

Organizational Downsizing:

How Communication Networks Connect with Employee Performance

by Alex M. Susskind, Ozias A. Moore, and K. Michele Kacmar

EXECUTIVE SUMMARY

When an international hotel firm eliminated about one-quarter of the positions at its corporate headquarters, it opened a window into the turbulence that downsizing survivors experience in establishing new networks. This study shows the effects of a corporate downsizing on existing communication networks and on the employee performance that those networks support. It is in management's interest to foster development of restored communication networks following a downsizing, because workers who feel they receive adequate job-related information are also stronger performers. Communication networks seemed to be in disarray two months after the downsizing, but employees had regained their equilibrium about four months afterward. Managers who seek to improve employees' performance after a downsizing could focus on rebuilding their communication networks. In deciding whom to retain in a downsizing, the study points to the finding that high performers before the downsizing continued to be high performers even after a staff reduction.

ABOUT THE AUTHORS



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His major research interests focus on team and multi-team effectiveness. He is particularly interested in the multi-level effects of multiple team membership on team processes, emergent states, and team outcomes. His refereed publications have appeared in premier journals, including the *Journal of Applied Psychology* and *Small Group Research*. His forthcoming book chapter (with B.S. Bell), "Preparing Talent for Work: Opportunities and Challenges in Learning, Training, and Development in Organizations" will appear in the second edition of *The SAGE Handbook of Industrial, Work, and Organizational Psychology*.

Moore was awarded the 2016 Cornell University Provost Fellowship. In addition, he was selected as the highest ranked student to receive the 2016 Lee Hakeel Graduate Student Scholarship by the Society for Industrial and Organizational Psychology (SIOP). At Cornell University, he received a university-wide award for his outstanding contributions to his students, his academic department, and the university community. Prior to his years in academe, Moore's work experience included key management and executive-level positions at Westinghouse Electric Corporation, IBM Corporation, American Express, and Pfizer, Inc. He is also a PMI (Project Management Institute) certified PMP® (Project Management Professional) and IBM Six Sigma Green Belt. Moore is an active member of and regularly presents at the Academy of Management, Southern Management Association, SIOP, and the Interdisciplinary Network for Group Research.



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Kacmar has received numerous teaching awards, a variety of research awards, several best paper and best reviewer awards. In 2002 she was awarded the Alumni Achievement Award by Illinois State University. Kacmar also was elected to the board of governors for the Southern Management Association and served a six-year term on the board of directors of the Society for Human Resource Management Foundation. She has served as a Fellow in the Society of Industrial and Organizational Psychology and the Southern Management Association.

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To foster a better understanding of how organizational change processes unfold in organizations, we offer a look at communication networks in a hotel company's corporate office as the firm implemented a downsizing process. In so doing, we examined how the communication patterns, attitudes, and performance of layoff survivors changed during the two-year period in which the downsizing occurred. In this study, we measured survivors' communication networks, attitudes, and performance both before and after the downsizing process. Our analyses examined layoff survivors' pre- and post-measures of communication interaction, work-related attitudes, and performance, with the goal of providing a look into how organizational downsizing influenced the survivors of the downsizing.

We collected data from employees in the organization at five points in time:

- (1) employee performance data one year before the downsizing (provided by the company; T0);
- (2) employees' self-reported communication network data and attitudinal data 60 days prior to the downsizing (T1);
- (3) employees' self-reported communication network data and attitudinal data 60 days following the downsizing (T2);
- (4) employees' self-reported communication network data and attitudinal data 120 days following the downsizing (T3); and
- (5) employee performance data one year after the downsizing (provided by the company; T4).

Gaining a better understanding of how layoff survivors navigate in a post-downsizing environment can give operators some insight into how downsizing affects a workplace both negatively and positively. In general, we found that strong performers remained strong even after the corporate restructuring. But we also found that the networks communicating job-related information were in disarray for many weeks after the downsizing, until employees were able to reestablish those networks. At this point, the connection between strong employee performance and employees' reports that they were receiving sufficient job-relation information was restored.

This study is distinctive in three ways. First, in spite of the prevalence of organizational downsizing throughout our economy,¹ there are surprisingly few studies that investigate the effects of this phenomenon over time and even fewer that look at hospitality organizations.² Our study gives attention to this understudied topic using a hospitality-based sample. Second, researchers have called for a person-oriented focus with additional micro-level research examining the process of organizational change.³ Hence, a goal of this study is to examine how employees' communi-

cation and their attitudes toward work and organizational change influence their performance following the organization change. We also see limited attention given to the effects of time on individual and organizational outcomes after a downsizing.⁴ To address this element our study uses longitudinal data to examine how downsizing survivors' communication processes are connected to individual reactions and performance over time.

Guided by an overall research question and several hypotheses, we investigate how downsizing affects layoff survivors over a period of several months. We start off discussing the nature of downsizing and how that process can affect an organization's constituents. We next discuss how performance among the layoff survivors is likely to be affected by downsizing and how we expect survivors' communication networks to be affected in the wake of downsizing. We then discuss how layoff survivors' perceptions of information sufficiency and openness to change are likely to be affected by the downsizing. We conclude with a set of practical suggestions to help operators better manage and control their organization as they navigate through a downsizing.

Downsizing and Organizational Performance

In an effort to remain competitive in the global marketplace, and to cover the increasing costs of doing business, companies use employee downsizing in many forms.⁵ In this context, we use the term downsizing to describe a corporate strategy to decrease workforce size with the hope of improving organizational outcomes, such as managing cost, production, and profit.⁶

An often ignored, but significant consequence of downsizing is a change in social dynamics and interpersonal communication among remaining employees.⁷ Research has shown that as people are downsized from a work environment, survivors can experience a negative shift in their attitudes and behavior.⁸ Regardless of survivors' feelings toward the

¹ Bureau of Labor Statistics. (2013). Mass layoff statistics: Movement of work [Data file]. Retrieved from <http://www.bls.gov/mls/mow-main.htm>

² De Meuse, K.P., Marks, M.L. and Dai, G. (2010). Organizational downsizing, mergers and acquisitions, and strategic alliances: using theory and research to enhance practice, in S. Zedeck (ed.), *American Psychological Association Handbook of Industrial and Organizational Psychology*, Washington, DC: American Psychological Association.

³ For example, see: Judge, T. A., Thoresen, C.g J., Pucik, V., & Welbourne, T. M. (1999). Managerial coping with organizational change: A dispositional perspective. *Journal of Applied Psychology*, 84(1), 107-122.

⁴ For example, see: De Meuse *et al.*, 2010.

⁵ Sheaffer, Z., Carmeli, A., Steiner-Revivo, M., & Zionit, S. (2009). Downsizing strategies and organizational performance: a longitudinal study. *Management Decision*, 47(6), 950-974.

⁶ De Meuse *et al.*, 2010.

⁷ Martins, L. L. (2010). Organizational Change and Development. In *APA Handbook of Industrial and Organizational Psychology*, Ed. S. Zedeck (Vol. 3, pp. 691- 728), Washington D.C.: APA.

⁸ Marks, M. L., & De Meuse, K. P. (2005). Resizing the Organization: Maximizing the Gain While Minimizing the Pain of Layoffs, Divestitures, and Closings. *Organizational Dynamics*,

organization after the downsizing, they are expected to perform their work with fewer colleagues—typically in an altered organizational configuration.⁹ Those who remain must adapt and behave in ways that properly align with the changes initiated by management. This normally means that layoff survivors need to do more with fewer resources (i.e., human capital, financial capital, and social capital¹⁰) and learn to forge new paths and strategies to perform their jobs.¹¹ Therefore, the structure of the communication relationships and the flow of and access to information among survivors during and after a downsizing is important to understand and manage. Looking at the focus of our study, downsizing will likely disrupt employee communication networks for some organization members, but not necessarily of all of them.¹² Some survivors may be able to rely on existing communication network relationships, while others may need to develop new or alternative communication network connections. Indeed, the communication networks for some of the survivors may be enhanced as a result of a downsizing.

Before we move into a more detailed discussion of communication networks and downsizing, we first want to note that employee performance is an important driver of success in organizations. As company leaders make decisions about who shall remain following a downsizing, they must consider the past performance of their staff and the potential for their staff members to succeed in the reconfigured, smaller organization. Based on the need to identify those who

will be successful, we believe that employees who performed well prior to the downsizing will find a way to continue to perform well following the downsizing—that is, we believe that past performance prior to the downsizing is a predictor of future performance after the downsizing for the surviving employees. We test this belief with the following research question.

Research Question 1: Is pre-downsizing performance positively related to post-downsizing performance?

Communication Network Implications: Information Is Power

A communication network is pattern of open channels through which information and resources are exchanged between network members.¹³ One measure of a member's presence in a network is network centrality, showing how connected a particular network member is to other members in the network. Network members who are highly central are more likely to receive privileged information and have more access to critical job-related information.¹⁴ There are three related but distinct measures to express network centrality: degree, closeness, and betweenness.¹⁵ Degree centrality measures the number of connections a network member holds, closeness centrality measures the extent to which connections are dispersed, and betweenness centrality measures the extent to which a network member mediates the flow of communication or information in a network.¹⁶

In this study we are interested in betweenness centrality because we want to assess how job-related information flows through each layoff survivor and how the control of and access to that information relates to other work-related attitudes, behavior, and performance.¹⁷ Because betweenness centrality captures the extent to which network members control or mediate information flow, it is an important metric to better understand how an organizational downsizing has

34(1), 19-35.; and Susskind, A. M. (2007). Downsizing survivors' communication networks and reactions: A longitudinal examination of information flow and turnover intentions. *Communication Research*, 34(2), 156-184.

⁹ Balogun, J., & Johnson, G. (2004). Organizational restructuring and middle manager sensemaking. *Academy of Management Journal*, 47(4), 523-549; and Burt, R. S. (1992). *Structural holes: The social structure of competition*. Cambridge, MA: Harvard University Press.

¹⁰ Mishra, A. K., & Spreitzer, G. M. (1998). Explaining how survivors respond to downsizing: The roles of trust, empowerment, justice, and work redesign. *Academy of Management Review*, 23(3), 567-588.

¹¹ Mishra, A. K., & Spreitzer, G. M. (1998). Explaining how survivors respond to downsizing: The roles of trust, empowerment, justice, and work redesign. *Academy of Management Review*, 23(3), 567-588.

¹² Fisher, S. R., & White, M. A. (2000). Downsizing in a learning organization: are there hidden costs? *Academy of Management Review*, 25(1), 244-251; Shah, P. P. (2000). Network deconstruction: The structural implications of downsizing. *Academy of Management Journal*, 43(1), 101-112; and Susskind, 2007.

¹³ Mullen, B., Johnson, C., & Salas, E. (1991). Effects of communication network structure: Components of positional centrality. *Social Networks*, 13(2), 169-185.

¹⁴ Feeley, T. H., Moon, S. I., Kozey, R. S., & Slowe, A. S. (2010). An erosion model of employee turnover based on network centrality. *Journal of Applied Communication Research*, 38(2), 167-188.

¹⁵ Freeman, L.C. (1979). Centrality in social networks: Conceptual clarification. *Social Networks*, 1(3), 215-239.

¹⁶ *Ibid.*; and Susskind, 2007.

¹⁷ Freeman, 1979; and Mullen, B., Johnson, C., & Salas, E. (1991). Effects of communication network structure: Components of positional centrality. *Social Networks*, 13(2), 169-185.

affected the organization's members. Betweenness has also been found to be more directly related to perceptions of information adequacy, and it is characterized as the strongest measure of network involvement.¹⁸

As communication networks evolve following a downsizing, betweenness centrality should significantly influence network members' behavior and ultimately their performance. For example, group members who maintain high betweenness centrality are likely to make substantive contributions to the brokerage of information flow, control of information and contacts, and relationships across the network.¹⁹ Therefore, we believe that having a higher level of betweenness centrality (i.e., more control of and access to information) will be associated with higher levels of performance for downsizing survivors. Thus, we hypothesize:

Hypothesis 1a: Betweenness centrality at T1 is positively related to post-downsizing performance at T4.

Hypothesis 1b: Betweenness centrality at T2 is positively related to post-downsizing performance at T4.

Hypothesis 1c: Betweenness centrality at T3 is positively related to post-downsizing performance at T4.

No One Ever Tells Me Anything

Workers at all levels in an organization need information to perform their jobs. Moreover, it almost goes without saying that information sharing within work groups and effective superior-subordinate communication are crucial elements for organizational functioning.²⁰ In that regard, a matter related to betweenness centrality involves how individuals view the flow of information, particularly whether they believe they receive enough work-related information. Individuals' perceptions of information flow can influence their willingness and desire to participate in a planned organizational change, together with their future performance.²¹ As such, workers' need for information under conditions of organizational change is likely

influenced by both contextual and individual factors.²² Such elements as ambiguity or performance pressure relative to the new organizational structure, together with individual factors such as a tolerance for uncertainty or a need for control, are likely to influence survivors' perceptions of information adequacy.²³

As network members gain control of more information they can use their position to influence relationship formation, engagement, and performance in the network, both positively and negatively. Following a downsizing, survivors' perceptions of information adequacy will vary as the organizational network is reconfigured based on the changes to the flow and control of information. Thus, in addition to betweenness centrality, we see the perception of information adequacy as an additional measure of survivors' assessment of information flow as the downsizing unfolds.

Sources of information (that is, source expertise) will likely vary in quality and accessibility in the post-downsizing network, and adequately replacing lost connections while developing a sense of information adequacy in the networks undoubtedly takes time.²⁴ This process may mean that some survivors acquire a better network position following the downsizing and gain access to and control of valuable resources that were not available to them before the downsizing. Therefore, we hypothesize that perceptions of information adequacy (that is, the belief that survivors have enough information to perform their jobs) is positively connected to their performance.

Hypothesis 2a: Information adequacy at T1 is positively related to post-downsizing performance at T4.

Hypothesis 2b: Information adequacy at T2 is positively related to post-downsizing performance at T4.

Hypothesis 2c: Information adequacy at T3 is positively related to post-downsizing performance at T4.

Openness to Change

Survivors' responses to an organizational intervention can have a considerable impact on unit productivity.²⁵ Employees' support for or hostility toward an

¹⁸ Shah, 2000; and Krackhardt, D. (1992). The strength of strong ties: The importance of philos in organizations. In *Networks and organizations*: 216-239. Ed. N. Nohria & R. G. Eccles. Boston: Harvard Business School Press.

¹⁹ Shah, 2000; and Susskind, 2007.

²⁰ Synder, R. A., & Morris, J. H. (1984). Organizational communication and performance. *Journal of Applied Psychology*, 69(3), 461-465.

²¹ Casey, M., Miller, V.D., & Johnson, J. R. (1997). Survivor's information seeking following a reduction in workforce. *Communication Research*, 24(6), 755-781; Miller, V. D., Johnson, J. R., & Grau, J. (1994). Antecedents of willingness to participate in a planned organizational change. *Journal of Applied Communication Research*, 22(1), 59-80.

²² Morrison, E. W. (2002). Information seeking within organizations. *Human Communication Research*, 28(2), 229-242.

²³ Susskind, 2007.

²⁴ Morrison, E. W., & Vancouver, J. B. (2000). Within person analysis of information seeking: The effects of perceived costs and benefits. *Journal of Management*, 26(1), 119-137; and Shah, 2000.

²⁵ Gutknecht, J. and Keys, J. (1993); Mergers, acquisitions, and takeovers: Maintaining morale of survivors and protecting employees. *Academy of Management Perspectives*, 7(3): 26; and Whetten, D. A., & Cameron, K. S. (1984). Organizational-level

intervention largely depends on how the intervention affects them, since downsizing clearly does not affect employees uniformly.²⁶ Some employees report an improved work situation in terms of reduced complexity or bureaucracy, while others are devastated by their new work setting.²⁷ Survivors' openness to participating in post-downsizing changes—such as new or different reporting relationships, the loss of trusted coworkers, and the loss of access to information—is likely to influence performance, including those who fear their work will be complicated by the changes and those who have already experienced complications as a result of the change. For instance, layoff survivors who lose access to resources may be unlikely to support change-related initiatives. In contrast, layoff survivors who gain resources in their network may be more likely to embrace change-related initiatives. These patterns are likely to continue over time as the organizational changes take root. Employees who become increasingly isolated by changes to the organization may become embittered and see little benefit in supporting an organization that increases the difficulty of their work and limits their resources. We therefore hypothesize that survivors' openness to change will be positively related to their performance in the post-downsizing period.

Hypothesis 3a: Openness to change at T2 is positively related to post-downsizing performance at T4.

Hypothesis 3b: Openness to change at T3 is positively related to post-downsizing performance at T4.

Method: Procedure and Sample

One hundred and thirty employees working in an international hotel company's corporate office were surveyed prior to and following an organizational downsizing. Employees' network relationships, perceptions, and attitudes were first measured 60 days prior to the scheduled downsizing (T1), and then measured 60 days (T2) and 120 days (T3) following the downsizing event. Employee performance data were also collected at two points in time, namely, the evalu-

productivity initiatives: The case of downsizing. In *Organizational linkages: Understanding the productivity paradox*: 262-290. Ed. D. Harris Washington, DC: National Academy Press.

²⁶ Freeman, S. J., & Cameron, K. S. (1993). Organizational downsizing: A convergence and reorientation framework. *Organization Science*, 4(1), 10-29.

²⁷ Cascio, W. F. (1993). Downsizing: What do we know? What have we learned? *The Academy of Management Executive*, 7(1), 95-104; and Cameron, K. S., Freeman, S. J., & Mishra, A. K. (1993). Downsizing and redesigning. In *Organizational change and redesign*. Ed. G. P. Huber & W.H. Glick, New York: Oxford University Press.

ation period directly prior to downsizing (T0) and one year following the downsizing event (T4). At T1, T2, and T3 the participants completed a communication network questionnaire and an attitude questionnaire. At time T0 and T4 we received pay raise information for each participant, represented as the percentage increase in salary which emerged from the company's pay-for-performance evaluation process.

To ensure that we could create a viable and robust research design, while minimizing disruptions to the organization as the company leadership planned for and executed the downsizing, we worked closely with the company leadership to secure the data from the organization and its employees. Performance evaluations were completed once per year, so we received the employees' information for the years preceding and following the downsizing. The time frame for network and attitudinal measures—that is, 60 days prior, and 60 and 120 days following—was selected to provide enough distance from the downsizing event to be able to identify any changes and observe the reconfiguration of the network over time.

Demographic data on the 130 initial participants were recorded at T1. Respondents ranged in age from 20 to 57 (M = 33.42), and 44 percent were female. Regarding the participants' work history with the company, 17 had been with the company for one year or less, 30 worked for the company more than one year but less than two, 46 of the employees worked for the company between two and five years, and the remaining 37 had been with the company for five years or more. At T1, T2, and T3, we were able to conduct a census of employees in seven departments: accounting, administration, facilities engineering, finance, human resources, marketing, and rooms. These seven departments made up 78 percent of the headquarters population.

From the final sample, one employee did not complete the questionnaire at T2, and another employee did not complete the questionnaire at T3. Additionally, one employee whom we had initially included in the sample left the company prior to the questionnaire administration at T1. The remainder of the sample described above completed and returned the questionnaire at all three time periods, yielding a final usable sample of N = 97 across all three periods (using listwise deletion). All of the study's participants were guaranteed confidentiality; neither their names nor the company name would be divulged.

The company's reported reason for conducting the downsizing was to remove what they believed to be unneeded staff from the corporate headquarters,

thereby improving the firm's financial performance. Because the post-downsizing structure and reporting relationships were to remain similar to those in the pre-downsizing structure, this process was presented and discussed as a reduction in force. Company employees were informed of the downsizing thirty days prior to the event, and affected employees were offered counseling. Affected employees experienced one of three outcomes: one group of employees was eligible for "early retirement," including a retirement package; members of another group were given the option of remaining with the company at the property level; and the remaining group was laid off with one month's severance pay. Sixteen of the 33 downsized employees were women, and the 33 who were laid off ranged in age from 20 to 54 ($M = 33.58$). Of the dismissed employees, four had worked for the company for less than a year, ten worked for the company between one and two years, eleven had been with the company between two and five years, and eight had worked for the company for five years or more.

Following the downsizing, 42 percent of the 97 survivors were female, and the surviving staff ranged in age from 20 to 57 ($M = 32.24$). Of the remaining employees, thirteen had worked for the company for less than a year, 20 were with the company between one and two years, 35 had worked for the company between two and five years, and 29 had been with the company for five or more years.²⁸

Measurement

Communication network relationships. Communication network data were gathered to assess each participant's work-related communication contacts within the corporate office. The network questionnaire asked the participants to specify their communication contacts in the corporate office on a regular basis during the course of a normal work week. To simplify the collection of these data for the participants, each participant was given an alphabetized directory containing the names of the employees, listed by department. We asked them to report only communication relationships related to the performance of their jobs, with a goal of capturing only their instrumental relationships (i.e., work-related) rather than their expressive relationships (i.e., informal or social). In doing

²⁸ As point of reference we conducted a t-test to examine the differences in the performance of the employees who were dismissed and that of the layoff survivors. The difference between the two groups was statistically significant, showing that on average, those employees who were dismissed received a lower performance evaluation at T0 compared to the survivors ($M = -.57$ for the dismissed and $M = .19$ for the survivors, $t [128] = -4.03, p = .000$).

this we acknowledge Shah's warning that the chances of collecting strictly instrumental relationships using a questionnaire such as this are low, as many instrumental and expressive relationships overlap.²⁹ With that warning in mind, we intended to examine work-related communication only.

To represent the pre-downsizing network at T1, we created a symmetrical 130 x 130 matrix with cell entry X_{ij} set to 1 if either actor in the dyad reported a relationship or set to 0 if neither participant acknowledged a relationship. Similarly, we created a 97 x 97 matrix to represent the two post-downsizing networks, at T2 and T3. We found a high level of reported agreement among the network relationships in each of the three time periods: for dyads X_{ij} and X_{ji} both recognized the same relationship 98.32 percent of the time at T1, 96.71 percent of the time at T2, and 96.07 percent of the time at T3. We believe that this high level of symmetry was enhanced by our providing the network directory to the participants.

Betweenness centrality. Betweenness centrality was calculated using UCINET version 6.2, by determining the extent to which each network member appeared on the shortest link between two different actors.³⁰ The normalized centrality values were used to correct for size differences between the pre- and post-downsizing networks. While we used only the responses from the 97 survivors in the three data collection periods, we note that the T1 centrality scores inevitably included the influence from the 33 downsized employees because they were a part of the network at that time.

Survey measurement. Survey measures evaluated the participants' perceptions of information adequacy and openness to participate in change by asking the respondents to indicate their level of agreement with the questions, using a five-choice Likert-type metric anchored by strongly agree and strongly disagree.

Information adequacy. We measured this variable using a four-item instrument developed by Miller, Johnson, and Grau.³¹ A sample item from this measure is: "I am thoroughly satisfied with the information I receive about what's going on at this company." The reliability of the measure was $\alpha = .83$ at T1, $\alpha = .86$ at T2, and $\alpha = .96$ at T3.

²⁹ Shah, 2000.

³⁰ Borgatti, S. P., Everett, M. G., & Freeman, L. C. (2002). UCINET 6 for Windows: Software for Social Network Analysis version 6.2.5. Natick, MA: Analytic Technologies.

³¹ Miller, Johnson, and Grau, 1994.

Correlations, means, and standard deviations

Variable	M	SD	N	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Pre-Performance (T0)	.19	1.02	97	1.00													
2. Betweenness Centrality (T1)	1.12	2.45	97	.47**	1.00												
3. Information Adequacy (T1)	3.93	.76	93	-.02	-.11	1.00											
4. Betweenness Centrality (T2)	1.89	3.12	97	.39**	.82**	-.16	1.00										
5. Information Adequacy (T2)	2.59	1.13	95	-.05	-.01	.01	.19	1.00									
6. Openness to Change (T2)	3.20	1.34	94	.11	.19	-.02	.09	-.61**	1.00								
7. Betweenness Centrality (T3)	1.79	3.00	97	.37**	.76**	-.15	.97**	.20	.07	1.00							
8. Information Adequacy (T3)	4.12	.99	97	.00	-.35**	.01	-.27**	.12	-.12	-.23**	1.00						
9. Openness to Change (T3)	1.98	.93	97	.08	.33**	-.07	.28**	.02	-.13	.24*	-.55**	1.00					
10. Post-Performance (T4)	.00	1.00	97	.34**	.44**	-.08	.69**	.13	.08	.73**	-.07	.23*1.00					
11. Tenure in Position	4.69	1.15	95	-.02	-.03	-.01	-.02	-.07	-.12	.00	-.01	.07	-.01	1.00			
12. Tenure with Company	4.81	1.11	95	-.01	-.05	-.04	-.03	-.07	-.13	-.02	.03	.04	-.07	.96**	1.00		
13. Education	.82	.39	95	-.37**	-.50**	.01	-.36**	.06	-.10	-.39**	.15	-.18	-.24*	-.12	-.13	1.00	
14. Age	33.27	9.53	94	.00	-.09	-.04	.07	-.09	-.09	.09	.04	.07	.14	.68**	.66**	.13	1.00

Notes. * $p < .05$ (two-tailed), ** $p < .01$ (two-tailed). T0 = Pre-Performance before downsizing, T1 = Pre-Downsizing, T2 = Post-Downsizing, T3 = Post-Downsizing, and T4 = Post-Performance after downsizing. Education coded 0 = no college, 1 = college.

Employees' openness to participate in change. At the behest of company leadership, this variable was only collected following the downsizing at T2 and T3 to prevent contaminating the announcement of the downsizing at the T1 data collection. Thus, we measured this variable post downsizing only at T2 and T3 using an eight-item scale which assessed participants' willingness to participate in a planned change.³² The reliability of this measure at T2 was $\alpha = .85$, and it was $\alpha = .77$ at T3.

Performance. To assess the on-the-job performance of each study participant, we collected the percentage raise each employee received in the company's annual performance appraisal system at two periods in time. The first evaluation period (T0) represented the percentage raise received from their performance evaluation from the fiscal year prior to the downsizing, and the second evaluation period (T4) came from the fiscal year immediately following the downsizing.

³² Adapted from Susskind, A. M., Miller, V. D., & Johnson, J. D. (1998). Downsizing and structural holes: Their impact on layoff survivor's perceptions organizational chaos and openness to change. *Communication Research*, 25(1), 30-65.

Due to the sensitive nature of personnel records, we were granted access only to the percentage raise each employee received, and not to other performance ratings or other personal information. The company informed us that each employee was evaluated on a series of performance metrics and progress made on their personal development plans. These metrics were then used to calculate the merit-based raise percentage given each employee.³³ The raises ranged from zero to 10 percent at T0 ($M = 3.1$, $SD = 1.62$) and zero to 7 percent at T4 ($M = 2.3$, $SD = 1.4$). We converted the pay raise percentages into z-scores.

Analytic strategy. To test our hypotheses, we used a general linear model SPSS routine to examine changes in different variables as a function of changes in values of the predictor variables for different time periods.³⁴ The post-downsizing performance at T4

³³ Podgursky and Springer report that pay-for-performance systems are commonplace. Hence, we believe that without access to individual personnel records, a percentage pay raise based on set performance benchmarks and annual plans would represent a sound proxy for performance. See: Podgursky, M. J., & Springer, M. G. (2007). Teacher performance pay: A review. *Journal of Policy Analysis and Management*, 26(4), 909-949.

³⁴ Statistical Package for Social Sciences v. 23.

EXHIBIT 2

Time period general linear models for post-performance (T4)

Variable	Model 1 (T0–T4)		
	β	SE	p
Intercept	-1.42	.87	.11
Pre-Performance (T0)	.15	.08	.07
Betweenness Centrality (T1)	-.02	.06	.01*
Information Adequacy (T1)	.02	.09	.80
Betweenness Centrality (T2)	.09	.10	.37
Information Adequacy (T2)	-.05	.09	.55
Openness to Change (T2)	.04	.07	.56
Betweenness Centrality (T3)	.23	.09	.02*
Information Adequacy (T3)	.20	.10	.04*
Openness to Change (T3)	.23	.09	.02*
Tenure in Position	.50	.23	.03*
Tenure with Company	-.56	.24	.02*
R^2	.64		

* $p < .05$

Notes: T0 = Pre-Performance before downsizing, T1 = Pre-Downsizing, T2 = Post-Downsizing, T3 = Post-Downsizing, T4 = Post-Performance after downsizing. Model 1 = Time 0 (Pre-performance), Time 1 (Pre-downsizing), Time 2 (Post-downsizing period 1), Time 3 (Post-downsizing period 2) & Time 4 (Post-performance)

is the dependent variable. Based on a preliminary assessment, we included employee tenure with the company, and employee tenure in position variables in the model

Results

In examining the initial results for performance during the pre-downsizing and post-downsizing periods, betweenness centrality across all time periods (T1, T2, and T3) was positively correlated to both pre-downsizing performance at T0 and post-downsizing performance at T4 (as shown in Exhibit 1). In particular, we found positive correlations between performance before downsizing at T0 and betweenness centrality at T1 ($r = .47, p < .01$), T2 ($r = .39, p < .01$), and T3 ($r = .37, p < .01$). Additionally, we found betweenness centrality at T1 ($r = .44, p < .01$), T2 ($r = .69, p < .01$), and T3 ($r = .73, p < .01$) to be positively correlated to post-downsizing performance at T4. Moreover, in response to research question 1, we found a significant positive correlation between pre-downsizing performance, at T0, and post-downsizing performance, at T4 ($r = .34, p < .01$).

In general, our model fit the data well and explains 63 percent of the variation in post-downsizing performance at T4. Exhibit 2 shows the results of testing a general linear model for all predictor variable across all time periods on post-downsizing performance at Time 4.

With regard to research question 1, pre-downsizing performance at T0 was positively correlated to post-downsizing performance at T4 ($r = .34, p < .01$), and in the general linear model, pre-downsizing performance at T0 revealed a significant positive relationship with post-downsizing performance at T4, ($\beta = .15, p = .07$). Thus, the overall research question is answered in the affirmative.

Betweenness centrality at T1 was found to have a significant but negative relationship with post-downsizing performance at T4 ($\beta = -.02, p < .05$), thus partially supporting hypothesis 1a. The relationship was significant in the model, but the beta coefficient was in the opposite direction of our hypothesis. The negative beta coefficient reveals that for each unit increase in betweenness centrality at T1, post-downsizing performance at T4 decreased by .02 units. We did not find support for hypothesis 1b, as there was a non-significant relationship between betweenness centrality at T2 and post-downsizing performance at T4. However, we found support for hypothesis 1c ($\beta = .23, p < .05$), as betweenness centrality at T3 was significantly related to post-downsizing performance at T4.

Information adequacy at T1 and T2 did not have a significant effect on post-downsizing performance at T4; thus, we did not find support for hypotheses 2a and 2b. However, we found support for hypothesis 2c, showing that information adequacy at T3 had a significant positive relationship with post-downsizing performance at T4, $\beta = .20, p < .05$.

Hypothesis 3a was not supported, as openness to change at T2 did not have a significant effect on post-downsizing performance at T4. However, we did find support for hypothesis 3b: openness to change at T3 did have a significant effect on post-downsizing performance at T4, $\beta = .23, p < .05$.

General Discussion

Through this longitudinal field study we were able to capture the communication network relationships, attitudes, and performance from a set of employees who went through a downsizing. We have identified several elements over time that were connected with higher levels of employee performance post-downsizing, as the downsizing was implemented and took effect. We believe our study captured some of the

communication-network turbulence surrounding a downsizing.

The majority of the significant relationships we uncovered through our model emerged from the connections between employees' communication relationships and attitudes at T3 (120 days after the downsizing) with their performance at T4 (during the subsequent fiscal year). This suggests that during the immediate post-downsizing period at T2 (60 days following the downsizing) patterns of communication and employee attitudes had yet to stabilize and, further, that employees' reactions were still in flux and not directly connected to their future performance.

These findings suggest that as organizational networks reconfigure in the immediate post-downsizing environment (measured here as T2) management should consider paying attention to communication patterns, information flow, and the employees' reactions to the change. Bearing in mind that we focused on work-related communication, knowing how information flows in the reconfigured communication network can allow managers to offer the layoff survivors the support they need to be successful in the newly configured organization. For example, if managers can identify newly created gaps in communication and information flow, they can fill in missing information or provide work-related tools to ensure employee success as the communication network reconfigures. Below we will discuss the practical implications of our findings, note several limitations of this work, and offer suggestions for future research in this area of inquiry.

Performance Matters

First, as highlighted in the analysis of research question 1, we have demonstrated through our study that employees' past performance (in this case, the year before the downsizing at T0) was significantly related to their performance a year following the downsizing at T4 ($r = .34, p < .01, \beta = .15, p = .07$). While not an earth-shattering finding, we have shown that employees who were assessed as solid performers before the downsizing continued to perform well over time, further supporting the age-old expression that for people past performance is the best predictor of future performance (unlike equity markets). This finding offers support for leaders to base promotion decisions (and in this case who gets fired and who doesn't) on performance. Based on these findings it seems important for managers as they are planning a workforce reduction to carefully use performance metrics to identify employees who have the potential to continue to add value to the organization as it is reconfigured.

It also provides management with a rationale for purging staff members that are not performing up to standards.

Information Flow and Control Influence Performance

By measuring betweenness centrality we were able to identify the extent to which network members controlled and, hence, had access to work-related information. Betweenness centrality at T1 (before the downsizing) was significantly related to performance at T4, but the beta was negative and small ($\beta = -.02, p = .01$). The correlation of betweenness centrality at T1 and performance at T0 was significant ($r = .47, p < .01$), showing that performance in the existing, pre-downsizing network was strongly connected to the control of and access to information, but that was not the case later on under the new network configuration. What this shows is that control of and access to information in the pre-downsizing network was connected to performance before the downsizing, but that information access was not connected to performance after the downsizing. As the network was reconfigured after the downsizing (from T1 to T2), the connections and communication flow from some network members to other members had changed, along with the noted connection to performance. This indicates that betweenness centrality was a good predictor of performance within established network connections. This relationship is further supported where the relationship of betweenness centrality at T3 and performance at T4 was positive and significant ($\beta = .20, p = .02$), showing that the control of and access to information in the reconfigured post-downsizing network mattered considerably.

We note two caveats, however. First, betweenness centrality at T1 (the period immediately prior to the downsizing) included the influence from employees who would no longer be present in time periods following the downsizing, possibly diluting the effect of T1 betweenness centrality on T4 performance. Second, betweenness centrality at T2 (the period immediately following the downsizing) was not significantly related to performance at T4. Clearly, the network was still in flux 60 days following the downsizing, with the consequence that betweenness centrality at T2 and the associated benefits of information control and access were not yet fully formed and hence not yet connected to performance. We therefore conclude that betweenness centrality is an important metric to track as organizations go through changes and reconfigurations of their personnel. Once the network has had a chance

to stabilize, as we saw at T3, the effects and benefits of betweenness centrality become more noticeable. With this realization, we believe that it makes sense for managers to support the process of network stabilization by using measures of betweenness centrality to identify patterns of flow and potential gaps. Looking again at Exhibit 1, the correlation between T2 and T3 betweenness centrality is $r = .97, p < .01$, showing a high level of consistency across the post-downsizing period. Hence, while betweenness centrality did not change much in the post-downsizing environment, the changes that did occur from T2 to T3 had a notable effect on network members' performance and most likely can be attributed to their becoming more comfortable with the newly configured network.

We are able to further confirm this communication network dynamic with our attitudinal data. While not a significant influence in either T1 or T2, the survivors' reported information adequacy at T3 was significantly related to performance at T4 in our model ($\beta = .20, p = .04$). This shows the relationship of employees' performance with their reports that they received sufficient information to perform their jobs. Taken together, the connection to valuable network resources and the belief that you in fact do receive these resources are strong predictors of performance once the downsizing has been completed and the network has stabilized. Managers should make note of this dynamic as communication networks and patterns of information flow inevitably shift through a downsizing.

Openness to Change

Another important dynamic of managing organizational change is to understand how those who are affected by a change react to that change.³⁵ Through our study we were able to capture the survivors' reactions to the downsizing, measured as their openness to change at both T2 and T3. While our results found no significant relationship between employees' open-

ness to change at T2 and performance at T4, we did find that employees' openness to change at T3 was significantly related to their performance at T4 ($\beta = .23, p = .02$). We believe these findings further highlight the turbulence that was created by the downsizing. But the findings also support the contention that as things began to stabilize for the survivors, their attitudes toward the planned change and its impact tempered. We can interpret this longitudinal finding to mean that employees' performance improved as they became more receptive to the changes. These findings highlight the importance of employee buy-in to effectively execute organizational change (in this case, downsizing). Executives should be forthcoming with information about the change and how each and every employee will be affected. This circles back to information flow. Getting your employees the right information, at the right time, and in the right quantity will increase your chances of success in implementing the planned change. Employees may not embrace the change, but it is management's duty to detail how the change will occur and who it will affect as completely and quickly as possible. In that regard, perhaps all employees should be offered counseling, and not just those who will be leaving the organization.

In sum, over the four-month period following the downsizing, the working and communication situation for the reduced staff at the corporate office seemed to have stabilized. Given our findings, it appears that more could have been done prior to the four-month period to reduce the amount of time it took to reach that point. We believe this can be accomplished by: **(1)** examining betweenness centrality to identify the patterns of information flow and control, **(2)** identifying information needs in concert with those patterns, **(3)** clearly identifying how and where gaps are expected to emerge in communication and information flow, and **(4)** communicating the change, elements of the change, and how the change will affect each of the layoff survivors. ■

³⁵ Miller *et al.*, 1994; and Casey *et al.*, 1997.

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