

# Fewer sleepless nights

How leaders can build a culture of responsibility in a digital age

Fewer sleepless nights

Deloitte's Human Capital professionals leverage research, analytics, and industry insights to help design and execute the HR, talent, leadership, organization, and change programs that enable business performance through people performance. Visit the Human Capital area of [www.deloitte.com](http://www.deloitte.com) to learn more.

# CONTENTS

## **Culture in the digital workplace | 2**

## **Building the bonds | 4**

The three Rs of assuming responsibility

## **Breaking the bonds | 7**

Three impacts on responsibility in a digital environment

## **Rethinking the environment | 10**

Three ways to strengthen the pillars of responsibility in a digital age

## **Endnotes | 14**

# Culture in the digital workplace

As leaders climb the career ladder, increase their span of control, and find themselves navigating higher levels of organizational complexity, the art of letting go can become paramount to their success. Effective leadership often means handing your projects over to other members of the team and empowering them to guide those projects to successful completion. It can mean feeling confident as a leader that your team will produce results at the same high standards to which you hold your own work. It likely means trusting employees to feel responsible for the outcomes of their work, and to put in the necessary effort and oversight to ensure a project's success.

**B**UT what if your employees *don't* feel that sense of personal responsibility?

And worse: What if something goes wrong as a result?

Welcome to a common problem that often leads to sleepless nights for far too many leaders. Projects fall apart and mistakes happen in the workplace for many reasons, and instilling in employees a sense of personal responsibility over project outcomes can be difficult even in the best of times. For as old as this leadership challenge is, however, it may pose a bigger difficulty now than ever before, due in part to the ubiquitous digital connectivity inherent in the fourth Industrial Revolution, also known as Industry 4.0.

For further information about Industry 4.0 and the ways in which it transforms organizations and their workforces, please see [Industry 4.0 and manufacturing ecosystems: Exploring the world of connected enterprises](#).

To be sure, the connectivity of the Industry 4.0 era seems to represent an overall positive shift for companies. But when every part of the business—financial, production facilities, and even external partners and customers—is connected, digitized, and increasingly transparent, the amount of information available can be staggering.<sup>1</sup> Further, the stakes are often higher: Broad interconnectivity can mean that a poor outcome in one node can amplify across the whole ecosystem, extending the ripple effects further than ever before.<sup>2</sup>

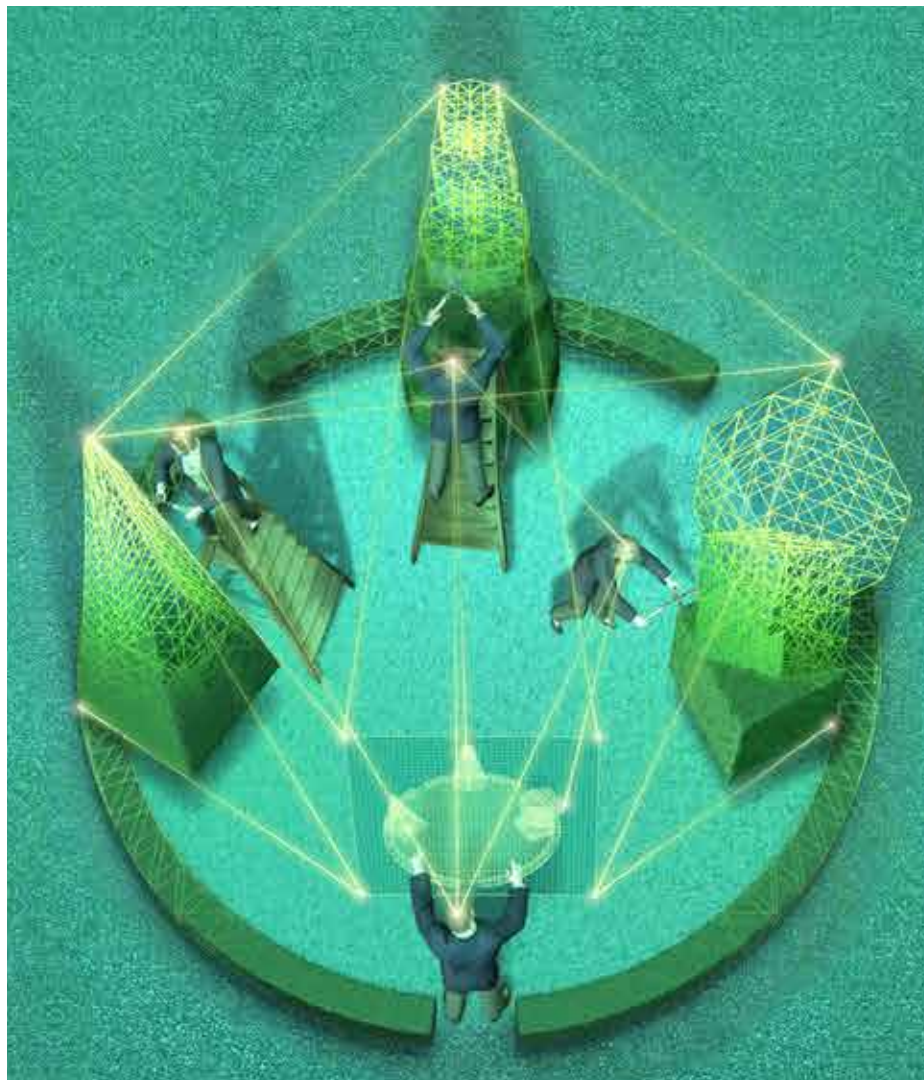
Yet while the digital environment can amplify mistakes, often overlooked in the rise of the digital workplace could be how it *also* typically shifts the ways in which workers experience their day-to-day jobs. This shift is likely no less important. For example, many in-person relationships have suffered with the onset of digital, connected technologies, weakening connections and commitments to others in the workplace.<sup>3</sup> Shifting jobs and flexible teams can make it harder to define who we are responsible to—and what we are responsible *for*—in many organizational contexts.<sup>4</sup> These changes can make it difficult to distinguish the roles and rules of the new,

digitally driven workplace, so many workers could simply lack the necessary information to make the right choice.

In short, digital technologies can contribute to a lack of clarity around the *roles*, *rules*, and *relationships*—making *responsibility*, or the choice to take ownership all the way to the end outcome, more difficult in today’s workplace. As we will explain, these three pillars should be in place for one to take responsibility. A lack of clarity in just one of these areas can weaken one’s sense of responsibility for a work-related outcome. Thus, as a leader, it’s usually important to instill strong clarity around rules, relationships, and roles before handing off a high-stakes project to your team. Because let’s face it, as

the leader, you would ultimately be held responsible for your team’s mistakes.

Within this article, we examine these three sides of the responsibility triangle—roles, rules, and relationships—that contribute toward building a culture of responsibility within an organization. We explore three major ways the digital environment can cause each of the sides of the triangle to collapse, while making the consequences of irresponsible actions more widespread. Finally, we offer three organizational-level strategies that could help managers design environments that strengthen the three pillars, infusing a sense of responsibility to employees in a digital age.



# Building the bonds

## The three Rs of assuming responsibility

**W**E define *workplace responsibility* as making the intentional choice to assume ownership over the outcome of a work-related decision or process.<sup>5</sup> This is the choice we consciously make, *prior to our action*, to answer for the result. In contrast, the rational process that occurs *after the behavior* is the process of assigning accountability, or blame.<sup>6</sup> While these two concepts are similar, our paper focuses on the decision-making or choice that occurs *prior* to the behavior itself. As we will discuss throughout, the digital environment can make it increasingly easier for employees to diffuse their sense of responsibility prior to an action.

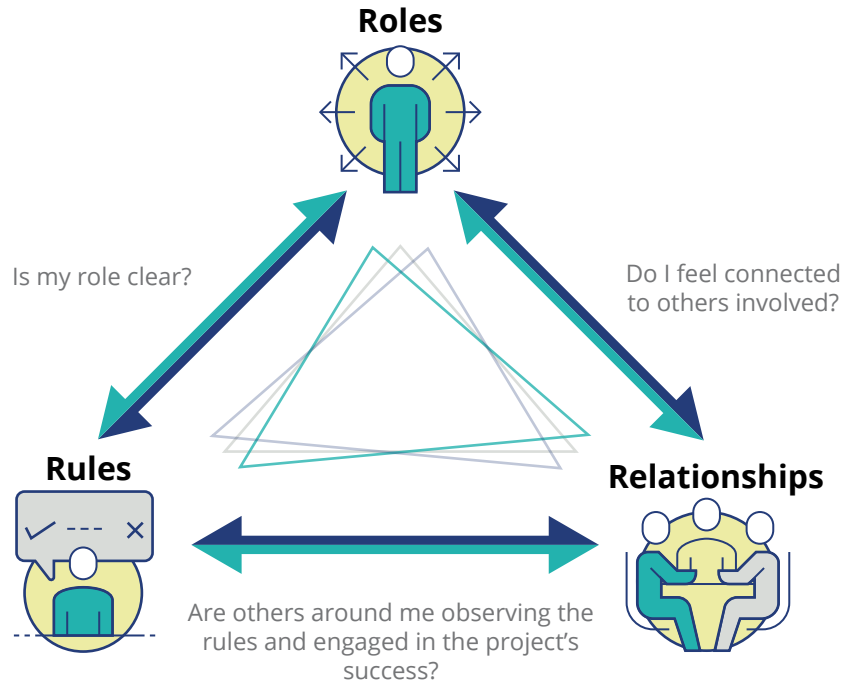
Several factors can help determine whether employees assume responsibility for the outcome of their work. Research suggests that people are more likely to take this type of ownership when they have a strong understanding of the rules, a network of connected relationships, and an understanding of their role within a larger system.<sup>7</sup> (See the sidebar “About the research” for further details.) We refer to these crucial areas as the three Rs: a set of interconnected criteria that must be met for an acceptable level of responsibility to be assumed (figure 1).

### ABOUT THE RESEARCH

Barry Schlenker, emeritus professor of psychology at University of Florida, discovered that individuals with a strong sense of responsibility prior to an action were much more likely to commit to higher levels of performance, persist longer, and perceive greater ownership over the results.<sup>8</sup> Schlenker and associates conducted a variety of lab experiments to determine what factors went into an individual taking responsibility prior to action. Three factors arose as statistically significant predictors of responsibility—a strong sense of identity, a keen understanding of the rules, and a sense of obligation or duty to others. We have translated these academic empirical findings into the three Rs model (see figure 1), which allows business professionals to apply years of psychology research to workplace contexts.

Schlenker and associates’ research findings were then tested against real-world environments. For example, Thomas Britt, professor of psychology at Clemson University, found that soldiers’ psychological engagement during military missions on the battlefield were a direct function of how strongly their roles, rules, and relationships were defined.<sup>9</sup> Another study conducted in a classroom found that a student’s actual performance could be predicted by how strong their responsibility beliefs (three Rs) were prior to the exams. Finally, within an organizational context, research found that over 50 percent of an employee’s willingness to help was explained by their personal responsibility beliefs.<sup>10</sup> These research studies also suggest that the level of responsibility people presume prior to an action predicts how much effort and engagement they will likely put toward its success.

**Figure 1. The three Rs of responsibility**



Source: Adapted and modified from Barry R. Schlenker, "Personal responsibility: Applications of the triangle model," *Research in Organizational Behavior* 19, 1997, p. 241.

Deloitte Insights | [deloitte.com/insights](https://deloitte.com/insights)

Researchers have referred to these three factors as the *psychological glue* that attaches an individual to the end outcome. The three Rs are the markers, or checkpoints, that people often use to determine their level of engagement in, and willingness to take ownership of, a task.

The three pillars of responsibility, which help determine the level of motivation employees have toward owning an outcome are defined as:

**ROLES: IS MY ROLE CLEAR?**

Role clarity is the extent to which individuals understand their areas of responsibility and the impact they can make to the organization. This pillar is often essential to enabling employees to see how their work impacts a larger purpose.<sup>11</sup> Employees who experience strong role clarity are more likely to feel a sense of identification with the organization and may willingly invest more energy toward positive outcomes.

**RULES: ARE OTHERS AROUND ME OBSERVING THE RULES AND ENGAGED IN THE PROJECT'S SUCCESS?**

Rules encompass the explicitly communicated processes, as well as the implicit social norms, that govern the *right thing* to do in a particular context. Rules set the boundaries for engagement and provide a mutual understanding of how to assess what is "right" within a specific context. Outmoded rules or a general apathy of others toward policies can create confusion on how work actually gets done within an organization.

**RELATIONSHIPS: DO I FEEL CONNECTED TO OTHERS INVOLVED?**

Relationships describe the strength of interpersonal trust, or connectedness, among the individuals involved, and the feeling that team members are invested in each other's growth and development. Stated simply, it's the belief that others have your back. Research has found that individuals are more

---

By providing a sense of ownership through strong role and rule clarity, as well as connecting individuals to others within the organization through interdependent relationships, leaders can help provide the necessary infrastructure for responsibility.

---

willing to take responsibility when they believe others are supportive and invested in their overall success at work.<sup>12</sup>

These three pillars can govern how much effort and attention employees expend toward their work, and can help determine the extent to which they believe themselves responsible for the outcome. A lack of clarity or a sense of weakness in any of the

three Rs can result in the individual detaching from the outcome, causing the triangle to collapse on itself and giving rise to some familiar excuses: *It isn't my job. I don't think the rules apply here. I don't feel supported.* By providing a sense of ownership through strong role and rule clarity, as well as connecting individuals to others within the organization through interdependent relationships, leaders can help provide the necessary infrastructure for responsibility.

Keeping the three pillars of responsibility strong can prove challenging even in the best of situations. Just think through how difficult it is to keep up with everything your team has to do within your organization, and how challenging it can be to ensure timely updates and communication of progress. A digital environment could further complicate this process, by placing workers further away from each other and environmental cues that help determine who has responsibility, and removing the social guardrails—those unspoken, invisible societal norms that encourage and even pressure preferred behavior—that prevent them from easily opting out.

In the following section, we'll look at three ways digital technologies may change the workplace environment and potential subsequent effects on roles, rules, and relationships—and thus, by extension, on personal responsibility.



# Breaking the bonds

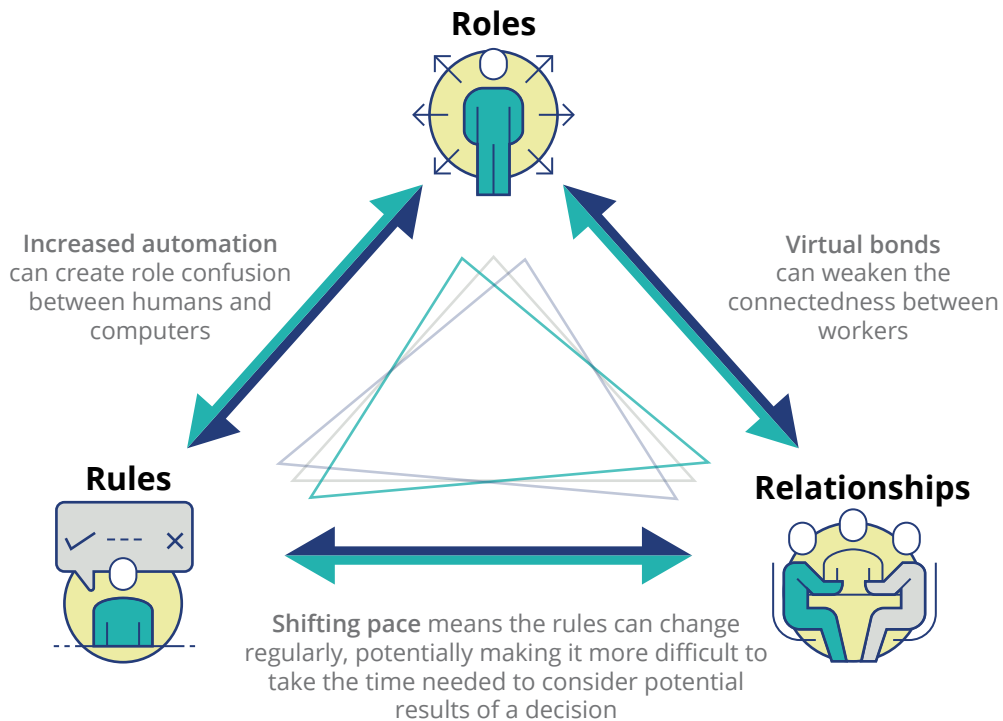
## Three impacts on responsibility in a digital environment

**T**HE rise of digital technologies makes work more convenient, sometimes with the unintended consequence of reducing workers' senses of responsibility in the workplace. Here, we examine three digital environmental trends that may impact the bonds of roles, rules, and relation-

ships in ways that may reduce the level of responsibility a worker takes for their work. These are (figure 2):

- The rise of virtual bonds and remote work
- Increased automation
- The shifting pace of work

**Figure 2. Digital roadblocks to the three Rs of responsibility**



Source: Deloitte analysis.

Deloitte Insights | [deloitte.com/insights](https://deloitte.com/insights)

## Virtual bonds: A growing alternative workforce can disconnect workers, weakening the bond between roles and relationships

Remote work has grown in popularity in recent years and technological advancements have made virtual teams not only feasible, but highly productive.<sup>13</sup> Workforce models are also changing, making way for more alternative forms of work beyond the traditional full-time, on-campus employee model; remote work, contract work, and gig economy workers comprise a growing portion of the worker population.<sup>14</sup>

A side effect of this trend is that relationships among workers, and bonds with their leaders, can be more tenuous than in the past, with fewer opportunities to build ties based on experience and mutual trust.<sup>15</sup> One aspect of virtual teams is that they have been shown to reduce individuals' perception of the social presence of those who are not physically present, potentially weakening mutual feelings of obligation and increasing the sense that remote coworkers are less competent, reliable, and trustworthy.<sup>16</sup> A possible result of this cascade of effects is that workers may find it easier to blame mistakes on others, or feel less tied to the success of their leaders.<sup>17</sup>

## Increased automation: Excessive trust in machines and distance from outcomes can weaken the bond between roles and rules

As many repetitive, predictable tasks—from answering customer calls to manufacturing—grow increasingly automated, workers can become more decoupled from many of the tasks they used to do themselves. Even with constant monitoring, technology simply cannot provide the same social guardrails against mistakes that another human would.

Just as, or perhaps because, data never sleeps, employees are increasingly expected to be always-on and agile, able to leverage new information to make decisions and act upon them as-needed, on-demand, and in real time.

Reliance on automation may even lower barriers to error when, absent input from other humans, they consider the machine to be “in charge.”<sup>18</sup> This tendency is known as *automation bias*: humans accept the machine's answer as correct, ignoring conflicting information or their own instincts.<sup>19</sup>

We often see such philosophical discussions in the military, where the use of autonomous systems has been a source of significant debate focused on the potential to “destabilize traditional norms of military virtue,” resulting in “moral deskilling” where the face-to-face element is removed from military missions.<sup>20</sup> Researchers have found, for example, that people are more inclined to treat each other poorly, when high levels of automation are present, even noting, “Dehumanization is salient to the domain of technology.”<sup>21</sup>

As we look forward to a continuing trend of humans and machines working together, each augmenting the other's skills in symbiotic collaboration, it may continue to be a challenge to remain alert to potential errors and take responsibility to prevent their occurrence where possible. Thus, as leaders find their own attention pulled toward other projects and seek to empower their teams to manage

tasks in which automation is present, they should strengthen the link between role clarity and rules. After all, the human owns the outcome, not the machine.

## Shifting pace: Always on, making decisions in real time and on demand, amid shifting rules and weakening relationships

Information can be a wonderful thing: an asset for making more informed decisions, uncovering previously unseen patterns, or revealing new opportunities. But in the digital age, it can also be considered a burden. For example, we often hear about the increased flow of information: 2.5 exabytes of data is produced every day, while 140 million emails are sent every minute.<sup>22</sup> For their part, connected assets create a flood of industrial data that far surpasses personal interactions.

Just as, or perhaps because, data never sleeps, employees are increasingly expected to be always-on and agile, able to leverage new information to make decisions and act upon them as-needed, on-demand, and in real time. Given the amount of information now generated, rules that guide and drive decisions change constantly, creating a state of scarcity that forces employees to make reactive choices rather than strategic ones.<sup>23</sup> Further complicating

matters, “alarm fatigue,” or the desensitization to constant alerts and alarms, can make traditional barriers to error less effective; employees used to seeing alerts for every error, no matter how minute, may be more likely to ignore alerts for truly critical problems.<sup>24</sup>

Increased connectivity can also extend relationships beyond one’s close, day-to-day colleagues to include customers, suppliers, and other teams within the organization. Employees may thus find themselves fighting battles on multiple fronts, across a broad array of tenuous relationships, having to make quick choices that can affect many stakeholders. When rules are always shifting, relationships extend to a wide group of stakeholders, data never stops updating, and time is of the essence, mistakes are bound to happen.<sup>25</sup>

Further, despite their connectivity, the complex, sprawling digital environments that characterize many organizations today may make it more difficult for employees to see the bigger picture, or understand how their decision fits into a web of choices made by other stakeholders throughout the chain. When a variety of stakeholders is involved in a process, one initial misstep can get compounded with each subsequent decision. When mistakes do happen in this always-on, complex digital environment, the weakened link between rules and relationships can make it easier for employees to avoid personal responsibility—and for leaders to pinpoint where things went wrong to begin with.

# Rethinking the environment

## Three ways to strengthen the pillars of responsibility in a digital age

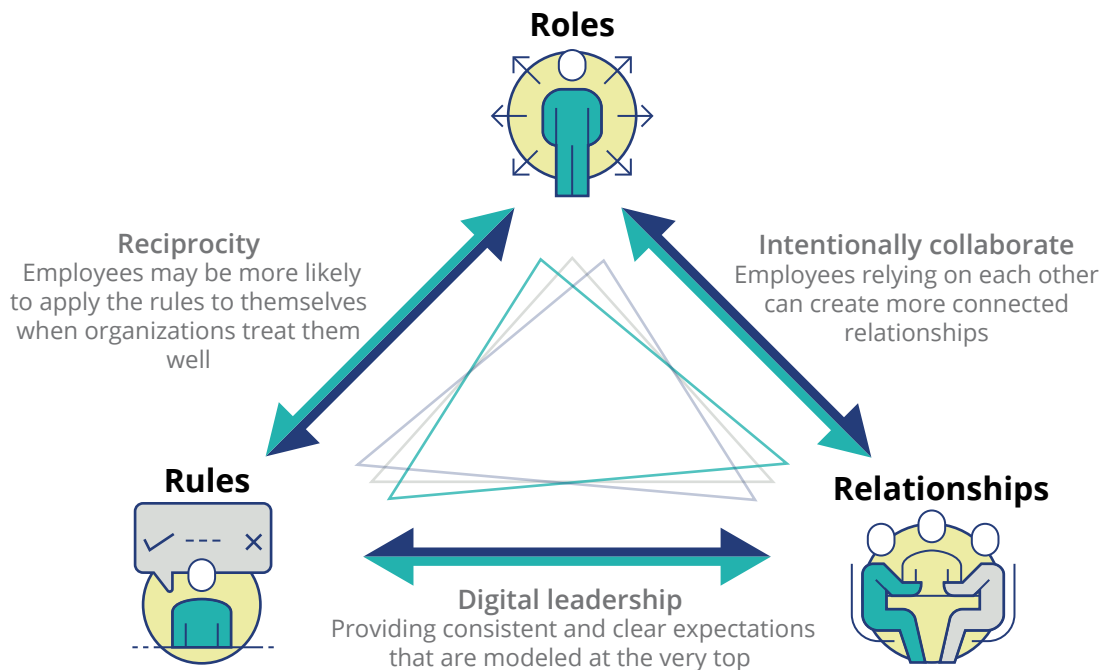
As a leader, delegating can be a challenge—especially without the necessary supports in place to help ensure that people will feel a sense of responsibility toward the outcome of their work. In this digital age, new challenges can weaken the three Rs of responsibility, possibly making this challenge all the greater. How leaders deal with this potential weakening can matter a great deal to the success of the organization, and, perhaps just as important, to that of their own teams and personal

development. We see three ways that leaders can help strengthen the pillars of responsibility for their teams (figure 3):

- Promoting intentional collaboration
- Driving reciprocity among coworkers
- Practicing digital leadership

Each is tied not only into the three Rs, but can also help address the specific ways in which digital technologies may be fraying those bonds.

Figure 3. The three Rs of responsibility strengthened



Source: Deloitte analysis.

Deloitte Insights | [deloitte.com/insights](https://deloitte.com/insights)

## Intentionally collaborate: Strengthen the link between relationships and roles

By taking an *intentionally collaborative* approach—one in which teams are brought together in ways that foster trust and a sense of ownership—leaders can create an environment in which their employees feel a sense of responsibility, not only to their work, but to their peers and their team.

Intentional collaboration can involve a mix of virtual and physical interactions related to a common cause. The term *collaboration* is key here, as individuals should feel as if they are working together, contributing to an overarching project or

nature of teams (for example, whether they are dynamic or static, active or inactive, regular or sporadic, remote or in-person, formal or informal), and ecosystem structures (for example, organization-only, customers, suppliers, partners, and competitors) and networks to solve an organizational problem that transcends functional boundaries.<sup>26</sup>

### WHY IT WORKS

Behavioral research shows that people are more willing to go the extra mile and act honestly with people they like and trust.<sup>27</sup> In addition, the more we identify ourselves with others and a cause, the more motivated we usually are to assume responsibility for an outcome.

---

Further, for as much as digital technologies can reduce trust and responsibility, they can also provide opportunities for teams to communicate more, work together more closely, share information and resources more easily, and provide feedback in real time.

---

mission, and relying on each other. Collaboration should bring about a general sense of cohesion among all team members. While the workforce grows more untethered and roles more fluid, intentional collaboration can promote regular communications, improve engagement, and increase transparency in potentially uncertain and regularly changing environments. Further, for as much as digital technologies can reduce trust and responsibility, they can also provide opportunities for teams to communicate more, work together more closely, share information and resources more easily, and provide feedback in real time.

Creating an environment of intentional collaboration typically involves bringing together teams in all their forms as they exist across the organization: geographic dispersion, types of communities,

### WHAT CAN LEADERS TRY TO IMPLEMENT?

1. Create peer accountability during goal setting. This can be accomplished by allowing employees to identify others who are necessary partners in achieving their own individual goals. As the environment grows increasingly interdependent, crafting goals that allow people to become accountable to each other could be a more effective way of clarifying roles and deepening relationships.
2. Reward and recognize collaborative efforts. As organizations transition to team structures, relying more heavily on participative and collaborative unit efforts, consider measuring group metrics rather than simply relying on individual performance metrics for rewards and recognition.

3. Whenever possible, try to leverage the wisdom of crowds in problem-solving. Bring people together to solve a problem bigger than their own work or function. Leverage the power of technology to bring people and ideas together in new, innovative ways that may not have been possible previously.

## Reciprocity: Mutual benefits can create a stronger link between relationships and rules

Research suggests that employees who perceive their organization as valuing their contributions and caring about their well-being are much more likely to assume a sense of responsibility for others.<sup>28</sup> In fact, feeling responsible often precedes, and can even predict, prosocial behaviors in the workplace. This is likely due to our human tendency to want to repay those who treat us well, which psychologists refer to as *reciprocity*.<sup>29</sup> The sense of reciprocity can be a strong motivator to act in the best interest of others. However, the opposite also has been found to be true: Many employees who perceive that their leaders do not have their best interests at heart are likely to repay the organization in harmful ways, at worst by engaging in deviant behavior or by simply lacking the motivation to ensure a project's success. Therefore, the message of reciprocity is rather simple: If leaders want their employees to assume a sense of responsibility, they should treat them well. Employees who are treated well will be more likely to feel strongly that the rules apply to them, even when their manager doesn't have time to look over their shoulder.<sup>30</sup>

### WHY IT WORKS

Research suggests people often feel compelled to return favors. Studies also show we frequently underestimate the number of people who are more willing to give than take. Giving is often contagious and encourages positive behavior in the workplace.

### WHAT CAN LEADERS TRY TO IMPLEMENT?

1. Check in often on your employees and their sense of commitment toward the organization. Annual surveys are usually no longer enough to ensure that a mutual relationship exists between employees and the organization, as it can be too late by the time you get the results. An easy and often missed opportunity is to check in during reoccurring one-on-ones and team meetings. While devoting time to project report-outs is typically important, it can also be important to set aside enough time to check in on the employee's overall engagement and needs.
2. Have the courage to make decisions that can benefit the whole organization—not just a few stakeholders within your own domain. This may include broadly shifting your focus to encompass larger customer and employee-oriented outcomes and needs. This may be easier said than done; however, by aligning functional goals to the organization's key strategic priorities and by finding opportunities to recognize and celebrate when these goals are realized by multidis-

If leaders want their employees to assume a sense of responsibility, they should treat them well. Employees who are treated well will be more likely to feel strongly that the rules apply to them, even when their manager doesn't have time to look over their shoulder.

- ciplinary teams, leaders can start to model the behaviors that lead to an environment of trust.
3. Empower employees to easily work across multidisciplinary teams, make decisions, develop the right skill sets, and adapt to changing priorities without having to go through multiple layers of hierarchy. To accomplish this, consider looking for opportunities to diversify team membership and bring individuals from different functions together, designing decision rights that allow team members to make their own, real-time decisions, and creating incentives that reward cross-functional teaming.

## Digital leadership: Setting an example among peers often strengthens the link between rules and roles

We know that humans often use the behavior of others to help determine the right course of action in particular contexts, which is illustrated by the link between rules and relationships. Most workers continually assess what others are doing to guide their own conduct.<sup>32</sup> Thus, one of the key influencers of most employees' behavior within their team starts with the behavior and tone of leaders.

In other words, it typically starts with *you*.

Leaders can model the right behaviors in an online context through the use of *digital leadership*.<sup>33</sup> Most digital leaders leverage technology platforms as a way to empower and build agility across their teams, not as a way to command and control resources. A digital leader can communicate consistently, authentically, and transparently with employees, leveraging technology as a way to provide real-time feedback. In addition, digital leaders can foster a culture of knowledge sharing, continuously sharing relevant content and stories to engage the

team. While the digital environment could certainly pose newfound leadership challenges, it could also pose an opportunity for leaders to leave a digital trace for others to follow.

### WHY IT WORKS

People are social creatures and often model the behavior of others—especially those in authority.<sup>34</sup> Numerous studies have shown how quickly people adopt the behavior of a leader.

### WHAT CAN LEADERS TRY TO IMPLEMENT?

1. Hire digital leaders that work well with technology and can engage a diverse workforce toward a common goal. Most “digital leaders” embody many of the attributes we typically recognize in great leaders, with the addition of skills in digital platforms that can accelerate their ability to motivate and inspire their people.
2. Use surveys and leader assessments to measure and improve upon your digital leadership capabilities. For example, consider asking how well leaders encourage risk-taking and build trust among team members, or eliminate barriers to cross-cultural engagement—including geographies and time zone differences.

It can be challenging—even frightening—as a leader to let go and trust your team to feel the same drive that you do to take ownership for the outcomes of their work. It can likewise be difficult for employees to feel tied to responsibility for a project, and the ever-increasing influence of digital technologies on the workplace could only compound this problem. But, you can rest assured—and even get a good night's sleep—that by strengthening the bonds between roles, rules, and relationships, leaders can help their teams navigate the digital, connected organization in a way that may also safeguard their own success.

## ENDNOTES

1. Stuart Trouton, Ed Dobner, and Mark Cotteleer, *3D opportunity and the digital thread: Additive manufacturing ties it all together*, Deloitte University Press, March 3, 2016; for further information about Industry 4.0, see Brenna Sniderman, Monika Mahto, and Mark Cotteleer, *Industry 4.0 and manufacturing ecosystems: Exploring the world of connected enterprises*, Deloitte University Press, February 22, 2016.
2. René Waslo, Ramsey Hajj, Tyler Lewis, and Robert Carton, *Industry 4.0 and cybersecurity: Managing risk in an age of connected production*, Deloitte University Press, March 21, 2017.
3. Omar A. Alnuaimi, Lionel P. Robert, and Likoebe M. Maruping, "Team size, dispersion, and social loafing in technology-supported teams: A perspective on the theory of moral disengagement," *Journal of Management Information Systems* 27, no. 1 (2010): pp. 203–230.
4. Jennifer Garvey Berger and Keith Johnston, *Simple Habits for Complex Times: Powerful Practices for Leaders* (Stanford University Press, 2015).
5. C. Hickman, T. Smith, and R. Connors, *The Oz Principle: Getting Results Through Individual and Organizational Accountability* (Portfolio, 1998).
6. B. Weiner, "Intrapersonal and interpersonal theories of motivation from an attributional perspective," *Educational Psychology Review* 12, no. 1 (2000): pp. 1–14.
7. Barry R. Schlenker, "Personal responsibility: Applications of the triangle model," *Research in Organizational Behavior* 19 (1997): p. 241; multiple studies have confirmed the needed presence of clarity in roles, rules, and relationships in assuming accountability for the outcome. See, for example, Kennon M. Sheldon and Todd R. Schachtman, "Obligations, internalization, and excuse making: Integrating the triangle model and self-determination theory," *Journal of Personality* 75, no. 2 (2007): pp. 359–382; Michael J. A. Wohl, Evan T. Pritchard, and Barry Kelly, "How responsible are people for their employment situation? An application of the triangle model of responsibility?," *Canadian Journal of Behavioural Science* 34, no. 3 (2002): pp. 201–209; Schlenker, "Personal responsibility," p. 241; J. L. Pierce, T. Kostova, and K. Dirks, "Toward a theory of psychological ownership in organizations," *Academy of Management Review* 26 (2001): pp. 298–310.
8. Schlenker, "Personal responsibility."
9. Thomas Britt, "Engaging the self in the field: Testing the triangle model of responsibility," *Personality and Social Psychology Bulletin* 25, no. 6 (1999).
10. K. Monahan, *Personal responsibility in the financial services industry: The cognitive antecedents and behavioral consequences of an employee's sense of responsibility in organizations*, doctoral dissertation (UMI 368160), Regent University, 2015.
11. D. A. Whetten, "Albert and Whetten revisited: Strengthening the concept of organizational identity," *Journal of Management Inquiry* 15 (2006): pp. 219–234.
12. E. Scott Geller, *Beyond Safety Accountability*, (Rockville, Maryland: Government Institutes, 2001).
13. Anthony M. Townsend, Samuel M. DeMarie, and Anthony R. Hendrickson, "Virtual teams: Technology and the workplace of the future," *Academy of Management Perspectives* 12, no. 3 (1998): pp. 17–29.
14. Sonny Chheng, Kelly Monahan, and Karen Reid, "Beyond office walls and balance sheets: Culture and the alternative workforce," *Deloitte Review* 21.
15. J. K. Burgoon et al., "Effects of synchronicity and proximity on group communication," paper presented at the annual convention of the National Communication Association, New Orleans, Louisiana, November 2002.



16. K. Burke and L. Chidambaram, "How much bandwidth is enough? A longitudinal examination of media characteristics and group outcomes," *MIS Quarterly* 23, no. 4 (1999): pp. 557–580; Ellen Rusman et al., "Fostering trust in virtual project teams: Towards a design framework grounded in a TrustWorthiness ANtecedents (TWAN) schema," *International Journal of Human-Computer Studies* 68, no. 11 (2010): pp. 834–850.
17. J. K. Burgoon et al., "Testing the interactivity principle: Effects of mediation, propinquity, and verbal and nonverbal modalities in interpersonal interaction," *Journal of Communication* 52, no. 3 (2002): pp. 657–677.
18. Mary L. Cummings, "Automation and accountability in decision support system interface design," *Journal of Technology Studies* 32, no. 1 (2006).
19. K. L. Mosier and L. J. Skitka, "Human decision makers and automated decision aids: Made for each other?," R. Parasuraman and M. Mouloua (eds.), *Automation and Human Performance: Theory and Applications* (Mahwah, New Jersey: Lawrence Erlbaum Associates Inc., 1996), pp. 201–220.
20. Shannon Vallor, "The future of military virtue: Autonomous systems and the moral deskilling of the military," 5th International Conference on Cyber Conflict, June 2013.
21. Alnuaimi, Robert, and Maruping, "Team size, dispersion, and social loafing in technology-supported teams," pp. 203–230.
22. Mikal Khoso, "How much data is produced every day?," Level blog, Northeastern University; Tom Davenport and David Rosner, *Decoding the path to purchase: Using autonomous analytics for customer mapping*, Deloitte University Press, November 11, 2016.
23. Kelly Monahan, Mark Cotteleer, and Jen Fisher, *Does scarcity make you dumb?*, Deloitte University Press, July 19, 2016.
24. K.C. Graham and M. Cvach, "Monitor alarm fatigue: Standardizing use of physiological monitors and decreasing nuisance alarms," *American Journal of Critical Care* 19, no. 1 (2010): pp. 28–34.
25. Edward Hallowell, "Overloaded circuits: Why smart people underperform," *Harvard Business Review*, January 2005.
26. Trevor Page et al., *Unlocking the flexible organization: Organizational design for an uncertain future*, Deloitte, 2016.
27. R. B. Cialdini, *Influence: Science and Practice*, 4th ed. (Boston: Allyn & Bacon, 2001).
28. L. Rhoades and R. Eisenberger, "Perceived organizational support: A review of the literature," *Journal of Applied Psychology* 87 (2002): pp. 698–714.
29. Adam Grant, *Give and Take: Why Helping Others Drives Our Success* (Penguin Books, 2013).
30. Ibid.
31. Ibid.
32. Gerald R. Salancik and Jeffrey Pfeffer, "A social information processing approach to job attitudes and task design," *Administrative Science Quarterly* 23, no. 2 (1978): pp. 224–253.
33. Matthew Guest, *Building your digital DNA: Lessons from digital leaders*, Deloitte, 2014.
34. Cialdini, *Influence*.

## ABOUT THE AUTHORS

BRENNA SNIDERMAN

**Brenna Sniderman** is a senior manager and subject matter specialist at Deloitte Services LP's Center for Integrated Research. She focuses on cross-industry themes and trends, specifically as they relate to additive and advanced manufacturing, Industry 4.0, the Internet of Things, and advanced technologies. She works with other thought leaders to deliver insights into the strategic and organizational implications of these technologies.

DR. KELLY MONAHAN

**Dr. Kelly Monahan**, Deloitte Services LP, is a manager and subject matter specialist at Deloitte's Center for Integrated Research. Her research focuses on the intersections of behavioral economics and talent issues within organizations. Prior to joining Deloitte, Kelly was an HR business partner supporting the CFO of Hartford Funds. She holds her PhD in organizational leadership with an emphasis in human resource development.

TIFFANY MCDOWELL

**Tiffany McDowell** is a principal in Human Capital and serves as the national leader for Deloitte's Organization Strategies practice. Tiffany has 16 years of business and consulting experience, delivering operating model, organization design, talent strategies, decision optimization, and change management solutions. Her focus is on helping executives in health care effectively lead their organizations through transformation. She holds a Master of Business Administration and a Doctorate in industrial/organizational psychology.

GWYN BLANTON

**Gwyn Blanton** is a managing director who currently serves as one of six team leaders for the US Ethics and Compliance group within Deloitte LLP. She is responsible for planning and internal communications to address ethics and compliance matters for Deloitte US professionals. She was instrumental in the development and communication of the organization's current code of ethics and two-phase ethics training program.

## ACKNOWLEDGEMENTS

The authors would like to thank **Mark Cotteleer** and **Matthew Budman** of Deloitte Services LP for their contributions to the preparation of this article.

## CONTACTS

### **Tiffany McDowell**

Principal

Organization Transformation and Talent

Deloitte Consulting LLP

+1 619 237 6611

[tmcdowell@deloitte.com](mailto:tmcdowell@deloitte.com)

## ABOUT THE CENTER FOR INTEGRATED RESEARCH

Deloitte's Center for Integrated Research focuses on critical business issues that cut across industry and function, from the rapid change of emerging technologies to the consistent factor of human behavior. We uncover insights, delivered to a wide audience in a variety of formats, such as research articles, short videos, in-person workshops, and online courses.

# Deloitte.

## Insights

Sign up for Deloitte Insights updates at [www.deloitte.com/insights](http://www.deloitte.com/insights).



Follow @DeloitteInsight

### Contributors

**Editorial:** Aditi Rao, Rithu Thomas, Nikita Garia, Abrar Khan

**Creative:** Sonya Vasylieff, Anoop R, Tushar Barman

**Promotion:** Haley Pearson

**Artwork:** J. F. Podevin

### About Deloitte Insights

Deloitte Insights publishes original articles, reports and periodicals that provide insights for businesses, the public sector and NGOs. Our goal is to draw upon research and experience from throughout our professional services organization, and that of coauthors in academia and business, to advance the conversation on a broad spectrum of topics of interest to executives and government leaders.

Deloitte Insights is an imprint of Deloitte Development LLC.

### About this publication

This publication contains general information only, and none of Deloitte Touche Tohmatsu Limited, its member firms, or its and their affiliates are, by means of this publication, rendering accounting, business, financial, investment, legal, tax, or other professional advice or services. This publication is not a substitute for such professional advice or services, nor should it be used as a basis for any decision or action that may affect your finances or your business. Before making any decision or taking any action that may affect your finances or your business, you should consult a qualified professional adviser.

None of Deloitte Touche Tohmatsu Limited, its member firms, or its and their respective affiliates shall be responsible for any loss whatsoever sustained by any person who relies on this publication.

### About Deloitte

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee ("DTTL"), its network of member firms, and their related entities. DTTL and each of its member firms are legally separate and independent entities. DTTL (also referred to as "Deloitte Global") does not provide services to clients. In the United States, Deloitte refers to one or more of the US member firms of DTTL, their related entities that operate using the "Deloitte" name in the United States and their respective affiliates. Certain services may not be available to attest clients under the rules and regulations of public accounting. Please see [www.deloitte.com/about](http://www.deloitte.com/about) to learn more about our global network of member firms.

Copyright © 2017 Deloitte Development LLC. All rights reserved.  
Member of Deloitte Touche Tohmatsu Limited