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Abstract

In two studies, we develop and test theory about the relationship between speaking up, one type of organizational citizenship behavior, and unit performance by accounting for where employee voice is flowing. Results from a qualitative study of managers and professionals across a variety of industries suggest that voice to targets at different formal power levels (peers or superiors) and locations in the organization (inside or outside a focal unit) differs systematically in terms of its usefulness in generating actions to a unit's benefit on the issues raised and in the likely information value of the ideas expressed. We then theorize how distinct voice flows should be differentially related to unit performance based on these core characteristics and test our hypotheses using time-lagged field data from 801 employees and their managers in 93 units across nine North American credit unions. Results demonstrate that voice flows are positively related to a unit's effectiveness when they are targeted at the focal leader of that unit—who should be able to take action—whether from that leader's own subordinates or those in other units, and negatively related to a unit's effectiveness when they are targeted at coworkers who have little power to effect change. Together, these studies provide a structural framework for studying the nature and impact of multiple voice flows, some along formal reporting lines and others that reflect the informal communication structure within organizations. This research demonstrates that understanding the potential performance benefits and costs of voice for leaders and their units requires attention to the structure and complexity of multiple voice flows rather than to an undifferentiated amount of voice.

Keywords: employee voice, lateral voice, voice network, communication structure, organizational citizenship behavior, credit unions

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Voice is ubiquitous in organizations. Employees speak up, offering verbal input about problems and opportunities for improvement, to many targets at work, including peers, direct bosses, and others in positions of power who might help (Morrison, 2011). Thus it is not surprising that interest in voice has become widespread in recent decades among practitioners and organizational scholars. Managers are implored to create environments in which speaking up to them and others is routine because voice is presumed to aid in the discovery of new products and services, enhance the efficiency and effectiveness of task processes, address problems in work systems, help identify untapped markets, and lead to many other positive learning and performance outcomes (Likert, 1961; Dutton and Ashford, 1993; Argyris and Schön, 1996; Morrison and Milliken, 2000).

From scholars and business leaders alike (Bryant, 2009, 2011a, 2011b; Urbina, 2010), then, the received wisdom is generally that voice is good and its absence is problematic. But not all leaders are sold on the benefits of voice, as indicated by the documentation of behaviors that suppress it and the theoretical work outlining reasons why some leaders prefer less rather than more of it. Morrison and Milliken (2000) argued that some leaders see voice as unwanted and unhelpful because of beliefs that employees often promote individual rather than collective interests and that such input is neither new nor useful (Ashford, Sutcliffe, and Christianson, 2009). Further, because scholars' focus has been on predicting voice, empirical evidence remains scant regarding the outcomes of voice for the larger groups, units, and organizations in which employees do speak up (Morrison, 2011; see MacKenzie, Podsakoff, and Podsakoff, 2011, for an exception). Thus while previous research has developed rich theory and nuanced empirical findings illustrating the individual outcomes of voice (e.g., Whiting, Podsakoff, and Pierce, 2008; Burris, 2012), there is little theory identifying the conditions under which voice proves useful for improving collective effectiveness.

Voice is directed to someone from someone. These source-target pairs, which form a structural pattern or lattice of interpersonal conduits through which voice flows, may produce differences in the types of issues voiced and the likelihood that substantive action will be taken by the target to resolve the issue raised. In turn, these distinctions among voice flows may affect the direction and magnitude of the relationship between a type of voice flow and collective outcomes (Brinsfield, Edwards, and Greenberg, 2009). For example, voice directed laterally to coworkers to evaluate consensus on an issue, to vent, or to receive social support is likely to have a materially different, potentially even harmful effect on unit performance than speaking up to a direct boss. In the latter case, employees are more likely to be selective in the types of issues raised, more careful about how they raise them, and more hopeful that actions will be taken to address them. Or voice to other managers may result in improvement for the target's unit, or even improvement for the entire organization, but to no relative advantage for the speaker's unit. Current theory, however, does not delineate such potential differences between voice directed laterally, upward to one's own boss, or to leaders elsewhere in the organization; nor does it specify how these differences among distinct voice flows may lead to different collective outcomes (Liu, Zhu, and Yang, 2010). Moreover, there is no current framework that carefully differentiates the potential benefit to a unit when employee voice is directed to another unit's leader rather than

one's own, directly responsible leader. This lack of refined theory and accompanying systematic evidence is troubling for both scholars and practitioners. For the former, it can lead to misdirected research efforts. For the latter, it can lead leaders to spend resources and hold themselves accountable for generating voice that, when expressed to some targets, does not lead to improvements, or at least not those for which they are credited.

The approach we adopt in this investigation is structural in that we consider the distinct patterns of to whom and from whom voice is flowing rather than the undifferentiated, overall amount of voice occurring within a unit (Paukzstat, Steglich, and Wittek, 2011; Murase et al., 2012). Structural perspectives, focusing on the positions of and/or ties between actors in a defined space, have become ubiquitous in the organization sciences. A structural perspective is particularly instructive in articulating what individuals or units benefit from a specific configuration of ties within a social network (e.g., Sparrowe et al., 2001; Burt, 2004). Though a structural perspective has been infrequently applied to the study of voice to date, voice flows do share some similarities with other types of communication, exchange, and interpersonal relation networks, such as those in informal advice and friendship structures. But the flows in a voice network are theoretically unique and different from what is captured in other commonly studied types of networks. First and foremost, the information content conveyed through voice is different. Voice is a challenging, prosocial, organizational citizenship behavior specifically intended to be instrumental in improving the organization by changing existing practices. In contrast, advice seeking is generally instrumental in the service of oneself and involves the pursuit of information about personal task performance for thriving or surviving within the current order (e.g., Borgatti and Cross, 2003). Further, the content and nature of friendship ties are altogether different from voice ties. The former represent an expression of personal liking, affective trust, and social support (Ibarra and Andrews, 1993; Gibbons, 2004), whereas the latter transmit specific content with a collectively instrumental purpose. Voice also defines only a particular type of input, namely, that aimed at pointing out opportunities or solutions for organizational improvement, rather than what is captured in studies assessing the broader constructs of "communication" or "information sharing" (Mesmer-Magnus and DeChurch, 2009). For example, in linking communication structures to work group performance, Cummings and Cross (2003) asked respondents, "How frequently did you communicate with X during the project?" This measure, although appropriate for that investigation, would not discriminate between input representing voice, advice, complaining, or other finer-grained communication constructs.

Improvement-oriented voice ties also represent a different balance of provision (giving) versus acquisition (receiving) than more commonly studied ties in social networks. By definition, voice represents the provision of information from a source to a target in the hope that the target will take action for a collective. In contrast, advice is primarily a form of acquisition in which an actor requests information from a target that can be used to help him- or herself (Gibbons, 2004; Nebus, 2006). As such, while there may be some overlap in dyads involved in voice and advice ties, the directionality of these information flows is likely to be inverted. This is why voice, especially if the information is high in quality, is beneficial to leaders trying to maximize performance: it is given to them rather than sought, and it aims to help the leader and the unit.

Further, because of their differences in content and intent, the characteristics that make targets for voice provision and advice seeking attractive are likely to differ. Targets for voice are more likely to be individuals higher up in the formal organizational hierarchy, having position power (Detert and Burris, 2007; Detert and Treviño, 2010), whereas targets for advice are more likely to be those higher in expertise and credibility, with expert and referent power (Klein et al., 2004), irrespective of their location in the organizational chain of command. Friendship ties, because they are primarily expressive rather than instrumental, are less likely to flow along the lines of the status or power hierarchy. Instead, they are more likely to flow among those similar in demographics or underlying values (Balkundi and Harrison, 2006). A source need not like a target to provide voice, nor even be willing to accord status to that individual. He or she need only believe the target can do something collectively helpful with the information or ideas provided.

Voice flows, then, deserve to be studied as an important network in their own right. What is needed is a theory-driven empirical investigation that connects voice flowing to and around leaders to beneficial or harmful outcomes that leaders care about, those reflecting their unit's performance. Responding to that need, in our first study we inductively explore qualitative descriptions of distinct voice flows to versus around unit leaders to reveal differences that could be theoretically valuable for predicting relationships between these voice flows and unit performance. In our second study, we examine proposed relationships between these distinct voice flows and unit performance in financial service firms. Our theory and empirical approach is structural in that it explains why understanding the potential value of voice in hierarchical organizations requires simultaneously considering from whom voice comes and to whom it is directed (Pauksztat, Steglich, and Wittek, 2011). Moreover, because voice is distinctly challenging and prosocial, the structure of voice flows is likely to be illustrative in understanding a unit's effectiveness beyond the patterning of other more commonly studied types of network resources (e.g., advice or friendship). In short, by considering both the structure of where voice flows and the unique nature of voice as challenging but improvement-oriented communication, we can develop theory for when and why voice leads to better or worse unit performance.

VOICE AND VOICE FLOWS

Voice is a transmission of information between two parties, from a speaker (source) to a target (recipient), with the intention of making things better via proactive behavior rather than responding to current situations with silent loyalty or exit from the organization (Hirschman, 1970). As with its broader category of organizational citizenship behaviors, voice is discretionary. It cannot be coerced by a leader; it is hard to punish for its absence; it is difficult to evaluate as in-role behavior (Van Dyne, Cummings, and McLean Parks, 1995). Consistent with this discretionary, proactive definition, improvement-oriented voice is distinct from the notion of voice in the justice and decision-making literatures, where it is referred to as a form of process control that employees might be allowed to exercise over procedures that affect them (Folger, 1977; Lind and Tyler, 1988). Improvement-oriented voice, as studied in this paper, refers to employee-generated, informal communication behavior that extends

beyond allocated participation rights (Brockner et al., 1998), shared leadership situations (Carson, Tesluk and Marrone, 2007), or other settings in which decision-making authority resides in a team of equally powerful members.

Unlike most other citizenship behaviors, voice is challenging rather than affiliative (Van Dyne, Cummings, and McLean Parks, 1995). As such, it can be a riskier behavior for the speaker. Employees are significantly more likely to face career or social consequences for pointing out problems and suggesting changes to the status quo than for helping others or taking on a stewardship role for the organization. Employees who intend to be helpful by speaking up may instead be viewed as unacceptably challenging authority, rocking the boat, merely complaining and wasting time (e.g., Milliken, Morrison, and Hewlin, 2003), or showing off and not being a team player (e.g., Ryan and Oestrich, 1991). Thus scholars have worked to establish the antecedents of this important but potentially personally risky behavior (e.g., Van Dyne and LePine, 1998; Detert and Burris, 2007; Ng and Feldman, 2012). Voice is now understood to be more frequent when employees believe that it is psychologically safe to speak and when doing so is not futile (Ashford et al., 1998; Milliken, Morrison, and Hewlin, 2003; Detert and Burris, 2007; Detert and Treviño, 2010). Individuals with particular dispositions, for example, those who are more extraverted (LePine and Van Dyne, 2001) or have more proactive personalities (Seibert, Kraimer, and Crant, 2001), and in particular contexts (e.g., Dutton et al., 2002) engage in voice behaviors more often. For example, voice is more common from those with bosses whose behaviors signal more willingness to act on input from below (Saunders et al., 1992; Dutton et al., 2002; Detert and Burris, 2007) and from employees in a broadly supportive climate (Morrison, Wheeler-Smith, and Kamdar, 2011).

Despite the possible risks to individuals of speaking up, voice has great potential value to leaders who receive it: the opportunity to spot problems earlier, benefit from the collective knowledge of others, and pursue improvements that help them and their area of responsibility. By leaders we mean not just those in the most senior positions, but the much greater number of individuals throughout organizations with a formal mandate to oversee the collective effort of individuals who are accountable for measured outcomes. Widespread voice should facilitate learning (Huber, 1991; Floyd and Woolridge, 1992; Ashford et al., 1998; Edmondson, 2003) and effective decision making (Eisenhardt, 1989; Milliken, Morrison, and Hewlin, 2003), both of which are key to performance (Edmondson, 2002; Vera and Crossan, 2004). Thus unless one views leaders as omniscient, leaders receiving voice and tapping the insights of a collective should have informational resources allowing them to outperform leaders relying on only their own eyes, ears, and experiences. This view, that voice is valuable for leaders, is consistent with functional perspectives that define leadership as social problem solving based in diagnosing, generating and planning, and implementing solutions (McGrath, 1962; Zaccaro, Rittman, and Marks, 2001). It is also consistent with taxonomies that include information search, monitoring, and decision making as among the roles that most occupy leaders' time and determine their success (Mintzberg, 1973; Fleishman et al., 1991).

This does not mean that all voice in organizations is directed toward leaders or that all voice is good for them. Although studies typically examine the one type of voice that is readily linked to potential value for the leader, namely,

voice that flows directly upward from a subordinate to his or her immediate boss (e.g., Saunders et al., 1992; Janssen, deVries, and Cozijnsen 1998; Detert and Burris, 2007; MacKenzie, Podsakoff, and Podsakoff, 2011), the flow of voice to a leader from his or her direct subordinates is not the only improvement-oriented communication that might affect performance. Employees can also speak to leaders outside their chain of command or to coworkers (Liu, Zhu, and Yang, 2010; Morrison, 2011). These voice flows may be valuable to performance-related learning if they provide information or are likely to generate action because they are seen as deserving resource outlays (Menon and Pfeffer, 2003). Unfortunately, little is known about this broader patterning or structure of voice, or how these multiple flows may be differentially related to performance, because investigations of voice predominantly explore the volume of behavior directed to a single target or an unspecified collective.

More generally, given the absence of studies examining multiple types of sender-target voice combinations simultaneously and in rich detail (Pauksztat, Steglich, and Wittek, 2011), it is difficult to make precise theoretical predictions about relationships between voice and performance outcomes (Liu, Zhu, and Yang, 2010). Will leaders' own units perform better (or worse) when they hear from more rather than fewer of their own subordinates? And when their subordinates speak up often to each other? Or when their subordinates speak to other leaders in the organization? Are all such communications equally helpful? Without more knowledge of the dynamics of voice involving different sender-target combinations for voice, these questions about the relationships between voice and important outcomes are likely to remain unaddressed. We began, therefore, by seeking to understand, via richly descriptive qualitative data, the basic nature and features of three distinct voice flows: (1) from speakers to their coworkers, (2) from speakers to their immediate boss, and (3) from speakers to other managers in their organization outside their own chain of command. Our intent was to collect and analyze detailed narrative descriptions of voice episodes among these different sender-target combinations to see if and how they are different in ways relevant to predictions that might be made about their impact on performance.

STUDY 1: QUALITATIVE ANALYSIS OF VOICE EPISODES

Method

Sample and data collection. To hone our understanding of distinct voice flows, we engaged in a multi-step inductive process in which we collected, analyzed, and synthesized qualitative survey data from a broad array of informants (Miles and Huberman, 1994). We designed an online survey in which respondents were given a brief definition of voice and asked to provide "rich explanations, and not short phrases," in response to open-ended questions about specific instances in which they had spoken up to each of three targets: direct boss, a manager of another unit in their firm, and a co-worker. We designed a set of questions to probe why respondents might direct different types of issues to one target, and not others, and why respondents might communicate about the same issue with multiple targets, and in what order. This would allow for a nuanced understanding of the characteristics of the issues and the target that might have implications for unit outcomes. Respondents

were first asked to respond to a primary prompt directing them to describe a specific issue about which they had spoken up to a focal target, for example, "your DIRECT BOSS," and explain why. They were then asked to respond to two secondary prompts about that same issue: whether they had also communicated with the two other targets, that is, "a COWORKER" and "ANOTHER MANAGER in your organization," and why they had or had not brought the issue to each additional target. The questions were then repeated, but the order was switched for each of the other two focal targets. We randomized the order in which respondents saw these three sets of questions so that the first question a third of all respondents responded to was, alternatively, about speaking up to a direct boss, a coworker, or to another manager.

A link to this online survey was sent to all members of three prior Executive MBA courses taught by one of the authors at a research-intensive university in the U.S. Of the 333 people who received the e mail invitation, 106 were deemed ineligible because they did not meet the stated criteria of being currently working in an environment where they had a direct boss, coworkers, and other managers in their organization to whom they could potentially speak up. From the remaining 227 eligible respondents, we received 117 usable responses, for an effective response rate of 51 percent. Respondents held a wide variety of professional and managerial titles across many industries throughout the U.S. and Canada. Approximately 84 percent of respondents were male; and 44.2 percent described themselves as Caucasian, 39.5 percent as Asian or Indian, and the rest as African, Hispanic/Latino, or "Other." Their average age was 36.5 years old. Respondents did not differ statistically from non-respondents in gender or ethnic composition, self-reported proactive personality and job satisfaction, or reports of their current boss's leadership effectiveness. Respondents were slightly older (mean = 36.5, S.D. = 6.4), on average, than non-respondents (mean = 35.20, S.D. = 5.2, $t_{(332)} = 2.04$, $p = .04$).

Analysis. To uncover underlying patterns and themes in the qualitative responses about specific instances of speaking up to bosses, coworkers, and other managers, we engaged in a multi-step process, iterating between induction and deduction (Rafaeli and Sutton, 1991). One author first reviewed a portion of the data, taking notes on what appeared to be common characteristics in informants' descriptions of voice in the examples provided, as well as which targets were spoken to in the examples and in what sequence (when discernible). That author and a second author then discussed the emerging coding scheme, making adjustments based on comparisons and contrasts of specific examples as well as extant understanding of the phenomena. The second author then used the tentative coding scheme to code another small portion of the data, after which another discussion and set of modest adjustments were made. This included the decision to eliminate from further consideration the small number of responses that could not be coded because the answer indicated either that the response did not appropriately match the question (e.g., descriptions of "speaking up to someone at my old company" or "to my peer" in response to a question about speaking up to one's current boss), or the response to the primary prompt was clearly a form of communication that did not constitute improvement-oriented voice (e.g., "I shared with peers what the boss had said in the meeting"). This left 929 text units for coding.

Next, two additional coders were provided with a written document with the codes, definitions, and examples and were trained to apply the coding scheme to the entire set of text units. Codes described the key characteristics of the voice episodes, such as the magnitude or reach of the issue and whether the speaker noted "getting the problem solved by the target" or other objectives for the communication. We also coded for the sequencing of voice about the same issue to multiple targets. After some preliminary discussion to confirm they shared an understanding of the coding scheme, each coder worked independently. When both finished, their results were combined and compared. We calculated Cohen's kappa as an estimate of reliability or agreement among the raters and found substantial agreement ($k = .74$). The two authors who developed the coding scheme then discussed all instances of disagreement, many of which were determined to have stemmed primarily from slight differences in how each coder had interpreted the distinction between two codes, and settled on a final designation. At that point, the codes were compared and contrasted across categories (e.g., "coworker as target" vs. "boss as target") to look for patterns that might facilitate theoretical insight (Miles and Huberman, 1994).

Results

Several first-order thematic differences consistently emerged in the voice episodes targeting direct bosses, other managers outside formal chain-of-command reporting relationships, and coworkers. First, as outlined below, voice among these distinct sender-target flows often could be differentiated by two aspects reflecting its instrumentality: the power of the target to devote resources and take action to address the issue, and the ability of the target to influence others to address the issue. Second, distinct voice flows differed systematically in two reflections of their information value, namely, the scope of the issues speakers commonly address to a given target type and how careful the speaker is about processing the issue prior to speaking to a given type of target. Table 1 summarizes the distinctions among different sender-target voice flows.

Control over resources and decision making. Patterns in the data suggest that speakers clearly perceive voice to different types of targets as differentially effective in generating action that satisfactorily addresses the issue raised. One type of instrumentality commonly noted, and varying across voice to different target types, is the ability of a given target type to allocate the specific resources or make the specific decisions needed to address an issue (Magee and Galinsky, 2008; Brinsfield, Edwards, and Greenberg, 2009; Detert and Treviño, 2010). Informants differentiated between those with more power (direct bosses and other managers) and those with no more power than themselves (coworkers) to make decisions involving the resources, policies, or other tangible factors needed to take viable action. A primary reason identified for speaking up to one's direct boss is clearly instrumental: to get someone with more power to resolve a problem issue or improve a suboptimal situation in one's own unit. As shown in table 1, the ability of one's direct boss to allocate the resources needed to solve the problem or pursue the idea, or to make

Table 1. Distinctions Identified in Study 1's Analysis of Different Sender-target Voice Flows

First-order dimension	Voice Target			Second-order dimension
	Direct boss	Other manager	Coworker	
Target's control over resources, policies, decisions	High (50%)*	Moderate (37%)	Moderate (21%)	Instrumentality to affect action for unit's benefit
Target's upward and downward influence potential	Moderate (25%)	Moderate (23%)	Low (2%)	
Scope of issues (unit-level improvement focus versus smaller or broader)	Unit-level focus (76%)	Unit-level focus (36%)	Unit-level focus (27%)	Information quality/value
	Smaller focus (17%)	Smaller focus (6%)	Smaller focus (51%)	
	Broader focus (6%)	Broader focus (58%)	Broader focus (21%)	
Preparation: Frequency of vetting, advice-seeking, and evidence gathering done prior to speaking to target for action [†]	High (46%)	High (70%)	Low (11%)	

* All percentages for the first three first-order dimension rows refer to how often the first-order dimension was coded in the data for each target as a percentage of all episodes reported to that target (on the primary question).

† Percentages for this first-order dimension use as the denominator the number of cases (out of the total episodes) for which the sequence of speaking among the targets in the primary and secondary question prompts was discernible.

other binding decisions regarding the issue, was identified in 50 percent of the episodes in which voice was targeted to the boss. Describing voice to direct bosses, respondents frequently used phrases such as "to solve the problem," "need the boss's power," and "only s/he can decide." For example, informants explained going to their own or other bosses because "it is in his power to change the strategy," and "she has higher authority to action change." Likewise, informants approached other managers outside their chain of command who they deemed held the relevant power to allocate resources or make decisions about the focal issue (37 percent of episodes targeted other managers).

In contrast, respondents reported being quite aware that their issues were unlikely to be acted upon when speaking to coworkers. For instance, one respondent noted that "unless our directors and executive director changes, it will be hard to change the situation." In only 21 percent of the episodes of voice targeted at peers did respondents appear to believe that their peer had the power to actually resolve the issue. Sometimes a peer could solve the problem because it was his or her own bothersome behavior that led to the voice episode. Other times it was because a coworker controlled the relevant process or resources. For example, a respondent reported suggesting that a coworker improve one of her work processes, noting, "This coworker is responsible for this work process and has the power to act on the suggestions."

Overall, the patterns revealed in the data suggest a marked difference in the average ability of different voice targets to actually control the resource, policies, or other decisions required to address the issues that are brought to them. The examples below illustrate this difference between coworkers, bosses, and other managers, respectively, as targets.

The "product requirements document" (which defines what we build in engineering) is not in synch with what our customers expect of us. Thus, we end up developing features that do not gain traction in the market and we get way too many product enhancement requests from customers after we release the product. I need [my boss] to fix this gap. I tried bringing this up many times with my peer before taking it to my boss. Since it did not get addressed, it was time for me to raise it to the next level to get some traction.

I told my boss that my group was in need of another person on our team based on our projects planned. I explained that our work quality will suffer if we do not have the right resources in place, and that I was concerned about the level of internal service my group would be able to provide. He would be the one to approve or deny the request.

I brought up an issue [to another manager] regarding the lack of funding/budget for the program I work in. I brought the issue up to another manager because he has overall control/responsibility for the budget in the office. I needed to purchase additional equipment, but had no money. As a result, I needed to bring up the issue to solve the current problem, and then to discuss potential solutions/options in the event this occurs again in the future.

Influence potential. Beyond decision-making power involving tangible resources or choices, speakers also noted that different targets are more or less able to informally influence, champion, or motivate others to change actions or behaviors to address the issues raised. The influence potential of a coworker was only identified in 2 percent of the voice episodes to that target. In contrast, the belief that one's direct boss was needed to influence others to act on an issue was identified in 25 percent of voice episodes to direct supervisors. Sometimes the boss's influence was needed when others' influence attempts had failed: whereas speaking directly to coworkers about problems involving their behavior often failed to produce results, speaking to the boss about the same matter could lead to the boss intervening. Respondents reported needing a boss's help when they were "not making any progress" with other peers and therefore "asked for support from him." For example, the boss was deemed necessary to compel change in a coworker whose peers had previously spoken to each other, to no avail, about the under-performance of a teammate who was derailing the group.

Informants also reported speaking up to their own boss about issues requiring support or action from others beyond their own unit, noting that they spoke to their own boss believing that he or she could be more influential with peer managers or those even higher up in the organization (Kipnis and Schmidt, 1988). Bosses were seen as linking pins (Likert, 1961), those with "the ability to champion and push these sorts of ideas forward." Descriptions of this reliance on the boss's potential to influence others were common in the data. One informant explained, "Getting [my boss's] agreement to take our suggestions to the executives is the only way to get anything done. That's the reason to bring this issue to him." Another explained this goal concisely: "I was hoping he had the influence to suggest the necessary changes to other senior management." Speaking up to one's boss is a way of getting issues into the hands of those who are more influential, sometimes to resolve issues with

employees in other units whose behavior or inaction was the source of frustration for the speaker. As one respondent reported:

I had a dispute with the head of our marketing department about control of our network's social media pages. I believe the social media pages exist to drive traffic to our website, thereby increasing revenue. The marketing head wanted to use the social media pages [for another purpose]. My boss is not the manager of the marketing head, but has influence on our CEO, who manages the marketing head.

Voice episodes directed to other managers also contained evidence in about one-quarter of the cases (23 percent) that the respondent hoped or believed this voice target could wield influence on others regarding the issue at hand. The influence of other managers was needed, for instance, to persuade support functions to give higher priority to the speaker's unit, to get schedule changes made in other units to allow better coordination and performance across units, or to motivate change in workers elsewhere in the organization whose behavior was having a negative impact on the speaker's unit. In short, the basis for speaking to a manager outside one's chain of command was often the belief that this target had "organizational influence and could help . . . push for this change." Sometimes other managers are needed to exert downward influence on those at relatively similar levels to the speaker:

Our marketing communication specialist has been under-performing on several projects that he was assigned when working with my team, despite feedback and suggestions made directly to him from my team. . . . Since I am not able to directly influence the behavior of this individual, and his continuous lack of motivation and effort had affected the performance of my team, I needed to bring it to his manager to seek help.

In addition to the control over resources and influence potential, the data also reveal two differences likely to alter the average information value that the three types of voice flows had for improving the speakers' units. First, the scope of the issues—how small and narrow versus complex and systemic—brought to different targets varied, ranging from voice about a single, small irritant with no apparent broader relation to unit performance to voice about issues clearly affecting the performance of the speaker's own unit, to voice about broader issues that were described as affecting the performance of another unit, multiple units, or the entire organization. Second, the level of preparation or care involved in deciding whether or how to bring an issue to its ultimate voice target varied in ways that suggest a different average information quality or value in voice directed to different target types.

Scope of the issues raised. Analyses of responses to the prompt about voice to a coworker indicate that respondents more frequently (51 percent of incidents reported) speak to fellow employees to address smaller, localized problems or prospects involving a few people than about issues with the potential to positively affect the entire unit (27 percent). As one respondent said, "I approached a coworker about resolving an argument with his counterpart about a technical issue." Informants reported speaking to peers about an "issue with [the target's] wife" that was leading to a lack of commitment and a negative

attitude at work and to a peer experiencing a “temporary setback” because he “did not want to lose a good performer and great colleague.” Said another, “One of my co-workers was over-reacting in meetings and he was taking all suggestions personally, as if there is something wrong in his implementation that we are pointing out.” These types of issues felt important enough to the informant to speak to the peer about but also appear only tangentially, if at all, related to systemic issues likely to affect overall unit performance.

Voice directed to the speaker’s boss, in contrast, tended to be about issues of a larger magnitude and more clearly related to the collective effectiveness of the speaker’s unit. In 76 percent of the voice episodes targeted at one’s boss, the issue was coded as clearly having unit-level performance implications for the speaker’s own unit. Informants described ideas to grow sales, improve marketing and client satisfaction, and eliminate wasteful processes and projects. And whereas most of the voice to peers tended to be about specific problems, voice to bosses often contained more evidence of ideas to improve or grow the unit. Respondents reported speaking to the boss about minimizing delays in product releases or software implementations causing customer dissatisfaction and revenue issues, and about refocusing and prioritizing deliverables to address output problems. As one informant said,

I spoke to my boss about owning designs in the chip that impacts security as we were the chip security team and depend on other design teams to audit the security. It reduces dependency on other teams and [would result in] better control on the security strategy. I figured she would see the merit in the suggestion and be able to pursue that effort.

Likewise, voice to other managers also generally involved issues of a larger magnitude or scope. The potential for improvement to the speaker’s own unit was identified in 36 percent of the voice episodes targeted at other managers. And in 58 percent of the episodes of voice targeted at another manager, the issue was deemed to have potential benefits for multiple units of the organization or the whole organization. One respondent explained that he “mentioned [competing on price] to another leader to see if there was any support for the idea—and there was.” In fact, the perceived scope of the issue often seemed to be the very reason to make the extra effort involved in, and face the potential risk of, speaking up to another manager outside one’s chain of command. In other cases, informants approached other managers because they felt the issue was worth addressing for the sake of the whole organization more than their own manager did and hoped someone else with more power would too:

I spoke with another manager about a few trends I was analyzing across the whole company (i.e., running numbers on commercial real estate investments to find trends in successes and failures). . . . [This other manager] has said on many occasions, “If you feel something can be improved in another part of the company, just get yourself involved.”

Preparation for speaking up. The data also reveal different levels of care taken regarding what, when, and how things are said to the three different types of targets investigated. The data suggest a reduced level of filtering, pre-processing, or concern about the quality of a given idea prior to speaking to

coworkers versus targets with a higher degree of power who are, as a result, likely to be the ultimate targets for getting action on the issue at hand. In only 11 percent of the episodes in which the sequence of communication among multiple targets is discernible was there evidence that an employee spoke to others prior to speaking to a coworker. This could be due to greater trust and less fear of material consequences when speaking to coworkers. It also likely indicates an implicit understanding that many issues raised with coworkers are not likely to do more than serve some type of psychological (“expressive”) purpose (Burris, Detert, and Romney, 2013), such as helping one vent, reduce frustration, find camaraderie, or bolster one’s confidence in what is being perceived or considered for upward transmission. In more than half the responses to prompts about voice to a coworker (52 percent), speakers indicated that they were trying to “validate [their] concerns,” “get buy-in,” or otherwise check if their issue or idea had merit. In contrast, these purposes were identified in only 17 percent of all descriptions of voice to direct bosses and 33 percent of voice to other managers. It is not surprising, then, that the examples indicate that voice among coworkers spans a wide quality range, from voicing problems or ideas with little merit or no chance of being addressed, to those that garner consensus regarding their validity and value. Voice to coworkers is usually the starting point rather than the destination in an issue-resolution communication chain, as illustrated by one respondent’s voice episode: “I spoke up [to a coworker] about the lack of dedicated support staff based here in [city X]. I wanted to know if he had the same thoughts and frustrations as I had.”

In contrast, speakers reported being much more careful and selective about speaking to direct bosses and other managers with higher-quality ideas or clearly important problems. Evidence for this filtering and care when speaking to direct bosses comes from the finding that boss-directed voice had already been discussed with someone else in 46 percent of the cases in which a sequence is discernible. In 89 percent of those cases, communication with a coworker came first. Often this included respondents’ reporting that they validated the quality of the idea, sought feedback to strengthen their argument, and sought input on when or how to present the issue. For instance, one respondent explained preparing to speak up to the boss by talking with others first to “get a better understanding of the problem and build a case for having the work done.” Others took steps to “understand how [colleagues] managed their communication with the boss” so as to be most effective in presenting ideas that would get attention. Similarly, the data suggest that respondents only approached other managers outside their chain of command when they felt more confident about the potential value of their input. In 70 percent of the cases of other-manager-directed voice in which a sequence is discernible, informants had spoken with others, either coworkers (83 percent of these cases) and/or their direct boss, prior to taking the issue to another manager. Again, respondents reporting using others to get multiple data points on the nature of the problem, feedback on the best solution, and the best way to present their idea or problem to a manager outside their chain of command.

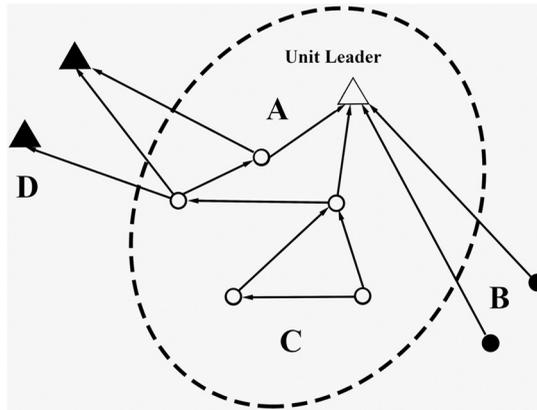
Our qualitative investigation of voice episodes directed to different target types suggests that voice flows among different sender-target combinations can be distinguished based on four first-order dimensions that reflect two theoretical second-order concepts—the perceived instrumentality of voice to affect action to the benefit of the speaker’s unit and the informational quality or

potential value of voice—that differentiate voice flowing from senders to distinct types of targets. If, as suggested by these data, voice flows between various sender-target combinations are fundamentally different in these ways, then it is likely that distinct voice flows make differential contributions to the effectiveness of a leader's unit. After all, for voice to yield collective improvement, the nature of the issue raised must involve a systemic problem or opportunity within a unit, and some action must be initiated to address the issue (McClean, Burris, and Detert, 2013). If different targets are more or less likely to hear about issues with greater or lesser possible impact (reflecting instrumentality and information value), then an approach that simultaneously captures multiple distinct voice flows is needed to more fully understand the link between voice and unit outcomes (Pauksztat, Steglich, and Wittek, 2011; Crawford and LePine, 2013). Study 2 represents a first step along these lines, drawing on the insights of Study 1.

STUDY 2: A STRUCTURAL PERSPECTIVE ON VOICE

Many types of voice flows to and around a leader may potentially enhance or undermine unit performance. Voice flows can differ on one or both of two fundamental theoretical dimensions pertaining to sources and targets. First, as noted and illustrated in Study 1, voice flows can be distinguished by whether the speaker directs voice to a leader (a target with formal power in any unit) or to other, informal targets outside the formal chain of command (Kassing, 2011). Extensive research and theory in the domains of power, leadership, and voice suggest that leaders have greater ability and motivation to take actions that improve their own unit than do their subordinates or peers (Magee and Galinsky, 2008). To more fully understand how voice affects performance, research must thus simultaneously consider multiple flows that span both formal and informal pathways (Argote, McEvily, and Reagans, 2003; Pauksztat, Steglich, and Wittek, 2011, Morrison, 2011). Second, voice flows can be distinguished by whether the sending and receiving parties reside in one unit or span the boundary between units. The location of nodes (persons) is considered in network research as theoretically relevant to where the likely benefits accrue from what flows (voice) between the nodes. Ideas about other, more refined structures of voice flows would first need to start with these straightforward building blocks.

As shown in figure 1, we consider four distinct types of voice flows directed to and around unit leaders stemming from a combination of the two theoretical distinctions outlined above. The first type, as explored in almost all voice research to date, is the upward, chain-of-command transmission of improvement-oriented ideas from direct subordinates to their formal leader. We call this "upward flow" (flow type A in figure 1). A central insight of network theory and research, however, is that communication patterns in organizations often produce an informal structure that only partially mirrors the formal organizational chart (Kilduff and Tsai, 2003). For upward flow, that means that not all subordinates speak up to their leader. It also means that another potentially valuable source of improvement-oriented ideas for a focal leader is employees in other units crossing boundaries on the organization chart. Information that is important to leaders can exist inside or outside their own team (Zacarro, Rittman, and Marks, 2001). Another unit's employees

Figure 1. Voice flows to and around a leader.

can speak up in a vertical but not chain-of-command sense by speaking “diagonally” to the leaders of other units. We refer to this second vector of voice as “inbound flow” (flow type B in figure 1). Third, employees may direct voice sideways or laterally, communicating to others with the same formal rank in their unit (Liu, Zhu, and Yang, 2010; Morrison, 2011). This “lateral flow” (flow type C in figure 1) may reveal one or more informal leaders, or voice hubs. Fourth, voice ties can represent loss of improvement-oriented information from a focal unit if speakers send voice outside their chain of command. This “outbound flow” of voice moves in the opposite direction (internal to external) from inbound voice flow (type B). It occurs when a focal unit’s subordinates speak up to leaders elsewhere in other units (flow type D in figure 1). These four types of voice flows should have different effects on a focal unit.

Voice Flows and Unit Performance

Upward flow to the leader. Extant perspectives on improvement-oriented voice, and the single published study linking it empirically to collective outcomes (MacKenzie et al., 2011), suggest that voice should benefit the performance of the leader’s unit. Discretionary input going to a direct boss signifies that employees are willing to share information openly, without undue concern about the risks of speaking up and without the sense that investing the energy to do so will be wasted effort (Detert and Treviño, 2010). The concerns and ideas employees share with their direct boss should be of particular value to the performance of that unit because it maximizes opportunities for timely learning and responsiveness by that leader (Floyd and Woolridge, 1992; Morrison and Milliken, 2000; Edmondson, 2003; Mesmer-Magnus and DeChurch, 2009).

Voice to a direct boss may increase the performance of that leader’s unit for two reasons. First, as illustrated in Study 1, when voice is targeted at someone in the unit with power, who has control over the resources and often the decision processes that are relevant to addressing the issues raised (Detert and

Burris, 2007; Magee and Galinsky, 2008), the learning generated from voice should be more likely to result in action affecting the unit. Leaders receiving voice from their subordinates that is relevant to collective (unit) improvement should be particularly motivated to respond to such input (Van Dyne and LePine, 1998) because identifying and acting on deficiencies that impede goal attainment is a critical leadership function (Hackman and Walton, 1986; Fleishman et al., 1991). Thus to the extent that formal decision makers within the unit have access to more information, insights, and suggestions from their employees, they should be better able to diagnose, plan, and execute actions to improve their unit's performance. And even when they themselves do not have full control over the relevant resources or decisions, supervisors should be better positioned to exert upward influence with higher-ups than their subordinates are (Likert, 1961).

Second, given the natural tendency to fear offending or wasting the time of higher-power others (Detert and Edmondson, 2011), voice directed from subordinates to their own leader should be of sufficient value overall to potentially improve the unit. Because it is risky (or at least perceived to be) to speak up to someone with formal control over one's job, employees are likely to be concerned about voicing low-quality ideas upward. As the qualitative data from Study 1 make clear, employees directing voice upward should be more likely to self-censor ideas that are not yet fully formed, vet ideas with others before speaking up, and filter what they say to bosses (Dutton and Ashford, 1993; Detert and Edmondson, 2011). We therefore predict that voice directed from subordinates to their direct boss is likely to have a positive net impact on the performance of their unit:

Hypothesis 1 (H1): Upward voice flow directed from immediate subordinates to a focal leader is positively related to the subsequent performance of the focal leader's unit.

Inbound flow to the leader. Prior research has noted that most leaders have at least periodic opportunities to receive voice from employees several levels below them in the hierarchy (Detert and Treviño, 2010). Less acknowledged, but also theoretically plausible and illustrated in Study 1, is an "outside-in" or inbound flow: focal leaders hearing periodically from employees below them, but in other units who are speaking up to another manager outside their chain of command. This inbound flow of voice should be particularly worthwhile to leaders seeking to improve performance in their own unit because it is likely to involve more uniquely valuable information and because outside employees are less likely to have the same knowledge sources as those in a leader's own unit (Burt, 2004). Accordingly, the information received from employees elsewhere in the organization is less likely to be redundant. By extension, it is more likely to provide novel understanding about previously unseen options (Perry-Smith and Shalley, 2003; Zhou and George, 2003; Cross and Cummings, 2004) that, in turn, can be leveraged for the success of one's own unit (Zacarro, Rittman, and Marks, 2001). Inbound voice flow may thus overcome the natural constraint imposed by unit boundaries on the amount and quality of voice a leader can receive, leading to greater knowledge and efficacy than would be possible if the leader were limited to within-unit upward flow.

Further, other leaders in the organization, even if not one's own boss, are still seen as authorities with higher formal rank (Magee and Galinsky, 2008), and outside employees will have had less occasion to have formed the trusting relationship conducive to psychological safety and willingness to speak up (Edmondson, 2003). Thus, as shown by the findings of Study 1, employees are likely to be particularly careful about when, how, and what they say to leaders in other units lest they damage their credibility more broadly within the organization (Kassing, 2009). This makes it likely that employees in other units will speak up across boundaries with ideas of high information value to the receiving leader.

Voice coming from external subordinates should be valuable for unit performance because it may be highly instrumental in generating change. Although we expect voice to come to leaders from external sources much less often than from within the chain of command, it is more likely to be attended to when it does happen. Leaders approached by external employees may see them as "independent messengers who thoughtfully filter through the multitude of knowledge flows that pervade the external environment and produce creative insights from their unique vantage points" (Menon and Blount, 2003: 163). Thus, in addition to the likelihood that the information they receive via inbound voice flows is of higher quality, voice to a leader from employees in other units may be beneficial because the receiving leader is more likely to act on it. Thus we predict:

Hypothesis 2 (H2): Inbound voice flow directed to a focal leader from employees in other units is positively related to the subsequent performance of the focal leader's unit.

Lateral flow around the leader. Although most voice research has focused on speaking upward through the hierarchy, the transmission of change-related information is not theoretically or practically restricted to upward flows. Coworkers may share ideas, information, and opinions about needed improvements among themselves, "speaking out" to peers (Liu, Zhu, and Yang, 2010) or engaging in "lateral voice" (Ashford, Sutcliffe, and Christianson, 2009). But the structure of lateral voice flow may have significant, detrimental consequences for a unit's performance, given what we learned in Study 1 about the nature of voice directed laterally.

One potentially important aspect of voice flows among a leader's subordinates is how connected all coworkers are in terms of sharing improvement ideas with one another. In social network terms, this is conceptualized as density, which in this case would be the percentage of all possible voice connections that actually exist between employees in a unit. More informal ties among subordinates may indicate a climate of psychological safety (Schulte, Cohen, and Klein, 2012), which has been found to lead to beneficial outcomes such as improved team learning (Edmondson, 1999), better customer ratings on project performance (Hirst and Mann, 2004), and enhanced team effectiveness (Spreitzer, Cohen and Ledford, 1999; Mesmer-Magnus and DeChurch, 2009). Likewise, the widespread transmission of ideas among coworkers may facilitate employees' accumulation of expertise (Zaccaro, Rittman, and Marks, 2001) and enhanced creativity (Milliken, Bartel, and Kurtzberg, 2003). Yet

despite these potential positives, highly dense lateral voice flows are likely to have a net adverse effect on a unit's performance, for several reasons.

As indicated by informants' descriptions of voice to coworkers in Study 1, bringing suggestions to multiple targets with the same level of formal power is unlikely to have instrumental benefits. Speaking to coworkers about issues that they are not empowered to address may not only result in little substantive change but may also reinforce and spread feelings of incapacity and disillusion within a unit, despite any feelings of safety in bringing up the issues (Degoey, 2000; Pauksztat, Steglich, and Wittek, 2011). Because the efforts to engage in lateral voice may not be instrumental in triggering substantive change, highly dense voice connections among peers may also result in significant time spent off-task discussing issues that no one is apt to have sufficient formal power to act upon (Degoey, 2000; Lind and Kulik, 2009). As Edmondson (1999: 354) noted, "Learning behavior consumes time without assurance of results." Time allocated to lateral voice, wherein effecting sufficient change is unlikely, is particularly prone to detracting unjustified effort and attention from completing tasks (Bergeron, 2007).

In addition, because the career risks of speaking laterally to peers about unit problems or possibilities are much lower than when speaking to those with power, speakers are likely to spend less time thinking through what they say before engaging in lateral voice (Pauksztat, Steglich, and Wittek, 2011). This suggests that the information value of lateral communications may be relatively low, with much of what is said coded by outside observers or internal leaders as "venting," "blowing off steam," or even "complaining" (Kowalski, 1996). While such communication may make speakers feel better in the short run (Liu, Zhu, and Yang, 2010), it likely only detracts from the unit's climate and performance over time. We thus propose:

Hypothesis 3 (H3): The density of lateral voice flow directed among a focal leader's subordinates is negatively related to the subsequent performance of the focal leader's unit.

The pattern of lateral voice flows among a leader's employees can also be described in terms of its concentration in voice to peer targets. This centralization is the degree to which speaking up is disproportionately directed to one or a few individuals. High centralization means that one or more employees are serving as informal voice "hubs" within the unit, whereas low centralization means voice is more evenly and widely spread. Having such voice hubs or centralized voice flows among subordinates is likely to be detrimental to unit performance. The same negative effects for the density of lateral voice apply to centralized coworker voice: it is voice targeted to someone with no more formal power to act and is likely to be voice of much lower overall information value or quality than that directed upward to authorities. More importantly, centralized voice likely reflects employees confusing informal status with formal power (Brass and Burkhardt, 1993). Whether their informal status has been accorded by peers because they are highly warm or competent and thus seen as more capable of addressing the issues raised (Fiske et al., 2002), central employees in a coworker voice network are nonetheless no more sanctioned or officially authorized to act on the problems and ideas shared by coworkers than their equal-rank counterparts (Pauksztat, Steglich, and Wittek, 2011).

When employees routinely speak up to one or a few coworkers, who themselves cannot take action, the speakers are spending time away from tasks without clear instrumental returns. And the informal voice hubs are spending significant time engaged in a social processing activity that also only detracts from core task performance. As Shinn and colleagues (1984: 61) noted, providing social support to coworkers may lead to intrinsic satisfaction and social approval for peer voice hubs, but it also uses up significant "time, energy, and resources in the process." In addition, if the ideas or suggestions in voice were thought to make their way to leaders through two or more links in a network, when voice is concentrated, there are fewer sources for leaders to hear from. Thus while the centralization of information flow might have status benefits for the central individuals, it is likely to be suboptimal for the unit collectively (Sparrowe et al., 2001):

Hypothesis 4 (H4): Lateral voice flow directed to a centralized coworker or coworkers is negatively related to the subsequent performance of the focal leader's unit.

Outbound flow to other leaders. A final type of voice flow moves away from or outside a focal leader's unit. It comes from the leader's own subordinates but is targeted toward leaders in other units in the organization and, as such, is the converse of inbound flow. While employees who speak up beyond their unit are likely to experience the expressive and motivational benefits of having the autonomy to speak up to whomever appears to be an appropriate target (Deci and Ryan, 1987; Shapiro, 1993; Spreitzer, Cohen, and Ledford, 1999), the net effects for the focal leader's own unit are likely to be negative, for several reasons.

One obvious limitation of outbound voice flow for a focal leader is that, by definition, this improvement-oriented information is no longer directed specifically and internally. He or she thus loses the opportunity to leverage what is voiced for any absolute or relative performance advantage (Brass, 1995; Hargadon and Sutton, 1997). The provision of improvement-oriented information by one's subordinates to other leaders may increase the social and intellectual capital of those other leaders while simultaneously (relative to those other leaders) undercutting the focal leader's own knowledge base and legitimacy in the eyes of local subordinates and others (Burt, 1997; Ashford, Sutcliffe, and Christianson, 2009). Over time, this may lead to reputational costs for the focal leader, who may be seen as less adept at problem solving and thus becomes less able to acquire the resources or wield the influence that would help address within-unit issues (Burt, 2004; Balkundi and Harrison, 2006).

Beyond the many reasons why outbound voice might not lead to locally captured improvements, it once again takes employees' time and energy away from daily task responsibilities. Because employees, on average, will have less firsthand knowledge about and trusting relationships with more distant leader voice targets, as informants in Study 1 noted, they are more likely to spend significant time preparing, vetting, and practicing to speak up beyond their unit (Bergeron, 2007; Kassing, 2009). Time spent preparing and delivering voice to other leaders is especially likely to have a negative impact on the local unit when it involves voice content about broader policies, practices, and structures

for which improvements, even if made, are a long time in coming and do not disaggregate to the originating unit. For these reasons, we predict:

Hypothesis 5 (H5): Outbound voice flow directed from subordinates in a leader's unit to other leaders will be negatively related to the performance of the focal leader's unit.

Method

To test the hypotheses, we investigated networks of employees and their managers at branches of nine regional credit unions dispersed across the United States. We used a panel design with time-separated independent and dependent variables. Voice flow and control variables were measured in the credit union branches with a series of web-based surveys. Performance ratings of the branches were collected approximately one year later with another survey. All told, different sets of variables were collected from five non-overlapping sources within and beyond the credit unions: employees, branch managers, branch managers' supervisors, senior executives, and internal human resource databases.

To triangulate and illustrate the quantitative findings, we also collected open-ended, qualitative data related to the various voice flows among credit union employees and managers. We asked 38 of the informants participating in Study 2 to describe different times when they spoke up to their boss, their colleagues, and a leader of a different branch in the credit union. Then, in a series of follow-up probes, we asked them why they approached each target, how careful they were in speaking up, what the result of the conversation was, and where the benefits (if any) accrued. This approach allowed us to validate and better interpret our statistical results (Sieber, 1973) by capturing a "more complete, holistic, and contextual portrayal" of different voice flows and their link with unit performance (Jick, 1979: 603).

Organizational context. We approached the credit unions via a sponsoring consortium founded to support academic research in the credit union industry. The sponsor's mission is to generate and disseminate more innovative organizational practices in the industry, a mission growing in importance as the legal distinction between credit unions and other financial institutions continues to diminish. Credit unions have hierarchical structures that are similar to banks and other financial service organizations. They differentiate themselves from those other firms primarily through their status as non-profit entities and through the meaningfulness of their customer connections (a rallying slogan is "Where people are worth more than money"). Customers are "members" who, by means of their accounts, are also owners of what constitutes a financial cooperative.

In addition to somewhat lower fees and loan rates, credit unions also strategically differentiate themselves by the customization and creativity of their product and service offerings. For example, one credit union, whose original charter was created by 50 teachers, offers financial education workshops for its members and students in elementary, middle, and high schools in its community. Another credit union offers a series of segmented loans to more efficiently eliminate personal credit card debt for its members. Still another credit

union created a bereavement protocol for members who recently lost family members, including designating a specific, dedicated employee to walk surviving family members through issues of closing accounts, estate taxes, and so on. The credit unions' concern for innovation and new ideas, which relates to the substantive content of our investigation, and their hierarchical structure (a single leader with direct reports internal to his or her unit), made them fertile ground for studying voice flows. In this context, though, voice and its contribution to performance are unlikely to be primarily about patentable ideas or "homerun" innovations. Good or useful improvement-oriented input has more modest and incremental, yet cumulative value as improvements in the efficiency of work processes, satisfaction of employees, or quality of customer service.

Sample and data collection. All of the credit unions had a headquarters-and-branches arrangement. We studied the branches because they constituted geographically and operationally self-contained units with clear, formal reporting structures. In addition, all nine credit unions had very similar procedures and tasks, making the processes governing their voice flows and effectiveness more comparable. To further aid comparability, we restricted our study to branch sizes of 5 to 15 employees, each with a single leader, the branch manager. This yielded 93 branches for our final sample and unit of analysis. For these branches, we obtained data from multiple sources over twelve months.

Data for our different voice flows (independent variables) and some of the control variables (including friendship and advice ties used in supplemental analysis) were collected via web-based surveys sent to all employees, branch managers, and supervisors of the branch managers. A unique identification number was e-mailed to each respondent, which linked the respondent to his or her own tailored survey. The roster of possible voice targets changed from person to person to include the employees within the branch (excluding the respondent) and managers outside of the branch. Employees were given work time to complete the survey, but they could do it anywhere with Internet access and could also begin the survey in one location and complete it elsewhere. We deliberately incorporated this flexibility to help achieve the highest possible response rate and to maximize chances that respondents would answer carefully and honestly to a survey that averaged 30 minutes to complete. The response rate was 92 percent. Credit unions that were part of the research consortium were aware of the need for a strong data yield to get the most complete map of voice flows and thus offered additional casual dress days and other desirable rewards as incentives. Data collection could not be anonymous, given that those who were sources of voice flows (egos) or targets (alters) had to be named, but respondents were informed that their survey answers would be completely confidential and that no one outside the team of researchers would ever see identifiers connected to individual data points. The average age of respondents was 35 years (S.D. = 12.85), average tenure with the credit union was five years (S.D. = 5.51), and 62 percent were women. Sixty-two percent reported themselves as white, 21 percent as Hispanic, 5 percent as African-American, and 5 percent as Asian-American. The remaining 7 percent we coded as "Other."

We collected unit performance data one year later. Senior executives at the credit unions rated the prior-year effectiveness of the branches they oversaw, using mailed, paper-and-pencil surveys. The average number of branches rated by each executive was 5.94. The response rate among the executives was 100 percent, covering all of the branches for which we had collected values on the independent and control variables. Details on the wording and psychometric properties of the measures are provided below.

Independent variables. We identified voice flows corresponding to each of our hypotheses with widely used and well-established network indices (Scott, 2000) based on employees' reports of these ties (Marsden, 1990). The specification of voice for assessing voice ties followed the improvement-oriented theme common to this research domain. Respondents were presented with drop-down rosters of their within-unit colleagues, their manager, and managers of other units in the credit union and asked to respond to the question, "Do you speak up to this person with IDEAS or PROPOSALS to attract more business, improve customer satisfaction, improve effectiveness, etc?" Respondents first indicated to whom they directed their voice by clicking "yes" next to all applicable names and then indicated how frequently they spoke up to each target (from "seldom" to "always"). Consonant with prior network research (e.g., Wasserman and Faust, 1994; Opsahl and Panzarasa, 2009), we first dichotomized the responses such that scores indicating any level of voice (seldom or more frequently) were coded as an existing voice tie, and "no"/"never" responses were coded as lack of a voice tie. We dichotomized a voice tie as existing at any frequency greater than zero because the baseline rate of voicing, given its challenging and discretionary nature, may not approach very frequent levels (Nelson, 1989; Detert, Burris, and Harrison, 2010) and need not occur at high levels to be valuable. That is, we were interested in the structure of voice across sources and targets, and not the amount of voice within ties.

To operationalize our independent variable in hypothesis 1, we measured amount of *upward flow* of voice from subordinates to their leaders with internal indegree, the total number of voice ties reported by subordinates to their own branch manager. We used external indegree, the total number of voice ties reported by subordinates in other units directed to the focal branch manager, to operationalize our independent variable in hypothesis 2, the *inbound flow* of voice from external subordinates to the focal leader. Following a similar logic, we used external outdegree, the total number of voice ties from within-unit subordinates to branch managers of other units, to operationalize and test hypothesis 5 about *outbound flow*.

To test hypothesis 3 about the *density of lateral flow* of voice among a leader's subordinates, we used a conventional index, the total number of subordinate-to-subordinate voice ties divided by the total possible number of such ties. Finally, to test hypothesis 4 about how the *centralization of lateral voice flow* might be directed disproportionately at one or a few coworkers who serve as voice hubs, we used a conventional measure of indegree centralization (Wasserman and Faust, 1994).

Dependent variable. Senior executives at the vice-president or director level in charge of operations in the credit union rated *branch performance*

approximately one year after the main survey administration. The response format for rating each unit on each performance dimension ranged from "far below average" to "far above average." Three items were taken from Bunderson's (2003) team effectiveness instrument. A sample item is "Meeting or exceeding expectations for service quality." An additional item was added to be more sensitive to the credit union and project context: "Innovative solutions to improve the credit union." The estimated reliability for this four-item scale was $\alpha = .82$.

Control variables. As this was a field investigation, which relies on existing rather than manipulated covariation between voice flows and the leader's unit performance, we controlled for a number of factors that might serve as alternative explanations. First, we controlled for branch size. Although we selected only those branches with 5 to 15 employees, even within that restricted range, size can materially affect the pattern of ties (Friedkin, 1981; Marsden, 1990) and the relationship between characteristics of the network and outcomes such as performance (Cohen and Levin, 1989).

Second, we controlled for characteristics of the focal leader, the branch manager. One such control was his or her tenure (in months). Newer branch managers may not have had the opportunity to develop many ties with subordinates within their branch or with subordinates outside of their branch. We also controlled for each branch manager's past performance, as rated by his or her immediate boss. Branch managers who performed well in the past should be expected to influence their branch's performance, possibly confounding the effects of voice ties. We used a two-item scale ($\alpha = .94$) developed by MacKenzie, Podsakoff, and Fetter (1991): "all things considered, this branch manager is outstanding" and "is one of my best," with five-point anchors ranging from "strongly disagree" to "strongly agree." We also controlled for the branch managers' informal status in the credit union, as their status may influence learning-related outcomes such as voice and associated branch performance (Bunderson and Reagans, 2011). We measured status with four items based on the measure used by Anderson, Ames, and Gosling (2008). The same prompt ("Compared to my co-workers . . .") preceded all four items, each with seven-point response anchors ranging from "Less than anyone else" to "More than anyone else": ". . . the amount of influence I have is:"; ". . . the amount of credibility I have is:"; ". . . the amount of power I have is:"; and ". . . the amount of status I have is:" ($\alpha = .90$).

Third, we accounted for several characteristics of the employees within each branch and their overall connection with the supervisor. We controlled for average employee performance within the unit, as rated by each unit's branch manager. As with supervisors' performance, branches with higher-performing subordinates are likely to perform better overall. We used the same scale as executives' ratings of branch managers' performance, but with the branch manager rating each employee's performance ($\alpha = .95$). As unit-level satisfaction has been linked to unit-level performance, especially in service contexts (Harter, Schmidt, and Hayes, 2002), we also controlled for the average employee satisfaction within the branch using three items from the Job Diagnostic Survey (Hackman and Oldham, 1975). A sample item was "Generally speaking I am very satisfied with this job," and all items used a seven-point response format (1 = "strongly disagree", 7 = "strongly agree"). The coefficient alpha was .91.

In addition, we accounted for the average quality of the relationships between subordinates and their branch manager, as leader-member exchange (LMX) has been linked to leaders' and units' performance (Gerstner and Day, 1997). LMX was measured using three items on the short form of the LMX-7 measure (Wayne, Shore and Liden, 1997). The items were "How often do you feel that you know where you stand (i.e., how satisfied your branch manager is with what you do)?" ; "How well do you feel that your immediate supervisor understands your problems and needs?" ; and "How much do you feel that your immediate supervisor recognizes your potential?" Response formats followed the original instrument. The estimated reliability was .86.

Finally, we controlled for the average amount of employee voice to a direct boss, the central (dependent) variable in most investigations of voice and, therefore, a control for the effects that would have been found on unit performance via the predominant paradigm in prior research. This accounts for the possibility that unit performance may simply be a function of the average (volume of) upward employee voice for a unit instead of the structure or pattern of separate flows of voice from specific senders to specific targets. We adapted the measure of voice used by Detert and Burris (2007) by using three items, rated from (1) "never" to (5) "always," that focused more specifically on generating improvements ("How often do you speak up to your direct supervisor with ideas for new processes, policies or products?" ". . . give suggestions to your direct supervisor about how to improve this Branch/Department?" ". . . point out to my direct supervisor how we could make changes that would make our credit union better?"). The coefficient alpha for this scale was $\alpha = .93$. As described below, in a separate analysis, we also controlled for sets of advice and friendship flows that parallel our voice flow measures.

Results

Table 2 shows descriptive statistics and correlations for all of the variables in our analyses. The upward flow of voice from a leader's own subordinates is significantly correlated with branch performance, as is the inbound flow to the focal leader emanating from other units. In contrast, centralization of the lateral flow of voice is negatively associated with unit performance. Additionally, both leader performance and average employee performance are positively correlated with unit performance one year later.

Our level of analysis is the leader's credit union branch, but, in several cases, the performance of more than one branch was rated by a single senior executive. Sets of ratings provided by a single person, as well as the data from different credit unions, call into question whether the data are completely independent, and in fact, the intraclass correlation coefficient for executive raters was .20 ($F_{(15, 77)} = 2.48, p < .01$). Therefore, we employed multilevel analyses to explicitly model such non-independence (Raudenbush and Bryk, 2002).¹

¹ We also employed a three-level multilevel model that included the senior executive raters nested within credit unions. There was no variance attributed to the credit union level after accounting for the senior executive rater level. Thus we report the more parsimonious two-level multilevel model. Results are substantively unchanged for the three-level model that embeds senior executive raters within their institutions.

Table 2. Descriptive Statistics and Correlations, Study 2 (N = 93)

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10
1. Branch size	9.61	3.01										
2. Leader tenure (months)	95.19	93.31	-.13									
3. Leader performance	5.35	1.63	.23*	.05								
4. Leader status	4.90	.93	-.09	.14	.13							
5. Average employee performance	5.50	.75	-.12	.15	.10	.17						
6. Average employee satisfaction	5.50	.59	-.16	.04	.17	.08	.41**					
7. Average LMX	1.92	.34	.34**	-.14	-.11	-.14	-.45**	-.50**				
8. Average employee voice	3.35	.42	-.20	-.07	.01	.19	.26*	.18	-.37**			
9. Upward flow of friendship	1.55	1.46	-.03	.03	.07	.00	.27**	.17	-.18	.25*		
10. Inbound flow of friendship	2.70	3.07	.05	.19	.28**	.14	.01	.11	-.13	-.02	.15	
11. Lateral friendship – density	.27	.16	-.39**	-.10	-.11	.04	.21*	.07	-.15	.36**	.55**	.00
12. Lateral friendship – centralization	.23	.12	-.14	.13	-.03	.07	-.11	-.14	.20*	-.25*	-.01	.03
13. Outbound flow of friendship	.82	.87	.32**	-.04	.20	.06	-.02	.06	.01	.11	.24*	.31**
14. Upward flow of advice	5.59	4.03	.08	.11	.00	-.20	-.04	-.24*	-.01	-.07	.18	.11
15. Inbound flow of advice	7.72	8.30	-.12	-.03	-.05	.01	.05	-.09	.02	-.04	.11	-.08
16. Lateral advice – density	.49	.25	-.07	.01	-.03	-.05	-.14	.03	.07	-.16	.04	.26*
17. Lateral advice – centralization	.39	.24	.15	.02	.01	-.10	.10	.00	-.02	-.07	.07	-.13
18. Outbound flow of advice	3.05	2.87	.12	.14	.01	-.12	-.02	-.15	.00	.00	.23*	.19
19. Upward flow of voice	6.38	2.11	.72**	.02	.24*	.12	.10	.02	.03	.06	.23*	.11
20. Inbound flow of voice	3.47	2.84	-.03	.19	.41**	.14	.32**	.24*	-.25*	-.04	.07	.44**
21. Lateral voice – density	.43	.15	-.41**	.09	-.09	.07	.16	.13	-.38**	.35**	.23*	.00
22. Lateral voice – centralization	.40	.19	.03	-.24*	-.12	.08	-.15	-.09	.16	-.05	-.07	.02
23. Outbound flow of voice	1.28	1.10	.25*	.08	.09	-.06	.08	.13	.01	.03	.15	.00
24. Unit performance	4.47	.97	.08	.05	.25*	-.05	.25*	.13	-.14	-.06	.20*	.15

Variable	11	12	13	14	15	16	17	18	19	20	21	22	23
12. Lateral friendship – centralization	.15												
13. Outbound flow of friendship	.08	.04											
14. Upward flow of advice	.00	-.02	.12										
15. Inbound flow of advice	.05	.10	-.02	.30**									
16. Lateral advice – density	.19	.01	.12	-.04	-.16								
17. Lateral advice – centralization	-.13	.10	-.01	.27*	.17	-.09							
18. Outbound flow of advice	.07	.00	.03	.69**	.01	.07	.12						
19. Upward flow of voice	-.16	-.05	.48**	.09	.09	-.13	.17	.05					
20. Inbound flow of voice	-.12	.02	.00	.00	.05	-.06	.09	-.02	.11				
21. Lateral voice – density	.32**	.06	.01	.00	.26*	-.01	.09	-.04	-.14	-.06			
22. Lateral voice – centralization	-.01	.07	.08	-.02	-.09	.15	-.08	-.01	-.03	.01	-.34**		
23. Outbound flow of voice	-.02	.11	.36**	.05	-.12	-.10	.16	-.03	.39**	.17	-.12	.11	
24. Unit performance	-.05	-.16	.05	.00	.22*	-.02	.10	-.05	.24*	.43**	-.11	-.24*	.11

* $p < .05$; ** $p < .01$.

Table 3 summarizes the results of these multilevel analyses examining the predictors of branch performance. In model 1, we entered all of the non-network control variables, and in model 2, we added the voice flow variables. Collectively, the addition of these voice flows reduces the residual variance in

Table 3. Results of Multilevel Models Explaining Unit Performance, Study 2 (N = 93)*

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	5.52*** (1.97)	6.13*** (1.91)	6.98*** (1.96)	7.07*** (2.00)	8.03*** (2.10)
<i>Control variables</i>					
Branch size	.03 (.04)	-.11** (.05)	-.13 (.06)	-.06 (.06)	-.09 (.06)
Leader tenure (months)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)
Leader performance	.03 (.07)	.03 (.06)	.03 (.06)	.02 (.07)	.02 (.07)
Leader status	-.14 (.10)	-.15 (.10)	-.11 (.10)	-.17* (.10)	-.15 (.10)
Average employee performance	.25* (.15)	.17 (.14)	.13 (.15)	.18 (.14)	.17 (.15)
Average employee satisfaction	-.16 (.19)	-.08 (.18)	-.12 (.18)	-.26 (.19)	-.30 (.19)
Average LMX	-.33 (.36)	-.04 (.35)	.06 (.37)	-.41 (.35)	-.28 (.37)
Average employee voice	-.08 (.26)	-.19 (.25)	-.33 (.27)	-.07 (.25)	-.19 (.27)
<i>Network control variables</i>					
Upward flow of friendship			.10 (.08)		.12 (.08)
Inbound flow of friendship			-.01 (.04)		.01 (.04)
Lateral friendship – density			-.29 (.82)		-.50 (.85)
Lateral friendship – centralization			-1.40 (.86)		-1.29 (.86)
Outbound flow of friendship			.01 (.13)		.03 (.13)
Upward flow of advice				-.06* (.04)	-.07* (.04)
Inbound flow of advice				.03** (.01)	.03** (.01)
Lateral advice – density				.52 (.36)	.42 (.39)
Lateral advice – centralization				-.05 (.40)	.05 (.42)
Outbound flow of advice				.04 (.05)	.03 (.05)
<i>Independent variables</i>					
Upward flow of voice (H1)		.20*** (.07)	.19** (.08)	.15** (.08)	.14* (.08)
Inbound flow of voice (H2)		.12*** (.04)	.12*** (.04)	.11*** (.04)	.10** (.05)
Lateral voice – density (H3)		-1.57** (.75)	-1.50** (.77)	-1.74** (.82)	-1.81** (.85)
Lateral voice – centralization (H4)		-1.51*** (.52)	-1.45*** (.52)	-1.39*** (.54)	-1.38** (.55)
Outbound flow of voice (H5)		-.03 (.09)	-.01 (.10)	-.04 (.09)	.04 (.10)
Senior executive [†]	.26 (.22)	.15 (.23)	.17 (.27)	.18 (.27)	.13 (.23)

(continued)

Table 3. (continued)

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
-2 res. log-likelihood	268.41	257.21	262.14	269.15	271.31
Δ -2 res. log-likelihood		11.20**	6.27	-.74	-14.10
Pseudo adjusted R ²	.01	.31	.29	.20	.24

• $p < .10$; ** $p < .05$; *** $p < .01$.

* Standard errors are in parentheses. The pseudo adjusted R² variance explained by each model is computed as the proportional reduction on the total variance of the dependent variable, given the number of predictors in the model.

† This variable is the estimate of the random variance between senior executive raters.

unit performance by 30 percent. H1 and H2 predicted that voice flowing to the branch manager from internal (upward flow) and external lower-level employees (inbound flow) would be positively related to unit performance. Both predictions find support in our data. Specifically, upward flow from subordinates to their branch manager is positively associated with branch performance ($t_{(79)} = 2.71$). Additionally, inbound flow is simultaneously and positively related to unit performance ($t_{(79)} = 3.26$).

Qualitative descriptions of voice to some of the leaders of these branches point to the instrumentality of directing voice to someone with a greater degree of formal authority than themselves, whether to take action directly or to persuade those even higher up to act. For instance, in talking about some technical suggestions for the software used to process transactions, one branch employee noted that "it is much easier to accomplish things with [her boss's] leadership and support." Another branch teller reported on a time when she spoke up to her boss about how employees are given credit for referrals of new members: "While [my boss] may not be able to fix the problem personally, I have confidence in her to take the information to the appropriate person within the organization." Credit union informants also noted the care they took in speaking up to those above them so as to not offend or waste the time of such targets. For instance, a loan officer noted, "I think very carefully when speaking to a boss. It is vital to be professional, respectful, and persuasive when trying to convince a supervisor to change something." Said another employee, "I planned out what I would say before actually bringing the conversation up to my boss. I did talk with a coworker before talking to my boss to make sure that I was right to bring up the issue."

H3 and H4 predicted that the lateral flow of voice among subordinates, both in terms of density and centralization, would be negatively related to unit performance. We find support for both hypotheses. More voice flowing among subordinates within a unit is associated with lower subsequent performance of that unit ($t_{(79)} = -2.09$), and the more centralized the lateral flow of voice, the worse the unit's performance ($t_{(79)} = -2.91$). The qualitative data suggest that these negative relationships stem, at least in part, from voice among coworkers often being neither of particularly high information value nor instrumental in the initiation of corrective or growth-oriented action. Branch tellers' descriptions of voice to a coworker often seemed primarily about receiving social or emotional, rather than instrumental help. One reported, "I wanted to vent and see what her thoughts on the issue were. I was friends with her, so I was able

to open up and be honest about my feelings and not worry about what she thought. She did provide me with some ideas, but it was mostly a way for me to vent my frustration.” Likewise, in describing a suggestion made to a coworker about the onboarding process, a branch teller said, “I needed someone to sound off on but my intentions were not to change our procedure.” Still another teller revealed his own understanding that speaking up to a coworker with a suggestion to address their unit’s staffing problems did not in itself result in any change: “Usually managers are the ones able to make changes.”

Finally, in H5, we argued that the outbound flow of voice from subordinates to leaders of other branches would be negatively associated with unit performance, but we find no support for this prediction ($t_{(79)} = -.29$).

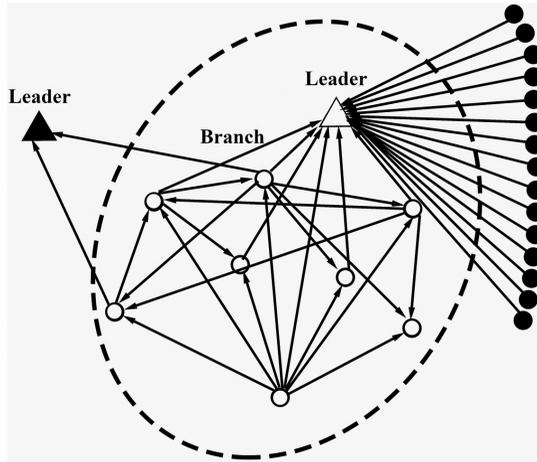
In figure 2, we graph the voice networks of two units to illustrate the different types of flows in a high- and low-performing unit in our sample. In the top figure, the leader of a high-performing branch has high upward and inbound flows of voice. In contrast, in the low-performing branch in the bottom figure, the branch manager receives less upward flow and, especially, less inbound flow of voice from employees in other units. In addition, in the high-performing branch, lateral voice among subordinates is moderately dense and has low centralization. In contrast, lateral voice in the low-performing branch has a higher level of centralization, with ties concentrated in two different coworkers.

Supplemental analyses. We argued that the specific voice flows studied here are theoretically distinct from equivalent advice and friendship tie patterns. To ensure that the structure of voice has implications for performance that are unique from more commonly studied network structures, however, we captured data for both friendship ties and advice ties and estimated additional models that add these latter patterns as additional controls.

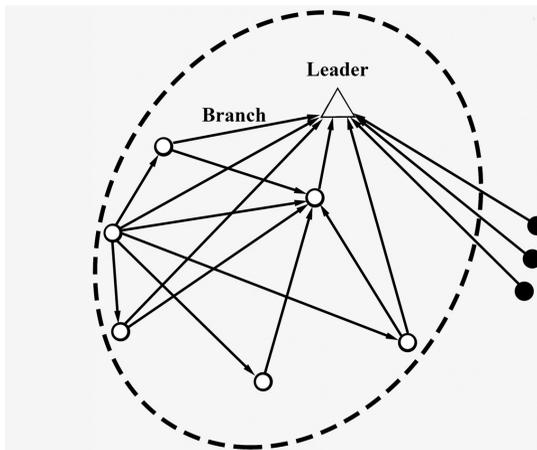
On the same survey that captured voice flows, respondents also indicated whether they saw each person on the roster (i.e., all coworkers within their unit and all managers everywhere in the credit union) as a friend—that is, someone you spend time with outside of work—by clicking “yes” next to a person’s name to indicate a friend. Respondents likewise indicated whether they went to each person on the roster for advice—for task advice or information” (cf. Kilduff and Tsai, 2003). We then created the analogous friendship and advice flow variables using the same calculations used for the five voice flow variables. For example, we calculated upward advice flow as the internal indegree to a focal manager, that is, the total number of advice ties reported by subordinates to their branch manager.

As shown in table 2 above, voice flows have moderate correlations with friendship ties. The highest correlation is between the inbound flow of friendship and inbound flow of voice ($r = .44$), while others are more modest or small. Notably, all of the correlations between different (including parallel) types of advice flows and voice flows are not statistically significant, despite both types of ties being defined in terms of task- or work-related communication. In the multilevel analysis predicting performance, we estimated three models: one in which we included as additional controls the five analogous friendship ties only (model 3, table 3), one in which we also included the five analogous advice ties (model 4), and one that also includes both the friendship and advice ties as additional control variables (model 5). The pattern and significance of the voice

Figure 2. Voice flows in a high- and low-performing branch (Study 2).



A high-performing branch, with high upward flow from internal subordinates and inbound flow from external subordinates to the leader and modestly dense and centralized lateral flows among subordinates.



A low-performing branch, with low upward flow from internal subordinates and inbound flow from external subordinates to the leader and modestly dense and highly centralized lateral flows among subordinates.

flow variables remains substantively the same across these three additional models and in comparison with model 2. For instance, the effects of inbound flow ($t_{(69)} = 2.20$), density of lateral flow ($t_{(69)} = -2.13$), and the centralization of lateral flow ($t_{(69)} = -2.54$) remain significant and in the predicted directions in model 5. One exception is that the effect of upward flow is only marginally significant when controlling for both advice and friendship in model 5 ($t_{(69)} = 1.71$), though the effect is still significant when controlling for either friendship flows alone in model 3 ($t_{(74)} = 2.39$) or advice flows alone in model 4 ($t_{(74)} = 2.00$). But all three models produce poorer model fit when compared with model 2 (e.g., for model 5, $-2 \log \text{likelihood} = -14.10$, reduces the pseudo adjusted R^2 from .31 to .24). Including these additional friendship and advice ties does not yield additional explanatory value in predicting unit performance

above the more parsimonious, voice-flows-only model (Snijders and Bosker, 1999). These results suggest that our results are not due to the structure of merely *any* communication- or relationship-based network but, rather, are based on the particular importance of improvement-oriented voice.

We have also emphasized the importance of understanding the structure of voice, from whom and to whom it flows, for explaining unit performance, rather than the total volume of voice directed to or around a unit's leader. To further explore the potency of our explanation versus this alternative explanation, we conducted three additional sets of analyses in which we examined whether the volume of voice—either in conjunction with or instead of the structure of voice flows—accounts for unit performance. First, we analyzed the influence of each voice flow using valued ties. In contrast to our dichotomized ties, which represent the structure of voice without prioritizing higher levels of voice emanating from certain nodes, the valued ties capture both the structure of voice flows and the volume of voice traveling within each flow. Results of regression analysis replacing the dichotomized voice flow variables with the valued-tie voice flow variables reveal none of the valued-tie variables to be significant. Second, we used different dichotomization points for the voice flow variables in a series of regressions to examine the idea that as one moves away from a minimal cutoff point (capturing structure without regard to volume), the relationships with performance will be weaker. Using a dichotomization point one scale point higher, the midpoint of the overall response format, yields consistent results, but when using a dichotomization point two or more scale points higher (a steep threshold that requires a high volume of voice to be captured as an extant tie), none of the voice flow variables are significantly related to unit performance. Finally, we estimated regression models wherein we inserted the average tie strength for each type of voice flow (another approach to capturing voice frequency) in addition to the voice flow variables computed at the lowest dichotomization point. None of the average tie strength variables were significantly related to unit performance, but the significance and magnitude of the influence of the structural voice flow variables were similar to those in model 2. The results of the three alternative strategies for assessing the frequency or total volume of voice suggest that it is the *structure* of voice flows that matters for unit performance.

DISCUSSION

Our aim in this article was to build a foundation for understanding when and why voice flows contribute to important collective outcomes in organizations. Stated most simply, our conclusions are that voice flowing to versus around unit leaders is qualitatively different. Importantly, the characteristics defining this difference have significant implications for the effectiveness of a leader's unit. In qualitative data from both studies, we found that voice directed to targets at different formal power levels and locations in the organization differ in instrumentality for generating substantive action being taken to address the issues raised and in the likely information value of the ideas expressed. In Study 2, we showed the importance of these characteristics of different voice flows in predicting collective outcomes lagged one year in 93 credit union branches. Voice flows to a unit leader from direct subordinates and employees from others units are positively associated with that focal unit's performance. In contrast, voice flows among a unit leader's subordinates are negatively

related to unit performance, and voice flows leaving a leader's unit are unrelated to unit performance. In total, our data suggest that leaders benefit from upward and inbound flows because they are more likely to contain novel, useful ideas or information and because leaders receiving them are motivated and capable of acting on them to their own unit's benefit. Our results suggest that it is not merely the volume of voice, nor merely any structure of social or communication relations that matters, but the structure of voice flows that helps explain the effectiveness of a leader's unit.

Contributions from a Theory of Voice Flows

Structure matters. Perhaps the most transparent conclusion that might come from our research is that voice can be and is directed almost anywhere in organizations. As a discretionary behavior, employees choose to express voice, and they do so in flows that represent informal, naturally emerging social structures with senders and targets often not arrayed according to the formal organization chart. We thus presented a structural approach that has largely been absent from studies of improvement-oriented voice or other extra-role behaviors in teams (Crawford and LePine, 2013; see Pauksztat, Steglich, and Wittek, 2011, for an exception). Although attention to informal social structures, and their role in knowledge creation and sharing, is common in network research (e.g., Kilduff and Brass, 2010), research on these other resource exchanges has not typically examined how individuals depend on leaders in formal hierarchies to devote resources or make decisions to capture the value of what is conveyed (Burt, 2004). Yet neither the literature on voice nor on social networks in organizations has fully exploited the potential for theory or empirical insight that comes from examining how such information-based resources move through formal hierarchies and informal structures and the distinct outcomes associated with such flows. As demonstrated here, attention to only one of these dimensions rather than both can lead to mistaken conclusions about the value of voice. For instance, our findings show that voice directed to highly centralized coworkers, those with more informal status but without any more formal power to act than the speaker, is associated with lower-performing units, not because voice centralization among coworkers reduces cooperation, as it might for centralization of advice flows (Sparrowe et al., 2001), but simply because it does not represent communication to someone with more potential than the speaker to take action. Thus our research bridges these two streams of research by highlighting that unit performance is likely to be positively related to patterns of voice that follow formal hierarchical lines (i.e., upward flows to designated leaders with power to make changes internal to the unit) and informal lines *if* those informal flows also terminate at targets with higher formal power.

Upward versus lateral voice flows. Some of the hypotheses derived from a structural perspective on voice largely align with taken-for-granted assertions about the effects of voice. For example, our results showing the positive effects of upward voice from a group of subordinates to their own boss confirm a basic assumption in the voice literature and are broadly consistent with the results of the one extant study linking this single voice flow to workgroup

performance (MacKenzie, Podsakoff, and Podsakoff, 2011). Yet they are different in that they link unit effectiveness with the structure of upward voice flow, rather than the total amount of voice, which we found to be consistently unrelated to unit performance. This adds nuance to the general prediction about the positive benefits of voice in suggesting that leaders who hear from a greater number of different employees within their unit, rather than just receiving a large amount of input in aggregate, may be best positioned to generate noticeable improvements. Our approach and results also highlight specific dynamics that have received far less attention in the voice literature: the benefit accruing to leaders who receive a significant inbound flow of voice from employees elsewhere in the organization who have no reporting relationship to them. This underscores the distinct advantage of a formal leader also being an informal hub for voice, one whose reputation for handling voice is strong enough to attract input from those beyond his or her immediate span of control. This structural picture of leaders looks similar to Burt's (1992) notion of network brokers, with leaders receiving incoming ties that transmit, in this case, a particular kind of highly valuable information that is freely given rather than deliberately sought. Our qualitative data suggest that a leader can become a voice hub not just by having the formal power and willingness to act on input, but also by being perceived as someone particularly effective at upward influence or issue selling, who is skilled at getting even higher-ups to take notice and action (Kipnis and Schmidt, 1988; Dutton and Ashford, 1993).

In contrast to the benefits identified for the informal resource of voice flowing to unit leaders, we found that voice flowing around leaders is associated with lower unit performance. The density and centralization of lateral voice are negatively related to the unit performance of the speakers. These results, coupled with the qualitative evidence in Study 1, point to the nature of improvement-oriented voice itself. To bring about improvement, resources have to be marshaled, and something has to be changed in response to the issues involved. Voice among peers may help to sort out which ideas are worth pushing upward to someone with more power; it may build consensus about some issues and even enhance commitment to changes if enacted following voice. But, in and of itself, voice among coworkers can also simply be a distraction from doing one's job, especially if employees "stir up controversy while neglecting the very individuals who are in a position to address their concerns" (Brinsfield, Edwards, and Greenberg, 2009: 25). As noted by other scholars, voice among peers may lead to negative emotional contagion and a polarization of opinions (DeGoeij, 2000), which can "reinforce and perhaps even amplify employee dissatisfaction" (Lind and Kulik, 2009: 150), rather than to problems solved or improvements made. In this way, voice to peers can be fundamentally different, and generally worse for unit outcomes, than advice seeking or information sharing among coworkers (Sparrowe et al., 2001; Mesmer-Magnus and DeChurch, 2009). Thus scholars studying lateral voice must clearly articulate and empirically establish reasons for encouraging high levels of lateral voice flow that do not rest on the arguments for other types of communications or those for upward voice flows. At the same time, our theory and data suggest the importance of carefully specifying the outcomes of voice leaving a specific team or unit. While other leaders, units, or the organization as a whole may benefit from such voice, there is little reason to expect direct positive benefits to the unit from which such voice originates.

Distinctions from other extra-role behaviors. The contrasting results found here for upward and lateral flows of voice serve to reinforce our understanding of the unique nature of this organizational citizenship behavior (OCB). By definition, voice involves challenging the status quo by suggesting changes to current practice or commencing something new, which requires more formal decision-making and resource allocation power than the speaker possesses. If it did not, there would be little reason to speak up rather than simply taking action by oneself. Measurable improvement is therefore likely to result from voice only when it reaches a target with the power to act. In contrast, citizenship behaviors such as organizational promotion or interpersonal helping generally do not require approval or action from above to have positive effects (Van Dyne and LePine, 1998; Podsakoff et al., 2009). This makes the likely effects of affiliative OCBs relatively consistent across targets: helping a coworker is likely good, as is helping the boss, as is helping someone elsewhere in the organization. For a challenging OCB such as voice (Van Dyne, Cummings, and McLean Parks, 1995), this parallelism likely vanishes due to the very nature of the construct. The same distinction applies to voice and other social or instrumental capital flowing through an organization's informal structure. Advice, for example, can be beneficial and rewarding for both givers and recipients, irrespective of the parties' formal location in the hierarchy, in ways that improvement-oriented voice cannot.

Furthermore, there is likely to be more disagreement across sources about what specific instances of employee behavior constitute an act of voice rather than of helping. As suggested by our qualitative data, much of what coworkers might consider improvement-oriented voice among themselves may represent what scholars have called "noisy silence" (Edwards, Ashkanasy, and Gardner, 2006) and, as such, be labeled by managers as coping or even complaining (Kowalski, 1996; Kassing, 2011). Yet voice is distinct from other OCBs, in definition, in how it is likely perceived by senders and recipients who evaluate it, and in how it relates to various outcomes. Keeping these distinctions in mind will be important as the refined study of voice continues.

Implications for leadership theory. Finally, our theory and findings on voice flows and their relationships to unit performance contribute to the broader leadership literature in two ways. First, leadership scholars have focused for decades on what leaders do to or for their employees, be it initiating structure, showing individualized consideration, articulating a vision, or stimulating the intellect of subordinates (Bass, 1990; Conger and Kanungo, 1998; Judge, Piccolo, and Ilies, 2004). For example, Dvir and colleagues (2002) found that leaders who received transformational leadership training had a positive impact on the extent to which followers were motivated, felt empowered, and achieved high levels of performance. Here, we concentrated instead on resources initially moving in the other direction, on something that employees can voluntarily choose to do for their leader and his or her unit. A leader's performance of the critical functions of leadership, such as diagnosing and solving problems (Zaccaro, Rittman, and Marks, 2001), can be fundamentally enhanced when employees voluntarily share information, insights, and ideas. Voice enhances a leader's ability to learn, and learning underlies all notions of intentional, systematic change and improvement (Van de Ven and Poole, 1995;

Argyris and Schön, 1996). Whereas seeking out advice from others is an established means for leadership learning (McDonald, Khanna, and Westphal, 2008; Alexiev et al., 2010), this is the first study to clearly theorize and show the benefits for leaders when others approach them with ideas and information, in particular with input that challenges the status quo and provides insights about the need for and direction of change.

Second, despite the current trend of flatter, more democratic structures in some organizations and an attendant increase in the study of empowerment (Spreitzer, 1995), self-managing teams (Wageman, 1997), and shared leadership (Carson, Tesluk, and Marrone, 2007), the vast majority of employees still report to bosses (Sutton, 2010). And these bosses are, for the most part, still rewarded and sanctioned for the performance of the unit they oversee rather than the organization as a whole. But in any hierarchy there are always limits to what a team at any organizational level can accomplish without support, resources, or action from management at a higher level. Even the most autonomous teams face problems that they cannot fully solve via lateral voice among teammates who are “sharing leadership”—even teams sharing leadership sometimes need to seek more resources or intervention from above to address unanticipated problems (Druskat and Wheeler, 2003). Multilevel leadership theories seemingly acknowledge this state of affairs (e.g., Yammarino and Dansereau, 2008). To date, however, this recognition manifests primarily in the study of empirical relationships existing at or across two or more levels rather than on the complex interplay of factors such as agentic communication across levels of formal power.

Limitations and Future Research

Despite the breadth of industries of the respondents in Study 1, in which we identified characteristics of the voice flows we then assessed in our study of credit unions, statements about the generalizability of our findings must await further exploration in additional contexts. Of particular interest would be the outcomes of multiple voice flows in a more knowledge-intensive environment, in which the quality of one’s ideas might have more value both to one’s unit and oneself. For example, in environments in which benefits accrue as much or more to an individual as to a unit (e.g., basic R&D), the hoarding of ideas may lead to significantly more selective sharing, and different outcomes from such sharing within and across boundaries, than in the context studied here (Mesmer-Magnus and DeChurch, 2009). Also, it would be useful to study the outcomes of voice flows in contexts in which status differences both within and across organizational levels vary more significantly than in credit unions. For instance, there are likely instances in which a higher-status peer is more able to take action directly or solicit action through a leader than the speaker, despite being at the same formal level of power. Characteristics of the environment and type of employees studied may also help explain why we do not find any unit performance effect for outbound voice flows. Study 1’s respondents, who tended to be professionals located higher in their organizations’ formal hierarchies than Study 2’s participants, had little trouble pointing to instances of voice to managers beyond their own chain of command. In contrast, the nature and type of roles for our credit union respondents may have limited their perceived need or opportunity to speak beyond their unit (though nearly 40 percent

of those asked in the credit union study could describe a specific instance of voice to another branch manager). As suggested by our qualitative data, some ideas conveyed beyond unit boundaries—especially when directed to senior leaders—concern suggestions that, if acted on, would improve the organization as a whole, multiple units, or perhaps only the unit of the external leader who receives the input. For example, a suggestion coming from a branch employee about a new financial product may, if adopted, improve the entire institution's revenues rather than boost the relative performance of the specific branch where the employee works. In other contexts, between-unit competition might enhance the effects of outbound flows, especially if there is a "fixed pie" of performance. For instance, leaders of research teams that compete fiercely for internal resources may suffer significant consequences if their employees leave the unit regularly with their best ideas. In contrast, positively interdependent, multiteam systems (Marks et al., 2005) might benefit from a rising tide that lifts all boats when employees speak up frequently across formal boundaries. Future studies should be designed to test theory that carefully specifies expected relationships between the content or "reach" of improvement suggestions and the nature of the units and system being studied. Choosing diverse environments for the study of voice flows and their individual and collective consequences, such as those in which chain-of-command norms are particularly strong (e.g., military) and weak (e.g., ad hoc project teams in a high-tech firm of professionals), may prove particularly beneficial.

Future research should also explore the impact of voice flows on other outcomes, including more objective metrics of unit performance. Our dependent measure of unit effectiveness in Study 2 was based on ratings by senior executives rather than objective financial or growth metrics. In early discussions with senior executives, they convincingly argued that not all credit unions have comparable metrics because each pursues qualitatively different strategies, and therefore the most appropriate metrics to measure success are different for each firm. Further, even when comparable objective metrics were appropriate, the executives also indicated that the metrics do not disaggregate in accurate ways to the branch level. For instance, deposit numbers or loan profits are not easily credited to a particular branch because many members routinely conduct transactions at multiple branches, open an account at one location and subsequently conduct all business at another location, or initiate many transactions online. Thus although the measure we adopted was judged to be most appropriate for this context, it should be complemented with additional metrics in future studies.

Researchers might also study additional kinds of voice flows. We limited our investigation to four types of flows for theoretical and empirical reasons. For example, we did not consider voice flows emanating from the focal unit leader to higher-level leaders because our interest was in understanding how leaders are affected by voice flows to and around them, rather than on the benefits or costs of their own voice behavior. We also did not focus on lateral cross-unit voice flows between subordinates in different branches because empirically we learned from informants that this was rare in the credit union context and hard to capture given the size of network rosters necessary to do so accurately. Nonetheless, future theory and research might incorporate higher upward or broader lateral flows.

Another next step would be to conduct studies with research designs that more directly consider the content of what is voiced. Our findings here are based on voice flows of ideas or proposals to attract more business, improve customer satisfaction, and improve effectiveness. But we did not explicitly measure the value of each idea voiced. Thus we cannot speak to matters such as the exact quality of ideas voiced from each speaker and how this may matter for performance. For example, the value of voice flows might differ when unit performance hinges heavily on the efforts and abilities of all versus one or a few star performers (Sussman and Finnegan, 1998). Accounting for the value of specific suggestions made would allow researchers to understand whether, or in what contexts, leaders being connected to many subordinates inside and outside their unit is optimal or if, instead, being connected to just the select few "right" subordinates (i.e., those with the consistently strongest ideas) generates better performance.

Our cross-sectional research design with a time-lagged dependent variable in Study 2 allows some confidence that the pattern of voice flows to and around leaders cause differences in unit performance. Yet because of the nature of the design and our measures, we cannot fully rule out reverse causality. For instance, despite controlling for both the leader's performance and average employee performance and satisfaction in a unit, branches that had a greater number of employees speaking among themselves may have been doing so because there were more performance-related problems to be addressed. Additionally, employees within or outside of a branch may be more likely to speak up to branch managers who are leading effective branches because they are viewed as more powerful and influential. Researchers might design field studies that examine both the pattern of voice flows and the levels of unit performance in parallel over time to increase confidence that the results presented here reflect the direction of theorized relationships.

Finally, researchers might also study the multiplexity of voice and other ties such as friendship and advice. For example, do the relationships between voice flows and performance differ when voice travels predominantly to and from friends or key advice partners versus when targets for voice are highly distinct from friendships or one's advice network? Speaking up primarily to one's friends might be beneficial if it allows the speaker to feel safer about speaking up immediately and without varnish (Edmondson, 1999). Conversely, speakers may be more likely to confirm their hypotheses (Klayman, 1995) with friends who see the world as they do, rather than really vet or filter ideas. Likewise, targets may be less likely to tell their friends an uncomfortable truth than to offer uncritical social support. Thus what may appear to be the benefits of sequencing voice by starting with friends, who are more likely to be peers, and then moving selectively to those one knows less personally, usually bosses and other higher-ups, may be more an ideal than a reality.

In this article, we examined the assumption of voice's collective benefit. In doing so, we laid groundwork for a larger, more encompassing theory of voice by demonstrating the viability of a structural approach that distinguishes flows from different speakers to different targets. We showed that these to-from combinations of voice flows are different and differentially valuable or detrimental for unit performance in systematic, predictable ways. Stated most simply, we illustrated that "getting more voice" is not a panacea for organizational improvement. Rather, our results illustrate the critical role that leaders play in

capturing and implementing valuable ideas to improve their unit, highlighting the need for voice to flow to, not around, leaders who wish to catalyze high performance.

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