

Journal of Change Management



Reframing Leadership and Organizational Practice

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/rjcm20

Reflections: Voice and Silence in Workplace Conversations

Amy C. Edmondson & Tijs Besieux

To cite this article: Amy C. Edmondson & Tijs Besieux (2021) Reflections: Voice and Silence in Workplace Conversations, Journal of Change Management, 21:3, 269-286, DOI: 10.1080/14697017.2021.1928910

To link to this article: https://doi.org/10.1080/14697017.2021.1928910

	Published online: 24 May 2021.
	Submit your article to this journal 🗷
ılıl	Article views: 4512
a ^r	View related articles ☑
CrossMark	View Crossmark data 🗷
4	Citing articles: 1 View citing articles 🗗



RFFI FCTION



Reflections: Voice and Silence in Workplace Conversations

Amy C. Edmondson^a and Tijs Besieux^b

^aHarvard Business School, Boston, MA, USA; ^bLeadership Footprint, Veldbloemstraat, Mortsel, Belgium

ABSTRACT

We highlight conversations at work as an arena of change. Drawing on and extending the psychological safety literature, we offer a new framework to distinguish between productive and unproductive forms of both voice and silence. The framework's four quadrants – withholding, disrupting, contributing and processing – outline essential activities in group conversations that work to advance goals, including organization change. Drawing on the authors' own research, as well as other relevant literatures, our framework points to new directions for actionable research and suggests managerial practices to enhance the quality of workplace conversation. Our work bridges literatures on change, workplace conversations, psychological safety and leadership. We emphasize the function of leadership in fostering high-quality conversations, with an eye on both the opportunities and challenges of diversity at work in ensuring high-quality conversations.

KEYWORDS

Conversation; silence; voice; psychological safety

The change process actually occurs within and is driven by communication, rather than the adverse. Producing change is not a process that uses communication as a tool, but rather it is a process that is created, produced, and maintained by and within communication. (Ford & Ford, 1995, p. 542)

Conversations as Engines of Change

"Thanks for organizing the meeting, Frank. It's a shame the junior associates didn't contribute a single insight," Joseph sighed.

"This isn't the first time. Our juniors aren't engaged enough with what's going on. It's like they don't care," replied Frank; "I guess we'll just execute the strategy you and I discussed before the meeting. I hate to have wasted so much valuable time."

We observed this exchange between two senior partners – whom we refer to by the pseudonyms Frank and Joseph – at a well-regarded boutique legal firm specializing in mergers and acquisitions for pharmaceutical companies. The partners had just emerged from a one-hour meeting with five junior colleagues to gather legal and financial ideas and assessments related to a client's planned change: executing a merger. Despite pressure to deliver, the in-person meeting wrapped up with little to show for the time spent.

In their seminal work on the relation between conversations and change, Ford and Ford (1995, p. 542) stated that 'change is a phenomenon that occurs within

communication.' Through communication, change takes shape in people's minds, influencing subsequent action in vital ways. The quality of conversations at work is thus a precursor of how change unfolds.

Unfortunately, conversations at work are frequently unsatisfying, unproductive, or both. Consider meetings, for instance. Meetings comprise a platform where many work conversations take place and thus present an essential context for assessing the quality of communication at work. Yet, in one study, 71% of senior managers reported that their meetings were unproductive and inefficient, with 64% finding that meetings come at the expense of deep thinking (Perlow et al., 2017). And, ineffective meetings negatively relate to innovation, market share and employee retention (Kauffeld & Lehmann-Willenbrock, 2012). Moreover, virtual conversations can be even more challenging and require explicit leadership effort to get them right (Edmondson & Daley, 2020). Change and communication are inherently intertwined. And of central concern for readers of this journal, change occurs in the context of human interaction, established by communication (Edmondson, 2002; Ford & Ford, 1995).

Assuming a linear relationship between effective communication and effective change would be an oversimplification of a complex and systemic phenomenon. Indeed, as Hughes (2011) demonstrated, evaluating change in terms of success versus failure rates is a flawed and possibly irrelevant undertaking, because (1) change can have unexpected outcomes, (2) change is highly contextual, (3) determinations of success or failure rate rarely incorporate the multiple accounts of change outcomes, (4) change is temporal in nature and not a static phenomenon that can be evaluated at a single point in time, and (5) a quantitative indication of change outcome lacks sufficient qualitative assessment of what really happened. So, one cannot argue that effective conversations will produce successful change. However, the inverse perhaps can be assumed. That is, ineffective conversations almost certainly preclude effective change.

If conversations are engines of change, then focusing on the quality of conversations emerges as a vital area for both research and the development of new practices. Conversations (whether in formal meetings or informal communication at the coffee machine) add - or fail to add - value, as a direct function of what people choose to speak up about, what they hold back, and how effectively the group processes the ideas and information available (Schippers et al., 2014). Most obviously, it is difficult for a group to process information that isn't shared.

High-Quality Conversations: The Role of Psychological Safety and Leadership

In this article, we reflect on the central role of conversations at work and what leaders can do to foster conversation quality. Although some work, notably highly routine work, is less dependent on the nuances of conversational exchanges than other work, when decisions must be made – whether among predetermined options or by first generating options – a group's ability to engage thoughtfully to share and critique different views will influence its success (Argyris, 1994; Argyris & Schön, 1997; Schein, 1993, 2010). Our focus on conversation thus builds on seminal work on organizational learning and change, with a particular interest in how to nurture an environment in which people not only feel able to speak up but also can do so productively.

So, what led the junior associates in the legal firm to fail to offer their ideas and honest assessments of the project? As most working adults recognize, holding back ideas that are underdeveloped or could possibly be seen as critical of superiors is commonplace. Holding back buys time and avoids the risk of rejection or looking foolish (Edmondson, 2003a). Few readers of this journal will be surprised to hear that a junior associate remained silent in a meeting rather than point out a project's flaw. Indeed, an extensive literature on employee voice identifies factors that contribute to this common pattern (e.g. Ng & Feldman, 2012). At the same time, research shows that companies suffer when people don't share their ideas (e.g. Edmondson, 1996a, 2019; Moingeon & Edmondson, 1996).

A growing number of organizational scholars and managers today recognize psychological safety as a work climate factor that influences speaking up. Psychological safety has been defined as a belief that speaking up with ideas, questions, concerns, or mistakes is expected and feasible, and is best summarized as a sense of permission for candour (Edmondson, 1999, 2019). Yet despite awareness of the concept, misunderstanding remains – inhibiting many from undertaking the serious effort needed to make conversations work as they should. For instance, some executives worry privately that creating psychological safety will result in too much cross-talk or unleash endless chatter, gobbling up valuable time, slowing progress, or creating confusion. Or worse, people might speak up in unproductive ways - complaining endlessly or expecting someone else to fix the problems they raise. People intuitively understand that all voice is not productive and that some silence is indeed golden. This makes it hard for them to know how to balance soliciting input with maintaining efficiency. As a result, they err on the side of efficiency.

We don't see this as a matter of balance but rather as a matter of discernment, focus and skill in leading effective discussions. We offer a framework that makes useful distinctions about when voice (and silence) is productive and when it's not. Our goal is to sharpen conceptual work on voice and silence and to help managers lead meetings and build workplaces where people no longer err on the (safe) side of holding back relevant concerns and ideas, and where they also don't overcorrect, believing every thought they have must be raised immediately. By highlighting the potential for leaders to harness high-quality conversations through building an environment of psychological safety, we add to previous research demonstrating how leadership style relates to psychological safety (see Carmeli et al., 2014; Ortega et al., 2014).

In this article, however, we go beyond the topic of promoting speaking up to reflect that conversational options at work are not as simple as whether to speak up or stay silent. How people speak up and how they use silence matter as much as whether they speak. We argue that leaders of organizations and groups must foster the right kind of voice and the right kind of silence. Notably, we propose that voice and silence both present productive and unproductive forms, and, only by fostering productive forms of each, can conversations thrive. Moreover, helping groups navigate these conversational options is particularly important for driving productive change in organizations (Hackman & Edmondson, 2007).

To deepen our understanding of work conversations that promote progress on an organization's most important change goals, we introduce the 'Productive Conversation Matrix,' which identifies four types of participation in a conversation – whether formal

meeting or informal encounter. Our matrix explores the ways both voice and silence foster productive conversations in which ideas are shared, developed and pushed forward to conclusions and subsequent actions. We propose that our matrix can be applied in virtually any workplace and that doing so starts with explicitly sharing its categories to help all participants in a conversation better discern opportunities for both voice and silence.

The Productive Conversation Matrix

When psychological safety is low and employees hold back in meetings, the quality of both conversation and results is diminished (Bradley et al., 2012). Diversity of thought, by definition, is reduced; brilliant ideas may be missed, and plans will not benefit from thoughtful debate. At worst, crucial information or critiques remain unshared, allowing a preventable major failure (Roberto et al., 2006). At best, valuable time, a precious human resource, is wasted by holding a meeting that adds little value.

Yet, it seems equally problematic to envision a meeting with no holds barred, where everyone speaks up energetically without self-discipline, talking past each other, adding irrelevant points, or even getting into heated arguments that turn personal (Edmondson & Smith, 2006).

Recognizing these possibilities, we map out four archetypes of participation modes in a conversation based on two dimensions: speaking up or remaining silent, and productive or unproductive contributions. The resulting four archetypes, which we call withholding, disrupting, contributing, and processing, are depicted in Figure 1. To facilitate productive voice (contributing) and productive silence (processing), leaders must understand the forces that contribute to each. Further, leaders can employ strategies to help minimize unproductive silence (withholding) and unproductive voice (disrupting).

In developing this matrix, along with its recommendations, we build on long-standing research that demonstrates the vital importance of productive behaviours. For instance, research on boundary spanning communication conducted by Casciaro et al. (2019)

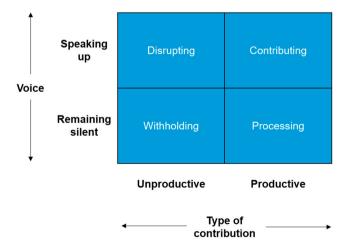


Figure 1. The productive conversation matrix.

highlights the importance of inquiry as a leadership skill for crossing corporate silos. The productive conversation matrix complements these findings by including the potential of productive silence as an integral skill for leaders to cultivate for leading effective meetings.

Leading Better Conversations

The primary job of an executive or team leader is to engage and integrate talent to make good decisions facing uncertainty. The aspiration is to ensure that everyone's knowledge and experience are engaged – so that their diverse experiences and expertise can be integrated effectively. In short, good meetings – whether formally organized, or informal and ad-hoc during a virtual or in-person coffee-break - happen when all participants are contributing and processing, with minimal withholding or disrupting. But for this to happen, conversations need leadership – whether gentle nudges or overt direction-setting. Left to unfold spontaneously, conversations are vulnerable to meandering off topic, silencing crucial voices, or failing to arrive at resolution. Leaders and employees can sustain effective collaboration through the use of simple guidelines or principles (e.g. Gino, 2019). For example, a crucial principle is committing to listen – not just talk – in meetings. This requires us to distinguish mere silence from true listening to absorb and process what others are saying.

Our core premise is that to promote productive behaviour and diminish unproductive behaviour, leaders must start with an appreciation of the distinctions in our matrix. Speaking up and silence can both be productive or problematic, depending on underlying intent and how it is enacted.

Consider the meeting at the start of this article. Clearly unproductive silence had occurred because five well-educated junior associates with relevant expertise did not add to the conversation. Why? Our analysis led us to conclude that this was largely because Joseph and Frank didn't understand how to create psychological safety in the meeting. Neither of these senior partners understood the impact they had on the junior associates' ability to contribute. To begin, Frank and Joseph unwittingly engaged in unproductive voice that contributed to the very problem they bemoaned.

We use this brief case as a red thread to illustrate each category in our matrix. In addition to this connecting thread, we draw from case study evidence at Netflix, Amazon, WeWork, Theranos and Boeing to further exemplify our four archetypes. We first explore how to minimize the two forms of counterproductive participation, related to both silence and voice, and then turn to what leaders can do to enhance productive engagement in a conversation.

Diminish Withholding

An excerpt from the book, No Rules Rules, by Reed Hastings and Erin Meyer presents a powerful example. In this vignette, Reed Hastings, co-founder and CEO of Netflix, reflects on the early days of Netflix when he implemented a major change that turned out to fail badly, dramatically affecting company performance:

In early 2007, we offered one service for ten dollars that was a combination of mailing DVDs and streaming. But it was clear that streaming video would become of increasing importance while people would watch fewer and fewer DVDs. We wanted to be able to focus on streaming, without DVDs distracting us, so I had the idea to separate the two operations: Netflix would stream, while we created a new company, Qwikster, to handle the DVD market. With two separate companies, we would charge eight dollars for each service separately. For customers who wanted both DVDs and streaming, it meant a price hike to sixteen dollars. The new arrangement would allow Netflix to focus on building the company of the future without being weighed down by the logistics of DVD mailing, which was our past. The announcement provoked a customer revolt. Not only was our new model way more expensive, but it also meant customers had to manage two websites and two subscriptions instead of one. Over the next few quarters, we lost millions of subscribers and our stock dropped more than 75 percent in value. Everything we'd built was crashing down because of my bad decisions. It was the lowest point in my career—definitely not an experience I want to repeat. When I apologized on a YouTube video, I looked so stressed that Saturday Night Live made fun of me. But that humiliation was a valuable wake-up call, because afterward dozens of Netflix managers and VPs started coming forward saying that they hadn't believed in the idea. One said "I knew it was going to be a disaster, but I thought 'Reed is always right', so I kept quiet." A quy from finance agreed, "We thought it was crazy, because we knew a large percentage of our customers paid the ten dollars but didn't even use the DVD service. Why would Reed make a choice that would lose Netflix money? But everyone else seemed to be going along with the idea, so we did too." Another manager said, "I always hated the name Qwikster, but no one else complained, so I didn't either." Finally, one VP said to me, "You're always so intense when you believe in something, Reed, that I felt you wouldn't hear me. I should have laid down on the tracks screaming that I thought it would fail. But I didn't." The culture at Netflix had been sending the message to our people that, despite all our talk about candor, differences of opinion were not always welcome (Hastings & Meyer, 2020, pp. 140-141).

In this brief glimpse of a major strategic decision failure, multiple people, for different reasons, decided to withhold crucial information. Colleagues of Hastings withheld information because they believed he was always right, because they noticed that no one else disagreed or complained, or because they assumed that Reed would not listen to their concerns. Whatever the cause, different people consciously decided to withhold their perspective, leading to a near-fiasco for Netflix. Ineffective conversation resulted in ineffective change.

Drivers of Withholding

Withholding occurs when people choose to refrain from sharing on-topic information with potential relevance to the issue at hand. Although aware of having a thought or concern that could be shared, they feel it might be risky, inappropriate, or unwelcome, and thus hold back. By definition, holding-back is hard to observe, but over time the results become apparent.

Similarly, at one point in the law-firm meeting, Frank had asked if anyone had 'a brilliant idea to share.' Although one junior associate spoke up, his idea was quickly rejected by Frank. After that, none of the other juniors voiced their ideas. Thus, unproductive silence (withholding) ensued. Joseph and Frank ended the meeting with no changes or refinements to the strategy they'd devised before they walked into the room. Disappointed by that outcome, they were unaware of their contribution to it. Their conclusion was that subordinates lacked insight and were unengaged.

Withholding voice stems from several causes. On a personal level, the risk of receiving demeaning comments – a risk that is that much more salient when differences in race or gender are at play - squelches idea-sharing from meeting participants naturally wary of threats to human safety and dignity. On an institutional level, it can be intimidating to point out potentially serious business risks in a superior's idea, particularly if it's been presented with enthusiasm or bias in its favour by someone in a position of power (Rosen & Tesser, 1970).

Less obvious but still significant are those times when participants hold back on an opportunity for improvement or innovation. An unshared improvement idea that goes unmentioned also goes undetected. Or when an unanswered question restricts an employee's ability to perform optimally. When team members are struggling with some aspect of their job or task, and are insecure or concerned with how they'll be seen if they speak up, they deny colleagues the opportunity to help solve their problem.

Reducing Withholding Through Psychological Safety

Had he been aware of factors that contribute to withholding voice, Frank could have lowered the threshold by opening up the floor to request 'any ideas, no matter how far-fetched' or to seek potential business risks by asking for 'pros and cons' - or better yet, by actively probing for ideas from those he knew to have relevant expertise (Edmondson, 2019).

Although much has been written about creating psychological safety recently (e.g. Delizonna, 2017; Frazier et al., 2017), many leaders still fail to recognize the importance of their own behaviour in ensuring productive voice in the workplace. They fail to adopt a healthy stance of humility and curiosity congruent with the uncertainty and challenges that lie ahead (e.g. Nembhard & Edmondson, 2006). Humility is shown in explicit statements about the need for others' input; while curiosity manifests in artful questions that invite and engage others in thinking deeply about the issues at hand (Edmondson, 2019).

Imagine, for example, if Frank had convened the meeting differently, opening with,

Thank you all for taking the time to share your insights on this case. It seems to me a very complex project, and I would like us to try to learn as much from each other as possible, to make progress. At this stage there are no good or bad ideas—the goal is to offer the client the best memo we can. Let's start by turning to a neighbor for a few minutes to warm up with ideas you brought to the meeting.

This launch sets the stage for voice by framing voice as essential to the quality of the decision; this frame creates an explicit rationale for why others' ideas are being requested, which lowers reluctance to jump in with a dissenting view (Edmondson, 2003b). It also promotes the initial sharing of ideas in the relative safety of a dyad – a structural solution. Then if Frank later noticed someone looking hesitant or unduly quiet, he might ask that person for reactions or ideas, using the technique of offering an explicit invitation.

It is hard to overstate the value of an explicit invitation. Consider this story, told by Bob Iger, CEO of The Walt Disney Company, about meeting with Steve Jobs to discuss a potential merger with Pixar (Iger, 2019).

Steve said he loved whiteboard exercises where an entire vision [...] could be drawn out. He stood with marker in hand and scrawled PROS on one side and CONS on the other. "You start" he said."

[...] Two hours later, the pros were meager and the cons were abundant. "Well," I said. "It was a nice idea. But I don't see how we do this." "A few solid pros are more powerful than dozens of cons," Steve said (Iger, 2019, pp. 136-137).

Jobs first encouraged Iger to speak up with his ideas about a strategic possibility. Jobs then reframed the results of that voice, challenging Iger's conclusion about the meaning of the ratio between pros and cons. As readers undoubtedly know, The Walt Disney Company and Pixar did come together, forming a global powerhouse in the entertainment industry. The foundation for the merger was forged by Jobs' efforts to diminish withholding by Iger - using the whiteboard to create a level playing field. In that sense, this large-scale organizational change was the result of a high-quality conversation.

Both examples – Disney, and our reimagined meeting launch at the law firm, acknowledge the value of diverse perspectives, to reinforce the habits of productive conversations. Although diverse views may increase conflicts that can delay the speed of reaching an agreement, over time, they are vital to good decision making (Garvin & Roberto, 2001). Table 1 summarizes tips from recent work on building psychological safety to promote speaking up.

Minimize Disrupting

Next, we consider the other problematic behaviour type in work conversations: rather than a failure to speak up, we consider speaking in ways that impede rather than advance progress toward group or organization goals. Disrupting includes thoughtless utterances, where the speaker could have, but did not, consider the impact on others of what they were saying, and how they were saying it. To illustrate, we start with an excerpt from an investigative report by Brooker (2019) on the collapse of WeWork, a real-estate scale-up founded by Adam Neumann and once valued at \$47 billion:

Executives say that when they tried to convince Neumann to proceed more cautiously, he would become enraged, calling them "B players." One former manager recalls being publicly berated, and later having his job title stripped, after trying to persuade Neumann to rethink a particular strategy that did not have enough staffing to be executed properly. Others who argued with Neumann would get barred from meetings, pointedly ignored, or iced out of conversations. "You would get punished for standing up to him," one employee says (Brooker, 2019, para. 26).

Table 1. Behaviours that diminish withholding by building psychological safety.

Frame the session as a learning problem, not an execution problem. Highlight the uncertainty and complexity of the challenge at hand.

Explicitly note your belief that better results are achieved by combining the perspectives of each person present. Acknowledge your fallibility. Make it clear that you know you don't have all the answers. Stress the value of the lessons you learned from your own prior failures.

Model curiosity. Ask open-ended questions which demonstrate that you value reflection and speaking up. Appreciate others' comments, without immediately judging the value of the content.

When someone speaks up, encourage other team members to add their insight to what was shared.

After someone shares an idea or opinion, invite others to list advantages or they see in this line of thought.

When you host a large-group session, build in an opportunity for employees to sketch out their ideas individually or in small sub-groups before they address the whole team.

Unproductive Voice and Leaders

While also exemplifying the kind of leadership behaviour that harms psychological safety, this description vividly conveys how harmful disruptive voice can be. When disagreement is punished, or belittled, it quickly becomes rare. But more central to our argument is the failure of speakers to realize the negative impact that angry or belittling outbursts will have not just on their target, but on others who observe or merely hear about them. When this is done by leaders, the harm is greater than when by peers. A similar example is found in the debacle of Theranos, the ultimately fraudulent and bankrupt health technology corporation valued at \$10 billion at its peak. Wall Street Journal reporter John Carreyrou (2019), in his best-selling book, Bad Blood, described the scene when founder Elizabeth Holmes, together with Chief Operations Officer Ramesh "Sunny" Balwani, addressed Theranos staff following a few employees resigning:

The resignations infuriated Elizabeth and Sunny. The following day, they summoned the staff for an all-hands meeting in the cafeteria. Copies of The Alchemist, Paulo Coelho's famous novel about an Andalusian shepherd boy who finds his destiny by going on a journey to Egypt, had been placed on every chair. Still visibly angry, Elizabeth told the gathered employees that she was building a religion. If there were any among them who didn't believe, they should leave. Sunny put it more bluntly: anyone not prepared to show complete devotion and unmitigated loyalty to the company should "get the f**k out." (Carreyrou, 2019, pp. 287–288).

Perhaps these examples seem extreme - and they are - but they readily make the point that not all voice is productive, while also conveying the special responsibility leaders hold for ensuring that they communicate in ways that foster learning, progress and positive change.

Returning to the law firm, during the meeting, Frank had made several disruptive comments. To elicit enthusiasm and energy, he opened with: 'We're here today to harvest the very best ideas on how to draw up the friendly takeover memo for our VIP client. So, I need all of you to bring your A-game to the table!'

Why didn't this genuinely well-intended comment work? One reason is that it inadvertently set up an evaluative context (grades) rather a problem solving or learning context (what might we be missing? How can we paint a fuller picture of this merger?). This frame automatically raises the bar; people check themselves to make sure an idea will deserve an 'A' (and not perhaps merely B+) (Hagel & Brown, 2010). Understandably, they err on the side of caution.

Then, when one junior associate spoke up to share an idea on how to execute a strategy for the case, Frank shot it down: 'I've been doing this kind of work for over three decades. I know a good insight when I hear one, and this is not it.' Later when Joseph offered an idea, Frank exclaimed: 'This is the number one strategy we should execute.' It is easy to see how that might silence junior colleagues who had concerns about Joseph's strategy. We need not attribute poor intentions to Frank to understand that the impact of his statement was unproductive to his goal of obtaining input.

Finally, during the last fifteen minutes of the meeting, Frank had wandered away from the topic, expounded on his vision regarding the current state of affairs in the mergers and acquisitions market, and wound up sharing a few anecdotes about playing golf with Joseph during an off-site in Spain. The group laughed, easing some of the tension in the room. While off-topic small talk can help break the ice or diffuse anxiety, it also



takes up valuable time that others can no longer use to provide on-topic input. Moreover, it can inadvertently signal that divisive topics are indeed off-limits. In short, the impact of unproductive voice – whether a poorly framed invitation for input or a badly timed personal anecdote – is to raise the threshold for others to speak up, such that disrupting can lead to withholding.

When Truth Hides Behind Closed Doors

Another type of unproductive voice takes the form of candid and relevant voice about products or problems occurring behind closed doors. In this form, people speak up about real issues in a way that lets off steam but makes no difference. Rather than speaking openly to those positioned to make a difference, they do so only with peers. A chilling example of this is found in reports on airplane manufacturer Boeing in the aftermath of the tragic deaths of 346 people in two crashes of their 737 MAX. As noted by Kitroeff and Gelles (2019):

Workers have filed nearly a dozen whistle-blower claims and safety complaints with federal regulators, describing issues like defective manufacturing, debris left on planes and pressure to not report violations. Others have sued Boeing, saying they were retaliated against for flagging manufacturing mistakes (Kitroeff & Gelles, 2019, para. 4).

Mr. Barnett (a former quality manager who worked at Boeing for nearly three decades and retired in 2017) was reprimanded in 2014 for documenting errors. In a performance review seen by The Times, a senior manager downgraded him for "using email to express process violations," instead of engaging "F2F," or face to face. He took that to mean he shouldn't put problems in writing. The manager said Mr. Barnett needed to get better at working in the gray areas and help find a way while maintaining compliance (Kitroeff & Gelles, 2019, para. 67).

Although it's harmless to grumble now and then about the boss, the boring meeting, or an unwelcome policy from senior management, discussions of crucial issues that take place in side conversations, rather than in formal meetings, where concerns can be addressed thoughtfully with people in a position to instigate a change of course, cause more harm than good. This kind of disruptive voice has been documented during the development of the 737 Max jetliner (Edmondson, 2020).

In sum, unproductive voice ranges from speaking up to those who agree with you but cannot act, to speaking in meetings with irrelevant, distracting comments, to personal insults, to enraged threats. All of these consume time and, over time, diminish candour. Disrupting thus disrupts the flow of conversations in one of two ways. The first notably for dismissive comments - silences or inhibits others from speaking up, limiting the discussion's potential to build value. Second, when someone actively interjects an unrelated or tangential point in a discussion, it consumes time while disrupting the focus that is so vital to making progress on challenging issues.

Discouraging Unproductive Voice

It takes discipline and self-awareness to discourage unproductive voice that wastes time and inhibits others subsequent participation. Whether simply wandering off-topic or making rude or unprofessional comments, disrupting harms meeting quality as much as silence. Simple techniques such as using ground rules, adhering to company values, and providing empathic feedback, can help. More detail is provided in Table 2.



Table 2. Practices to diminish disrupting when leading meetings.

- -At the start of a meeting, clarify ground rules related to the meeting topic or goal, as well as the timeframe, to minimize input that is off-topic. Ground rules act as a shared framework to delineate which information is relevant and which is
- -Insist on adherence to company values. Company values make intangible concepts salient. Examples of relevant values include respectful interaction, avoidance of personal attacks, preparation prior to speaking, and abstraction of company rank when brainstorming.
- -Recognize that people are often unaware of the impact of their behaviour and need to be told how they are coming across to learn and grow.
- -Differentiate between impact and intention. For instance, wandering off-topic might stem from a well-intended effort to break the ice or ease the tension.
- -To give feedback effectively; first, describe the actual behaviour without any form of judgment; next, describe its effect on you; and finally, explain why the behaviour had this effect.

To illustrate the use of such techniques, imagine if, for instance, when Frank wandered off-topic reminiscing about his golf trip in Spain, Joseph had intervened: 'Frank, I'd love to hear more at lunch. For now, I'm eager to hear your thoughts on how best to serve our client.'

Sometimes minimizing disruptive voice is simply a matter of recognizing when a meeting is not the best way to convey particular information. Consider, for example, Amazon's use of memos, whether for a board discussion or a press release. Frequently Asked Questions (FAQs) usually accompany a memo and are designed to trigger ontopic, in-depth discussion:

FAQs are typically two pages long and list all the questions with answers that any reader might ask when reading the narrative or press release. Good FAQs help in making the meeting more efficient. In the ideal case, all the key questions triggered by the narrative or press release are already answered in the FAQs, thus eliminating the need for any discussion. In most cases, the meeting can be focused on the few unanswered questions. Well-written FAQs help with alignment on the decision-making process related to the discussion in the main narrative or press release.1

As explained by Amazon, one can take action to design thoughtful conversations. By providing important information up-front, the actual meeting is positioned as a platform for high-quality communication, setting the stage for effective change that can emerge from the interaction that takes place. Having considered two unproductive forms of participating, we turn our attention to contributing and processing, as vital elements of a highquality conversation at work.

Promote Contributing

Leaders are the ones who will stand up and speak when no one else is willing to speak up. – Leymah Gbowee, Nobel Peace Laureate, Liberian peace activist

Productive voice means speaking up with relevant information, ideas, or opinions, to actively contribute to a conversation. Not limited to expressing a point of view or recommending an action, contributing may involve verbalizing agreement; supporting someone else's action; building on a concept; asking a question, or constructive disagreement or dissent. Productive voice occurs when people make comments and give reactions in a way that reinforces the norm that candour is welcome. Contributing is thus more than the reverse of withholding. It actively nurtures a climate of psychological safety and moves the conversation forward.

Contributing does not only come in the form of offering an idea or proposal; in fact, asking a question that helps a group dig more deeply into a topic or redirect a discussion is one of the more valuable ways to contribute in any conversation. A healthy mix of advocacy and inquiry makes for higher-quality discussions and better decisions (Argyris, 2002). When Joseph offered his opinion, he was contributing, but the value of his contribution would have been enhanced by ending with a thoughtful question to elicit others' reactions, for instance, asking, 'What other possibilities are there? What aspects of the project might we be missing?' Instead, Frank immediately jumped in, 'That's a great idea. Let's run with it,' closing the window for dissent or elaboration by junior partners.

Another crucial way to contribute is to offer a dissenting view – whether in a formal Devil's Advocate role, explicitly helping the group guard against groupthink, or simply speaking up to offer a specific concern about a course of action (see Garvin & Roberto, 2001). In short, any speech act that is focused on the topic at hand, considers its possible impact on others' willingness to also contribute, and is intended to help the group make progress counts as productive voice.

Leaders have the opportunity to model and explicitly train people in the skills of productive dialogue. Pioneering organizational learning researcher Chris Argyris (2002) explored how advocacy can be most constructive by deliberately voicing an opinion or idea in a way that clarifies the reasoning or provides examples to help others evaluate the contribution. Advocacy is more than just voicing your opinion; it is a process of thinking aloud that stimulates learning, and helps the group hone the insight outlined. Further, as Argyris noted, advocacy must be counterbalanced by inquiry to promote mutual learning (e.g. Tompkins, 2001).

Advocacy and inquiry reciprocated produce constructive dialogue, in which ideas are exchanged and the process or implicit rules underlying the process are examined and improved (Edmondson, 1996b). This means challenging assumptions. Perhaps the most important way to encourage contributing is through inquiry – asking open-ended guestions and valuing the input that ensues. Frequently asking questions normalizes speaking up and models the importance of thoughtful inquiry. Ensuring a mix of advocacy and inquiry, to produce what Argyris called double-loop learning is a powerful skill that can be taught to any type of team, whether a stable and cohesive unit that has been working together for over a decade or a newly-formed group of interdepartmental acquaintances (Edmondson, 2012). Table 3 provides more practical advice.

To illustrate, what if, after a junior colleague contributed to a discussion, Frank had responded, 'Thanks for that idea. This helps us develop a great solution for our client. Can you walk us through your thinking?'

Table 3. Advice on how to promote contributing through advocacy and inquiry.

⁻Train yourself and your team in the skills of high-quality advocacy and inquiry.^a

⁻As a team leader or manager, model learning-oriented conversations, including careful explaining of your thinking and genuine inquiry into others' thinking.

⁻Experiment with challenging your own assumptions out loud. Normalize the process of challenging and changing assumptions as new information comes up.

 ⁻Ask plenty of questions and applaud answers.

^aSee Senge (1994) for many exercises that can be used.

Another technique to encourage contributing is to reframe withholding as an act of disloyalty. Given the documented tendency for people at work to err on the side of holding back (Edmondson, 2019), silence needs to be labelled as something that is not valued by the company. As Netflix CEO Hastings put it, after realizing that people withheld information that had been vital to the success of the organization, he wanted to engrain speaking up in the very DNA of the organization:

The culture at Netflix had been sending the message to our people that, despite all our talk about candor, differences of opinion were not always welcome. That's when we added a new element to our culture. We now say that it is disloyal to Netflix when you disagree with an idea and do not express disagreement. By withholding your opinion, you are implicitly choosing not to help the company (Hastings & Meyer, 2020, p. 142).

Encourage Processing

All of us need time to understand what's being presented or to put ourselves in another's shoes, instead of forging ahead with our own opinions or interrupting to advocate a different course of action prematurely. Processing means active listening with a primary aim of understanding what is being said. We are not talking about sitting back while others do the work, but rather exercising the mental capacity to remain engaged in the discussion while silent. Sometimes a small element of cognitive distance is necessary to work through implications of what is being said (Fukukura et al., 2013).

This is a productive form of silence, because without it, people talk past each other. We listen to respond, not to learn (see Lewis & Graham, 2003; Stephens et al., 2010). Productive silence (on the part of anyone not currently speaking) is vital to the construction of conversations that move forward in meaningful ways, occasionally taking surprising new directions. The problem, of course, is that it's not easy to detect whether a team member is engaged in productive silence or rather pondering his evening plans. But when management teams develop the skills of productive conversation, they become more able to stay engaged and to give each other the respect of full attention, along with the benefit of doubt in believing that that is what others are also doing.

Several forms of communication can kill productive silence. These include content that is off-topic, like Frank's golf game, unimportant, or tangential, like his interjection of a broader M&A analysis. Because our thinking is easily distracted at the best of times; processing takes effort, and when everyone does their best to keep their verbal contributions on topic, the work of productive silence is most likely to occur.

Teams can set explicit norms for active listening (Edmondson & Smith, 2006). Listening is the essence of processing, and it's vital to effective participation in meetings convened to address challenges, make decisions, or move complex work forward. Leaders must continually reinforce the idea that not speaking does not equate to being disengaged.

When team members are processing, they are preparing for inquiry – asking thoughtful questions aimed at better understanding the different perspectives or helping to surface implicit assumptions. Doing this would help Frank have a productive and satisfying meeting when he and Joseph call on their junior associates for innovative, insightful, and informative feedback. See Table 4 for more applicable advice.



Table 4. Practices to encourage processing.

- -Set explicit norms for active listening. Conduct a round with your team members where you invite everyone to share how they define processing using the PCM. Based on the collective input, design a mutually agreed upon definition and identify the situations where processing is of utmost importance. Examples include client meetings, brainstorm sessions, or strategy alignment meetings.
- -Explicitly mention processing as a central feature of high performing teams. Include processing as a key competence in the organization's recruitment and selection, performance management, rewards, and learning and development.
- -Experiment with the left-hand column technique (Senge, 1994, pp. 180) as a way of deepening understanding of the kinds of thinking people engage in while others are speaking.

To illustrate how contributing and processing can be encouraged, consider meeting practices at Amazon. In his annual letter to the shareholders, Jeff Bezos - founder and CEO – wrote the following about leading meetings:

We don't do PowerPoint (or any other slide-oriented) presentations at Amazon. Instead, we write narratively structured six-page memos. We silently read one at the beginning of each meeting in a kind of "study hall." The great memos are written and rewritten, shared with colleagues who are asked to improve the work, set aside for a couple of days, and then edited again with a fresh mind. They simply can't be done in a day or two (Bezos, 2017, para. 11)

The Amazon meeting approach encourages the person who submits the memo to carefully craft a well-informed storyline that has been constructively challenged by colleagues (contributing). Productive silence is also stimulated because the meeting starts with a 30minute silence during which everyone carefully reads the memo and prepares for a thoughtful discussion (processing).

Implications for Theory and Practice

In this article, we have built on work that positions conversation as the arena of organization work and change. Specifically, we outlined four archetypes that can diminish and contribute to effective conversations and offered practices to help limit the former and promote the latter. We conclude with attention to the journey of shifting an individual team's habits away from withholding and disrupting and toward contributing and processing. With practice, intact teams can learn these skills together, but individuals also can master the techniques to unobtrusively guide conversations back on track when they veer off (Edmondson & Dimmock, 2020; Edmondson & Smith, 2006).

The skill of fostering high-quality conversations becomes even more important in today's increasingly diverse workplace (Martin, 2014). If low-quality conversations hamper learning and change, then an absence of effective leadership of the conversations in diverse groups adds pressure to an already challenging dynamic. Both surface and deep-level diversity can create fault lines in groups resulting in communication breakdowns, biased negative judgments of 'the other' subgroup, and an unwanted climate of in-group/outgroup competition. Needless to say, such dynamics hamper psychological safety and thus prevent high-quality conversations from happening. In that sense, we see leading conversations in diverse teams as a key lever for ensuring learning, progress and change.

Anyone who has worked in a company with more than one employee has experienced the frustration and prevalence of problematic conversations, especially in formal meetings. Clearly, simply avoiding meetings is not an option. In a knowledge economy,

bringing diverse perspectives together on purpose is critical to business success, which means running effective meetings is a leadership priority. Our framework, which synthesizes classic and recent research on conversational dynamics at work, outlines four ways participation happens to help leaders foster productive and reduce counterproductive behaviours in meetings. This tool complements useful meeting advice that is structural in nature – such as Jeff Bezos' famous two-pizza rule for meetings (see Bariso, 2018). We appreciate the role of meeting design - notably, any scheduled meeting should have (1) a clear purpose, (2) appropriate participants (in number and expertise) and (3) easy access to relevant background information. But good design will only get you into a position where a good meeting is possible - not guaranteed. Real-time leadership within a meeting is needed to convert that meeting's potential into results.

Minimizing counterproductive participation (withholding and disrupting) and enhancing productive engagement (contributing and processing) is a transformation that starts at the team level. Change at the micro-level unfolds in the context of groups, and almost all change involves conversation. We propose that carrying out a transformation to high-quality conversation is a phased process.

It starts with assessing current levels of withholding, disrupting, contributing and processing in your team. This can be done by having an external member observe during a meeting ('fly on the wall' principle), or by collecting survey measures, or through skilled interviews with team members. With this picture developed, the next step is to reflect with your team on the following questions: (1) do we agree on this assessment? (2) Which of these key archetypes can we work on first to improve the quality of our meetings? Aligning a team on these questions can help build momentum to move forward. Next, frame the journey as a learning process. Invite the team to launch a 'learning experiment' during which all members will try out new behaviours to diminish withholding and disrupting, and promote contributing and processing. Leaders should acknowledge the difficulty and complexity of this transformation to lower the hurdles to taking interpersonal risks. It's also critical to ensure a regular feedback loop where team members openly discuss the progress they see happening from themselves and others.

Conversations – whether in person or virtual – will remain a crucial determinant of effective decision making and execution well into the foreseeable future. And, as major corporations around the world announce that remote working will become the new normal, virtual meetings emerge as the primary source for connecting and decision making² (Akala, 2020; Kelly, 2020; Uyttebroeck, 2020; World Economic Forum, 2020). Make no mistake: Virtual meetings are subject to the same productive and unproductive forms of participation as in person meetings, and these call for real-time leadership even more urgently (Edmondson & Daley, 2020).

Workplace conversations that truly work – that advance understanding, learning, and task progress – have never been a more important source of organizational effectiveness. It is our hope that the Productive Conversation Matrix can help researchers and practitioners alike to continue to develop and apply new knowledge about how to improve this vital aspect of work.

Notes

1. Amazon internal document, provided to the second author in personal communication.



2. For example, Facebook, Amazon, Google, Microsoft, Morgan Stanley, the French car behemoth PSA, Mondelez, and Siemens, to name a few.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

Notes on contributors

Amy C. Edmondson, PhD is the Novartis Professor of Leadership and Management at Harvard Business School. Her research examines psychological safety and teamwork in organizations and has been published in numerous scholarly journals. She is the author of 7 books, most recently, The Fearless Organization (Wiley, 2019). She received her PhD in organizational behaviour, AM in psychology and AB in engineering and design from Harvard University.

Tijs Besieux, PhD is the founder of Leadership Footprint and a senior consultant at &samhoud. He is a visiting professor of leadership at IÉSEG School of Management and a research fellow at Leuven University. His work is focused on leadership behaviour as a key factor of teams that thrive. Tijs holds a PhD, MSc and BA in psychology from Leuven University.

References

- Akala, A. (2020, May 1). More big employers are talking about permanent work-from-home poshttps://www.cnbc.com/2020/05/01/major-companies-talking-about-permanent-workfrom-home-positions.html
- Argyris, C. (1994). Good communication that blocks learning. Harvard Business Review, 72(4), 77-85. Argyris, C. (2002). Double-loop learning, teaching, and research. Academy of Management Learning & Education, 1(2), 206-218. https://doi.org/10.5465/amle.2002.8509400
- Argyris, C., & Schön, D. A. (1997). Organizational learning: A theory of action perspective. Reis, (77/ 78), 345-348. https://doi.org/10.2307/40183951
- Bariso, J. (2018, April 30). Jeff Bezos knows how to run a meeting: Here's how he does it. https:// www.inc.com/justin-bariso/jeff-bezos-knows-how-to-run-a-meeting-here-are-his-three-simplerules.html
- Bezos, J. (2017). Annual letter to the Amazon shareholders. https://www.sec.gov/Archives/edgar/ data/1018724/000119312518121161/d456916dex991.htm?utm_campaign=Werk%20Slim&utm_ medium=email&utm source=Revue%20newsletter
- Bradley, B. H., Postlethwaite, B. E., Klotz, A. C., Hamdani, M. R., & Brown, K. G. (2012). Reaping the benefits of task conflict in teams: The critical role of team psychological safety climate. Journal of Applied Psychology, 97(1), 151–158. https://doi.org/10.1037/a0024200
- Brooker, K. (2019, November 15). Wefail: How the doomed masa Son-Adam Neumann relationship set WeWork on the road to disaster. https://www.fastcompany.com/90426446/wefail-how-thedoomed-masa-son-adam-neumann-relationship-set-wework-on-the-road-to-disaster
- Carmeli, A., Sheaffer, Z., Binyamin, G., Reiter-Palmon, R., & Shimoni, T. (2014). Transformational leadership and creative problem-solving: The mediating role of psychological safety and reflexivity. The Journal of Creative Behavior, 48(2), 115–135. https://doi.org/10.1002/jocb.43
- Carreyrou, J. (2019). Bad blood. Larousse.
- Casciaro, T., Edmondson, A. C., & Jang, S. (2019). Cross-Silo leadership How to create more value by connecting experts from inside and outside the organization. Harvard Business Review, 97(3), 130– 139.
- Delizonna, L. (2017). High-performing teams need psychological safety. Here's how to create lt. Harvard Business Review, 8, 1–5.
- Edmondson, A. (1999). Psychological safety and learning behavior in work teams. Administrative Science Quarterly, 44(2), 350–383. https://doi.org/10.2307/2666999



- Edmondson, A. (2003a). Managing the risk of learning: Psychological safety in work teams. In M. West (Ed.), International Handbook of organizational teamwork and cooperative working (pp. 255-276). Blackwell.
- Edmondson, A. (2019). The fearless organization: Creating psychological safety for learning, innovation and growth. Wiley.
- Edmondson, A. C. (1996a). Learning from mistakes is easier said than done: Group and organizational influences on the detection and correction of human error. The Journal of Applied Behavioral Science, 32(1), 5–28. https://doi.org/10.1177/0021886396321001
- Edmondson, A. C. (1996b). Three faces of eden: The persistence of competing theories and multiple diagnoses in organizational intervention research. Human Relations, 49(5), 571-595. https://doi. org/10.1177/001872679604900503
- Edmondson, A. C. (2002). The local and variegated nature of learning in organizations. Organization Science, 13(2), 128-146. https://doi.org/10.1287/orsc.13.2.128.530
- Edmondson, A. C. (2003b). Framing for learning: Lessons in successful technology implementation. California Management Review, 45(2), 34-54. https://doi.org/10.2307/41166164
- Edmondson, A. C. (2012). Teaming: How organizations learn, innovate, and compete in the knowledge economy. John Wiley & Sons.
- Edmondson, A. C. (2020). When employees are open with each other but not management. January 16, 2020. www.hbr.org
- Edmondson, A. C., & Daley, G. (2020). How to foster psychological safety in virtual meetings. Harvard Business Review, www.hbr.org
- Edmondson, A. C., & Dimmock, A. W. (2020). Don't get blindsided by your blind spots. November 5, 2020. www.hbr.org
- Edmondson, A. C., & Smith, D. M. (2006). Too hot to handle? How to manage relationship conflict. California Management Review, 49(1), 6–31. https://doi.org/10.2307/41166369
- Ford, J. D., & Ford, L. W. (1995). The role of conversations in producing intentional change in organizations. Academy of Management Review, 20(3), 541-570. https://doi.org/10.5465/amr.1995. 9508080330
- Frazier, M. L., Fainshmidt, S., Klinger, R. L., Pezeshkan, A., & Vracheva, V. (2017). Psychological safety: A meta-analytic review and extension. Personnel Psychology, 70(1), 113–165. https://doi.org/10. 1111/peps.12183
- Fukukura, J., Ferguson, M. J., & Fujita, K. (2013). Psychological distance can improve decision making under information overload via gist memory. Journal of Experimental Psychology: General, 142(3), 658-665. https://doi.org/10.1037/a0030730
- Garvin, D. A., & Roberto, M. A. (2001). What you don't know about making decisions. Harvard Business Review, 79(8), 108-119.
- Gino, F. (2019). Cracking the code of sustained collaboration. Harvard Business Review, 97, 71-81.
- Hackman, J. R., & Edmondson, A. C. (2007). Groups as agents of change. Handbook of Organization Development, T. Cummings (Ed.), 167–186. Thousand Oaks, CA: Sage.
- Hagel IIIJ., & Brown, J. S. (2010). Do you have a growth mindset? Harvard Business Review. www.hbr.org Hastings, R., & Meyer, E. (2020). No Rules Rules: Netflix and the culture of reinvention. Penguin Press.
- Hughes, M. (2011). Do 70 per cent of all organizational change initiatives really fail? Journal of Change Management, 11(4), 451–464. https://doi.org/10.1080/14697017.2011.630506
- Iger, R. (2019). The ride of a lifetime: Lessons learned from 15 years as CEO of the Walt Disney company. Random House.
- Kauffeld, S., & Lehmann-Willenbrock, N. (2012). Meetings matter: Effects of team meetings on team and organizational success. Small Group Research, 43(2), 130-158. https://doi.org/10.1177/ 1046496411429599
- Kelly, J. (2020, May 24). Here are the companies leading the work-from-home revolution. https:// www.forbes.com/sites/jackkelly/2020/05/24/the-work-from-home-revolution-is-quickly-gainingmomentum/?sh=683c28a1848a
- Kitroeff, N., & Gelles, D. (2019, April 20). Claims of shoddy production draw scrutiny to a second Boeing jet. https://www.nytimes.com/2019/04/20/business/boeing-dreamliner-productionproblems.html



- Lewis, T. D., & Graham, G. (2003). 7 tips for effective listening: Productive listening does not occur naturally. It requires hard work and practice. Internal Auditor, 60(4), 23-26.
- Martin, G. C. (2014). The effects of cultural diversity in the workplace. Journal of Diversity Management (JDM), 9(2), 89-92. https://doi.org/10.19030/jdm.v9i2.8974
- Moingeon, B., & Edmondson, A. (eds.). (1996). Organizational learning and competitive advantage.
- Nembhard, I. M., & Edmondson, A. C. (2006). Making it safe: The effects of leader inclusiveness and professional status on psychological safety and improvement efforts in health care teams. Journal of Organizational Behavior, 27(7), 941–966. https://doi.org/10.1002/job.413
- Ng, T. W., & Feldman, D. C. (2012). Employee voice behavior: A meta-analytic test of the conservation of resources framework. Journal of Organizational Behavior, 33(2), 216-234. https://doi.org/10. 1002/job.754
- Ortega, A., Van den Bossche, P., Sánchez-Manzanares, M., Rico, R., & Gil, F. (2014). The influence of change-oriented leadership and psychological safety on team learning in healthcare teams. Journal of Business and Psychology, 29(2), 311-321. https://doi.org/10.1007/s10869-013-9315-8
- Perlow, L., Hadley, C. N., & Eun, E. (2017). Stop the meeting madness. *Harvard Business Review*. www. hbr.org
- Roberto, M. A., Bohmer, R. M., & Edmondson, A. C. (2006). Facing ambiguous threats. Harvard Business Review, 84(11), 106–113.
- Rosen, S., & Tesser, A. (1970). On reluctance to communicate undesirable information: The MUM effect. Sociometry, 33, 253–263. https://doi.org/10.2307/2786156
- Schein, E. H. (1993). On dialogue, culture, and organizational learning. Organizational Dynamics, 22 (2), 40-51. https://doi.org/10.1016/0090-2616(93)90052-3
- Schein, E. H. (2010). Organizational culture and leadership (Vol. 2). John Wiley & Sons.
- Schippers, M. C., Edmondson, A. C., & West, M. A. (2014). Team reflexivity as an antidote to team information-processing failures. Small Group Research, 45(6), 731-769. https://doi.org/10.1177/ 1046496414553473
- Senge, P. (1994). Fifth discipline: Fieldbook. Century.
- Stephens, G. J., Silbert, L. J., & Hasson, U. (2010). Speaker-listener neural coupling underlies successful communication. Proceedings of the National Academy of Sciences, 107(32), 14425-14430. https://doi.org/10.1073/pnas.1008662107
- Tompkins, T. C. (2001). Using advocacy and inquiry to improve the thinking process of future managers. Journal of Management Education, 25(5), 553-571. https://doi.org/10.1177/10525629010 2500506
- Uyttebroeck, J. (2020, May 11). PSA sticks to working from home after coronacrisis. https://www. fleeteurope.com/en/safety/france/features/psa-sticks-working-home-after-coronacrisis?a= BUY03&t%5B0%5D=PSA&t%5B1%5D=Coronavirus&t%5B2%5D=COVID-19&curl=
- World Economic Forum. (2020, July 20). Siemens to let staff pass less time in the office permanently. https://www.weforum.org/agenda/2020/07/siemens-covid19-coronavirus-remote-working/