Water Utility Customer Portal Software:

The Ultimate Beginners Guide (2020)

waterutilitycustomerportal.com

> We'll make this learning process understandable and fun...even if the idea of new software causes you anxiety and doesn't top your list of **"Fun Things To Do."**

— *waterutilitycustomerportal.com*

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Water Utility Customer Portal Software: What Providers Need to Know

If you're a water utility professional who's unfamiliar with the terms "customer portal, consumer engagement, customer engagement, CE or water utility management software," you're not alone. Software tools used by water providers are evolving rapidly. In the past, water utility customer portal software was a "nice-to-have" option. Now, it's more of a standard requirement.

Why should you care? Because this class of software has the ability to transform your utility's productivity and create a better experience for your customers. Your employees will be able to more efficiently manage day-to-day tasks, and your customers will benefit from more convenience and flexibility.

Knowing the basics of consumer engagement portals will enable you to effectively evaluate options for your utility. This **Guide** is a simple, step-by-step tutorial that covers:

- $\ominus$ What water utility customer portal software is
- $\ominus$ What it does
- $\ominus$ How it can serve your organization
- $\ominus$ What it costs
- $\ominus$ The basics of deploying a customer engagement system and more.

We'll make this learning process understandable and fun…even if the idea of new software causes you anxiety and doesn't top your list of "Fun Things To Do." Even if you've suffered through a software project that didn't go well, but wasted a lot of your time and effort, this process will be different.

When you're finished with this Guide, you'll know the fundamentals and potential problems to avoid. You'll be prepped to contribute a knowledgeable perspective to your organization. You won't be a beginner any longer. Informed intermediate? How's that for a mutual goal?

Keeping Up with the Chase's

One reason consumer engagement systems are critical is that your customers can access mobile and online capabilities, packed with self-service functions, from businesses they interact with everyday--e.g. credit cards, banks, and electric/gas utilities.

Another reason is the ubiquity of smartphones.

Almost all of us carry powerful computers in our pockets…and of course we want to use them.

Where's the Educational Info?

It's time-consuming to find educational information targeted at water utility professionals. If you do a Google search for "water utility customer portal software," you'll find vendor websites hawking their wares, striving to slant the know-how they share towards their own products.

We're industry insiders who've spent years studying, building, implementing, and supporting utility customer portal solutions. This **Beginners Guide** is intended to provide impartial, actionable information to utility billing and customer service managers/supervisors, public works professionals, and management teams.

Our goal is to illustrate the value of these systems, point out known risks, and give you the knowledge to make a smart purchasing decision, should you choose to do so.

Let's get learning!

"The share of Americans that own smartphones is now 81% (2019), up from just 35% since Pew Research Center's first survey of smartphone ownership conducted in 2011."

2019, June. Mobile Fact Sheet. Retrieved Sept. 24, 2019 from: https://www.pewinternet.org/fact-sheet/mobile

What is a Customer Portal for Utility Usage and Billing?

A water utility customer portal application is simply a secure website that customers and employees can use to perform various tasks. It's also called customer engagement, consumer engagement, or CE software.

For Smart Water Utilities... It's OK to be SaaS-y

Most customer portal applications are delivered using the hosted, Software-as-a-Service (SaaS) subscription model. This means the utility **doesn't** install software or hardware at their location--referred to as an "on-premise" installation.

Instead, vendors "lease" the application to the utility. They perform all the updates, backups, maintenance, and other backend server monitoring. Vendors should provide a secure, separated, "instance" of their portal that only includes your utility's data, and restricts access to your employees and clients.

Users (customers or utility employees) will access the customer portal with a standard Web browser from a desktop computer/laptop, tablet (e.g., iPad), and/or smartphone.

Customer Self-Service Features that Matter

One purpose of a water utility portal application is to encourage "customer self-service." Think of this as bringing your utility office directly into the homes and businesses of your clients. If you can offer capabilities that enable users to answer their own questions and perform routine tasks, you can reduce the number of support calls your office receives, and in-office visits.

Customer portal applications usually include:

- Online payment capabilities
- Electronic billing (eBill)
- Consumption data and graphs
- Start/stop service requests
- Water conservation information and more.

Even though it's called a "customer portal," there are valuable features available to employees via the "utility portal" side of these systems. Capabilities can include:

- Viewing payments received
- Electronic messaging (payment due, past due, imminent shutoff)
- Leak detection and notification (requires an Advanced Metering Infrastructure or "AMI" system)
- Finding meters where the utility is losing money
- Reporting and more.

# 3 Customer Engagement Platform Options: Which is Right for You?

Customer engagement portal products fall into three categories:

1. "Pure play"

2. AMI-linked

3. Utility billing software-linked.

Pure Play Applications

Pure play portal vendors offer "standalone" applications that integrate with almost any utility billing and meter reading system. These solutions don't require an AMI system and provide the basic **online payment and electronic billing** capabilities, every utility should provide:

→ Paymentus

→ Invoice Cloud

→ Tyler Incode Utility Billing Online

→ Official Payments

→ Payment Service Network (PSN)

→ Xpress Bill Pay

→ The Payment Group (TPG).
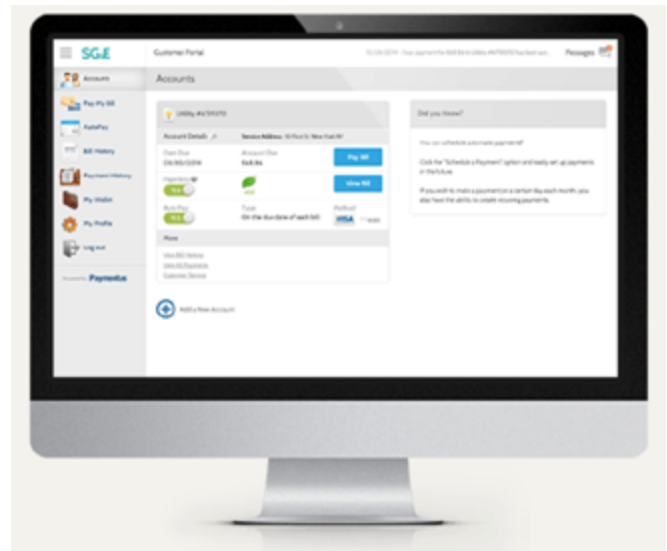
If you want a customer portal focused on **leak detection & notification, managing water consumption, and analytics,** an AMI or "smart meter" network is required. Some of these vendors will include online payment features but the real strength of their portals comes from the ability to understand and interpret water use patterns. Leading vendors include:

→ WaterSmart Software

→ Dropcountr Water Utility Software

→ Smart Energy Water

→ AquaHawk

→ Tyler Smart Meters.

AMI Vendor Applications

Many AMI vendors offer proprietary customer portal solutions. These applications **only** work with that company's smart meter system and are focused on presenting water consumption information and leak detection & notification. Some examples include:

- Sensus (Xylem) - Sensus Portal

- Aclara - Adaptive Consumer Engagement (ACE®)

- Badger Meter - EyeOnWater

- Master Meter - My Water Advisor™

- Mueller Systems - Mi.Data Web Portal.

Utility Billing Vendors

Several utility billing vendors offer vertically integrated customer portal solutions that combine billing, consumption, and analytics. Examples include:

- Tyler Technologies - Incode® & Munis®

- MUNIBILLING

- Starnkik - UtilityTrakR™.

Your Meter Reading System Dictates your Portal Options

Some utilities only collect a single meter read every 30-60 days, using manual, handheld, or drive-by Automated Meter Reading (AMR) systems. This limits the tools they can offer their users. A customer engagement portal that includes online billing and payment services, stop/start service initiation, and basic displays of consumption, is the best option.
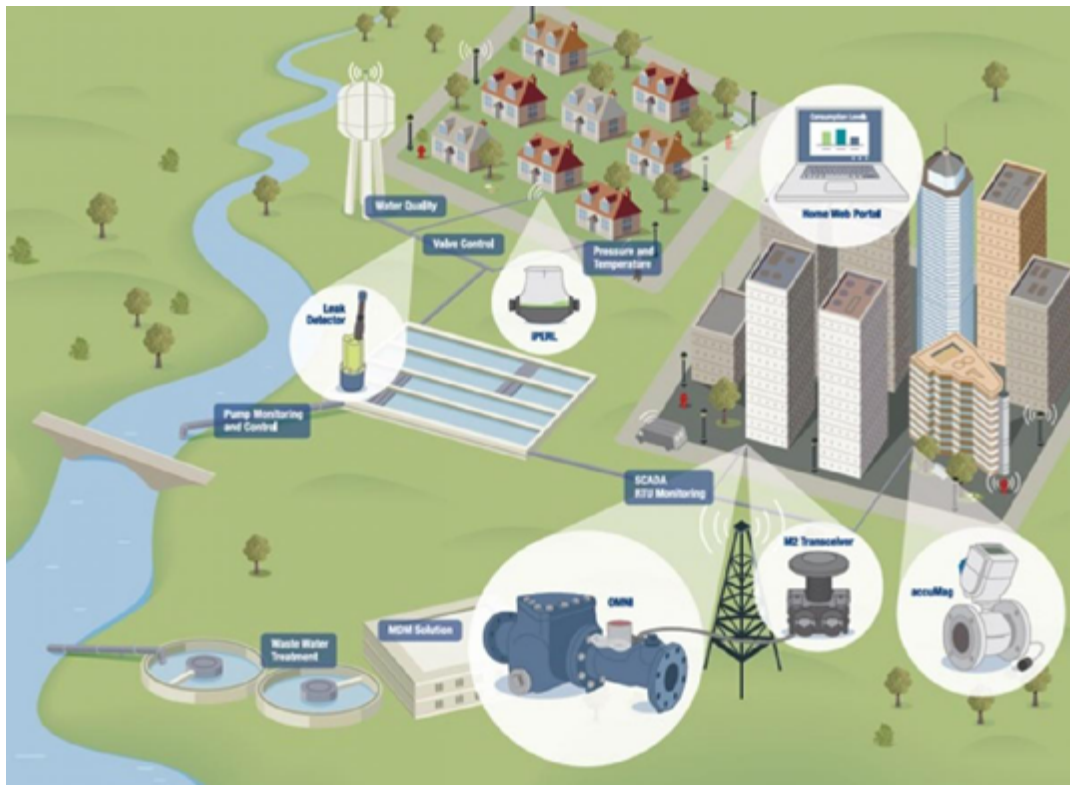
With an AMI network, utilities collect hourly meter reads several times a day. This opens up a whole new set of features that leverage data analytics.

For example, your team can initiate a proactive leak detection and notification program to alert customers. You can also find meters that are installed improperly, have been bypassed, or are about to fail. Customers can see projected and estimated bill calculations, and receive alerts based on user-defined high bill ($) or consumption (gals.) amounts.

> *"The key to consumer engagement in smart meter data is presenting this effectively by using portals that are compelling, actionable, and available to people on the communications channels they prefer to use"*
>
> Hartman, Beth and Leblanc, Bill. Feb. 2, 2015. In Pursuit of the Perfect Portal: Smart Meter, Big Data; and Customer Engagement, an E Source White Paper. Retrieved from: https://www.esource.com/es-wp-19/pursuit-perfect-portal-smart-meters-big-data-and-customer-engagement

What does a Customer Portal Software Application Do?

A consumer engagement application is really two systems in one: a secure website with tools for your **customers** and for your **employees.**

No Surprise! A Customer Portal Empowers Customers

A customer portal delivers information and capabilities so utility customers can perform routine tasks, on their preferred devices, at their own convenience. The goal is to bring your office to your users, and give them maximum flexibility.

Most water utility portal systems feature:

Payment & Billing

- ⊖ View current/outstanding balances
- ⊖ See a history of previous transactions
- ⊖ Pay online, by phone, by text, by e-mail...using a credit/debit card or ACH transfer from a savings/checking account (eCheck)
- ⊖ Stores payment information or offers one-time payment services
- ⊖ The ability to view and receive electronic bills (eBills).

Consumption, Alerts & Water Efficiency Information

- ⊖ Water consumption graphs
- ⊖ Billing and usage alerts
- ⊖ Consumption comparisons to similar users
- ⊖ Rebates, conservation programs, and other water-saving information.

General Features

- ⊖ Start/stop service requests
- ⊖ Leak forgiveness options
- ⊖ Direct utility communications
- ⊖ Reporting for outages, water waste, etc.

"A consumer engagement application is really two systems in one: a secure website with tools for your customers and for your employees."

Customer Portals are "Utility Portals"

The customer-focused capabilities of a portal garner the most attention but the utility-focused features are equally as valuable. When a portal is really doing its job, utility staff will use it everyday.

Most utility portals offer:

Site Administration

- → Make changes to the portal text, images, and design

- → Add/remove administrators

- → Configure elements of how the portal works: options, languages, leak detection and alerting parameters, etc.

Perform Remote Troubleshooting

- → Review any customer's water usage

- → View the same screens clients can see from their portal

- → Identify accounts that may be experiencing water leaks or unusually high consumption

- → Find meters that are malfunctioning, being bypassed, or are not tied to an active account.

Leak Detection and Notification

Scanning user accounts to identify potential leaks, and then alerting customers to potential problems, is one of the **most important** functions a water utility portal solution can offer. It does require an AMI system, but when you do it right, your customers will praise you.

To perform leak detection and notification effectively, utilities will want to:

- → Analyze data to determine potential leaks or abnormally high consumption for all meters in the service community

- → Ignore "false positives"

- → Automatically notify registered users

- → Review alerts for non-registered customers and determine if they want to send notifications.
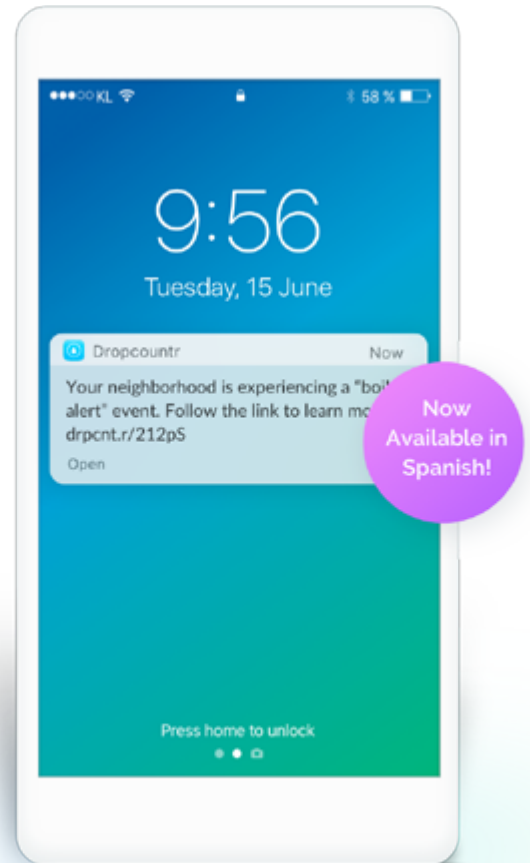
Proactive Customer Alerting & Messaging

- → Notify customers of upcoming bills, past due amounts, imminent shutoffs, etc.

- → Alert customers to usage problems via: e-mail, phone call, text, push notification (mobile app), direct mail or door hangers

- → Communicate to groups of customers about maintenance work, outages, boil notices, and more.

Water Conservation

→ Provide water conservation and rebate information

→ Show comparisons to other users

→ See water budgets and request variances.

Reporting that Drives Decision Making

→ See the number of users, what parts of the portal they're using, and how frequently

→ View online transactions, volume, type, eBill adoption, delinquent accounts

→ View community consumption data: top water users, volume by time period, trends

→ View the number of alerts/outbound notifications: severity, reasons, etc.

→ Generate various reports.

Customer Engagement Platform Features and Benefits

Portal applications deliver measurable, valuable features and benefits to water **utility customers** every day. For example, clients can:

→ Answer their own questions online, whenever they want to

→ Monitor their usage and control water expenses

→ Pay electronically

→ Receive electronic instead of printed bills

→ Be alerted when their usage indicates a problem, when they have a bill due, when they're past due, etc.

→ Learn ways to conserve water

→ Communicate online with their utility

→ Report outages and water waste.

Customer engagement applications benefit **utility employees** by:

→ Encouraging customer self-service

→ Reducing routine support calls

→ Making it easier to answer customer questions

→ Enabling better troubleshooting from the home office

→ Reducing onsite visits (truck rolls)

→ Helping customers prevent unnecessary water expense and potential property damage

→ Finding accounts that have high consumption or potential leaks

→ Finding accounts where the provider may be losing money

→ Improving communications with customers about problems that may affect them: outages, boil notices, rate changes, water quality, etc.

Will your Department Benefit?

Your utility billing and customer service team, the public works department, and management benefit most from a customer portal investment, especially when that system is supported by an AMI network.

Billing and customer service reps field calls all day about bill amounts, unexpected charges, potential meter issues, etc. Without access to hourly meter read data (gathered remotely via AMI), employees rely on the utility billing system to answer questions.

These applications are limited to financial transaction data, monthly meter reads, service order history, and basic account info. It's a struggle for staff to figure out what's happening with an account from the office. If the rep can't solve the problem, field staff have to be dispatched onsite.

Your team has likely visited an account, determined that the meter's working fine, the billing is accurate, and the customer was just using water at times or in volumes she didn't realize. Truck rolls are costly though.

By combining a smart meter network and a customer portal application, your support team can leverage an expanded set of tools to troubleshoot, and answer customer questions more efficiently.

> *Your utility billing and customer service team, the public works department, and management benefit most from a customer portal investment, especially when that system is supported by an AMI network.*

How does Water Utility Management Software Work?

All water utility management solutions, whether they include online payment or consumption and analytics, integrate account information from a water billing system. This integration can take the form of a "near real-time," daily/nightly upload, or a more direct, "real-time" connection through an Application Programming Interface (API).

Integrating to the Water Billing Software

The customer engagement portal needs to know: account number, meter number, customer name, service address, billing address, contact information and other details. Because new accounts are activated and old accounts discontinue service, the portal needs to be updated regularly.

Integrating with the Meter Reading System

If a utility collects monthly/bimonthly reads, usage data can be pulled directly from the billing application. If your utility uses an AMI system, the portal needs a connection to the "headend" system, or the Meter Data Management System (MDMS).

The headend system is just a server, often times "cloud-hosted," that stores meter read and other important AMI data. Consumer engagement vendors integrate hourly/daily meter reads using the same methods--API or import/export--they use to connect with the utility billing system.

Does our Utility Really Need a Portal?

In the word of the make-believe movie boxer from Philly, Rocky Balboa..."Absolutely!"

Not only do you need an online payment portal, you need a way for customers to view their water usage, see what programs you offer, and to facilitate two-way communication. Whatever services you offer to a person in your lobby, you want to offer those same capabilities online...and more.

Your customers expect wide-ranging, online capabilities, and an "experience" that is user-friendly, intuitive, and available on multiple devices.

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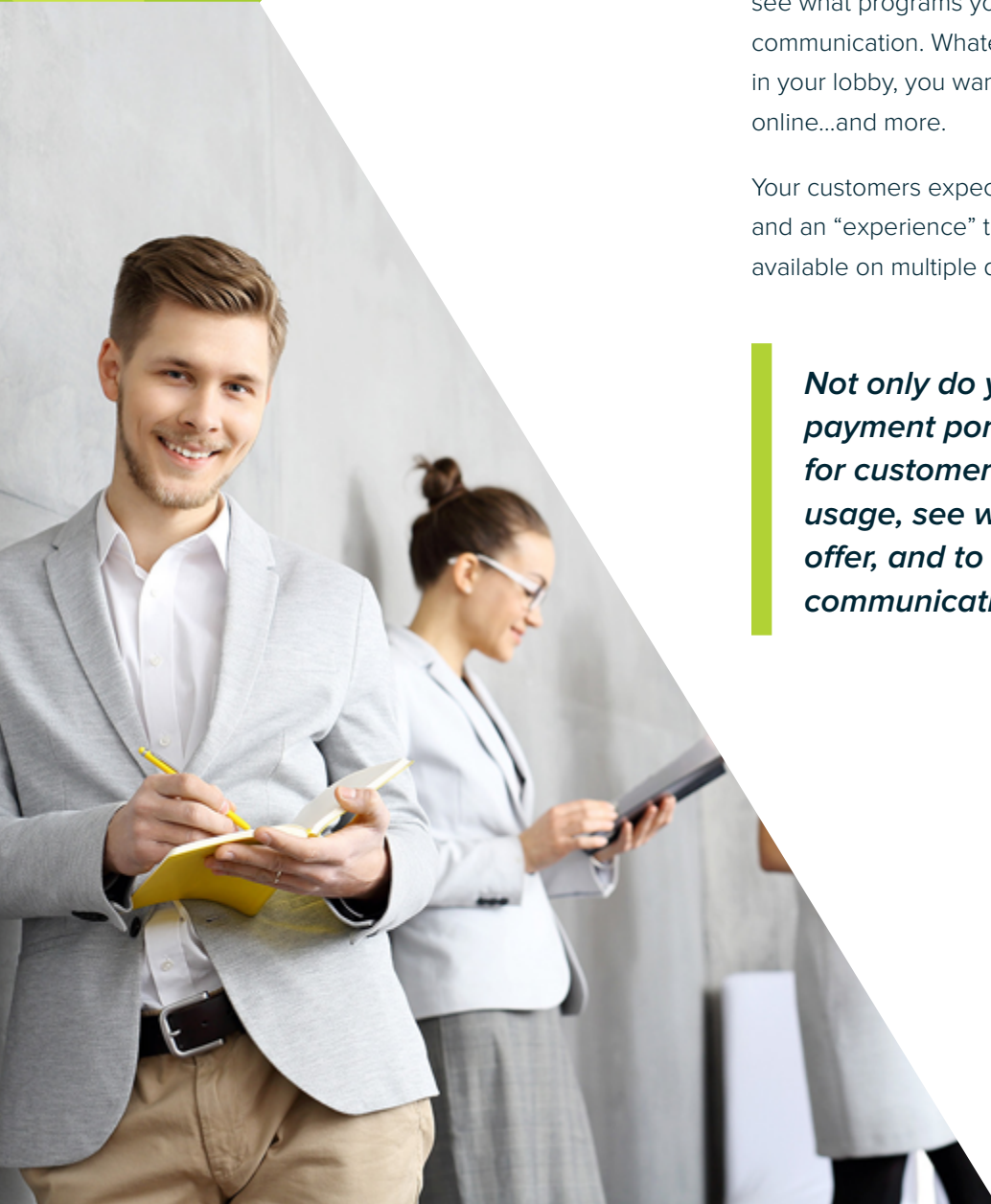
Do I Need a Mobile App?

Not in the words of Rocky...Maybe!

There are two ways customers can access your customer portal application on a mobile device:

1. Download an **Android** or *iPhone* app. Phone apps are distributed by the Google Play Store (https://play.google.com/store), Apple App Store (https://www.apple.com/ios/app-store), and other websites.

2. Access a **"mobile-browser-friendly"** or "cell-phone-friendly" website.

A downloadable app is a software program that you install on your smartphone. It's designed to offer the same portal functions that your customers can use, if they were logging in using a desktop computer. Capabilities are optimized for a smartphone--screen size, performance, swipe-enabled, etc.

A unique advantage of an app over a mobile browser-friendly website is the ability to send "push notifications" directly to a smartphone. This adds another communications channel--not text or e-mail--that can be used for leak alerts, upcoming bills due, etc.

If your utility serves an older population, they want mobile options too. Elders are also in the smartphone game.
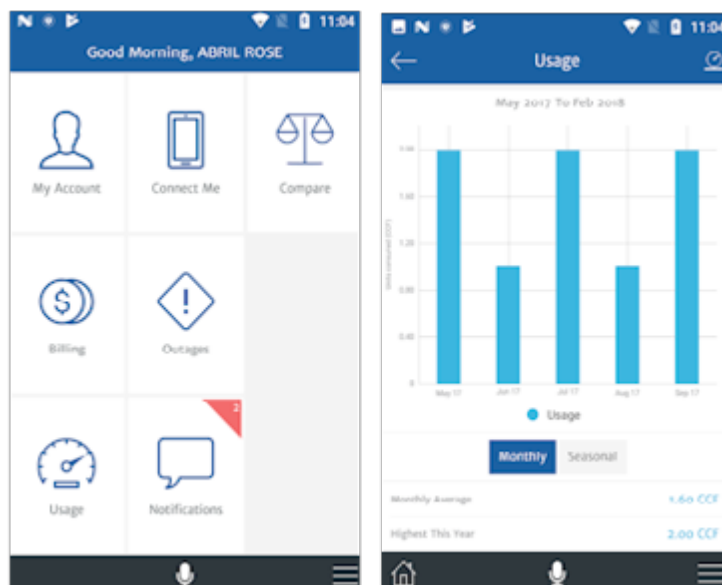

Table: % of U.S adults who own the following devices

	Any Cellphone	Smartphone
Total	96%	81%
Men	98%	84%
Women	95%	79%
Ages 18-19	99%	96%
30-49	99%	92%
50-64	95%	79% ←
65+	91%	53% ←

Pricing: What do Water Utility Customer Portals Cost?

Utility consumer engagement application vendors use different pricing models. Let's look at online payment portals separately from water consumption portals.

Online Payment Portal Pricing

Online payment portals that include: pay by debit/credit/ACH, electronic billing, start/stop service, etc., use two common pricing models:

1. **Service fee**
2. **License + transaction fee.**

The Service Fee Model

Vendors like Paymentus and Invoice Cloud offer a free, customizable instance of their Web portal software, so long as you use their credit card processing services. Utility customers are charged a flat rate (e.g. $3.25 per transaction) or a percentage (e.g. 3%) to make an online payment. If your utility issues a $110 bill, it receives a $110 payment and no additional software fees are assessed.

The License + Transaction Fee Model

Vendors like Tyler Technologies charge the utility a monthly/annual license fee to use their payment portal software. They may assess additional transaction or convenience fees ($.50 - $2.50 per payment) too.

Credit card fees are charged separately and set by the gateway and/or processing company. These fees can be passed directly to the customer, absorbed by the utility, or a combination of both. They range in price from 2% - 5% per transaction.

Water Consumption Portal Pricing

Water consumption portals offered by WaterSmart, DropCountr, and Sensus, use a pricing model that may include:

1. **AMI data transfer fee** (usually one-time) - charged by the AMI vendor to setup the recurring meter read data transfer

process

2. **Setup fee** (one-time) - charged by the portal vendor to integrate utility billing information and for portal configuration

3. **Annual/monthly license fee** - charged by the portal vendor and based on the number of meters/accounts or registered subscribers.

When smaller water utilities (< 5,000 accounts) also offer electric and gas services, basing the overall price on meter count can be expensive. For example, if your utility serves 3,000 unique accounts, but each customer has a water and an electric meter, the license fee per account will be double.

There is a fair amount of work for a vendor to setup a portal. They must integrate account and rate data from the utility billing system, and water usage data from the AMI system. Once the system goes live, however, maintenance and administrative requirements are minimal.

Depending on the size of your project, implementation, project management, and training fees may be charged.

You can expect:

↪ Setup fee (one-time) = $1.00 - $3.00 per meter/account

↪ Annual/monthly license fees = $1.00 - $3.50 per meter/account/subscriber per year.

Non-Lawyers can Write "Smart" Contracts Too

While vendors will require you to sign a standard contract, keep in mind that these agreements are negotiable. It's a best practice to include an "out clause." This is a clearly written statement that gives you the right to terminate the contract with, say 30 or 60 days written notice, for any reason or no reason.

After you've made a vendor selection, ensuring that the vendor is incented to keep earning your business is a smart strategy.

How do we Launch our New Consumer Engagement System?

When you view product demonstrations, it's likely all the features will work well and the performance will be snappy. That's because demo software is showcased in a fine-tuned, model environment, fully controlled by the vendor.

After you've made a product selection, the vendor has to "stand up" their application in your environment. Every new deployment presents unique challenges.

One difference between great and average vendors is how quickly and correctly they can get your portal deployed.

In order to avoid unnecessary delays, increased costs, and project dissatisfaction, pay attention to the following "speedbumps" so they don't become roadblocks.

Speedbump #1 - Is my Data Current?

Online payment and consumption portals both need access to data stored in the utility billing system: account number, meter number, customer name, balances, etc. Because these values change continually, to remain synced, the portal and the billing system must share data frequently.

You want to avoid the situation where your customers login to the portal, see an incorrect balance, pay the wrong amount, and wind up delinquent.

Some portal systems can access utility billing data directly using an API. Some applications have to upload data in batches, once or several times a day.

In addition, data from the online payment portal--who paid, when, how much, by what method--have to be transferred back to the utility billing application to keep that system updated.

Speedbump #2 - Who Can Write Billing Extracts?

Does your team have the expertise to create a billing extract/report that includes the necessary data? Can they automate the transfer of that report to a Secure File Transfer Protocol (SFTP) site where it can be accessed by the portal vendor?

If not, your organization will likely contract with the utility billing vendor to have a report written. They're not always quick to deliver a custom report.

Because raw meter reads are stored in an AMI headend system or MDMS, usually hosted by the vendor, they will setup the data transfer process. It should be configured to run automatically, several times a day.

Speedbump #3 - You Have 90 Days to Vacate the Premises

Encourage your portal vendor to outline an implementation plan that takes no more than 90 days. If a project runs longer, it's hard to keep all parties focused on completing the setup, and usually means that your staff will spend more time than necessary.

When you interview vendor references, be sure to ask them about their implementation experiences. How long did their installation take from start to finish? Were there delays? Why?

Avoid these Common Deployment "Gotchas"

#1 - No Project Plan

Every customer portal installation should have a detailed project plan specifying the steps in the process, which parties are responsible for what tasks, and timelines. Remember the proverbial wisdom: "Failure to plan is planning to fail."

It's recommended to have a "kickoff meeting" with all stakeholders so everyone can see what's involved in the project, ask questions, and make sure that the lines of communication are well established.

#2 - Custom Software Development

If your project requires new or custom features, be aware that software companies have difficulty forecasting how long a customization will take to complete. They sell customization services aggressively, but may have many projects already in their development queue.

If a customization is critical to your project, request that the vendor provide a specific completion timeline with financial penalties if they don't meet their commitments. It will also be important that your utility meet any related commitments the vendor is dependent on.

As an example of a customization gone awry, a water utility in Canada contracted with a vendor to deliver a customer portal. A city ordinance required that the utility offer the portal in English and French. The portal couldn't be deployed until both languages were supported.

Assured by the vendor that it could complete the French language translation in 2-3 months, the utility paid a premium for the work. It then proceeded to wait as the vendor missed deadline after deadline...for an entire year.

Had the utility known the potential timetable, they would have selected another company.

#3 - My Software is Different than your Demo

Software vendors optimize their systems for product demos. After you make a purchase and get the keys to the "new ride," it's disappointing to learn that the Turbo doesn't work, power windows and seats were not included, and there's no AC.

If you select a product based on capabilities you saw during a demonstration, make sure that those functions are available and functional.

The best way to do this is to talk with the vendor's references, and ask them to show you how those features work in their portals. You'll quickly learn what an application can do, and what is "vapor ware"--the software industry term for "doesn't exist."

Smart Water Utilities Engage their Customers

Once the portal is up and running, the real work of encouraging customers to use it begins. Think of this process as a marathon, not a sprint. A "slow-and-steady," sustained marketing and communications effort--internal and external--will pay off.

Here are some suggestions:

- → Announce the portal on your utility's website and through your social media channels
- → Include a notice on your utility bills
- → Include a bill insert (vendors can supply templates)
- → Deliver press releases to local media: radio, TV, and online/ print news
- → When customers call for support, make sure your team highlights the portal and even offers to subscribe them
- → Offer a bill discount for customers who register
- → Highlight the option to all new customers in your "welcome packet."

High portal subscription rates happen when utility staff apply consistent effort. Shoot to register 20-50% of your service community within the first year.
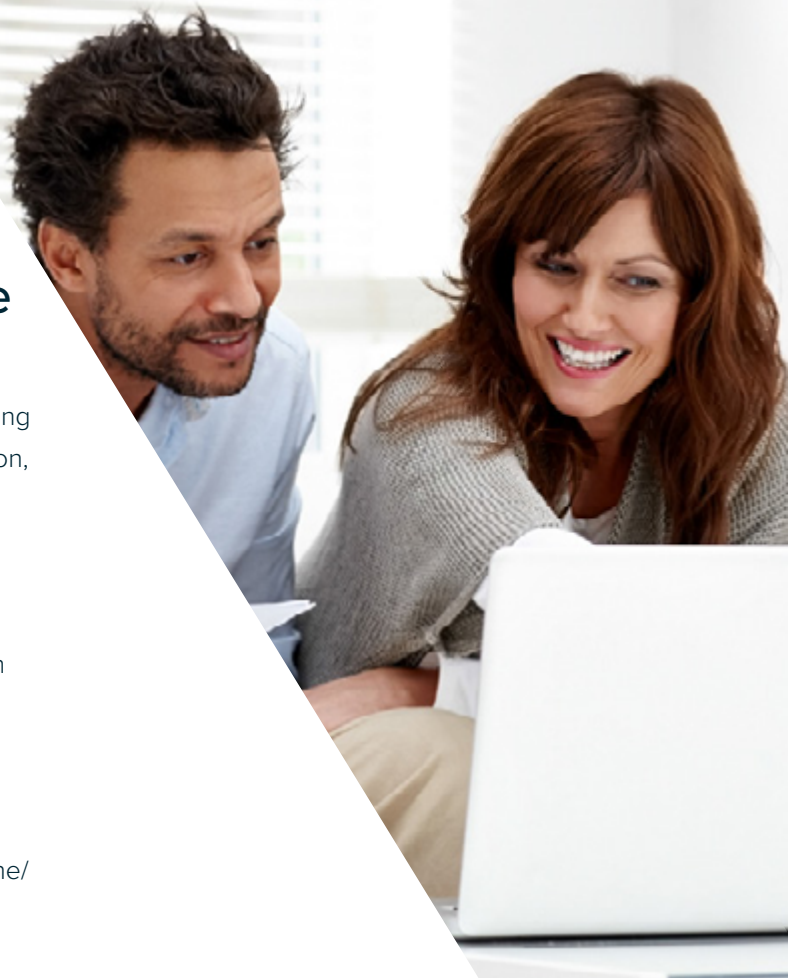
Water Utility Customer Portal Software... Just Getting Started

This Guide should have helped you gain an understanding of what a water utility customer portal system is, what it does, and how it might impact your utility. If you were initially reluctant to learn about new software, we hope you now feel informed and excited about the benefits a customer portal application can deliver.

If you need to make a business case to your City Council or management team, you should have the basis to explain why these applications are worth pursuing.

What's really exciting is that the capabilities of consumer engagement portals described in this Guide, are just the beginning. When utilities combine data analytics from a smart meter network, with a billing and consumption portal, they can deliver even better tools to employees and customers.

Non-revenue water monitoring, predictive analytics, and enhanced reporting options are examples of capabilities that are currently being developed.

Ultimately, employees will have better tools to manage your water utility and make more informed decisions. Clients will be able to interact with your organization, in a variety of ways, and have a better overall experience!

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For more objective, educational information about water utility customer portal solutions, visit our website and subscribe to our blog at: www.waterutilitycustomerportal.com.