiring protocol or performance appraisal should be tested to see if it works for *all* groups or whether it impacts groups differently.

Evidence suggests that A/B tests on various HR practices and procedures can yield important insights that help improve DEI outcomes.[169] One A/B test on the information provided to job applicants found that when employers indicated that pay was negotiable, the typical gender gap in pay disappeared. Many women fear that they violate a social norm when negotiating—unless invited to do so. Therefore, if a company wants to close the gender pay gap, they should be transparent about what is negotiable.[170]

Another A/B test found that the number of attendees impacted a workshop's efficacy. In a workshop designed to increase awareness of gender bias in academic medicine, science, and engineering, and motivate people to habitually promote gender equity, it was important that a critical mass attend.[171]

A/B tests of interventions to decrease microaggressions,[172] increase women's representation in senior roles,[173] take bias out of standardized tests such as the SAT,[174] and even diversify Nobel laureates [175] resulted in concrete lessons about what works. The industry doesn't need to reinvent the wheel. There are plenty of resources on how to conduct an A/B test in organizations, and evidence on what works is increasing as more organizations start to evaluate and share their learnings.[176, 177, 178] The tech industry should prioritize this kind of testing and evaluation for DEI going forward.

TOOL KIT ⧉

MENTORSHIP AND SPONSORSHIP

NCWIT: Mentoring-in-a-Box Guide

NCWIT: Sponsorship Toolkit

....

ERGS

Indeed's Guide to ERGs

Interview with Diversity Consultant Leah Kiayo

Mercer Report ERGs Come of Age

....

DISABILITY:IN FACT SHEETS

BRG Ableism/Audism

BRG Executive Sponsor Role

BRG Facility Access

BRG Intersectionality

CONTEXT (ROOT CAUSES AND THE WHY)

ERGs have their roots in the Civil Rights Movement in the United States. In 1964, the former CEO of Xerox, Joseph Wilson, came up with the idea in collaboration with Black employees in response to the race riots that occurred in Rochester, New York, where Xerox was headquartered. In 1970, Wilson and Xerox's Black employees launched the National Black Employees Caucus to create a space for Black employees to discuss their experiences and advocate for change within their company. This caucus was the country's first official ERG.[179]

Since then, ERGs—also known as Affinity Groups or Business Resource Groups (BRG)—have been providing community and advocacy for underrepresented groups in companies across industries. Today, some ERGs have objectives that directly connect with advancing their company's business goals.

RECOMMENDATIONS FROM DISABILITY:IN

The U.S. unemployment rate for people with disabilities is almost double that of those without disabilities. Worldwide, there are over 1 billion people with disabilities, of which 386 million are working age—**and their unemployment rate is as high as 80% in some countries.**[180]

1. Cultural change requires sustained, visible leadership to create a workplace that embraces people with disabilities and values the creativity and innovation that result from a truly diverse workforce.

    → **Promote visible CEO commitment** through avenues such as the CEO Letter on Disability Inclusion.[181]

    → **Intentionally include disability** on a company's diversity statement and diversity annual report.

    → **Assign an executive sponsor** for disability inclusion initiatives.

    → **Establish an Office of Accessibility** that works closely with the Diversity Department to drive efforts and increase transparency and accountability across the company.

    → **Embed disability inclusion** across the enterprise through cross-functional teams led by an empowered project manager who is an internal disability inclusion champion.

2. Use benchmarking tools like the Disability Equality Index[182] to celebrate accomplishments and identify opportunities for improvement in advancing disability inclusion across the company.

3. Ensure employment practices fully incorporate and include individuals with disabilities:

    → **Require mandatory annual training** for managers and employees on disability inclusion.

    → **Offer well-publicized and effective centralized accommodations policies** and practices for applicants and employees.

    → **Ensure facilities and emergency-evacuation procedures** consider the needs of people with disabilities.

    → **Engage in targeted creative outreach** and recruitment initiatives for candidates with disabilities. Establish partnerships with dedicated sourcing channels.

    → **Allocate a disability strategist** and/or disability talent acquisition-focused role to elevate the importance of a diverse workforce that includes veterans and individuals with disabilities.

    → **Provide retention and advancement programs** to address the unique needs of individuals with disabilities. Engage with BRG/ERG members to determine mentoring programs, benefits offerings, flexible workplace components, and accommodations offerings that support employee retention.

    → **Ensure employees with disabilities are included in internal development programs** such as rotational, high potential, leadership development, and succession plans.

RECOMMENDATIONS FROM DISABILITY:IN (CONTINUED)

4. Set specific company-wide disability hiring goals and hold executive leadership accountable for meeting them with the same accountability mechanisms used for other hiring goals.

5. Ensure disability inclusion practices are implemented in global operations to demonstrate worldwide commitment, while also addressing country-specific disability hiring quotas.

6. Engage with industry peers through programs such as Disability:IN Inclusion Works[183] to learn best practices and encourage cohort comparisons and friendly competition.

DISABILITY:IN RESOURCES[184]

→ Getting Started with Disability Inclusion—Disability:IN's checklist of best practices

→ 2020 Disability:IN's Disability Equality Index Report

→ Disability Inclusion Global Best Practices Report

→ Disability Fundamentals Training for Managers

→ Disability Etiquette—A Starting Guide

→ Disability Inclusion Employment Best Practices

→ Autism @ Work Playbook

→ Centralized Reasonable Accommodations Fund

→ Disability Inclusion Posters

ACTION 5

Apply both a DEI framework and an ethical framework to the design of products and services.

The tech industry is not alone in its responsibility to address long-standing inequity, but it is disproportionately powerful and influential far beyond its own workforce. The tech industry's products, tools, and services help determine the news we consume and share; whether we get a mortgage or job interview; the quality of medical care we receive; how and with whom we communicate—indeed, the very foundations of democracy. Therefore, the industry must take great care in the design of products and technology that have an outsize impact.

This section provides a starting point for how tech companies can think about applying a DEI framework to their products and services. Each company must take its own path, but the goal is the same: to be more inclusive at every stage of product development. Although tackling online harm (including hate speech, cyber bullying, harmful online content, child sexual exploitation, and many other forms of cyber abuse) is beyond the scope of this report, it is clear that companies must introduce a holistic approach to bias mitigation and harm reduction in their products, business models, and decision-making. Moving forward, responsible innovation will apply ethics-based and human-rights approaches to every stage of the process, including initial design, customer experience, and societal impact.

HIGH LEVERAGE POINTS

MIDDLE MANAGERS   PRODUCT INCLUSION

CHANGE AGENTS

C-SUITE LEADERS   MANAGERS   TEAM MEMBERS   START-UPS

IN SUMMARY

5.1. Develop product inclusion principles and operationalize them throughout the product development process.

5.2. Prioritize accessibility in your products.

5.3. Address potential bias in your artificial intelligence (AI) and machine learning (ML) technology.

5.4. Consider how your company can mitigate harm from the application of your technology.

5.5. Increase representation and disrupt stereotypes in your original content, marketing, and advertising.

THINK BROADLY ABOUT PRODUCT INCLUSION

You don't have to manage a product to think about product inclusion. If you are not sure where to begin, first examine the institutions in which your product or service exists, identify the systemic barriers that exist within those institutions, and then proactively address them.

For example, many tech companies—from lenders to real estate to insurance—rely on credit scores. But what many teams don't consider is the well-documented effect of generations of racial bias on credit scores, and how that systemic bias might be affecting users.[185] Therefore, any product that relies on credit scores has an opportunity to apply an inclusion lens to their work.[186]

Every product and service connects to larger institutional barriers. For example, if your company focuses on education, consider how inequitable funding of public schools impacts your customer and product. Or perhaps your product inadvertently treats customers who have been through the justice system differently. When product managers actively consider barriers in the systems where their products operate, they can develop a DEI lens and apply their understanding to their businesses.

How to do it

5.1. DEVELOP PRODUCT INCLUSION PRINCIPLES AND OPERATIONALIZE THEM THROUGHOUT THE PRODUCT DEVELOPMENT PROCESS.

Product inclusion [187] is about creating products and services that reflect the world around us. This is a shift from the standard but outdated practice by tech companies of optimizing products and experiences for a narrow set of users. As a consequence, products gravitate toward the average, and tend to work well for majority groups and not as well for underrepresented groups. But,

> **"Average is not very meaningful when it comes to human beings, because it is normal to be different. Diversity is the norm and good design has to respond to that diversity."** [188]

It's important to co-create and collaborate when building products that will be used by others. In order to ensure you're bringing in perspectives from historically underrepresented users, look end-to-end at your product design and development process.

The first step is to develop the product inclusion principles that are best for your company. If your company already uses a larger ethical decision-making framework, ensure inclusion is a core principle in that framework.

The Head of Product Inclusion at Google and Founder of the Equity Army, Annie Jean-Baptiste, suggests that product inclusion should focus on three principles:

ADDRESS THE USER:
Consider race, gender, age, education level, ability, geographic location, and other dimensions of diversity when developing a product.

START WITH EQUITY:
Inclusion shouldn't be an afterthought. Make sure that under-represented voices are being heard throughout the product development process.

CONTINUALLY TEST:
To ensure products are inclusive, keep researching and testing **(SEE ACTION 4.7)**.
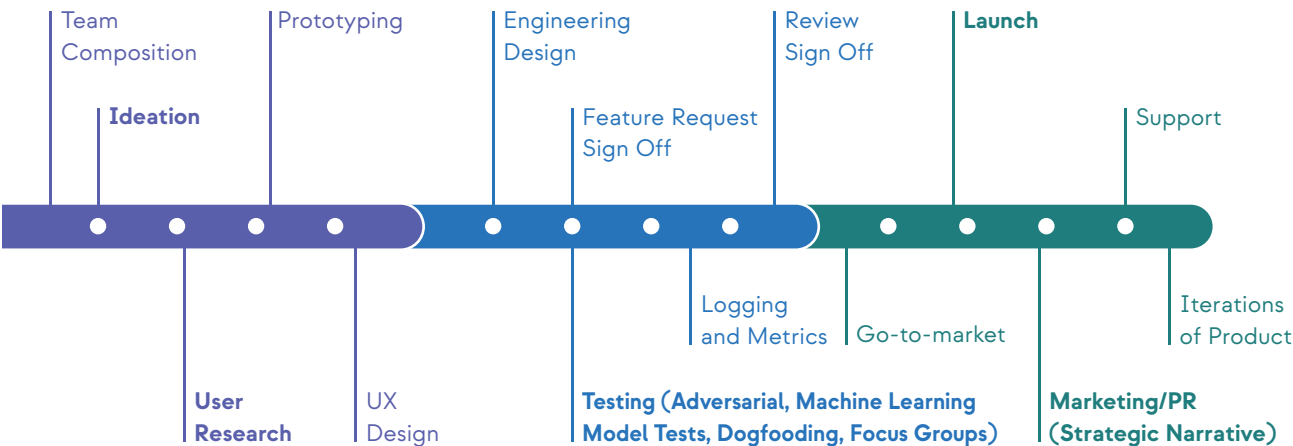
Incorporating the perspectives and user experiences of underrepresented groups will optimize the experience for everyone. For example, take the small ramps built into curbs to allow smoother passage onto a sidewalk. They were initially designed for wheelchair users, but now they benefit everyone from parents pushing strollers to cyclists.[189] When products are designed for those most excluded, they often improve the experience for many others. Moreover, once inclusive technology is widely used, it becomes normalized.

After codifying your product inclusion principles, you need a deliberate strategy for operationalizing those principles. At every point in the product development process—from ideation, to user research and design, to user testing and marketing— consider who else needs to be consulted and included. These principles must be grounded in a cross-company commitment and accountability at all levels.

Product inclusion is an end-to-end system and requires intentionality at each stage of the process. The diagram below identifies the highest leverage points that are key to successful, inclusive outcomes.

PRODUCT INCLUSION IS AN END-TO-END SYSTEM

While all inflection points in the process are important, Ideation, User Research, Testing, and Marketing (Strategic Narrative) are key to successful, inclusive outcomes.

Team Composition · Prototyping · Engineering Design · Review Sign Off · **Launch**

Ideation · Feature Request Sign Off · Support

Logging and Metrics · Go-to-market · Iterations of Product

User Research · UX Design · **Testing (Adversarial, Machine Learning Model Tests, Dogfooding, Focus Groups)** · **Marketing/PR (Strategic Narrative)**

Ideation, User Research, Testing, and **Marketing** have yielded results in practice and are our likely research focus areas.

IMAGE SOURCE:
Annie Jean-Baptiste, Google.

5.2. PRIORITIZE ACCESSIBILITY IN YOUR PRODUCTS.

Technology can be a game-changer for people with disabilities, many of whom rely on accessible devices, websites, and apps to do everything from ordering groceries to applying for jobs. Tech companies can create truly inclusive digital experiences that enhance people's quality of life and break down barriers that keep people with disabilities from achieving their full potential.

A. **Audit and enhance compliance** of internal and external websites under World Wide Web Consortium's Web Content Accessibility Guidelines 2.1 (W3C WCAG 2.1).[190] These guidelines provide comprehensive principles, guidance, and success metrics for making web content (across devices and platforms) more accessible to people with disabilities. The A11Y Project Checklist [191] can help you check your WCAG compliance.

B. **Test your content** with users who understand how people with different types of disabilities use technology, and include users with disabilities in test groups when performing human testing.[192]

C. **Include accessibility** in your inclusive-design principles and seek cross-disability community input to ensure company products and/or services are accessible to both employees and customers with disabilities.

POUR—THE FOUR PRINCIPLES OF ACCESSIBLE WEB CONTENT

WCAG's approach to creating accessible web content is based on four foundational principles: *perceivable, operable, understandable, and robust* (POUR). The guidelines provide detailed guidance on each of these, but W3C provides the following summary on its website:[193]

PERCEIVABLE

→ Provide text alternatives for non-text content.

→ Provide captions and other alternatives for multimedia.

→ Create content that can be presented in different ways, including by assistive technologies, without losing meaning.

→ Make it easier for users to see and hear content.

OPERABLE

→ Make all functionality available from a keyboard.

→ Give users enough time to read and use content.

→ Do not use content that causes seizures or physical reactions.

→ Help users navigate and find content.

→ Make it easier to use inputs other than a keyboard.

UNDERSTANDABLE

→ Make text readable and understandable.

→ Make content appear and operate in predictable ways.

→ Help users avoid and correct mistakes.

ROBUST

→ Maximize compatibility with current and future user tools.

5.3. ADDRESS POTENTIAL BIAS IN YOUR ARTIFICIAL INTELLIGENCE (AI) AND MACHINE LEARNING (ML) TECHNOLOGY.

As the Algorithmic Justice League puts it,

> **"Unchecked, unregulated and, at times, unwanted, AI systems can amplify racism, sexism, ableism, and other forms of discrimination."** [194]

Therefore, any company that wants to de-bias its technology must take a rigorous and cautious approach to introducing AI without A/B testing (SEE AI IN RECRUITING). Machine learning learns from existing data, which means that if a data set is based on a White majority, the product evolves based solely on that information and can discriminate against those outside that data set.

In addition to establishing policies to proactively mitigate algorithmic bias, companies must ensure that the researchers and engineers building these systems are diverse on multiple dimensions. A Columbia University study found that,

> **"The more homogenous the [engineering] team is, the more likely it is that a given prediction error will appear."** [195]

Homogenous teams with similar backgrounds are often unaware of the problems facing underrepresented groups, leading to the unconscious introduction of bias into AI systems.

GLAAD'S RECOMMENDATIONS FOR HOW TO MAKE SOCIAL MEDIA SAFER FOR LGBTQ+ USERS

GLAAD released its Social Media Safety Index in May 2021, outlining general recommendations relevant to social media platforms around LGBTQ+ self-expression, privacy and outing, and mitigating anti-LGBTQ+ hate.[196]

KEY TAKEAWAYS

→ **Stop allowing algorithms** to fuel extremism, disinformation, and hate.

→ **Similarly, confront the problem of bias in AI,** which disproportionately impacts LGBTQ people and other marginalized communities. Consider using more human moderators who are appropriately trained to identify cultural biases.

→ **Make it easier for users to report problematic content,** and be transparent in content moderation.

→ **Employ a dedicated LGBTQ policy lead,** and take leadership in civil discourse.

→ **Respect data privacy,** especially where LGBTQ people are vulnerable to serious harm and violence.

→ **Only select platforms currently take action on violent speech and misinformation,** usually by monitoring trending topics for misinformation, restricting hashtags or shares, or posting labels on misinformation. When it comes to anti-LGBTQ misinformation, enforcement is arbitrary at best.

MITIGATING BIAS IN AI: HAAS SCHOOL OF BUSINESS AT UC BERKELEY

To go beyond general guidelines, the Center for Equity, Gender, and Leadership (EGAL) at the Haas School of Business at the University of California, Berkeley released a playbook that provides a comprehensive bias in AI map and notes specific actions that business leaders can take to effectively mitigate bias in AI technology. The playbook outlines "strategic plays" in three areas:

TEAMS

→ Enable diverse and multidisciplinary teams to research, develop, operationalize, and manage algorithms and AI systems.

→ Promote a culture that encourages employees to prioritize equity throughout the process of developing AI. Be transparent about shortcomings.

AI MODEL

→ Practice responsible data set development, including by gathering inclusive data.

→ Establish policies and practices that actively check and mitigate bias in algorithm development.

CORPORATE GOVERNANCE AND LEADERSHIP

→ Establish corporate governance for responsible AI and end-to-end internal policies to mitigate bias.

→ Engage corporate social responsibility (CSR) teams to advance responsible AI and larger systems change.

→ Use your voice and influence to advance industry change and regulations for responsible AI.

For more information and how-to guidance on the strategic plays, as well as quick wins to take advantage of, explore the playbook from the Berkeley Haas School of Business.[197]

Also see the Algorithmic Justice League's Equitable and Accountable AI.[198]

5.4. CONSIDER HOW YOUR COMPANY CAN MITIGATE HARM FROM THE APPLICATION OF YOUR TECHNOLOGY.

It's not enough to consider DEI throughout the development of a product and service and then simply drop it into the world with no accountability for its effects. Tech companies must also anticipate and then mitigate the harm that their technology might cause, not only to individuals or marginalized groups but to society at large. For example, tech companies that create platforms must think about moderating content that causes harm to specific groups, or might even risk public health or trust in democracy (e.g., the proliferation and spread of conspiracies and fake news), and consider limiting the reach of individuals who are causing that harm.

Moreover, tech companies must consider who uses their technology and products, and to what end. Is an authoritarian country using surveillance technology to oppress an underrepresented or marginalized group or, conversely, demanding changes to a product as a means of repression? It's not possible to anticipate every dilemma tech companies will face—but it is possible to develop clear and transparent ethical guidelines that have internal buy-in and can be deployed when wrestling with difficult ethical questions.

For example, Microsoft developed what they call Responsible AI, which is their framework for advancing AI using clearly articulated ethical principles. One result is that the company limits the use of its facial-recognition technology by police because of concerns that the technology is less accurate with darker skin tones and could lead to people being unfairly arrested.

WORLD ECONOMIC FORUM AND BSR'S FRAMEWORKS FOR RESPONSIBLE INNOVATION

The World Economic Forum, in partnership with BSR, released a framework for responsible innovation that combines ethics-based and human-rights approaches and applies them at every stage of the process, from initial design to customer experience. The framework breaks down the life cycle of disruptive technology into three main phases:

1. **How they are designed** and developed.

2. **How they are deployed** and who they are sold to.

3. **How they are applied** and used by an individual or entity other than the original creator.

At every phase, companies should be intentional about incorporating ethics and human rights-based approaches, and be clear about who is responsible at each step.

ETHICS-BASED APPROACHES

→ A framework for decision-making in situations where right and wrong, good and bad, are not clearly defined.

→ Address issues of fairness and social justice where different schools of thought and ethical standards exist—when various choices can be made and different paths can be chosen.

→ Different traditions, cultures, countries, and religions may choose different outcomes and priorities suited to specific needs and sensitivities.

HUMAN RIGHTS-BASED APPROACHES

→ A focus on the experiences of the most vulnerable, and a holistic recognition of what all members of society need in order to live with dignity and thrive.

→ Based on internationally recognized laws and standards; a common standard of achievement for all people. Established rights that should always be protected and respected.

→ A minimum threshold and baseline expectation for the responsible use of disruptive technology.

→ An internationally endorsed framework for defining company responsibility that considers the critical role of governments.

Excerpt from World Economic Forum & BSR. (2019). Responsible Use of Technology [White Paper].[199]

5.5. INCREASE REPRESENTATION AND DISRUPT STEREOTYPES IN YOUR ORIGINAL CONTENT, MARKETING, AND ADVERTISING.

Representation in media matters. The stories companies choose to tell and the faces and voices they choose to highlight send a message to consumers and candidates about who matters most. Those stories also have the ability to reinforce or disrupt existing stereotypes. For example, nearly two-thirds (63%) of women who work in STEM say the character of Dana Scully from the 1990s television show *The X-Files* served as their role model.[200]

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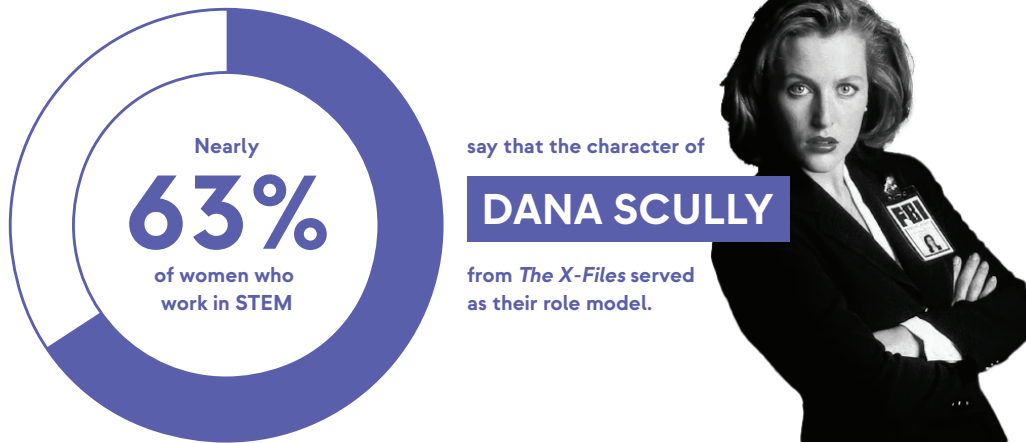
Photo courtesy of Twentieth Century Fox Film Corporation.

Using your communications platforms to include talent from underrepresented groups has the dual objective of increasing the diversity of your marketing assets, while also rooting out stereotypes from your own work.

A. Originate creative concepts and stories from a diverse group of creators (above and below the line).

B. Use agencies that promote diverse creators, storytellers, and both on- and off-screen talent.

C. Introduce content and/or commissioning guidelines to help content creators incorporate DEI during concept development, filming, and/or asset creation:

→ Include guidance to address underrepresentation on-screen in lead and secondary characters, portrayal of characters from underrepresented groups and their role in primary and secondary story lines, themes or narratives, casting choices, and project location (e.g., see the British Film Institute's Diversity Standards).[201]

→ Consider the diversity of your own off-screen creative leadership and associated project teams.

D. Train your content team and agencies to be aware of stereotypes and intentionally manage positive portrayals of all people.

E. Consider auditing your marketing assets, advertising material, and other media content to understand who is and isn't represented in your content.

THE UNSTEREOTYPE ALLIANCE "3PS" FRAMEWORK FOR MARKETING COMMUNICATIONS

The Unstereotype Alliance created a simple framework to help develop and evaluate creative content for progressive portrayals of all people. The guidance is designed to eradicate harmful stereotypes and bias throughout the entire creative process. It features three Ps—*Presence, Perspective, and Personality*—and includes questions that can serve as a checklist of considerations when creating and evaluating content.

PRESENCE: FOCUSES ON WHO IS BEING FEATURED IN THE AD

Many kinds of people are completely absent from communications—and to see your own image entirely erased in the culture that surrounds you is deeply disempowering.

→ Who is portrayed in the communication? Who is the central character?

→ Does the communication feature a range of people that are representative of the cultural and ethnic mix in the market?

→ Do the characters go beyond being a 'mannequin' for the product?

→ Has the character been taken into consideration in the context of the copy, clothing, positioning, naming, etc.?

PERSPECTIVE: FOCUSES ON WHO IS FRAMING THE NARRATIVE

Who seems to be directing the action? Who is the person whose perspective is represented?

→ Do we see the personal experience and perspective of the character?

→ Who is driving the narrative?

→ Is there any objectification or sexualization?

→ Is this work challenging outdated perspectives in society about people/ communities/relationships/norms?

PERSONALITY: FOCUSES ON THE DEPTH AND AGENCY OF THE CHARACTER

Characters should have three-dimensional personalities that feel authentic—funny, caring, strong, thoughtful, and respected.

→ Do the characters come across as empowered and in control of their lives?

→ Do the characters have three-dimensional personalities?

→ Is beauty a dimension of personality rather than just about physical appearance and attraction?

→ Is there a stereotypical interpretation of beauty?

CASE STUDY: AMAZON STUDIOS' INCLUSION POLICY AND PLAYBOOK

In 2021, Amazon Studios introduced an Inclusion Policy[202] and Inclusion Playbook[203] to improve representation both on camera and behind the scenes. The Inclusion Policy lays out Amazon Studios' expectations for its internal teams and creative partners. It aims to tell stories that amplify the voices of characters across the spectrum of diversity—including race, ethnicity, nationality, sexual orientation, age, religion, disability (including mental health), body size, gender, gender identity, and gender expression. It also aims to create an inclusive production environment. The policy covers developing stories and characters, hiring and production, reporting and documentation, and a commitment to accountability. Amazon Studios will track data to hold itself and its partners accountable.

The Inclusion Playbook is a practical guide for the company and its partners on how to make good on these commitments by minimizing and disrupting biases at every step of the production process.

People who engage with the Playbook will learn to:
→ Make inclusive decisions, while telling authentic stories and hiring the best people for the job.
→ Know where to go for help, including tools to make inclusive decisions.
→ Identify criteria for making informed and consistent creative choices.
→ Foster curiosity and ask questions to disrupt the status quo about how things are done or expectations about what storytellers want/do not want.

As part of this work, Amazon suggests "10 Gut Questions" to ask in any storytelling project:
1. Are we celebrating people of different ages, body types, skin colors, orientations, ethnicities, identities, and disabilities?
2. Do we showcase customers in a variety of relationships and roles?
3. Is there a diverse character for a primary role (e.g., speaking role vs. background)?
4. Does the diverse character feel tokenized or "othered"?
5. Is the diverse character defying stereotypes and respecting life experiences?
6. Is the diverse character in a position of empowerment?
7. Have we highlighted different environments, from urban to rural?
8. Have we represented people from different socioeconomic backgrounds?
9. Any cultural appropriation watch-outs?
10. Do these stories communicate a variety of cultural experiences relevant to the audience?

These gut questions—and, indeed, the entire Playbook—can be used widely beyond the entertainment industry, in marketing, advertising, PR, communications, and even product development.

The ACT Report
Action to Catalyze Tech: A Paradigm Shift for DEI

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