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Water utility executive leadership, Part 2: What our CEOs think

THIS ARTICLE IS THE SECOND OF THREE THAT EXPLORES THE FINDINGS OF THE WATER RESEARCH FOUNDATION REPORT, WATER UTILITY EXECUTIVE LEADERSHIP FOR THE 21ST CENTURY.

Executive leadership is critical to the success of any organization; as the 2008 *Effective Utility Management: A Primer for Water and Wastewater Utilities (EUM)* observes, leadership is the “first key to management success” (USEPA et al, 2008). Despite its lofty status, research on executive leadership of US utilities has been scant. *Water Utility Executive Leadership for the 21st Century*, a study sponsored by the Water Research Foundation (WRF), begins to address this lack of knowledge.

This article is the second in a series of three in *JOURNAL AWWA*; the first, “Water utility executive leadership, Part 1: Who our CEOs are” (December 2013, p. 22), explored water utility chief executive officers’ (CEOs’) priorities, attitudes about their role, and their perceived effectiveness in their job. As with the first in the series, this article is based on the WRF study and uses the same scientific survey of water utility CEOs supported by six cases studies.

REVIEWING THE METHODOLOGY

As in the first article, a water utility CEO is defined as “an organization’s highest ranking professional who directs the drinking water utility, exclusively



A full report of this project, *Water Utility Executive Leadership for the 21st Century* (4342), is available for free to Water Research Foundation subscribers by logging on to www.waterrf.org.

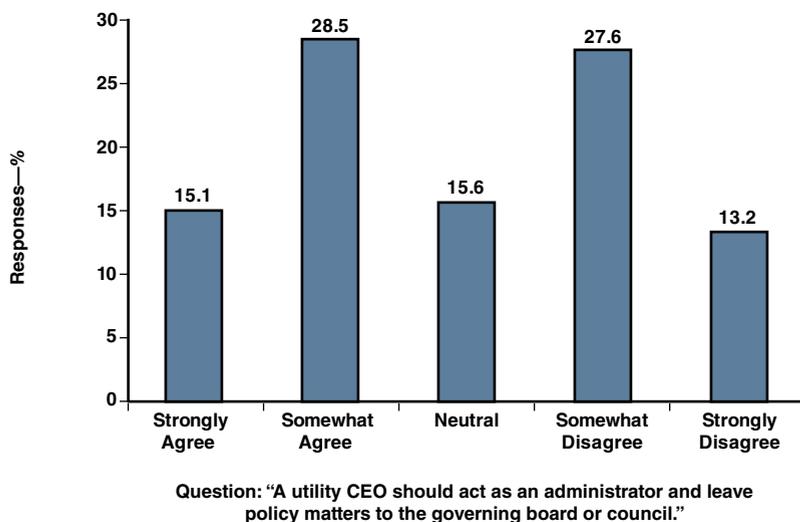
FIGURE 1 Mean ranking of effective utility management 10 attributes ($n = 117$)



Source: Teodoro, 2013

Low values indicate high priority; high values indicate lower priority. Bars depict 95% confidence intervals.

FIGURE 2 Administrator–policymaker role orientation ($n = 116$)



Source: Teodoro, 2013

CEO—chief executive officer

or in combination with other utilities and/or services.” The Water Utility Executive Leadership for the 21st Century study excludes elected officials and general purpose city managers but does include public works directors who manage water utilities alongside other services. A semistructured telephone interview survey of CEOs who lead water utilities remains the empirical centerpiece of this study. It allows for flexible analysis of utility CEOs by using a randomized, stratified sample of 300 US utilities drawn from the US Environmental Protection Agency’s Safe Drinking Water Information System. A total of 169 CEOs participated, for a participation rate of 57.9%, and with 120 of those completing a follow-up online questionnaire, for a completion rate of 71.0%. In addition to the survey, six in-depth CEO profiles provided more tangible illustrations of the data presented. The CEOs were chosen for their broad appeal and their ability to capture a range of utility leadership. Further information about the study’s methodology is included in the first article (Teodoro & Whisenant, 2013). Full methodological details are included in the final report for Water Utility Executive Leadership for the 21st Century (Teodoro, 2013), which is available from WRF.

UNDERSTANDING MANAGEMENT PRIORITIES

What are utility CEOs’ priorities as leaders? Since its publication in 2008, the EUM has become a touchstone for utility executives in the United States, and identifies “Ten Attributes of Effectively Managed Water Sector Utilities” that are nearly universally applicable to US utility organizations:

- Product quality
- Customer satisfaction
- Employee and leadership development
- Operational optimization
- Financial viability
- Infrastructure stability
- Operational resiliency
- Community sustainability

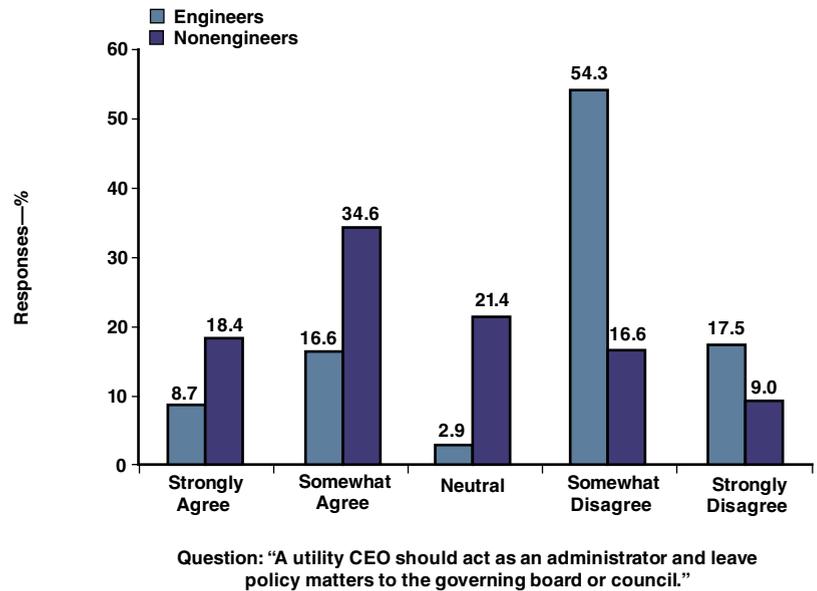
- Water resource adequacy
- Stakeholder understanding and support

Although none of the ten attributes is necessarily more objectively important than any of the others, individual leaders are likely to regard individual attributes as more or less important in leading their organizations. To determine how CEOs rank the attributes, the survey asked respondents to rank the importance of the ten attributes from 1 (most important) to 10 (least important).

EUM attribute rankings. If water utility CEOs as a group regard the ten attributes in roughly equal terms, they should rank them in a roughly uniform manner. However, the data reveal that there are four distinct tiers of priorities, as seen in Figure 1. Product quality is clearly the top priority, with more than a third of respondents ranking it number one. The next four attributes—infrastructure stability, customer satisfaction, financial viability, and water resource adequacy—form a second tier, which appears to relate to directly measurable aspects of utility performance. A third tier appears to include organizational dimensions of management: operational resiliency, employee and leadership development, operational optimization, and community sustainability. The final attribute, stakeholder understanding and support, lags well behind the others.

These rankings reveal a few important things about today’s utility executives. First, as a group, water utility CEOs hold water quality as central to their missions as leaders and regard engagement with stakeholders as somewhat peripheral to their jobs. Professional organizations, regulatory agencies, and others who seek to promote the importance of water quality among CEOs may simply be “preaching to the choir”; utility executives already recognize the importance of water quality. Conversely, utility executives may require more convincing that stakeholder engagement is as important as the EUM framework suggests.

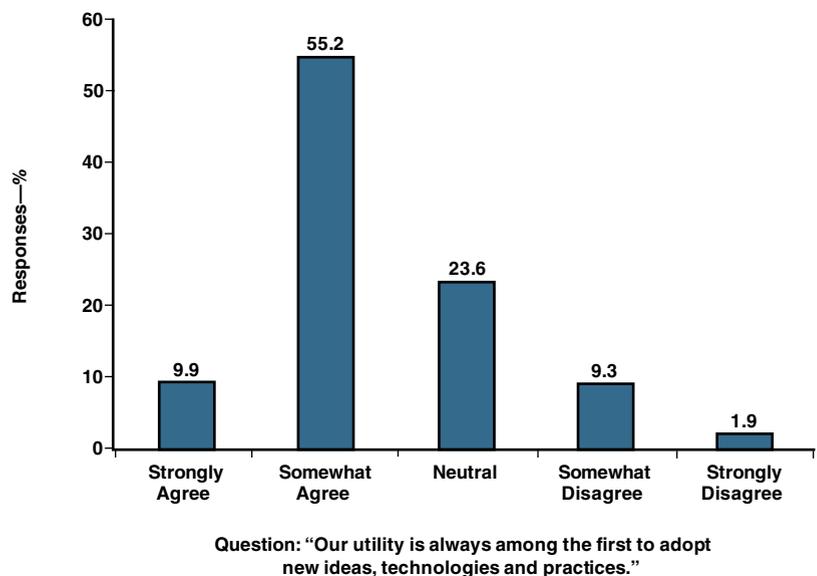
FIGURE 3 Administrator–policymaker role orientation, engineers versus nonengineers (*n* = 116)



Source: Teodoro, 2013

CEO—chief executive officer

FIGURE 4 Chief executive officer perception of organizational innovation (*n* = 116)



Source: Teodoro, 2013

Utility CEO as Policy Actor

After popular outcry over a rate increase, in 2007 the San Diego (Calif.) City Council created the Independent Rates Oversight Committee (IROC), an advisory body charged with oversight of the city's public utilities department. Critics of the department hoped that the IROC would check rate increases and identify waste and inefficiency in the department. As one IROC member put it, some supporters of the initial IROC legislation sought an "unofficial, amateur audit committee." Another IROC member put it more bluntly: "[Some people] think the IROC's job is to embarrass the department."

Director of Public Utilities Roger Bailey shared that dubious impression of the IROC when he arrived in San Diego in 2010. "Initially I thought that the IROC would be difficult to deal with—that it would be people who were politically motivated and would make things harder," said Bailey. But rather than avoiding or seeking to marginalize the group, Bailey embraced the IROC, meeting with it regularly and engaging directly with its members. He proactively provided the IROC with data on the utility's capital, operating, and financial conditions, and worked with his staff to respond swiftly to the IROC's requests for information.

Bailey's approach built trust between the department and the IROC. "Roger is very hands-on with the IROC," said one member. "I appreciate that he's very candid—he doesn't duck and weave when the hard issues come up." IROC chair James Peugh added, "Roger is incredibly responsive; he's a guy who wants to communicate, rather than

withholding information." Bailey and the IROC members who were interviewed as part of this research all agreed that he spent significant time educating and responding to the committee.

Consequently, IROC members came to appreciate the breadth, scope, and complexity of utility management in one of the largest cities in the United States, and the committee has evolved into an important platform for developing policy for the utilities department. The IROC's annual reports highlight the department's achievements and point out its needs while bearing in mind the regulatory and financial constraints under which the department operates. In this way, the IROC has become a valuable resource for the utility staff in its work with city hall.

"Ironically, the IROC has been one of the department's biggest supporters," Bailey observed. But that support did not emerge organically or accidentally. To Bailey, developing policy initiatives and cultivating support in the IROC and the broader policymaking process are integral parts of his job as the leader of a major metropolitan utility. "I see myself as a scientist," said Bailey, who holds degrees in science and engineering. "But I also see myself as a bridge-builder: I have to connect the visionaries—the political folks—and the reality—the people who operate a large, complex utility."

In 2013, Roger Bailey left San Diego Public Utilities to become general manager and chief executive officer at Central Contra Costa Sanitary District, Martinez, Calif.

TACKLING JOB-RELATED ATTITUDES

Building on executive research in other fields, the study also gathered data on water utility CEOs' understanding of their own organizational roles as well as some opportunities and constraints that their organizations encounter.

Role orientation: administrator or policymaker? The CEO occupies a unique organizational position: he or she is above the line personnel who carry out the day-to-day functions and below the elected officials and/or boards of directors who formally govern the utility organization. As such, executives are responsible both for operations and

strategic directions for their organizations. To determine how CEOs think of themselves fitting into this dual role, the CEO survey recalled previous management studies (Sargent, 2011; Heil, 2003; Sabatier & Mazanian, 1981) by asking respondents the level to which they agree with the following statement: "A utility CEO should act as an administrator and leave policy matters to the governing board or council."

Responses were on a five-point scale, ranging from "strongly agree" to "strongly disagree." The mean response was approximately neutral. However, Figure 2 shows that few CEOs were truly neutral, with more than 40% agreeing and more than

40% disagreeing with the role of utility CEOs. Further analysis reveals that CEOs who were engineers tended to disagree with the statement, whereas nonengineers tended to agree with it, as shown in Figure 3. This result is consistent with research on executives who hold strong professional identities (Brint, 1994; Wirt, 1985). A professional engineer may be more likely to think of his or her governing board or council as a "client" who seeks expert advice and guidance in formulating policy; failure to do so is failing to fulfill a professional obligation. Nonengineer CEOs may not share this professional outlook, but rather view themselves primarily as administrators of poli-

cies set by their governing boards (see the sidebar on page 58).

Innovation. Management researchers have long recognized that executives are significant drivers of innovation in organizations (Teodoro, 2011; Makri & Scandura, 2010; Papadakis & Bourantas, 1998; Datta & Guthrie, 1994; Wilson, 1989). The CEO survey also asked for respondents to indicate the degree to which they agreed with the following statement concerning innovation in their organizations: “Our utility is always among the first to adopt new ideas, practices, and technologies.”

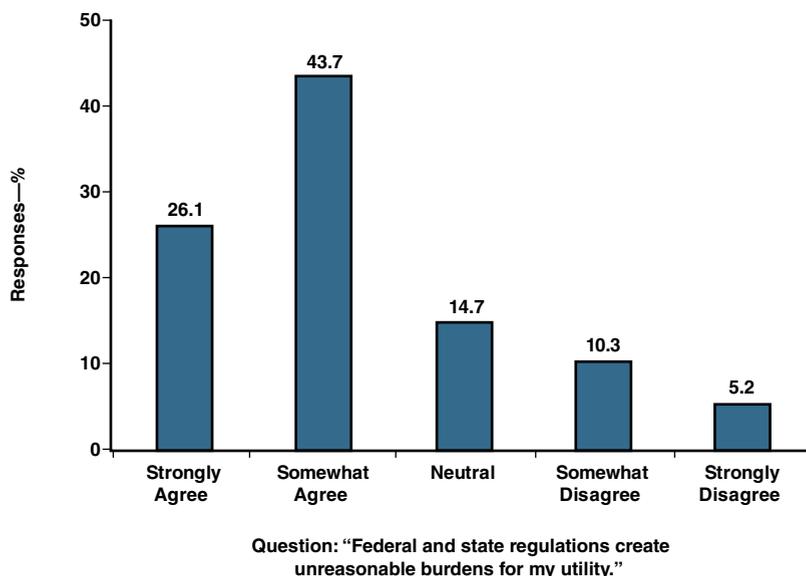
As with the previous statement, responses were on a five-point scale from “strongly agree” to “strongly disagree.” The mean response approximated with “somewhat agree,” as shown in Figure 4. Of course, it is logically impossible for a majority of utilities to be “among the first” to adopt innovations, and it is important to recognize that the responses measure the perceptions of innovation, not actual innovation.

Nonetheless, analysis shows that a utility’s source of water supply significantly affects its CEO’s perception of innovation. The CEOs of utilities that relied primarily or entirely on surface water sources agreed more strongly that their utilities were early adopters of innovations. This result seems to reflect the perception that, on average, surface water sources require more intense treatment than do groundwater sources, and so surface water utilities are early innovators by necessity (see the sidebar on page 61).

Regulatory burden. Water utilities operate in a heavily regulated environment, dealing with issues from hazardous materials to workplace safety and solid waste. The CEO survey asked for respondents to indicate the degree to which they agree that “Federal and state regulations create unreasonable burdens for my utility.”

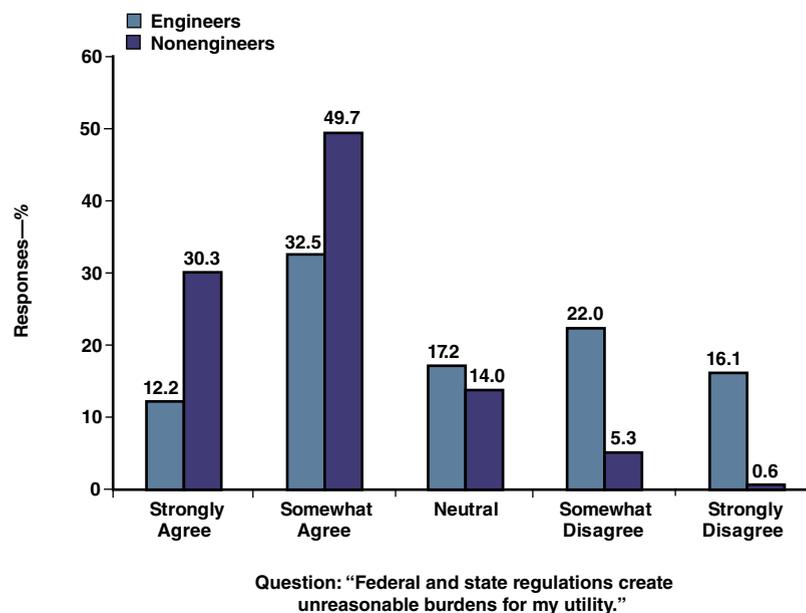
The responses were along the same five-point scale as the previous questions. Figure 5 shows the distribution is skewed toward agreement with the

FIGURE 5 Chief executive officer perception of regulatory burden (*n* = 116)



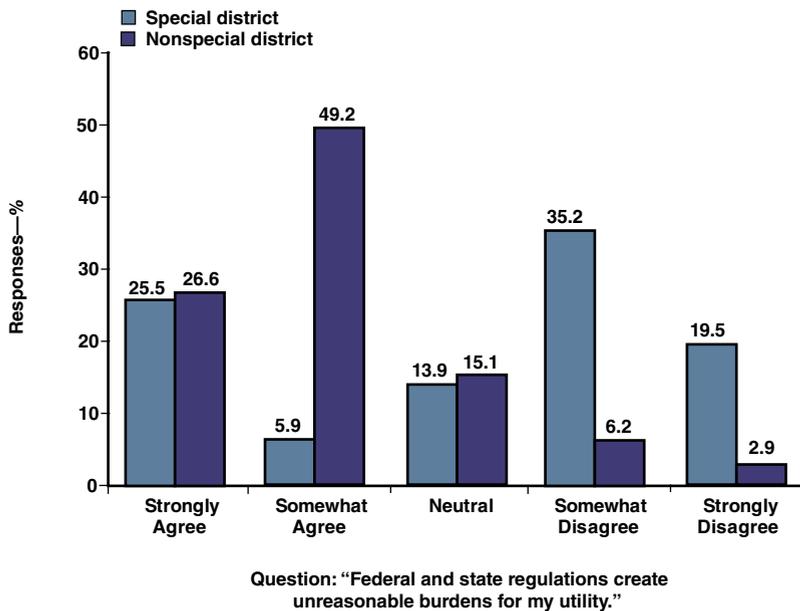
Source: Teodoro, 2013

FIGURE 6 Chief executive officer perception of regulatory burden: engineers versus nonengineers (*n* = 116)



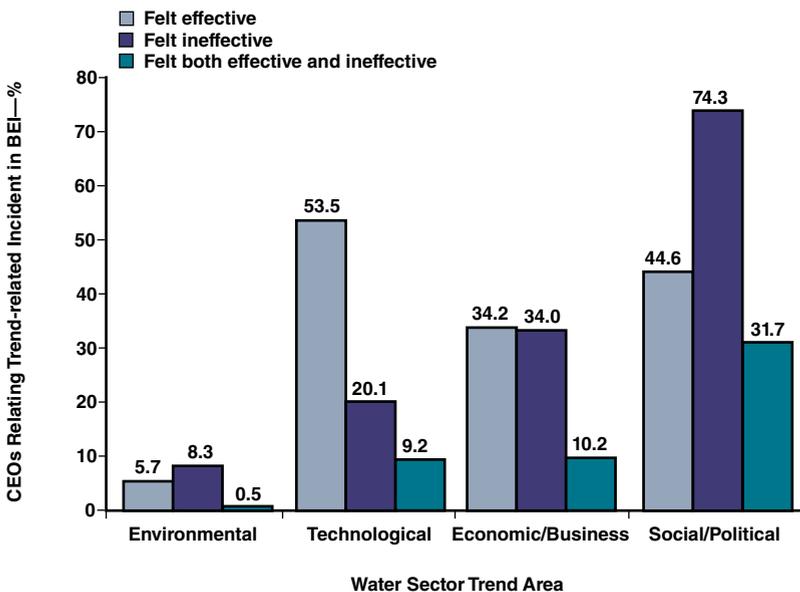
Source: Teodoro, 2013

FIGURE 7 Chief executive officer perception of regulatory burden: special districts versus other utilities (*n* = 116)



Source: Teodoro, 2013

FIGURE 8 BEI responses by water sector trend area (*n* = 169)



Sources: Teodoro, 2013; Brueck et al, 2010

BEI—behavioral event interview, CEO—chief executive officer

Note: Responses may be coded in multiple categories.

statement. Further analysis, however, revealed important differences among utilities and executives. Figure 6 shows the distribution of CEOs' perceptions of regulatory burdens for engineers and nonengineers, with engineers' attitudes being more uniformly distributed, indicating that, on average, they perceive regulations to be less burdensome than do nonengineers. The reasons for this difference are not clear. One possibility is that engineers' specialized training allows them to be more comfortable with regulatory compliance. Another possibility is that engineers tend to value the regulatory regimes under which they manage because engineering principles are central to many of the laws that regulate utilities (Tummers et al, 2012), whereas nonengineers tend to perceive the costs of compliance more readily.

Figure 7 shows a similar distribution for CEOs of special districts versus all other utility organizations (mostly municipal utilities that are part of general purpose governments or investor-owned utilities). CEOs of special districts perceive regulations to be less burdensome than do their peers in other kinds of utilities. Again, the reasons for this divergence are not clear, but narrower organizational aims allow special districts to navigate the regulatory maze more effectively (Mullin, 2009).

Multivariate analysis revealed two additional relationships. First, all else being equal, CEOs' dissatisfaction toward regulations increases as their utilities increase in size. This result is unsurprising because larger utilities must comply with more complex and stringent regulations. Second, CEOs' attitudes toward regulatory burdens are related to their level of education, even after controlling for the executive's profession (engineers versus nonengineers). As CEOs become more educated, they agree less with the statement that regulations are unduly burdensome. This result indicates that higher education arms executives with the theoretical

knowledge and methodological acumen to manage in a highly complex regulatory environment.

Effectiveness and water sector trends. CEOs have vastly varying responsibilities in their jobs. To determine the aspects of the job in which utility CEOs feel the most effective or ineffective, the survey used the behavioral event interview (BEI), a technique that social psychologists have developed to gather unbiased information from individuals in organizations. It asks respondents to describe work incidents, their own behavior, the behavior of any other key players in the incident, and the outcome. The BEI begins with two questions, asked sequentially. The first asks the respondents to describe a time during their career when they felt effective at work. The second then asks the respondents to describe a time when they felt ineffective at work. The BEI is recognized as a staple in the study and development of organizations, and it is now widely used by business firms in executive recruitment to assess competencies, personality, and task orientations (Fernandez-Araoz et al, 2009; Jacobs, 2001; McClelland, 1998; Spencer & Spencer, 1993).

Water sector trends. In 2012, the WRF published *Forecasting the Future: Progress, Change, and Predictions in the Water Sector* (Brueck et al, 2012), a study aimed at spotting the most important trends that will shape the water sector in the future. Convened panels of experts and leaders identified four major trends for water utilities during the next 20 years: environmental, technological, economic/business, and social/political. Table 1, adapted from Brueck et al (2012), shows the four trends and their related topics.

When CEOs feel effective and ineffective. To assess CEOs' relative effectiveness with respect to water sector trends, responses to the "effective" and "ineffective" BEI prompts were coded to align with the four trends identified in Brueck

Fostering Innovation in a Large Utility Organization

Seattle (Wash.) Public Utilities (SPU) enjoys a reputation as one of the United States' most progressive utilities, winning numerous awards for innovation and excellence. Its director, Ray Hoffman, is a long-time employee who came to lead the water utility by way of the city's solid waste department (which was combined with the water and wastewater departments in the 1990s). Hoffman's reputation as an innovator in solid waste helped him earn his position as chief executive officer, and innovation has been a hallmark of Hoffman's tenure. With 1,450 employees and 184,000 customers, SPU is a large utility with a typical hierarchical structure. Nonetheless, new ideas find fertile soil in SPU's ranks and support from its executives.

Hoffman sustains a culture of innovation at SPU in several ways. He aims to assign responsibility for all decisions to the lowest practicable level of the organization to "try to foster a culture that rewards innovation and risk-taking." He also brings an infectious zeal to his work that inspires SPU personnel to bring new ideas to bear on the challenges of utility management. SPU's reputation for innovation and Hoffman's leadership are two reasons that veteran utility manager Rick Scott came to Seattle as deputy director. Scott describes Hoffman as "a man in constant motion" and "someone who has a passion for utility work." Another deputy director, Nancy Ahern, noted Hoffman's curiosity and enthusiasm for new ideas and approaches. Engineering Services Director Linda DeBoldt pointed out that Hoffman's leadership is marked by an emphasis on generating ideas from within the SPU—a sentiment born from his long service within SPU and success in bringing innovations to it.

et al (2012). Each response was coded 1 or 0 for each of the four trends so that a single response could be scored up to four times. These responses reveal the substantive areas in which the drinking water community's executive leaders feel most effective and ineffective.

Figure 8 shows the incidents that CEOs mentioned in the BEI interviews in which they felt effective and ineffective, classified by water sector trend. The results offer several insights. First, when asked to recall a time when they felt effective at work, more than half of CEOs mentioned an incident involving some kind of technology, a finding that is consistent with Gerstberger and Gromala's (2010) study of utility managers.

Second, few CEOs related incidents connected to environmental issues in either BEI response. Third, CEOs felt effective and ineffective with respect to economic/business matters in almost identical proportions. Finally, when asked to recall a time when they felt ineffective at work, three quarters of CEOs mentioned social/political incidents. Almost all of these incidents could be described as "political" in the sense that they related to elected officials, interest group pressures, intergovernmental disputes on a regulatory matter, or other political issues. As Figure 8 shows, about one third of CEOs cited societal/political challenges when discussing times when they felt effective and ineffective. For these CEOs, the

TABLE 1 Trends and topic areas

Trend	Topic Area
Environmental	Energy demand Climate change Natural disasters Total water management
Technological	Rate of technological change Information technology Water system technology Water treatment technology
Economic/business	Economic Financial Organizational Managerial
Societal/political	Governance Water-related regulation Water-related legislation Organizational sustainability Customer/constituent and community relationships Mass media management

Source: Brueck et al, 2012

social/political dimension of work is evidently central to their understanding of their role as professionals.

Correlates of perceived effectiveness. Analysis revealed few strong correlates of CEOs' responses with respect to the water sector trends; therefore, the survey offers little leverage on why CEOs might feel more or less effective in these areas of utility leadership. However, logistic models of the BEI responses (which can be found in greater detail in the full Water Utility Executives Leadership for the 21st Century report) related to technological challenges generated several noteworthy results. First, utility size is negatively correlated with the likelihood that a CEO discusses technological challenges when asked about his or her effectiveness. In other words, the smaller the utility, the more likely a CEO thinks of his or her effectiveness in technological terms, possibly reflecting the nature of utility executive jobs in small- and medium-sized utilities, in which the CEO's duties may include substantial hands-on work or front-line supervision.

Second, the engineering profession has notable effects on CEOs' perceptions of their own effectiveness. When asked to speak of a time when they felt effective, CEOs who were engineers were significantly more likely than nonengineers to discuss technological challenges. When asked about a time when they felt ineffective, engineer-CEOs were significantly less likely than nonengineers to talk about technological challenges. These results are unsurprising given the emphasis on technological solutions and systems design in the engineering profession (Wilson, 1989). Career path has a nearly identical effect: CEOs hired from outside their current utilities were significantly less likely to talk about technological challenges when compared with CEOs who were promoted from within. Length of experience in water utilities and education, however, are both positively correlated with the likelihood that CEOs talk about technological challenges when asked about times when they felt ineffective.

CONCLUSION

This article provides a view of what water utility CEOs think about their management priorities, their jobs, and their own effectiveness. The study revealed interesting patterns of attitudes among CEOs. The average rankings of the EUM ten attributes reveal that, as a group, utility CEOs hold product quality as the clear top priority. Directly measurable attributes of utility management form a second tier of management priorities, operational aspects of management form a third tier, and stakeholder support ranks last. This pattern of rankings suggests that AWWA, WRF, USEPA, and other sponsors of EUM ought to focus on the lower-ranking attributes in their promotional and training efforts within the EUM framework.

The study also identified interesting patterns of job-related attitudes among CEOs. Institutional structure and water supply sources were linked to variation in some attitudes, for example. Perhaps most noteworthy are persistent differences in attitudes between CEOs who are professional engineers and those who are not. On average, CEOs who are engineers see themselves more as policy-makers than do nonengineers. Similarly, engineers perceive state and federal regulations to be less burdensome than do nonengineers, and engineers are more likely than nonengineers to think about their own effectiveness in technological terms. Overall, CEOs of all professional backgrounds feel least effective when addressing the social and political dimensions of their jobs.

These findings offer useful information for water utilities and water industry professionals alike. Understanding how different kinds of CEOs approach their jobs allows utilities to make better decisions in executive search, recruitment, selection, and retention. Recognizing that CEOs may feel least effective when addressing political challenges, utilities, and the industry more broadly

may seek to develop systems that can help executives prepare for and handle such situations. This finding is also a valuable reminder for mid-career and senior professionals who are considering executive posts in the future: The most vexing challenges in their future are likely to involve people and politics, not pipes and pumps.

The third and final article in this series will report additional key findings from the WRF study. "Part 3: What Our CEOs Do," to be published in the August 2014 JOURNAL issue, will examine the ways that water utility executives allocate their time and interact with people inside and outside of their organizations.

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