Utility Management

THE CHALLENGE

Water utilities are complex businesses, and utility leaders must efficiently manage the people, processes, and technologies required to deliver water services. Successfully managing a utility requires a focus on customers and other stakeholders, operations, infrastructure, risk, sustainability, and more. WRF research on best practices provides a framework and guidelines for water utilities to follow.

THE RESEARCH

WRF has been publishing research on utility management for almost 20 years. Partnering with strategic organizations, including the U.S. Environmental Protection Agency (EPA), the American Water Works Association (AWWA), the Global Water Research Coalition (GWRC), United Kingdom Water Industry Research (UKWIR), and Water Research Australia, WRF has focused on effective utility management (EUM), customer satisfaction, workforce issues, and enterprise resilience.

Effective Utility Management (EUM)

Organizations representing North American water and wastewater utilities have long been aware of the challenges water sector utilities face. In 2007, EPA and six North American water and wastewater organizations began working together as the Effective Utility Management Collaborating Organizations, which developed a new framework that would result in effectively managed water utilities. These organizations, with the support of a Utility Advisory Group representing 16 water and wastewater utilities, identified ten attributes of effectively managed water sector utilities.

To further support utilities in developing the ten attributes, in 2014, WRF released a benchmarking tool as part of the study *Performance Benchmarking for Effectively Managed Water Utilities* (4313). The tool helps utilities conduct self-assessments to identify priority areas for improvement. The tool explicitly identifies the leading practices that support the ten attributes and identifies a process to weigh attributes and practices, then score and guide strategy development to achieve performance excellence. The tool helps water utilities identify gaps between their performance and goals, which can help staff strategize to reach target performance goals.

10 ATTRIBUTES OF EFFECTIVELY MANAGED WATER SECTOR UTILITIES

1. Product Quality
2. Customer Satisfaction
3. Employee and Leadership Development
4. Operational Optimization
5. Financial Viability
6. Infrastructure Strategy and Performance
7. Enterprise Resilience
8. Community Sustainability
9. Water Resource Sustainability
10. Stakeholder Understanding and Support

In addition to the EUM tool, other utility management benchmarking frameworks have been developed: the AWWA Utility Benchmarking Survey, the Water Services Association of Australia (WSAA) Asset Management Customer Value (AMCV) Tool, and International Organization for Standardization (ISO) 55000. Historically, WSAA has examined practices in detail, AWWA has focused on metrics, and EUM efforts have tied together, at a broad level, certain practices with attributes of high-performing utilities. A combination of these features could provide an enhanced metrics tool. To date, there is no singular tool that uses these different benchmarking features and capabilities in a comprehensive manner.

The 2018 WRF report *Collaborative Water Utility Benchmarking in North America* (4659) explores possible consolidation of these approaches, offering four potential alternative benchmarking options—ranging from no linkage to formalized integration. Formalized integration combines practices and metrics, improving integration between service providers without unifying all benchmarking under a single banner. This alternative includes annual surveys and a utility cohort group. The data collected from annual surveys support an overall growing database of industry performance with partial to full integration. The results of this project provide a path forward for radically enhancing the value provided to the North American water industry through benchmarking. The suggested pathway should achieve significant long-term cost savings and move many water utilities toward better management.

Customer Satisfaction

Customer satisfaction is one of the ten attributes of an effectively managed water utility. Customer satisfaction is achieved through reliable, responsible, and affordable service, plus solicitation of timely customer feedback to maintain responsiveness to customer needs and emergencies. To achieve these targets, best practices range from surveying customers' satisfaction, tracking complaints, and providing accurate billing, to using social media and providing an effective customer contact center.

In 2005, WRF published *Benchmarking Water Utility Customer Relations Best Practices* (2947), which identifies the most effective customer relations practices used by other relevant organizations and metrics that can be used for internal measurement and comparison. The report helps utilities identify, evaluate, and change existing customer engagement practices to improve efficiency and customer satisfaction. Specific recommendations in areas such as customer call center operations, customer billing, meter maintenance, and more are shared, as well as case studies from several water utilities with proven customer service successes/programs.

Effective communication allows utilities to share successes, gain support for their work, explain service changes, and keep people informed during emergency situations. Utilities need to convey technical information in a way that the public understands and communicate via the methods that will most effectively reach their audiences. Social media is a dominant form of communication in the United States today. To effectively reach key audiences, utilities need to consider using social media, but this realm may be unfamiliar. *Social Media for Water Utilities* (4638) explores the business case for social media investment. This project helps meet utilities' everyday needs for social media engagement in a way that is easy to initiate and simple to maintain over time. The research offers practical guidance on integrating social media into day-to-day operations and provides resources and templates that staff can customize. Case studies from eight utilities that feature insights about social media use are also included.

In 2019, WRF published *Forging Powerful and Sustainable Relationships Between Clean Water Agencies and the Community* (4678), which investigates how utilities can leverage emotional motivators in public engagement and communication programs to create longstanding relationships with the community. The research includes interviews with leading utilities and senior marketing executives and a utility customer survey with over 1,000 responses. Emotional connectedness to the utility is an attribute that may seem intangible, but this project shows that it can be measured and explicitly developed over time through effective community engagement. The report and supporting self-assessment tool can help utilities align their community engagement with customer values and incrementally build

trust that can provide a buffer of goodwill in times of crisis, increase support for utility initiatives, and empower customers to advocate on the utility's behalf.

Workforce & Leadership

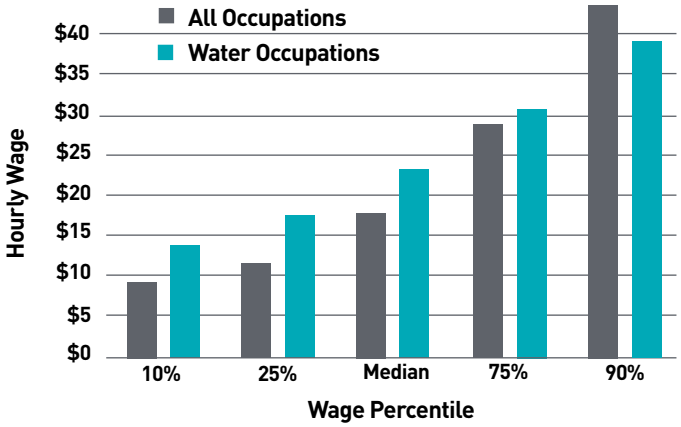
Having the right people in the right jobs is critical for every utility. A competent, motivated, adaptable, and safe workforce not only supports the overall success of a utility, but the community as well. A major generational change is coming to the water and wastewater industry as baby boomers retire, which will present both challenges and opportunities for utility managers. Published in 2005, *Succession Planning for a Vital Workforce in the Information Age* (2850) assesses the workforce demographics for the water and wastewater industry, identifies future shortfalls in critical and technical workforce skills, and provides guidance on creating a succession strategy and plan for water and wastewater utility workforces.

In 2013, WRF published *Water Utility Executive Leadership for the 21st Century* (4342), which summarizes the demographics, education, professional backgrounds, and personalities of drinking water sector executive leaders. This research found that water utility CEOs are quite homogeneous: 94% are male, 96% are white, 99% are non-Latino, and the average age is 54. As part of this research, CEOs were asked about their management priorities, job-related attitudes, and water sector trends. One key finding is that CEOs feel more comfortable with their water quality-related responsibilities, but less effective in dealing with social-political issues that make up nine of the ten EUM attributes. The report summarizes implications for recruiting and developing a more diverse crop of water sector leaders and empowering them with the skills they need in the future.

In 2018, WRF provided funding for the Brookings Institution report, *Renewing the Water Workforce: Improving Water Infrastructure and Creating a Pipeline to Opportunity* (4751). Through site visits, an expert workshop, and robust analysis of occupational employment data, this research explored the range of water jobs available, identified potential labor pools to fill these positions, and explored new strategies to equip workers with the necessary skills. The recommendations from this research can help address the dual challenges of the nation's deteriorating water infrastructure and the water workforce shortage.

This research found that water occupations tend to pay more on average compared to all occupations nationally, especially at lower ends of the income scale. In addition, water workers tend to have less formal education and require more extensive on-the-job training. Water workers today are older and lacking gender and racial diversity in certain water occupations. The report lays out actions that can be taken to accelerate thinking, action, and investment in workforce development at utility, regional, state, and national levels. At the utility level, it is recommended that water employers empower staff, adjust procedures, and pilot new efforts to support the workforce. At the regional level, it is imperative that a broad range of employers and community partners work together to pool resources and develop platforms specific to water workers. And at the state and national levels, leaders can support the development of the water workforce by providing more robust programmatic support and targeted investments.

U.S. WAGE COMPARISON OF WATER OCCUPATIONS VERSUS ALL OTHER OCCUPATIONS



Source: WRF Project 4751

Enterprise Resilience

Enterprise resilience is another of the ten attributes of an effectively managed water utility. A resilient utility proactively identifies, assesses, establishes tolerances for a full range of business risks consistent with industry trends. Risks include legal, regulatory, financial, water quality, environmental, safety, physical and cybersecurity, reputational, political, and natural disaster-related. A resilient utility ensures that utility staff and leadership work together internally, and with external partners, to anticipate, respond to, and avoid problems.

Managing risk and opportunity well creates long-term value for organizations. The diligent governance of business risk (i.e., enterprise risk management) protects operators,

customers, and other stakeholders from harm, builds reputational value, and can generate competitive advantage for best-in-class organizations. The 2016 project *Risk Governance: Achieving Value by Aligning Risk Governance with Other Business Functions in Water Utilities* (4573) focuses on realizing this value—recognizing it, securing it, and using it as a preparation for future business challenges. This report is a practical companion to WRF's 2013 guide, *Risk Governance: An Implementation Guide for Water Utilities* (4363), which is intended for use by both newly appointed and experienced risk managers. It may be used to stimulate discussion on how risk is managed within the utility, such as with executive managers or local risk teams and internal champions. This guide places a firm focus on the organizational value of risk governance and on ensuring integration with other business activities, notably strategic planning. Throughout the guide, key points and activities are included as opportunities to reflect on practices within the utility and try out the concepts, ideally with colleagues.

LIFT

LIFT for Management, part of the Leaders Innovation Forum for Technology (LIFT), is intended to improve utility management by developing a business process model and methodology to document the processes that deliver value to utilities through metrics and benchmarks. Tools exist to help utilities perform internal assessments and benchmark against peers, but there is a need to focus more on processes—to understand and document how a utility can improve.

LIFT for Management is developing a hierarchical map of business processes, known as the Utility Analysis and Integration Model, or UAIM, which will expand to include the role of people (organization) and technology. The methodology and the conceptual model will help the industry understand how things get done within a utility and, when used together, allow utilities to understand and analyze the current state of their performance and plan, design, and evaluate future improvements.

In addition to LIFT for Management, LIFT has developed a university-utility partnership program that communicates best practices, challenges, and successes of advancing water research and innovation through university-utility collaborations. A one-day workshop was held in June 2017 to showcase successful university-utility partnerships. *University-Utility Collaborative Partnerships* (LIFT22C18) synthesizes the workshop results, information from follow-up discussions and activities, sample partnership contract language, case studies of collaborations, and more.

WHAT'S NEXT?

In the private sector, the customer value proposition can be measured easily—through market share, increased revenue, and greater business efficiencies, which further translate into greater shareholder returns and enterprise value. In the public utility sector, this return on investment is much less tangible. There are many perceived benefits associated with providing value to customers, but there is no way to establish a metric and possibly monetize the value proposition. *Translating Customer Value to Enterprise Value* (4705) will identify tangible and intangible benefits a water utility gains by providing value (and customer service) to its customers. Tangible benefits include regulatory economic returns, reduced regulatory and government intervention, and improved efficiencies. Intangible benefits include the role that business brand and reputation play in building customer trust and advocacy, social license to operate, and improved employee satisfaction.

Another ongoing project, *Building Workforce Skills for Intelligent Water Operations* (4663) will help utilities prepare for anticipated workforce changes as they implement increased automation and smart water technologies. The research will examine changing job requirements and ways to attract and train new and existing workers to fill more skilled positions.

WRF is also exploring how utilities can employ strategic workforce planning and clearly define their employee value proposition as foundational steps to managing their workforce. Strategic workforce planning is the process of clearly identifying current and future workforce needs in the areas of management, succession planning, and continuity. Articulating an employee value proposition is a way to conceptualize the rewards and benefits an employee receives in return for their contributions to a company. *Strategic Workforce Plan and Employee Value Proposition* (4982) will address gaps and guide water utilities in recruitment, diversity, and employee retention.