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Title: Water quality monitoring and trust in the water supply system in Mexico City, Mexico

Water Utilities are tasked with the treatment and distribution of drinking water from the source to the consumer, monitoring water quality along the way and managing large infrastructure assets. In both continuous and intermittent systems the consumers are tasked with in-house storage, usage, and handling - similar to what a utility does in a much larger scale. Utility-consumer interactions can be disconnected and the communication of water quality and safe handling practices leads to mistrust - pushing the consumer to opt-out from drinking tap water and finding more reliable alternatives. In our study we went to Mexico City, a megacity with more than 20M people. We did real-time water quality monitoring in several neighborhoods with both continuous and intermittent supply. In addition we did ethnographic observations, tracked in-house water management of 60 households, and took grab samples at different points of the house in order to describe the water quality and trust dynamics from the consumer perspective. The ethnographic data provides us with insights into the every-day challenges people have to work with in order to maintain a functioning house. From brushing and rinsing underground storage tanks, to turning valves and pumps to fill different containers, to calling the neighbor and ask if they have running water. Physicochemical and bacteriological analyses give us contrasting results of perceived vs measured water quality. Our real-time monitoring system helps explain the reliability of the system as a whole and suggests there is an opportunity to feed data into a model and add control to the system. In the last decade Mexico City was positioned as one of the top bottled water and sugared drinks consumer in the world, leading to high plastic waste, adult and child obesity, and diabetes. These trends are largely associated with the devastating Mexico City earthquake in 1985 - since then people stopped drinking tap water. Traumatic events such as Flint, Hurricane Katrina, or tsunamis can linger long enough to the point that new generations grow up with completely different customs to those their parents did. This study fits into strategies that could help utilities rebuild trust with consumers after traumatic events.