

Strategic Directive 06: Innovation

Progress Update



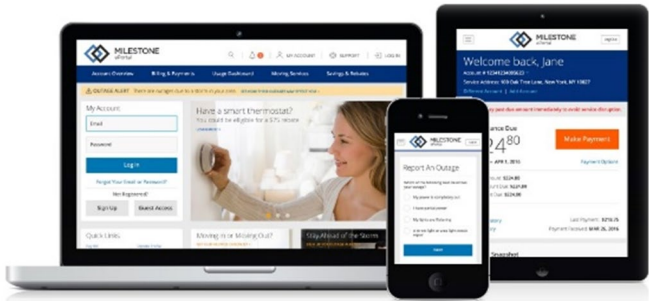
“Innovation” defined

- ❖ Fresh thinking that creates value for communities
- ❖ Improved processes, decision making, or ways of working
- ❖ New products or services for customers
- ❖ Significant positive change



Hydro-Quebec's innovation institute

Industry disruptions are prompting utility innovation...



Customer expectations

Market shifts

Decarbonization

Renewables

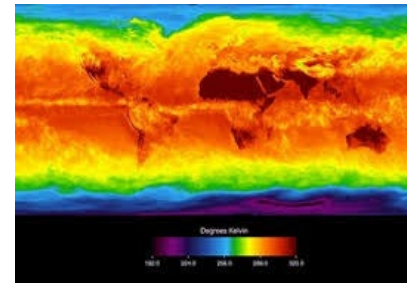
Cyber threats

Changing workforce

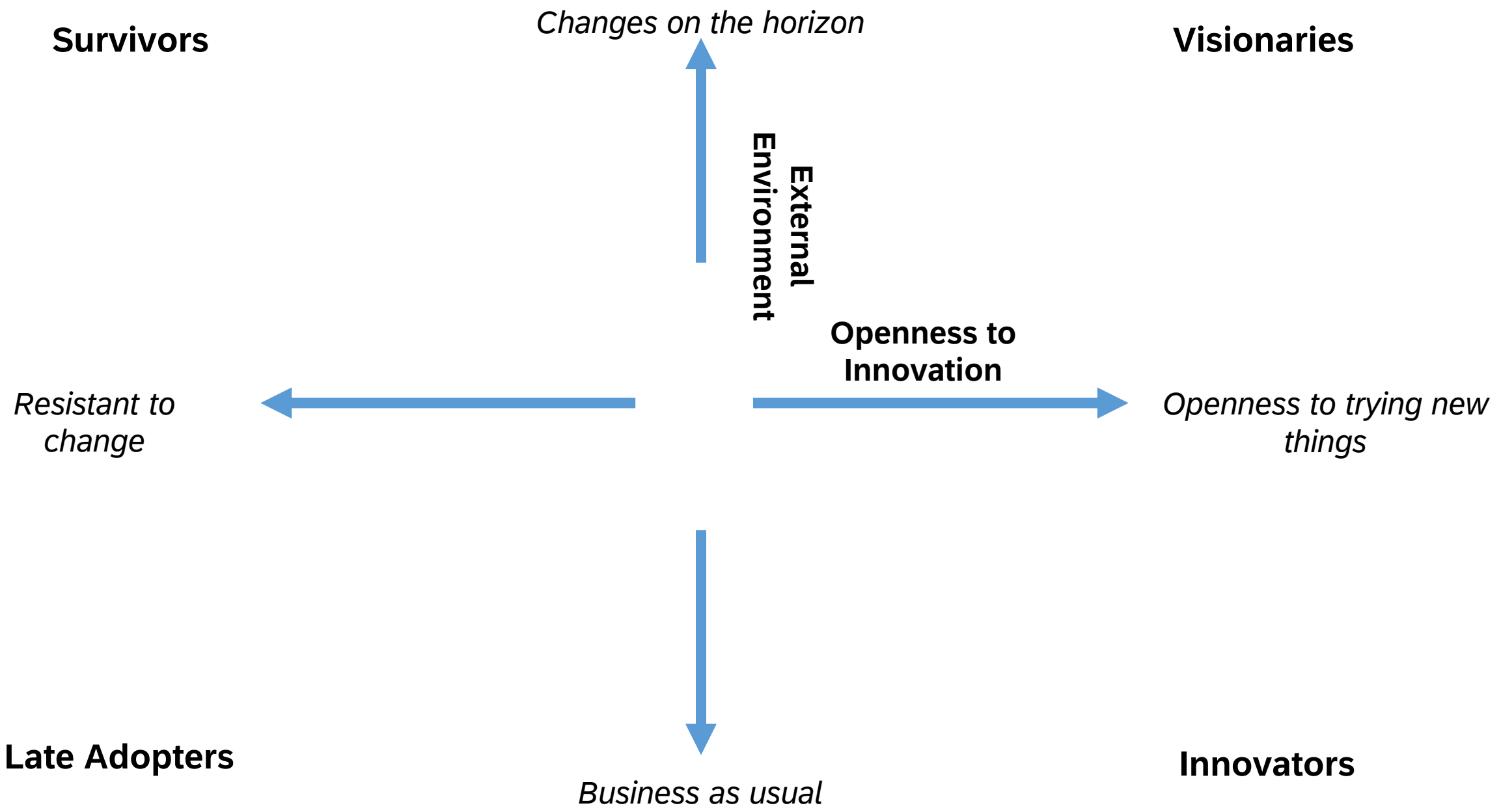


California ISO

CORONAVIRUS
(COVID-19)



Benchmarking utility innovation maturity...



**Model adapted from Gartner Research*

How utilities are driving cultures of innovation...

Developed innovative 4 step process for advanced leak detection - Instead of being reactive to customer inquiries, the AMI smart water technology allows us to alert them proactively—before they receive a higher bill



Developed an innovation program dedicated to advancing new utility programs, services, and jobs thru partnership with Sacramento-based innovation labs.



Adopted a new strategic smart grid/innovation plan to integrate renewables, promote EV adoption, deploy new control systems, and leverage data analytics to optimize operations



Providing formal recognition of employee innovation as a part of a major sustainability plan to reduce carbon footprint, modernize the grid, reduce waste, engage with customers, and retain the best employees.



Utilities in many job markets (especially Seattle & Portland) are being forced to rethink their employee value proposition as they confront the increasing turnover of newer and high performers, as well as the loss of experienced employees due to retirement.



One report showed that only 17% of college graduates said they would even 'consider' working for a utility.

Required capabilities to drive innovation...

1. Formal assignment of innovation duties

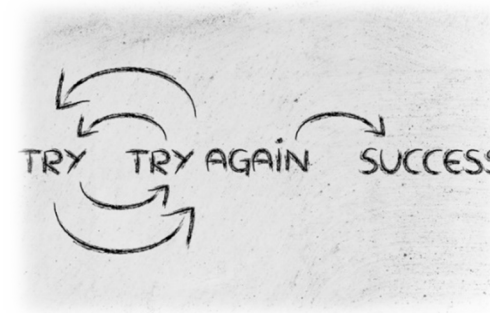
People, teams, or departments focused on innovation and strategy



2. Allocation of funds to invest in new initiatives

“Venture-capital” or innovation funding model to explore/deliver value

3. Freedom to pursue ideas that may not pan out



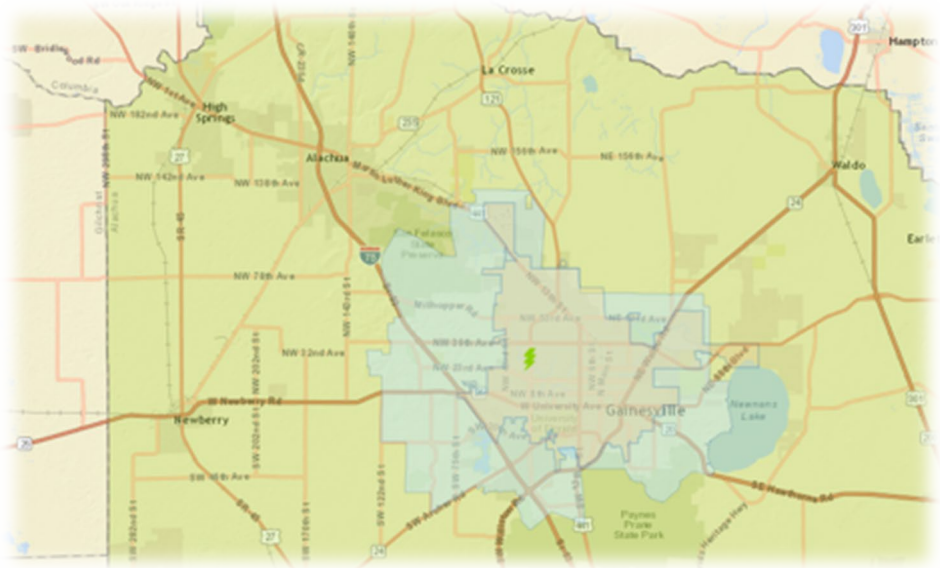
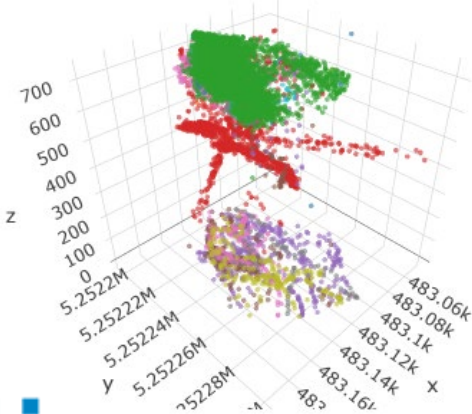
4. Pursuit of adjacent revenue opportunities

Examples: energy services for commercial/industrial customers, cost-effective renewable energy, home appliance sales/service plans, etc.

5. Adoption of customer-focused initiatives



Advancing TPU's innovation posture...





Customer care transition team

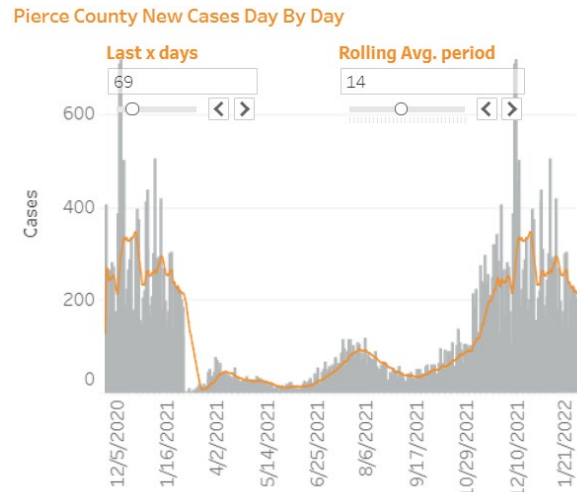
Home agents

Customer assistance programs

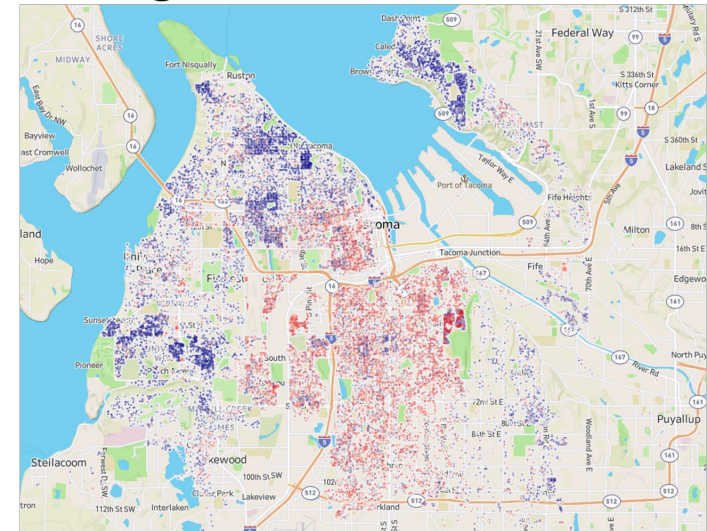
Predicative analytics

Emerging customer experience discipline

Market research advances

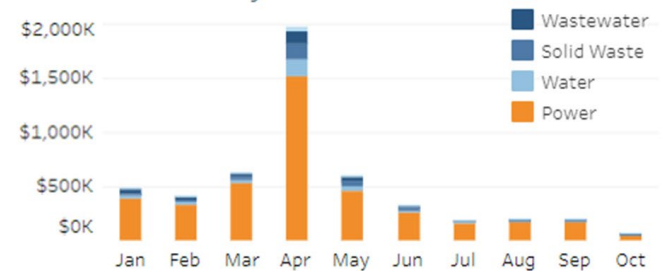


Predicting which customers need financial assistance...



- Customer Distress Early Warning (CDEW) Model
- Red: Higher likelihood of Assistance
- Blue: Lower likelihood of Assistance

Assistance: By Month



Assistance: By Service

	Contract Accounts	Amount
Power	16,759	\$4,016K
Env. Services	6,218	\$730K
Water	6,749	\$332K
Grand Total	29,726	\$5,078K

Digital signature adoption

Advanced meter commercial exchanges via mobile tool

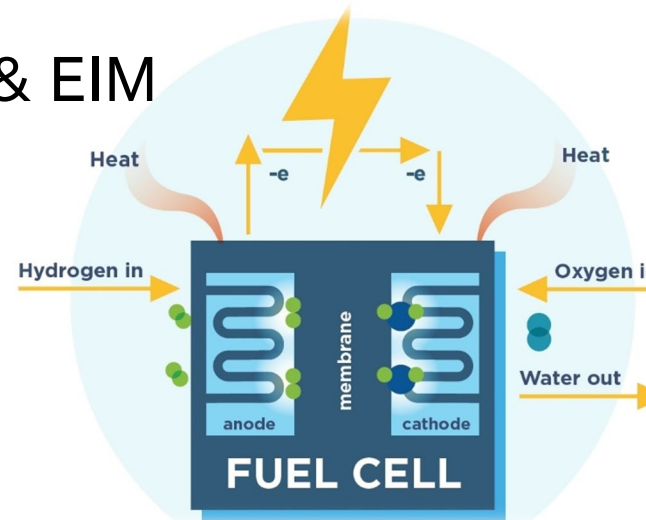
Grant proposal for advanced fuel cell generation technologies

Electro-fuels retail tariff

Hydro project optimization model for IRP & EIM

New electrification programs

Minigrid for disaster recovery & resiliency





Office 365 migration

Zoom TPU board meetings

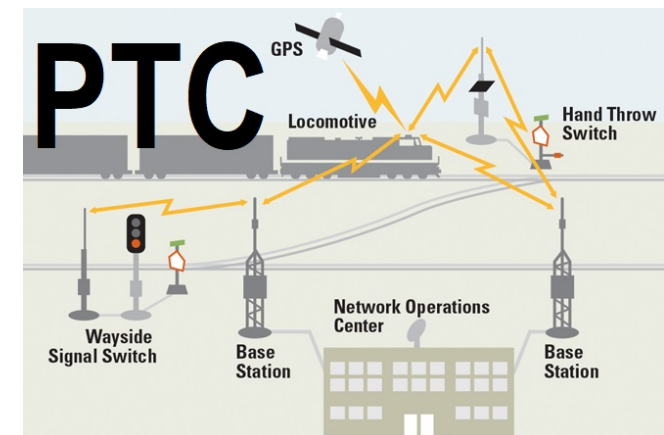
Fleet ordinance update

United Way and other virtual charity events

Cross departmental virtualized incident command system

Rail south intermodal yard lease agreement

Positive train control (PTC)





Digital Tool for Field Data Collection

On Line Water Quality Analyzer

Digital Safety Audit Tool

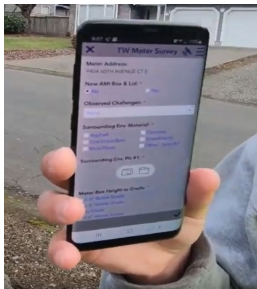
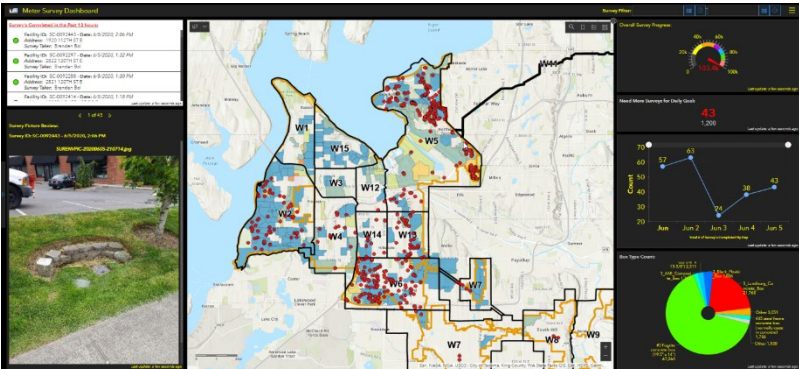
Customer Call System Modernization

New Customer and Employee Communications Media

Water System Operational Excellence Initiatives

TPU Virtual Academy with Boys & Girls Clubs

Reorganization



SD 6 Measurements & Activities

In Progress

1. Assess TPU innovation culture & identify barriers to innovation
2. Report to PUB on TPU workgroups focused on innovation, R&D, modernization efforts, etc.
3. Ability to meet current & future challenges with innovative solutions/internal resources
4. Individual workgroups track and report innovation progress

On Deck

5. Adopt metrics framework to track and report on, which map to established value profiles
6. Director's Innovation Award